

Transcribed Excerpts from "Engineer's Report" in *The Davenport Gazette*, January 9, 1851

Davenport & Iowa City Rail Road [sic]

Engineer's Report

To Le Grand Byington and others, Directors of the Davenport and Iowa City Rail Road [sic] Company:

GENTLEMEN:--It is a very common and natural impression amongst persons who possess but a superficial knowledge of the subject, that a route for Rail Road can be established wherever their peculiar interests lead them to desire it. When, however a great line has to be located, there is but one course for an engineer to pursue.-- ... he must be governed by those mechanical principles upon which the efficiency of a Railroad depends. What appears to others perfectly feasible, he frequently regards as injurious to the objects of his survey. The Davenport and Iowa City Railroad is one of unbounded importance, and involves in its operation, not merely benefits to the immediate district through which it passes, but the interests of a wide spread country, and the welfare, at no distant day, of immense population...My examinations, corroborated by subsequent measurement, have enabled me to decide that there is no other route that is in any respect comparable to the one selected...

The surveyed line ... is fifty-four miles, over ground generally very favorable for construction ... The character of the line, which, in its general and essential features preserves ... that uniformity of light grades and easy curves which will render it superior to a majority of Railroad; and will hereafter, in connection with its course, establish its claims as part of the line of the contemplated National Railroad to the Pacific...

To show why this route which has been surveyed, will have the preference over any other...I will direct your attention to some of the primary principles upon which the efficiency of Railroads depends ... The direct benefits of Railroads arise, first, from the cheapness with which they transport the products of the farmer, miller and artisan to market, and bring back the goods and merchandise which are required in exchange. And second, from the great saving of time, and from the ease and comfort they afford to passengers. And collectively, from the influence they exercise by these means, upon the prosperity of the country through which they pass. The charges for the transportation of freight and passengers on most Railroads are low in comparison with the prices on common roads; but low as they usually are, if the business of a large agricultural district is dependent upon them, a still greater reduction ... is of vast importance ... to the prosperity of such districts. Cases sometimes occur in which a whole crop is

kept out of the market, because a Railroad upon which it is dependent for transportation, has been located where heavy grades compel the company to keep up their prices to the prohibitory point ... On a grade of 19 feet in a mile, double the power is required which is needed on a level; on 38 feet in a mile, three times the power must be used; four times at 57 feet, and five times at 76 feet in a mile. To this must be added the force requisite to overcome a similar increase of resistance occasioned by the augmented weight of the locomotive, and by the extra friction of all the working parts ... Where the traffic of a road demands a maximum load to reduce the charges on produce to the lowest rate every grade becomes a serious obstacle, and the extra expense in consequence of bad location becomes an unnecessary tax upon the prosperity of the community.

It is for these, among other reasons, gentlemen, that I congratulate you upon the ascertained existence of a route where a Railroad can be cheaply constructed, adapted to the wants of this community, and upon which, in connection with the Rock Island and Chicago road, the agricultural products of Iowa, will find their way to the best market, at the least cost--where high speed may be adopted with more safety and economy than on most railroads--and on a line susceptible of receiving every advantage from mechanical improvements which can never be applied to railroads with high grades.

There is another reason which militates greatly in favor of this route. It is exactly adapted for the extension westward of the Rock Island and Chicago railroad to be connected at first by a ferry, but within a few years, by a high bridge across the Mississippi, opening an uninterrupted communication at all seasons of the year, with the great system of railroads in Illinois and the other states, and in consequence, establishing the Davenport and Iowa City railroad as part of the great National trunk railroad from the Atlantic by way of Council Bluffs, the Platte valley and the South Pass to the Pacific...

The general effect of railroads have gone far beyond any thing [sic] that was anticipated. In Europe and the eastern states, it has been universally found that where the cost of transportation has been diminished one half, the amount of business has increased four times and frequently ten fold. But if the results abroad are astounding, a still mightier revolution will be brought about in this western world. Here the economy of labor is rendered doubly effective from the general fertility of the soil, and from the facility with which it is brought into a state of cultivation...

A railroad is capable of extending its influence over an area of country 3000 square miles, and ... would supply the market with 3,000,000 bushels or 88,235 tons [of wheat], and whilst it would bring in an income of \$88,235 for the railroad, the farming community would gain \$2,117,54 or an extra profit to each farmer of \$51,50 on his wheat crop alone. In addition to this, the market would always be a certain one, and the whole produce of his crop would be realized in cash, which is far from being the case in Iowa at present ... It is well known that the annual influx of emigrants into Iowa is very great--the location of a railroad would not only increase this number, but would give a new direction and great impetus to improvement. The wants of this population,

locating in a country of great fertility, well provided with fine water power, and under the stimulus of a railroad, would soon attract the presence of men of enterprise and capital ... Public attention East is directed to a great western railroad, and ... Two great points on the Mississippi are already fixed upon, at St. Louis and Rock Island ... The natural advantages of Rock Island, of the line which you had surveyed, and of the extensive country west of Iowa City will create more and more interest as they become more thoroughly known. Lying directly west of Chicago, being on the nearest and best route, possessing facilities for bridging the Mississippi ... and in connection with the suspension of navigation in the winter, the Rock Island road is now commanding in the great eastern cities the attention and decided preference to which its multitudinous advantages entitle it. It is not, however, the Mississippi alone which is the source of interest. The "far west" is also sought for. Soon Council Bluffs will be the point, and still the march of improvement will be onward up the great valley of the Platte. It is time for the State of Iowa to be alive to her interests, and to appreciate the great movement which is now agitating the eastern world ... Your railroad route is not only exceedingly favorable in itself, but is in the direct line of the great national thoroughfare--and there is no instance upon record, of a railroad upon a great public line, however, expensive, which has not, when properly managed, paid enormous dividends, and promoted to a wonderful degree, the prosperity of the country through which it passed. Your undertaking can be accomplished for a sum comparatively small, and every circumstance connected with its operation will contribute to render it profitable. I trust, gentlemen, your efforts for the construction of the first rail road [sic] in Iowa will be properly appreciated. It is an undertaking in which all the people of the State are, directly or by indirection, deeply interested for the whole population must collectively, if in different degrees, feel its benefits. I consider it, therefore, my duty to repeat in conclusion the convictions heretofore expressed, that the surveyed route of your road, as a section of the great central road through Iowa, is far superior to all others, because it is so strongly marked by the hand of nature, that there could be no hesitation in the selection...

Very respectfully, your ob't Servant,

RICHARD P. MORGAN