

Holistic Network-level Assessment of Pavement Flood Damages Dataset

Dataset available at: https://digitalcommons.lsu.edu/transet_data/86/

(This dataset supports report **Holistic Network-level Assessment of Pavement Flood Damages**)

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The related final report **Holistic Network-level Assessment of Pavement Flood Damages**, is available from the National Transportation Library's Digital Repository at <https://rosap.ntl.bts.gov/view/dot/56568>

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Abstract: After recent catastrophic flood disasters in Louisiana in 2016 and Texas in 2017, roadways in Region 6 areas suffer not only from the flood-inundation, but also from the long-term recovery processes that incur enormous maintenance costs. To assess the impacts of flooding disasters on roadways, various studies have investigated sampled roadway damages with pavement engineering techniques such as a direct damage analysis using cores/bores. However, current methods are time-consuming and labor-intensive. In addition, even though existing methods provide a detailed damage analysis of pavement in a particular location for a particular time period, there is still a large practical knowledge gap in understanding network-level roadway functional/structural damages before-and-after historic flooding as well as assessing flooding impacts on roadways over time. Thus, a holistic perspective and a long-term investigation on roadway damages caused by floods have been rarely addressed, which has resulted in the absence of accurate maintenance cost prediction. The primary objective of this project is to develop a holistic roadway damage assessment method using the flood models and the pavement condition data accumulated over the years. This project also aims to provide a means for Louisiana and Texas (ultimately to all Region 6's States) to intuitively identify roadway damage patterns at the network level caused by flooding over time as well as predict roadway maintenance tasks. To accomplish the proposed goal, this project examines roadways of parishes and counties in Louisiana and Texas affected by previous flood disasters by using pavement assessment data obtained from the Pavement Management System (PMS) in the Louisiana Department of Transportation and Development (LaDOTD), and the Pavement condition data of the City of Houston. This project is expected to provide a network-level roadway damage assessment and play a pivotal role in reducing the cost of a direct damage analysis such as coring/boring.

Comments: Tran-SET Project: 19PLSU13

Recommended citation:

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Dataset description:

This dataset contains 1 file described below.

Holistic Network-level Assessment of Pavement Flood Damages_datasheet_revised.xlsx:

The .xlsx and .xls file types are Microsoft Excel files, which can be opened with Excel, and other free available software, such as OpenRefine.

National Transportation Library (NTL) Curation Note:

As this dataset is preserved in a repository outside U.S. DOT control, as allowed by the U.S. DOT's Public Access Plan (<https://ntl.bts.gov/public-access>) Section 7.4.2 Data, the NTL staff has performed *NO* additional curation actions on this dataset. NTL staff last accessed this dataset at https://digitalcommons.lsu.edu/transet_data/86 on 2021-07-19. If, in the future, you have trouble accessing this dataset at the host repository, please email NTLDataCurator@dot.gov describing your problem. NTL staff will do its best to assist you at that time.