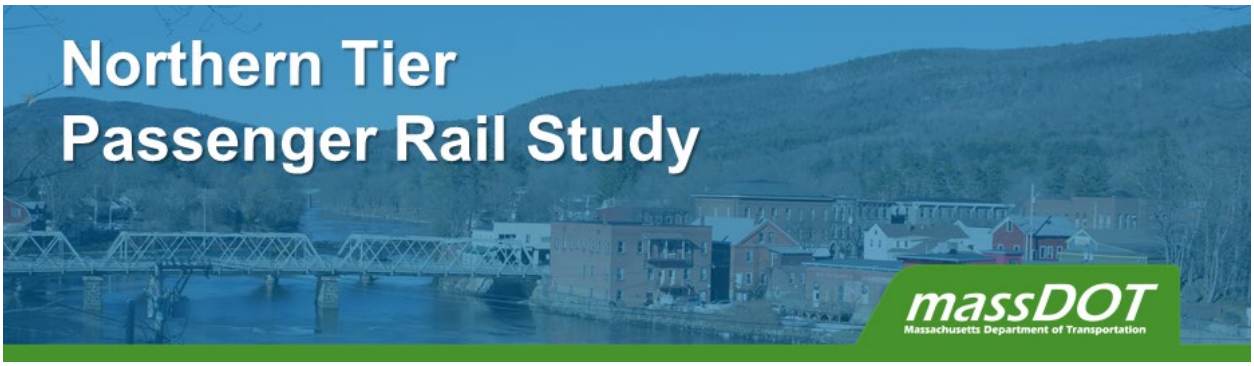

Issue Date: 07/29/2022

Recap of Public Information Meeting #1

The first Public Information Meeting of the Northern Tier Passenger Rail Study was held on July 14, 2022. At this meeting, the Study team shared an overview of the Study's background, reviewed the existing conditions analysis, and garnered feedback on issues and opportunities along the corridor. Meeting materials, including the StoryMap presentation and meeting summary, will be made available on the Study website.

Railroad 101 for the Northern Tier Passenger Rail Study

The Northern Tier follows the route of the historical Fitchburg Railroad, 144-miles from Boston to North Adams. The route was first surveyed in the 1840s then constructed and completed with the opening of the 4 他 mile Hoosac tunnel in 1875. After crossing the Connecticut River at Greenfield, the route follows the Deerfield River upwards to Shelburne Falls and then into the Hoosac tunnel at Zoar. This article is the first of a series on "Railroad 101" to present an overview of railroad design and track conditions on a 147-year-old railroad that has over 235 curves within 96-miles between Fitchburg and North Adams.

Part 1 - Curvature and Gradient

For an optimal design of a railroad, the shortest distance between two points is a straight line if there is no change in elevation. Given the mountainous terrain of the Northern Tier route, the survey engineers for the Fitchburg Railroad used curvature and gradient (slope) to adapt to topography and elevation changes. Railway curvature is similar to highway curvature. The curves become "sharper" with increasing degree of curve for mountain roadways and less sharp with decreased curvature for modern interstate highways. The Fitchburg Railroad used contour lines to follow the Deerfield River and to avoid tunneling until the topography got too steep at the base of the Hoosac tunnel.

Gradient is used by railway surveyors to overcome elevation changes. Unlike highway design, railways in the 1880s were restricted to using maximum gradients that allowed steam engines to pull short trains uphill and to be able to safely brake going downhill. The U.S. government granted charters for the construction of transcontinental railways with maximum designs of 2.2% gradients for which the railroad track can rise only 2.2-feet every 100-feet. The Fitchburg Railroad surveyors were able to accomplish the route between Fitchburg and North Adams with maximum gradient of 1.2%.

The Massachusetts Department of Transportation (MassDOT) is conducting a study to examine the benefits, costs, and investments necessary to implement passenger rail service from North Adams to Greenfield and Boston, with the speed, frequency, and reliability necessary to be a competitive option for travel along this corridor. Please visit the Study website for more information on the project: https://www.mass.gov/northern-tier-passenger-rail-study.

If information is needed in another language, please contact the MassDOT Title VI Specialist by phone at (857) 368-8580.
Caso esta informação seja necessária em outro idioma, favor contar o Especialista em Título VI do MassDOT pelo fone 857-368-8580.
Si necesita información en otro lenguaje, favor contactar al especialista de MassDOT del Título VI al 857-368-8580.
如果需要使用其它语言了解信息，请联系马萨诸塞州交通部（MassDOT）《民权法》第六章专职人员，电话 857-368-8580。
如果需要使用其它語言了解信息，請聯系馬薩諸塞州交通部（MassDOT）《民權法》第六章專職人員，電話 857-368-8580。