

Route Selection on the Vermont Central

Or, Why take a train through Northfield when you could straight to Montpelier and save five miles?

By David Emery*

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of Professor Gary Lord.

The idea of a railroad in Vermont was first broached in the 1830's, when the suburban areas of Boston and New York were developing rail systems that travelers from Vermont used to go to the "Big City". These were progressive times, reform movements were prevalent in all phases of life, and the general mood was one of progress. The town of Rutland is said to have gone "railroad crazy."¹ The idea of a railroad was to connect Vermont with new England on one side, an upstate New York and the West on the other, providing a through connection and local service to both markets.

Two prominent Vermonters turned to the idea of building a railroad in the state. The first was Judge Timothy Follett, a steamboat magnate, and the president of the Rutland Railroad. The other was Governor Charles Paine, the first president of the Vermont Central railroad. These two men and their firms were to race to see who could get the first train into Burlington. The Rutland won by two weeks.

The purpose of this paper is to examine the controversy surrounding the route of the Vermont Central in its drive to Burlington. The name of Charles Paine will figure prominently in the controversy.

The foundation of the problem was the route from Royalton to Montpelier. Two routes were proposed, one to pass through the Williamstown Gulf, a narrow pass with steep hillsides bordering it, and the other was through Northfield, Charles Paine's hometown. The latter route was six miles longer than the former, and missed Montpelier by two miles.

The Vermont Central Railroad was chartered on November 10, 1835. The charter read, in part, that the railroad be organized "For the purpose of and with the right and power of constructing, a single, double, treble or quadruple railroad or way from some eligible point on the eastern shore of Lake Champlain, thence following the valley of the Onion River and

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¹ Jim Shaughnessy, quoted in Green Mountain Heritage, by the Northfield Town History Committee, Phoenix Publications, Cannan, NH 1974, pg 134.

extending to such point on the Connecticut River (as shall provide connections to a railroad to Boston.)”²

The charter gave the incorporators the right to sell stock in the corporation. The capital was fixed at \$1,000,000.³ Stock was sold subject to the condition that “Said Railroad be so located as to extend from some point on the eastern shore of Lake Champlain to a point on the Connecticut River convenient to connect with the Cheshire Railroad so as to receive said railroad, and make a route from the Lake via Montpelier, Keene and Fitchburg to Boston.”⁴

Provisions for the connections with the Cheshire Railroad was due to a backroom deal by Charles Paine to insure that his railroad would be guaranteed a link to Boston, and that his competitor Follett was unable to make that connection. The clause that the railroad pass through (via) Montpelier was destined to be a sore spot to the railroad.

The Vermont Central Railroad was rechartered in 1843 and the stockholders met formally on July 23, 1845, to elect the directors for the corporation. Charles Paine of Northfield, Samues L. Lewis of Boston, Daniel Baldwin and James Langdon of Montpelier, and John Peck of Burlington were so elected. They met and named Charles Paine as President, Samuel Walley of Boston as Treasurer and E P. Walton of Montpelier as Clerk.⁵

In 1844 a railroad ‘Convention’ was held in Montpelier. The participants, all interested citizens and/stockholders in arious Vermont railroad schemes, voted to survey a route for a railroad from the Connecticut River to Lake Champlain by way of the White and Onion Rivers. Charles Paine was named chairman of the committee chared with hiring the surveyor. He hired T. J. Carter to survey a route. Carter does not say what exactly were his instructions, but he does imply that Paine gave him a specific route to survey. Carter states, in his letter of introduction to his Surveyor’s Report: “I submit the following report ... upon the proposed route for the Vermont Central Railroad, ...”⁶ The surveyor’s job was completed in the summer of 1844.

Carter describes the route: “The route from the Connecticut River continues in teh valley of the White River, through Hartford, Sharon, Royalton, to Bethel; thence up the west branch through Randolph and Braintree, to the

² Charles Spooner Forbes, “The Vermont Central Railroad” The Vermonter, November 1932, pg 237.

³ Walter Hill Crockett, Vermont, the Green Mountain State, Century History, Co, New York, 1921, v III, pg 255.

⁴ Papers of S. F. Belknap, at Baker Library, Harvard University. Copies at the Norwich University Library.

⁵ Northfield Town History Committee, Green Mountain Heritage, op.cit, pgs 122-142.

⁶ T. J. Carter, Report of the Route Surveyed for the Vermont Central Railroad, Dickinson, Boston 1845, pg 3.

summit at Roxbury; thence down the course of the Dog River through Northfield and Berlin to the onion River, near Montpelier; thence in the valley of the Onion River, through Middlesex, Waterbury, Richmond and Essex; thence leaving the river, passing through Williston and Burlington, to Lake Champlain.”⁷

The middle section of the route was the part that caused the fuss. The details of the route are as follows:

“The line then continues on the north side of the river about 4 miles to West Bethel, where it enters the valley of the Third Branch of the White River...

The route pursues the valley of this stream, crossing some points of the highlands and ravines by a succession of excavations and embankments, and extending to West Randolph. From thence, ... continues on a very level and favorable ground through Braintree to a corner of Granville, where the ascent becomes greater, and will require the maximum grade of 50 feet per mile to overcome the rise to the summit at Roxbury.

After passing the summit, the descent on the west side is more rapid, and will require the maximum grade of 50 feet per mile, and from the broken nature of the country, by abrupt and deep ravines in the valley of the Dog River, will increase the amount of excavation and embankment.

In following the course of the Dog River, we are obliged to adopt a grade of 50 feet per mile for about 4 miles, and extending near to Paine’s factory [in Northfield]. From the factory pond to the mouth of the Dog River, the descent is 210 feet, and distance 8.4 miles, and will require a grade from 35 to 40 feet per mile for about 4 miles.”⁸

The connection to Montpelier was to be accomplished by the construction of a pur, either from Berlin to Montpelier, or by backtracking down the Onion River from the junction with the Dog River, into Barre and Montpelier. This meant that passengers wishing to go to Montpelier had to go to what is now called Montpelier Junction, and backtrack into the capital city. Also, Montpelier would lose any advantage it would have from being on a main rail line.

Anyway, this route stirred up a lot of fuss, as the people of Montpelier and other towns bypassed by the selection of the Northfield route felt slighted, and those residing in Montpelier felt that the conditions under which they bought stock were violated.

⁷ Carter, pg 4.

⁸ Carter, Pg 5.

It appears that a Montpelier resident named Colonel Thomas Reed was the chief spokesman for the protestors. Reed, apparently a man of some note, held 100 shares of stock in the railroad, making him one of the larger local stockholders. He was also very active in the sale of Railroad stock to other local residents.⁹

Carter mentioned in his survey that there was an alternate route through the Williamstown Gulf, and this was the route the Montpelier people wanted. The parties interested in the adoption of this route nominated a committee, consisting of G. W. Collamer, Leonard Keith and Walter Burnham, to hire an engineer to survey this route. It was their contention that such a survey would show the Williamstown Gulf route to shorter, and the better route.

This second survey was conducted by George Leonard. The work was carried on during the summer of 1845. Leonard describes this route as follows:

“The line surveyed is favorable for the construction and operation of a Railroad. It is tolerably straight. Most of the curves will be gentle, and no curve will require a radius of less than 1400 feet. The grades are generally moderate. The steepest is in Williamstown, and ascends 43 feet per mile for 2½ miles: the next in order is barree, and ascends 42 ½ feet per mile for 4 miles: but one more deserves notice; it is in Williamstown and Brookfield, and descends 40 feet per mile for 5 miles.”¹⁰

The supporters of the Gulf Route voiced these comparisons of their route to the Northfield route. They state:

“We have no doubt that the grades are steeper than those on the Gulf route; the summit in Roxbury is undoubtedly higher than ours. ... The report of the Northfield survey states definitely that “in following the course of the Dog River we are obliged to adopt a grade of 50 feet per mile for 4 miles.” We have no such grade as this. The report also states that from a corner of Granville to the summit will require a grade of 50 feet per mile. How long this plane is we cannot learn the inhabitants near the spot say the nearest corner of Granville is five miles from the summit in Roxbury. ... Much of the line is unquestionably more crooked than ours, and has shorter and more abrupt curves.”¹¹

The supporters of the Gulf route also point out the economic benefits of the Gulf route, alluding to the limestone and granite quarries, and some industrial development in Barre, as well as a much greater number of inhabitants to be served.

⁹ Col. Thomas Reed, letter to *The Patriot*, Dec 1845.

¹⁰ George Leonard, Report of the Survey of the Gulf Route, Lothrop and Bense, Boston, 1845, pg 3.

¹¹ Leonard, pg 10.

In order to consider the question of the conflicting routes, there was a public meeting held in Montpelier on November 3, 1845. The meeting served to air the differences between the two roads. It was decided that at this meeting to hold another public meeting later on, with the purpose of studying a report comparing the routes. At this second meeting, it was decided that the routes needed to be resurveyed. During the discussions at these meetings, Charles Paine refused to vote, citing conflict of interest. While this second resurvey was in progress, Col. Reed wrote a paper to the local newspaper, advising his supporters not to refuse to pay their allotments, asking them to have faith in the company, and saying that "The road will ultimately be laid where nature, the legislature, and the stockholders designed it should be, viz, Montpelier."¹²

Samuel Felton, later to become chief engineer of the road, presented a reexamination of the two routes for the second public meeting. In this report, Felton cited the hazards of the Gulf. He spoke of the steepness of the slopes, and numerous signs of landslides and snowslides. He concluded that "Under all these circumstances, I cannot hesitate to pronounce the plan that has been proposed, to build a railroad by cutting into the steep side slopes of the hill altogether unsafe and unpracticable. Such a mode of building would cut off the connection of the roots, which now hold the slopes together, and loosen and disturb the masses which lie, as it were, connected with each other, and they be constantly tumbling down into the bed of the railroad, to endanger the passage of trains."¹³ Felton then recalculates the cost estimates for each line, and concludes that the roadbed on the Gulf route would cost almost 60% more than the Northfield route, and with all of the advantages of the Gulf route figured in, would still cost \$87,000 more than the Northfield Route.

On January 16, 1846, Felton presented the final report of comparison between the two routes. He stated that the Gulf route would be even more expensive than he first thought, due to a very instable road base through the Gulf. He came up with a final estimate of cost for the Gulf route of \$1,360,000 and \$912,000 for the Northfield route. Felton figured that the Gulf route will cost about \$420,000 more than the Northfield route.

At this January 16 meeting, the final vote was taken and the road was slated to go through Northfield. The group of stockholders still supporting the Gulf route then withdrew their support from the company. Although not a great majority, they did constitute an important body of local support for the railroad. The contractor, S. F. Belknap, and Charles Paine, two days later turned over the first shovel of dirt for the Northfield Depot, and construction was underway.

¹² Col. Reed, Letter to *The Patriot*, Dec 1845.

¹³ First Annual report of the Directors of the Vermont Central Railroad. Montpelier, E. P. Walton, 1846, pgs 18-20.

The central figure in this story is Charles Paine. The Railway and Locomotive Historical Society's study of the Vermont Central had this to say of Paine's influence in the selection of the route:

"Charles Paine had his way in making the change.

Paine had his residence and place of business in the growing town of Northfield. He was inordinately proud of the place. And he became determined that the new railroad, that he headed, should not pass it by. He was a stubborn man and had his way in the matter."¹⁴

However, Paine needed no motivating pride to want the railroad in Northfield. Paine sold the railroad the land for much of the right of way within Northfield, the shops and engine house, and for the depot building that also housed the general offices of the railroad. The depot was located across the square from the hotel that Paine owned. Financially, the railroad would be a boon for Northfield and Charles Paine.

As previously asserted, Paine was probably responsible for the initial route given to Carter to survey. Since he was both President of the railroad, and Chairman of the Survey Committee, he had considerable power in this matter.

The conduct of Paine during the public hearings over the two routes and during the meetings of the directors is unknown. It would appear, however, that he was quietly stubborn in his way, and that, even if he did not enter the argument, his opinion was well known. Incidentally, Paine left the railroad and the state 10 years later, under charges of mishandling railroad money. There was a fire in the general offices of the railroad the night before he disappeared.

Except for the back room influence of Paine, the debate over the route to be selected was conducted in a very fair manner. There were several public meetings in which the issue was debated, and both sides were heard. Col. Reed, the leader of the opposition, showed considerable restraint in his letter to his followers, advising them not to refuse to pay their assessments, and to have faith in the company. Only when all other resources failed did Reed then refuse to pay his assessments, and withdrew his support from the company.

A question worth considering is: Did the route eventually adopted actually violate the provisions of the stock sale? The answer is a marginal yes. The railroad did not pass through Montpelier. Montpelier was accessed by a spur of about 2½ miles in length, which is not a great distance. However, that spur was built 7 years after the completion of the main line. The loss to Montpelier was not in traffic headed to Montpelier, but rather in revenue

¹⁴ Edward Hungerford, Vermont Central, Central Vermont, Railway and Locomotive Historical Society, Boston, 1942, pg 11.

from traffic stopping by in Montpelier, on its way to somewhere else. The letter of the law requiring the railroad to go through Montpelier was only marginally disobeyed, but the effect was substantial.

It is beyond the scope of this paper to analyze the geological aspects of the route. Map studies do indeed show the steep hillsides alluded to by Felton, and Felton's analysis of the danger of slides is probably quite accurate. However, VT Route 14 does go through the Gulf, and it takes about the same amount of room to install a railroad as to install a 2 lane highway. We could conclude that the existence of a road indicates that the actual risk was less than estimated.

Engineering considerations are also beyond the scope of this work. However, it is appropriate to mention that Felton's estimates for the Northfield route, although expensive when compared to contemporary railroad costs, proved to be quite accurate. Therefore, if we assume no bias on Felton's part in the preparation of the Gulf route estimates, we can accept his figure of \$420,000 more for the Gulf route as correct.

Then we can finally judge the route selection on the basis of economic considerations, and those have the blessings of hindsight. Northfield did not live up to the potential asserted for it by Paine, and the granite industry of Barre grew greater than was predicted. In fact, Barre supported several small railroads at the height of the railroad age.

One of the major uses of the Central Vermont today is as a bridge route from Canada to New England. The characteristic of a successful bridge route is speed and efficiency in moving through freight trains across the state. For this, the Gulf route might easily have proven to be the more efficient route, if the predictions of landslides or additional snow removal had proven to be overstated.

The main question is: Which route was better? Looking back, one can conclude that a route that included the towns of Montpelier and Barre, instead of the town of Northfield, would be better economically. During the initial phases of the railroad, each route had good and bad features which tended to cancel each other out. In a way it was an even bet to go through Northfield, and since Montpelier and Barre eclipsed Northfield, one can argue that Paine lost his bet. Over the long run, the Gulf route would likely have been the better router, if it were physically and economically feasible at the time of the railroad's construction.

Annotated Bibliography (Dec 1977)

The topic of this paper concerns the selection of the Northfield Route over the Gulf Route by the Vermont Central Railroad. This topic was suggested by Professor Gary Lord.

An initial overview of the situation was provided by the Town History for Northfield, Green Mountain Heritage (by the Northfield Town History Committee, Phoenix Publishers, Canaan NH, 1974.) The authors give an overview of the controversy, without making judgment. Their account is based on studies by local residents, and by a letter from an official of the Vermont Central Railroad is quoted in full. The latter is based on the letter writer's examination of some old railroad records, but these records are not cited.

The next step was to consult a history of the Vermont Central Railroad a book cited in the Northfield Town History. This book was Vermont Central – Central Vermont, A Study in Human Effort, by Edward Hungerford, et.al., The Railway and Locomotive Historical Society, Boston, 1942. The authors of this book used both the papers of the railroad and materials located in Harvard's library system. The book is well researched, but the mention of the actual debate over the route selection is brief, as that incident played a minor role in the development of the railroad. This book suffers from the fault of no documentation. There is not even a bibliography, so one is forced to trust the authors in their contentions.

The Vermont State Historical Society Library proved to be paydirt for reference material. Here was found the Vermont Central history and a magazine article in The Vermonter History of the Central Vermont, vol 37 numbers 11 & 12, Charles R. Cummings, White River Junction, 1932. but the best material was in the original reports of the railroad.

In The Report of the Investigating Committee of the Vermont Central Railroad Company to the Stockholders, July 1, 1853 (Geo. C. Rand, Boston, 1854), the Investigating Committee presented a summary of the events surrounding the controversy of the route selection. This included an event-by-event account of the principal points of the debate, including the names of the principal protagonists.

However the best sources of information were in a file of loose papers indexed under the Central Vermont Railroad, consisting of summaries of speeches, stockholder letters, and some other miscellaneous documents, most of which were probably the property of Col. Thomas Reed. Col. Reed was the leader of the opposition to the Northfield route and a Montpelier citizen of note. He was also a rather large stockholder in the Railroad.

Saving the best for last, real gold was struck in a bound volume of Addresses and Reports in Vermont, again at the Vermont Historical Society Library. Contained therein were three pamphlets, the first a survey of the Northfield

route, the second a survey of the Gulf route, and the third, an evaluation of both routes ordered by the railroad. At least one of these pamphlets was the property of Col. Reed, and I would guess that they all were. Report of the Route Surveyed for the Vermont Central Railroad is the title of the first booklet (by T. J. Carter, Engineer, published by Dickinson, Boston 1845.) Carer, the surveyor of the route, presents in detail the nature and path of the route, including technical details over the engineering of the roadbed, and cost estimates. The only technical data lacking are the exact slope calculations and the curve radii at critical sharp curves along the route.

The second pamphlet is entitled Report of the Survey of the Gulf Route, by George Leonard, Engineer, published by Lothrop and Bense, Boston 1845.) This report is much more detailed than the Carter report, although it covers a much smaller section of the entire route. Geologic considerations, slope and curve radii data are all presented, along with cost estimates. The back cover has a foldout of the route, with the pertinent information presented graphically.

The third gem is the First Annual Report of the Directors fo the Vermont Central Railroad to the Stockholders, by Charles Paine & the Board of Directors, with appendixes written by Samuel M. Felton, Chief Engineer, published by Walton and Sons, Montpelier, 1846). The report of the Board of Directors mentions the conflict over route selection, and refers the reader to the appendix. This appendix is a critical comparison of the two routes by the railroad's chief engineer. Felton first blasts the accuracy of the Gulf survey, and then analyzes the two routes in terms of geology and costs, and casts his vote for the Northfield route. Also tacked to the front cover of this booklet is a newspaper ad by Thomas Reed criticizing the route selected. The cover of this booklet has Reed's name on it.

The last major reference source used is a set of copies of the papers of F. S. Belknap, the contractor for the road. These were obtained from Harvard's Business School Library. These proved to be a disappointment, as they primarily consisted of financial records, and records from court proceedings between the railroad and Belknap's estate, concerning breach of contract and bonds posted for damage, etc. Belknap went bankrupt halfway through the construction of the road, and died a few years later. The railroad sued to recover its losses sustained through Belknap's bankruptcy.

Sources available for further research into this topic include a Master's Thesis on the development of the Vermont Central Railroad at UVM, the papers of the Central Vermont Railroad at St. Albans, and other papers stored at Harvard. Many amateur historians have been involved in this question, notably Dr. Scott Pedley. Mrs. Julia McIntyre could be of assistance to determine the location of some of the sources used in the Northfield Town history.

