

Modelling Railway Noise Over Large Areas, Assisted by GIS

Authors : Conrad Weber

Abstract : The modelling of railway noise over large projects areas can be very time consuming in terms of preparing the noise models and calculation time. An open-source GIS program has been utilised to assist with the modelling of operational noise levels for 675km of railway corridor. A range of GIS algorithms were utilised to break up the noise model area into manageable calculation sizes. GIS was utilised to prepare and filter a range of noise modelling inputs, including building files, land uses and ground terrain. A spreadsheet was utilised to manage the accuracy of key input parameters, including train speeds, train types, curve corrections, bridge corrections and engine notch settings. GIS was utilised to present the final noise modelling results. This paper explains the noise modelling process and how the spreadsheet and GIS were utilised to accurately model this massive project efficiently.

Keywords : noise, modeling, GIS, rail

Conference Title : ICENPNMPH 2023 : International Conference on Environmental Noise Pollution, Noise Mapping and Public Health

Conference Location : Singapore, Singapore

Conference Dates : January 09-10, 2023