Corrosion Management System of Regional Reinforced Concrete (RC) Bridges Dataset

Dataset available at: https://digitalcommons.lsu.edu/transet_data/92/

(This dataset supports report **Corrosion Management System of Regional Reinforced Concrete (RC) Bridges**)

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The related final report **Corrosion Management System of Regional Reinforced Concrete (RC) Bridges**, is available from the National Transportation Library's Digital Repository at https://rosap.ntl.bts.gov/view/dot/56607

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Abstract: Civil infrastructure assets, including buildings, transportation networks, energy grids and networks, and water-sewer systems, are critical functional components of day-to-day life activity in a modern society. The durability and reliability of these civil infrastructures are largely affected by corrosion-induced structural deterioration. In addition to continual use and increasing traffic demands, natural environmental conditions set degradation due to corrosion damage as a critical condition to durable and reliable infrastructures. Therefore, in order to improve the durability of the bridge infrastructures affected by corrosion in the most efficient manor, we propose a procedure/methodology to manage integrity of corroding RC bridges which is resulted by corrosion assessment by assuming different initial RC systems (including control actions). Our approach involves corrosion characterization in laboratory scale RC samples, quantification of damage based on different corrosion conditions with different corrosion control technologies, and integration of proposed models of the environmental conditions effect on corrosion of RC. Finally, a methodology is included for assessing the component performance and reliability following the performance observed and characterized for different control actions. The corrosion assessment models include deterministic approach and localized probabilistic approach strategies in a system management tool for use by owner agencies in addressing vulnerable structures in aggressive environments. The proposed research consists of three technical tasks and implementations task. The final goal is to validate the methodology with the proposed tools for monitoring and modeling for the corrosion assessment.

Comments: Tran-SET Project: 19STLSU10

Recommended citation:

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Dataset description:
This dataset contains 1 file collection described below.

drive_download_20210120T034147Z_001.zip:
This file collection contains 1,724 files, divided among 28 Folder. The file type for the files shows as .DTA.

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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/92/ on 2021-07-23. 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.