TO: NH Site Evaluation Committee
FROM: Carl Martland, Chair, North Country Scenic Byways Council
RE: Impact of Northern Pass on North Country Scenic Byways
DATE: January 20, 2016

1. Background on the Scenic Byways of Northern New Hampshire

The North Country Scenic Byways Council (NCSBC) is responsible for developing and maintaining management plans for the scenic and cultural byways in northern New Hampshire. Members of the council represent communities served by the byways, state departments concerned with transportation and tourism, regional planning groups, and non-profit organizations that promote the use of the byways to reach the many attractions of the North Country of New Hampshire. NCSBC is submitting these comments to the NH Site Evaluation Committee to document the extent to which the proposed Northern Pass Project will affect the North Country's scenic and cultural byways.

Four NH Scenic Byways Would be Affected by the Northern Pass Project

Three of the region's major scenic byways would be adversely affected by the proposed Northern Pass Project. These byways cover all of the major state roads and non-interstate US highways serving the North Country:

1. The Presidential Range Trail includes NH Route 302 from Littleton to Twin Mountain, US Route 3 from Twin Mountain to Lancaster, and NH Route 116 from Whitefield to Jefferson along with routes further south that go through Crawford Notch on NH Route 302 and then head north on NH Route 16 through Pinkham Notch (Figure 1).
2. The Woodland Heritage Trail includes US Route 2 from Gorham to Lancaster, US Route 3 from Lancaster to Groveton, NH Routes 110/110A from Groveton to Milan, and NH Route 16 from Milan to Gorham (Figure 2).
3. The Moose Path Trail extends from Gorham to Colebrook to Pittsburg to the Canadian border along NH Routes 16, 26, 145 and US Route 3 (Figure 3).

The local roads that are accessed from the scenic byways are in many cases even more rural, more scenic, and less touched by 20th century industrialization than the designated scenic byways themselves. Prime examples would include Prospect Mountain Road in Weeks State Park, Lost Nation Road between Groveton and Lancaster, the access roads to Forest Lake State Park in Whitefield and Dalton, and the access roads to Coleman State Park in Stewartstown. The state-designated scenic byways are not only designed to highlight routes for a pleasant afternoon drive; they also provide visitors safe access to historical, cultural and recreational resources throughout the North Country. The byways lead visitors through the historic centers of old mill towns such as Whitefield, Lancaster, and Groveton, to beautiful rural villages such as Stark, and to the remaining 19th century resort hotels in Bretton Woods, Whitefield, and Dixville Notch. It is not only the views from the byways that would be compromised by the proposed project, it is the views along the backroads that visitors and residents use to reach the region's attractions and the views they encounter when they reach their destinations.

Northern Pass recently announced that it could support burial of its proposed transmission lines for an additional 52 miles from just after where the existing right-of-way crosses Route 302 in Bethlehem to where it crosses Route 3 in Bristol. Because of this significant change, the proposed route would no longer affect the River Heritage Trail or the national White Mountain Byway, nor would it mar the iconic approaches to the White Mountains for visitors driving up Interstate 93. In addition, Northern Pass has proposed changing the tower designs and heights in order to reduce visual impacts in selected locations along the rest of the route. Nevertheless, the new version of the project would still require 40 miles of new right-of-way in Coos County, and only 8 miles of the line would be buried north of Route 302. The lines and towers would be visible for many miles along the region's byways, and they would also have adverse impacts on views from historic town centers, hiking trails, farmlands, lakes, rivers and streams. In short, the project as currently proposed would still interfere with the scenic vistas, recreational opportunities and cultural resources that NCSBC is trying to promote along our scenic byways.

Figure 1 Presidential Range Trail

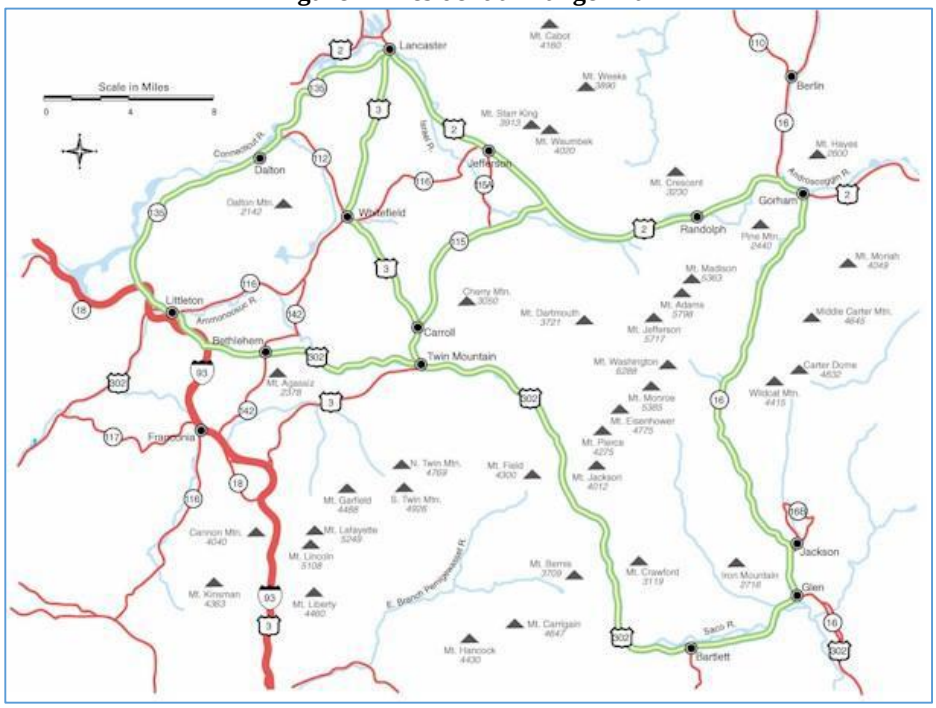


Figure 2 Woodland Heritage Trail

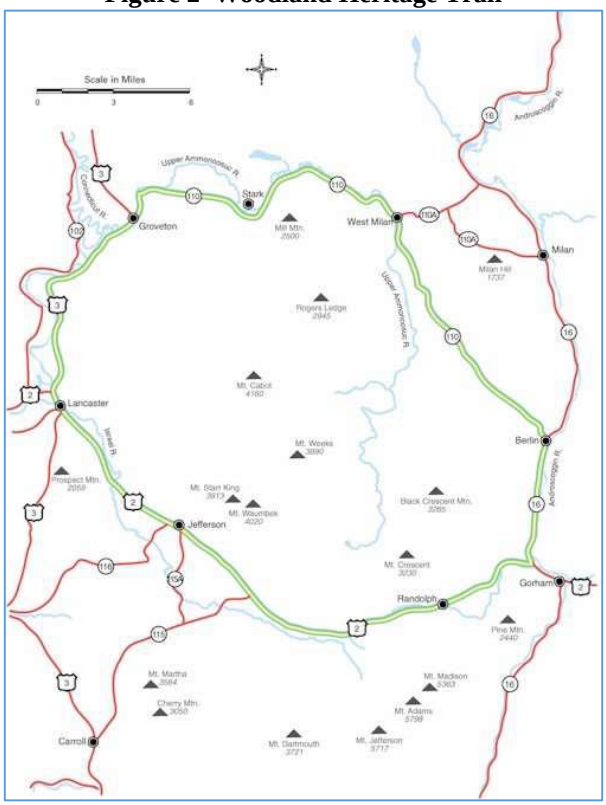
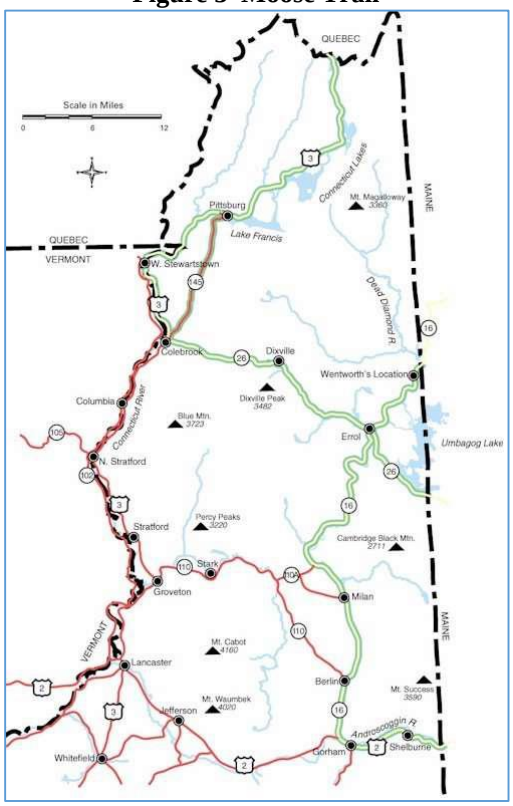


Figure 3 Moose Trail



The Proposed Northern Pass Project Would Cross the Byways in Eight Locations

The draft EIS for Northern Pass summarizes a variety of visual and socio-economic impacts of the original proposed route as well as various alternatives for burying some or all of the route. The draft EIS summarizes results for each alternative within three regions, which they call the Northern, Central and Southern Sections. Now that most of the Central Section would be buried along state or federal roads, our concern is primarily with the Northern Section, which extends from the Canadian border in Pittsburg to the southern border of Coos County (i.e. the town line between Whitefield and Bethlehem). For this section, the new route is nearly identical to the original proposed route (referred to as the preferred alternative or Alternative 2 in the draft EIS). The draft EIS also documents two routes for burying the lines in the North Country (Alternatives 3 and 4a):

- Alternative 2: the proposed route (which includes burial along 8 miles of state roads plus another 32 miles of new right-of-way).
- Alternative 3: burial in the proposed corridor.
- Alternative 4a: burial in the proposed corridor to the junction with Route 3 in Clarksville, then burial along Route 3 through Coos County and Bethlehem.

Alternative 2 would create a string of towers that are generally 70 to 120 feet high that would be visible from many locations along three of New Hampshire's scenic byways.[1] The overhead lines would cross these byways in eight locations:

1. Presidential Range Trail[2]
    a. Route 302 in Bethlehem
    b. Route 3 N of Whitefield
    c. Rt. 116 NE of Whitefield
    d. Rt. 116 again, E of Whitefield
2. Woodland Heritage Trail
    a. Rt. 2 SE of Lancaster
    b. Rt. 110 E of Groveton
3. Moose Trail
    a. Rt. 145 between Colebrook and Pittsburg
    b. Rt. 26 in Millsfield between Dixville and Erol

The draft EIS concludes that burial of the transmission lines would have no long-term visual impacts on the size of the viewshed, on views from within the viewshed, or on views from roads. Therefore, we can focus on the effects of the proposed project (Alternative 2) on our region.

2. Visual Impact of the Towers

If the project is constructed as proposed, then visitors to the North Country would suffer adverse visual impacts as they drive along the scenic byways and as they visit the attractions and wild areas that can be found along the byways. Visitors would have repeated views of massive industrial structures in what they expected to be a rural or wild region little touched by 20th century industrial development. The draft EIS analyzes visual impacts using two methodologies, one that examines the effects on views from specific locations and a more general one that considers average impacts on views over the entire region. This section reviews the results of the location-specific analysis; the results of the broader analysis are considered in Section 3.

The draft EIS uses a well-defined methodology that can be used to document the visual impact of the towers and transmission lines on visitors to the North Country. The methodology is based to a large extent on photo simulations of what the proposed towers would look like from 15 "key observation points" (KOPs) along roads, trails, and recreational sites. Experts in evaluating visual impacts quantified the visual impact of the existing and proposed towers by documenting what they termed the "contrast-dominance rating" for each photo. This rating varied from 0 to 45, depending upon the apparent size of the

[1]The lines would also be visible from Route 3 and Route 145 along the Connecticut River National Scenic Byway, which is managed by its own scenic byways council with representatives from both New Hampshire and Vermont.

[2] The Presidential Range Trail currently follows Route 3 from Whitefield to Lancaster. NCSBC has proposed adjusting the route to include Route 116 from Whitefield to Jefferson. Both routes are scenic.

structures and the extent to which the structures contrasted with the surrounding environment. The rating is higher for taller, more massive, closer structures that are located in a less developed, more pristine location. If the contrast-dominance rating is greater than 35, then the visual impact will be severe, which the draft EIS indicates would "likely be considered unreasonably adverse by a casual observer" (Table 1).

The photo simulations cover three situations of special interest to users of the scenic byways:

1. Views of towers at road crossings.
2. Views of a row of towers from a highway.
3. Views of towers from a scenic vantage point.

Table 1 Visual Contrast-Dominance Rating (draft EIS, Table 3-1)

Contrast-Dominance Rating	Numeric Value Range	Description
Severe	36-45	The visual change is very large, and in sensitive settings is likely considered unreasonably adverse by a casual observer.
Strong	27-35	The visual change is large and is likely to be considered adverse by a casual observer, and depending on the sensitivity of the setting it may be considered unreasonable.
Moderate	18-26	The visual change is clearly noticeable to a casual observer, and is likely to be considered adverse.
Weak	9-17	The visual change is noticeable, but so small as to be considered unimportant.
Negligible	0-8	The visual change is likely to go unnoticed by a casual observer.

Views of towers at road-crossings

One of the simulations (KOP BT-1) compares the view of the existing wooden poles with the views of a massive steel tower at the edge of Route 302 in Bethlehem, which is part of the Presidential Range Trail. The photos are taken from a point approximately 500 feet away from where the line crosses this scenic byway. In the existing case, the wooden poles are 579 feet away, and the draft EIS rates the visual impact to be "moderate," which is defined as "the visual change is clearly noticeable to a casual observer, and is likely to be considered adverse." In the simulated case, a steel tower that is nearly twice as tall is located closer to the edge of the road, and the visual impact is rated as "severe," which is defined as "the visual change is very large, and in sensitive settings is likely considered unreasonably adverse by a casual observer."

The views of steel towers would be similar at the seven other locations where the lines of the proposed Northern Pass Project cross the state's designated scenic byways. Since we consider any viewpoint along a scenic byway to be a "scenic setting," we would consider the construction of a steel tower so close to the highway to have an unreasonably adverse effect upon anyone driving along any of the byways hoping to enjoy scenic vistas. Moreover, repeated views of such towers will have a cumulative, negative effect and create an overall impression of industrial intrusion into a region known for its outstanding natural beauty and its cultural and historical heritage.

Views of a row of towers from a highway

In some locations, such as driving along Route 3 from Whitefield toward Pittsburg on the Moose Path Trail, visitors will have repeated views of a row of towers running along a nearby hillside. Under these circumstances, the towers will be intrusive, not merely for a couple of fleeting moments, but for a half-minute or longer along each of several stretches of the road. For anyone seeking the beauty, solitude and rural integrity of the North Country landscape, such intrusions will be highly unwelcome. For someone driving along a scenic byway, the visual impact would be similar to that illustrated in the draft EIS by KOP WD-3 in Woodstock, which shows how someone driving up Interstate 93 would view a row of towers climbing over a hillside clearly visible through the windshield. In the current case, the wooden poles are mostly hidden below the tree line. The nearest visible structure is 2,666 feet away, and the visual impact is "moderate". In the simulated case, the much taller towers are visible from 1,391 feet away, and the visual impact is "strong", i.e. "the visual change is large and is likely to be considered adverse by a casual observer, and depending on the sensitivity of the setting it may be considered unreasonable." The cumulative effect of coming across several such vistas when driving along a scenic byway would be even more unreasonable.

Views of towers from a scenic vantage point

The proposed lines and towers of the Northern Pass Project would not only be visible for many miles along the byways, they would be seen again and again as visitors traveled along local roads to visit nearby attractions, including historic town centers, hiking trails, farm stands, lakes, rivers and streams. Table 2 shows KOPs that illustrate the impacts on typical views that can be seen at many different points along and near the scenic byways. The first KOP documents the impact of a row of towers crossing a valley, as seen from a vantage point high above the valley. This KOP is in Weeks State Park, which is an attraction for travelers on either the Presidential Range Trail or the Woodland Heritage Trail.[3] Even from a distance of more than a mile, the visual impact would be moderate ("likely be considered adverse") when a row of steel towers is added. The next KOP shows the impact of adding a transition station and a row of steel towers to an area where there currently are no transmission lines. The visual impact goes from zero to strong ("adverse and possibly unreasonable"). The third KOP shows what a hiker or fisherman would see across Little Dummer Pond. Today, three structures are barely visible, but taller steel towers would clearly make a strong visual impact at a distance of a third of a mile across the pond. Similar viewpoints would be seen from hiking trails and logging roads along much of the proposed new right-of-way from Stark to Clarksville. The fourth viewpoint shows the severe visual impact of a row of towers across a field from a location at the side of a road. Similar "adverse" or "unreasonably adverse" views would be inflicted upon locations up and down the proposed route, including the town roads in Stark, Northumberland, and Lancaster that provide interesting side trips for those traveling along the Woodland Heritage Trail. For these representative vistas, the average impact of the existing situation is "weak," whereas the average situation for the proposed situation would be "strong".

Table 2 Impact of Northern Pass on Views from Scenic Vantage Points

Location	View	Number of Structures Visible: Current & Proposed	Distance to Nearest Structure	Existing Visual Impact	Visual Impact of Steel Towers
Lancaster (LA-2)	View from ledge at Weeks State Park down toward lines crossing generally open area below	15 (34 proposed)	5,985 feet	13 Weak	23 Moderate
Clarksville (CL-1)	Current view across fields toward forest and distant hills (no existing ROW)	0 (transition station plus 4 towers proposed)	1,450 feet	0 None	29 Strong
Dummer (DU-1)	View across Little Dummer Pond toward ROW on side of ridge	3 (6 proposed)	1,756 feet	9 Weak	29 Strong
Deerfield (DE-1)	Lines crossing field and then over a small ridge from Nottingham Road	17 (24 proposed)	301 feet (325 proposed)	28 Strong	42 Severe
	Average Impact			13 Weak	31 Strong

Summary and Conclusions from the KOP Analysis

The draft EIS only included simulations for 15 points, but these 15 points represent the entire range of possible conditions, from zero impact if nothing is visible (CL-1, existing conditions) to the severest impact for someone staring at a tall steel lattice tower from less than 40 yards away (LI-4). As illustrated in the above examples, the contrast-dominance ratings for these 15 points could be applied to any similar situations at any point along the proposed route. Complete results of the KOP analysis can be found in Tables A1 and A2 in the Appendix to this comment.

[3] Weeks State Park was donated to the State of NH by John Wingate Weeks, whose estate was located on the top of Prospect Mountain. Visitors drive up the mountain to visit his home and to enjoy panoramic views of the North Country from the stone tower that he constructed at the summit. Prospect Mountain Road, located wholly within the park, is another North Country scenic byway whose views would be affected by the proposed project.

In general, under existing conditions, the average visual impact is strong only when looking nearly straight down the ROW at a row of wooden structures. Distant views of a row of wooden structures are negligible or weak, while views from less than 1000 feet may have only a weak impact so long as the towers are mostly shielded by trees. The only severe impact is for a close-up view of an existing wooden structure.

When an additional row of taller towers is added, the average visual impact increases dramatically. All but three of the selected vistas from KOPs in the draft EIS have a strong or severe visual impact. The visual impact is severe in all seven instances where the nearest structure is less than 750 feet away, whether the view is toward a single nearby tower, a row of towers stretching left to right across the field of vision or a row of towers marching out into the distance. The visual impact can be strong ("adverse and possibly unreasonable") even if only a few towers are visible from a distance of nearly 2,000 feet (DU-1) or if several dozen towers are visible from a distance of more than a mile (LI-5).

Thus, DOE's KOP analysis supports several very important conclusions concerning the visual impact of the proposed Northern Pass Project on people using the North Country Scenic Byways:

- Visual impacts are likely to be "severe" for all locations where towers would be visible up to at least 750 feet from the line. According to DOE's definitions (see Exhibit 1 above), these impacts would be deemed "unreasonably adverse by a casual observer".
- Visual impacts are likely to be "strong" for all locations where towers would be visible from up to at least 1800 feet of the line. Such an impact would be deemed "adverse by a casual observer, and depending upon the sensitivity of the setting it may be considered unreasonable".
- Visual impacts may be moderate or strong even for distances up to two miles from the nearest tower. Even moderate impacts are "likely to be considered adverse" by a casual observer.

In short, the KOP analysis shows that the visual impact of the proposed towers would be "adverse" or "unreasonably adverse" for those people using the scenic byways to explore the North Country of New Hampshire. The strength of the KOP analysis is that it is based upon photographs taken from actual viewpoints that' would be of interests to travelers on scenic byways, to hikers or fishermen, or to people considering renting or purchasing property for weekends, vacations, or retirement. The weakness of the KOP analysis is that its results are spread across multiple sections of the draft EIS, and no attempt is made to show how the KOP analysis could apply to different locations.

Average and Aggregate Visual Impacts

The draft EIS used the KOP analysis to document visual impacts at a small number of specific locations. A different methodology was used to estimate the overall visual impact of constructing a new line of towers. This methodology considered the visual impact from roads as well as the overall visual impact for the region:

- The viewshed for the region was defined to be the area within ten miles of the proposed route where a viewer would be able to see some portion of the lines or towers.
- The viewshed for roads was measured as the miles of road from which a traveler would be able to see some portion of the lines or towers.
- The "visual magnitude" was an estimate of the objective impact of structures on a viewer, taking into account the size of the structures, the number of structures, and the distance to the structures. The visual magnitude was estimated on a scale from 0 (none) to 5 (very high). (p. 8-6 of the draft EIS).
- The "intrinsic visual quality" was an index of "the landscape's inherent potential for attractiveness, stemming from both landform and land cover classification" (p. 8-3). This index ranged from 0 for industrial development on flat land to 5 for such places as a mountain lake or forested mountains.
- The "scenic impact" took into account both the visual magnitude and the intrinsic visual quality, taking into consideration social concerns such as the "level of designation of a scenic resource, the importance of scenery to the dominant activity, and the potential for visual exposure to area residents." This was also an index that ranged from 0 to 5 for each point within the viewshed. (p. 8-5)
- The average visual magnitude and the average scenic impact were calculated for the viewshed of each alternative.

Table S-2 of the Summary of the draft EIS summarizes the visual impact of the proposed project by showing the net change in average scenic impact:

"The net change in visual resources is measured in comparison with the existing condition, Alternative 1, which includes the existing PSNH transmission line. The existing condition has a visual magnitude of 1.67 (Very Low to Low) and a scenic impact rating of 1.62 (Very Low to Low)." (p. S-18)

According to the Summary of the draft EIS, the visual impact of the project would be minor, as the proposed action would only increase the scenic impact from 1.61 to 1.79, which would still be "Very Low to Low." However, by showing the average scenic impact, this table fails to show the large increase in the area that would be affected. When the details of the analysis are examined, it becomes clear that the scenic impact would actually be much greater, as there would be an increase of 63% in the size of the viewshed for the entire project (Table 4-1) and an increase of 165% in the size of the viewshed in the Northern Section (Table 4-68).

The draft EIS does not present a unified measure that takes into account both the increase in the size of the viewshed and the increase in the average visual magnitude. However, aggregate measures can be easily be created by multiplying the average visual magnitude by the area of the viewshed or the miles of road that are affected. When aggregate measures are used, the visual impact of the proposed project can clearly be seen to be much greater than what is shown by looking at the minor increases in average impacts. The North Country Scenic Byways Council is naturally most interested in the effects of the proposed lines and rights-of-way on the Northern Section of the route. Various measures of the visual impacts for the Northern Region are presented in Table 3 for the region's viewshed and Table 4 for the region's roads. All of these measures come directly from the draft EIS.

Table 3 Landscape Assessment Impacts (from Draft EIS Table 4-68 and pp. 4-93 to 4-96)

	Alternative 1 No Northern Pass	**Alternative 2 Proposed Project**	**Alternative 3 Burial in Proposed Right-of-Way**	**Alternative 4a Burial Along Route 3**
Land Area in Viewshed (sq. miles)	20 sq. mi.	53 sq. mi.	20 sq. mi.	20 sq. mi.
Additional Land Area with High or Very High Visual Magnitude	-	6 sq. mi.	0	0
Average Visual Magnitude within Viewshed	1.25 (very low to low)	1.61 (very low to low)	1.25 (very low to low)	1.25 (very low to low)
Land Area with High or Very High Scenic Impact	0.7 sq. mi.	2 sq. mi.		
Overall Scenic Impact	1.11 (very low to low)	1.32 (very low to low)	1.11 (very low to low)	1.11 (very low to low)

Table 4 Roads-Based Analysis (from Draft EIS Table 4-69, pp. 4-94 to 4-96, and p. 4-117)

	Alternative 1 No Northern Pass	**Alternative 2 Proposed Project**	**Alternative 3 Burial in Proposed Right-of-Way**	**Alternative 4a Burial Along Route 3**
Miles of Roads within Viewshed	21	45	21	21
Miles of Designated Scenic Roads within Viewshed	3.4	9	3.4	3.4
Average Visual Magnitude within viewshed	2.18 (low)	2.49 (low to moderate)	2.18 (low)	2.18 (low)
Additional Overhead Road Crossings	N.A.	41	0	0

Table 5 shows how the aggregate measures of visual impacts can be calculated using data from Tables 3 and 4. The aggregate visual magnitude for the region (Table 5, row 3) is obtained by multiplying the land area of the viewshed (row 1) by the average visual magnitude (row 2). For the existing situation (Alternative 1), the average visual magnitude is 1.11 and the aggregate is 1.11 x 20 = 22.2. For the proposed project, the average visual magnitude is 1.61 and the aggregate is 85.3. While the average measure increased only 45% from 1.11 to 1.61, the aggregate measure increased by 284% from 22.2 to 85.3. The right-hand column of Table 3 shows the incremental changes, which are obtained by subtracting the measure for Alternative 1 from the measure for Alternative 2. The incremental change offers another way of looking at the impact of the proposed Northern Pass Project on the North Country: in addition to the existing 20 square miles where the average visual impact today is 1.11, there would be a much larger area where the average visual impact would be 1.91, or nearly twice as bad. Rows 4 to 6 of the table show a similar analysis for the visual impact on roads. The length of roadways with views of transmission lines would more than double, from 21 to 45, and the aggregate visual impact would rise from 46 to 112, an increase of 143%.

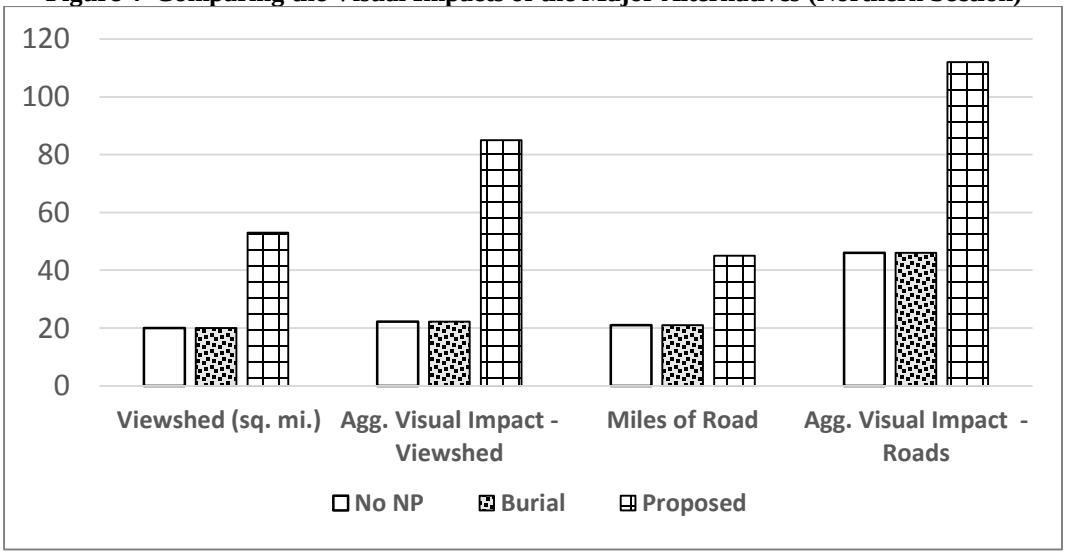
Table 5 Aggregate and Incremental Visual Impacts on Viewsheds and Roadways

		Alternative 1 No Northern Pass	**Alternative 2 Proposed Project**	**Increment**
	Viewshed Measures			
1	Land area of Viewshed	20 sq. mi.	53 sq. mi.	33 sq. mi.
2	Average Visual Magnitude	1.11 (very low to low)	1.61 (very low to low)	1.91 (low)
3	Aggregate Visual Magnitude (Sq. mi. of viewshed x average visual magnitude)	20 * 1.11 = 22.2	53*1.61 = 85.3	85.33-22.2 = 63.1
	Road Measures			
4	Miles of Roads	21	45	24
5	Aggregate Visual Magnitude	21*2.18 = 46	45*2.49 = 112	66
6	Average Visual Magnitude	2.18 (low)	2.49 (low to moderate)	2.75 (moderate)

Summary and Conclusions from the Analysis of Average and Aggregate Visual Impacts

Figure 4 shows that the proposed project would more than double the areas exposed to transmission towers and transmission lines; the viewshed would increase 165% from 20 to 53 square miles and the miles of roads exposed to the towers would increase from 21 to 45. The aggregate measures of visual impact would increase by an even greater amount. If the lines were buried, the visual impact would be negligible. Using average measures for the viewshed, as was done in the draft EIS, underestimates the visual impacts, which is why NC SBC recommends using aggregate measures.

Figure 4 Comparing the Visual Impacts of the Major Alternatives (Northern Section)



Summary, Conclusions, and Recommendations

The proposed towers will diminish the experience of those who travel along North Country Scenic Byways

The draft EIS documents the visual impacts of the proposed Norther Pass Project on the region traversed by scenic byways in the North Country. The North Country Scenic Byways Council is concerned about the following negative effects of the proposed project on people using scenic byways in the North Country:

1. The visibility of major transmission lines from our scenic byways increases considerably. The draft EIS estimates that the proposed towers would be visible from 9 miles of scenic byways in the Northern Section of the route, whereas the much shorter wooden towers are now visible only from 3.4 miles of scenic byways.
2. Views will be adversely affected in locations with iconic scenic or cultural significance, e.g. Stark Village, Weeks State Park, and the site of the Indian Stream Republic in Pittsburg.
3. The aesthetic approaches to the historic town centers of Bethlehem, Whitefield, Lancaster, and Groveton will be marred by transmission lines and towers.
4. The lines will adversely affect hikers, fishermen, campers and others who would come across power lines or views of power lines as they move off the byways to places like Lost Nation Road, Forest Lake State Park, Coleman State Park, Little Dummer Pond and the trails to the back country.
5. Hikers who travel beside the back country's lakes and streams and climb to the region's many remote ledges, hillsides, and mountain tops will be exposed to multiple views of industrial towers in a region noted for its natural beauty and remoteness. Locations that would be adversely affected include the iconic vistas from the Percy Peaks and many miles of the Cohos Trail, which goes through the same valleys that would be used for the new right-of-way through Coos County.
6. Repetitive views of industrial towers will diminish the scenic beauty, cultural integrity and historical interest of the entire region.

The North Country Scenic Byways Council is concerned that these negative visual impacts will diminish the unique scenic and cultural resources of the North Country, which would be contrary to the spirit and mission of New Hampshire's scenic byways. We believe that there would be fewer people using the trails exposed to the towers, that there would be fewer people canoeing and fishing in lakes and waterways exposed to the towers, that there would be fewer visitors to the attractions and towns that will be hemmed in by towers, and that there will be fewer locations suitable for second homes and recreational development. Tourism is a major industry in the North Country precisely because of the rural character of the region, the pristine wildness of its back country, and the miles upon miles of scenic byways that wend throughout the region.

The draft EIS ignores the impacts on tourism

The draft EIS briefly considered the impact of the project on tourism, but concluded that the effects could be ignored since they would likely be minor and would in any case be unquantifiable:

> *"Impacts to tourism appear to be more affected by macroeconomic factors such as the stability of the national economy and gasoline prices more than site-specific changes. While it is reasonable to conclude that the Project may have some level of impact to tourism within New Hampshire, and to individual locations proximate to the Project Route, these are not quantifiable." (p. S-20; also p. 4-15)*

The North Country Scenic Byways Council cannot agree with this assessment. Our byways will be diminished by the project. Our tourist-related economy will be hurt by the project. The scenic beauty and rural integrity of our region will suffer from this project. While it may be difficult to quantify the effects of Northern Pass on tourism, it is clear that Northern Pass as currently proposed will mar a vast portion of the North Country for decades to come. The members of the Site Evaluation Committee must acknowledge the scope of the visual impacts, consider total rather than average visual impacts, and examine how environmental degradation affects recreational opportunities and the tourism industry within an area noted for its natural beauty. Tourism is a major industry in the North Country, and it is the quality of the environment that attracts visitors, bus tours, second-home owners, and retirees from across the US and from overseas.

Burying the lines would avoid negative visual impacts

The draft EIS indicated that burial of the lines is feasible from both a technological and an economic perspective, and Northern Pass confirmed this conclusion by proposing a different technology that can be buried for long distances. If it is possible to bury the lines in roadways around the White Mountains, then it should also be possible to bury the lines down Route 3 (or other roads or railroads) in Coos County. Burying the lines would make it possible to obtain the economic benefits of the project without sacrificing the natural beauty and rural landscapes that attract people to the North Country via the region's scenic byways.

The SEC should require a thorough assessment of the impact of overhead lines on views, tourism, and property values

The draft EIS and subsequent materials developed by Norther Pass fail to produce a clear, complete assessment of the visual impact of transmission lines and towers on the region served by New Hampshire's scenic byways in Coos County and Bethlehem. Specific problems to be addressed include the following:

1. The overall visual impact cannot be represented by using the average impact over the viewshed, ignoring the fact that the size of the viewshed would more than double. We suggest using an aggregate measure that multiplies the average impact by the size of the viewshed as illustrated above in Table 5 and Figure 4.

2. The analysis of Key Observation Points (KOPs) clearly documents the adverse effects of towers on the views from a representative set of observation points. However, the draft EIS presents detailed site information and the photographic simulations in Volume 2, while scattering the contrast-dominance definitions, ratings and interpretations four different places in Volume 1. The SEC should require a better, more consolidated presentation and interpretation of the results of the KOP analysis, using a format similar to that in Tables A1 and A2.

3. The draft EIS's conclusions from the KOP analysis are much stronger than the conclusions from its analysis of the average visual impacts. The KOP analysis indicates that the actual visual impact would likely be adverse wherever the towers are visible from less than 1800 feet and unreasonably adverse wherever the towers are visible from less than 750 feet. In short, the views of the towers where they cross the scenic byways and local roads would all be unreasonably adverse and therefore detract from the experience of those using these roads to enjoy the scenic and cultural resources of northern New Hampshire.

4. The results of the KOP analysis provide a means of assessing the visual impact from any location within the viewshed of the project, ranging from a very distant view of a few towers to a close-up view of a massive steel lattice structure. The KOP analysis therefore can be used to document the extent to which the proposed project would cause adverse or unreasonably adverse visual impacts on locations within the viewshed of the project.
5. The SE cannot ignore the visual impacts of the towers on tourism. The KOP analysis indicates that views of the towers from within 1800 feet will be considered to be adverse or unreasonably adverse by the casual observer. Tourists traveling New Hampshire's scenic byways are much more than "casual observers," as they come to northern New Hampshire precisely because there is so much to be seen. Those who consider spending their weekends, vacations or retirement in New Hampshire will be much less willing to rent or purchase property where the views are "adverse or unreasonably adverse."

In conclusion, the North Country Byways Council believes that the proposed Norther Pass project would have a highly detrimental impact on the scenic and cultural byways of Coos and northern Grafton Counties.

App**endix**
Consolidation of the Results of the Draft EIS's Analysis of the Impact of Transmission Lines on Key Observation Points[4]

Table A1 Visual Impact of Existing Situation

Location	View	Number of Structures Visible	Distance to Nearest Structure (feet)	Visual Impact
CL-1	View across fields toward forest and distant hills (no existing ROW)	0	-	0
Franconia (FR-2)	View from summit of Mt. Lafayette	6	34,443	7 Negligible
Dummer (DU-1)	View across Little Dummer Pond toward ROW on side of ridge	3	1,756	9 Weak
Lincoln (LI-2)	Driving north along Interstate 93 where it enters Franconia Notch State Park	5	10,491	10 Weak
Lancaster (LA-2)	View from ledge at Weeks State Park down toward lines crossing generally open area below	15	5,985	13 Weak
Campton (CA-1)	View to north at Exit 28, where existing ROW climbs Sunset Hill	4	758	16 Weak
Woodstock (WD-3)	Driving north along Interstate 93 just north of Exit 31 where towers climb across a ridge almost directly in front of viewer	6	2,665	21 Moderate
Concord (CO-1)	View of three rows of lines next to a shopping center	6	737	22 Moderate
Bethlehem (BT-1)	View across small pond where existing ROW crosses Route 302	2	579	24 Moderate
Concord (CO-4)	View from boat ramp across Turtletown Pond toward lines extending along shore	10	1,058	25 Moderate
Lincoln (LI-5)	View from Appalachian Trail near summit of S. Kinsman toward Bog Pond	25	9,320	25 Moderate
Deerfield (DE-1)	Lines crossing field and then over a small ridge from Nottingham Road	17	301	28 Strong
Woodstock (WD-4)	View along ROW where it crosses the Gordon Pond Trail	5	507	28 Strong
Easton (EA-3)	View from where ROW crosses Route 116 looking east toward Kinsman Ridge	7	129	32 Strong
Lincoln (LI-4)	Where the ROW crosses the Appalachian Trail at its intersection with the Reel Brook Trail, looking at the nearest tower	1	105	36 Severe
Average				18 Weak/ Moderate

[4] Source of data: details of KOP from Volume 2 of the draft EIS; contrast dominance ratings and qualitative interpretations from Sections 4.2.1, 4.3.1 and 4.4.1 of the draft IES.

Table A2 Visual Impact of Proposed Situation

Location	View	Number of Structures Visible	Distance to Nearest Structure (feet)	Visual Impact
Franconia (FR-2)	View from summit of Mt. Lafayette	16	35,412	11 Weak
Lincoln (LI-2)	Driving north along Interstate 93 where it enters Franconia Notch State Park	8	10,155	17 Weak
Lancaster (LA-2)	View from ledge at Weeks State Park down toward lines crossing generally open area below	34	5,981	23 Moderate
Lincoln (LI-5)	View from Appalachian Trail near summit of S. Kinsman toward Bog Pond	38	9,411	27 Strong
Dummer (DU-1)	View across Little Dummer Pond toward ROW on side of ridge	6	1,756	29 Strong
CL-1	View of new transition station at transition between towers and burial, across fields toward forest and distant hills	5	1,450	29 Strong
Woodstock (WD-3)	Driving north along Interstate 93 just north of Exit 31 where towers climb across a ridge almost directly in front of viewer	11	1,391	32 Strong
Concord (CO-4)	View from boat ramp across Turtletown Pond toward lines extending along shore	13	1,058	33 Strong
Concord (CO-1)	View of three rows of lines next to a shopping center	7	749	36 Severe
Campton (CA-1)	View to north at Exit 28, where existing ROW climbs Sunset Hill	12	649	37 Severe
Bethlehem (BT-1)	View across small pond where existing ROW crosses Route 302	3	509	40 Severe
Deerfield (DE-1)	Lines crossing field and then over a small ridge from Nottingham Road	24	325	42 Severe
Woodstock (WD-4)	View along ROW where it crosses the Gordon Pond Trail	10	502	41 Severe
Easton (EA-3)	View from where ROW crosses Route 116 looking east toward Kinsman Ridge	25	126	43 Severe
Lincoln (LI-4)	Where the ROW crosses the Appalachian Trail at its intersection with the Reel Brook Trail, looking at the nearest tower	1	117	44 Severe
Average				32 Strong