AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AASHTO

Movable Bridge Inspection, Evaluation, and Maintenance Manual

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ABBREVIATED TABLE OF CONTENTS

PART 1 – INTRODUCTION

CHAPTER 1.1—PURPOSE

The intent of this Manual is to present uniform guidelines and procedures for the inspection, evaluation, and maintenance of the nation's existing movable bridge inventory. The Manual provides information pertaining to the unique structural, mechanical, and electrical components and operational characteristics of a movable highway bridge.

The Manual was developed for bridge engineers, inspectors, and maintainers charged with operational and maintenance responsibility for these complex structures. Therefore, the content of each part is intended for a specific group within the industry. Commentary adjacent to the text on the same page provides suggestions on implementing the guidelines and procedures of this Manual and directs the reader to additional sources of information.

C1.1

This Manual was prepared under NCHRP Project 14-32, Proposed Revisions to Movable Bridge Inspection, Evaluation, and Maintenance. The full final report describing the research effort is filed with the National Cooperative Highway Research Program, which is administered by the Transportation Research Board.

CHAPTER 1.2—SCOPE

The provisions of this Manual apply to highway structures that qualify as movable bridges in accordance with the AASHTO standard definition of a movable bridge. This Manual has been developed to assist bridge owners, engineers, and inspectors by describing procedures and guidelines specific to movable highway bridges and to assist in meeting the requirements of the National Bridge Inspection Standards. The intent of this Manual is to provide a single-source document to address industry needs, not to supplant proper training or the exercise of sound engineering judgment.

Information on safety aspects of movable bridges has been provided to the fullest practical extent, but a structure of unique or advanced design may require a level of sophistication higher than the minimum guidelines and procedures described in this Manual. Bridge owners should evaluate the specific needs of their bridge inventory and organizational structure, exercise judgment, and apply this Manual accordingly.

The National Bridge Inventory data of 2014 indicates that there are 831 movable bridges in the United States. This total includes 184 vertical-lift bridges, 451 bascule bridges, and 196 swing-span bridges.

C1.2

Why a movable versus a fixed bridge? In some cases, the bridge owner and the regulatory agency choose to meet the vertical clearance requirements of the mariner by providing a movable or drawbridge that is able to pass, while in the closed position, an agreed upon percentage of the vessels, while opening for the taller vessels. This compromise is often done to reduce construction costs, adverse environmental impacts, or both. Federal authorization of a drawbridge, however, does not constitute permission to restrict or obstruct navigation beyond the limits of the original permit. When a bridge owner chooses to build a movable bridge, the owner and by law, all subsequent bridge owners and operators, have legally acknowledged that interruptions to land traffic will be required to allow passage of vessels and that they have a responsibility to budget for continuing maintenance, repair, and operational costs for the life of the bridge. The owner of a bridge that has been closed to vehicular traffic is held responsible by navigation regulatory agencies for ongoing maintenance and operating costs. The term “life of the bridge" is interpreted to mean until the owner removes or replaces the bridge.

PART 2 – INSPECTION

PART 3 – MOVABLE BRIDGE ELEMENT DESCRIPTIONS

PART 4 – EVALUATION

PART 5 – MAINTENANCE