

Collection and Presentation of Bridge Data

Description

The purpose of this procedure is to provide a consistent methodology for gathering information about the status of bridges located on roads evaluated as a part of the CTP that have been classified as structurally deficient and/or functionally obsolete, and presenting that information. The data will be used in the Identify Alternatives procedure. This will ensure coordination between the bridge management system and the Comprehensive Transportation Plan (CTP).

Responsibility

The TPB Project Engineer (PE)– to create standardized tables and maps in the CTP Report based on the appropriate data from the NCDOT Bridge Locations shapefile.


Scheduling and Time Constraints

The collection and needs assessment of bridge data should be completed before the deficiency analysis is conducted on the highway system as a whole, as part of the CTP Study.

Procedure

Step	Action 1- Deficient Bridges Table
1	Download the statewide NCDOT Bridge Locations from the CTP GIS Data Layers spreadsheet (S:\Shared\TPB Reference\Comprehensive Transportation Plan\CTP GIS Data Layers.xls) and save to the CTP project folder on your hard drive.
2	Clip the statewide shapefile to your county or planning area boundary. Go to shapefile >Properties > Definition Query and modify selection for your county ("COUNTY" = 'your county name' AND "STRUCT_DEF" = 'SD') OR ("COUNTY" = 'your county name ' AND "FUNC_OBSOL" = 'FO').
3	Right click on the shapefile > Data > Export Data features, save exported clipped bridge shapefile to the CTP project folder on your hard drive, statewide layer could be deleted from your folder now.
4	Open attribute table for the exported bridge shapefile to review the Structurally Deficient or Functionally Obsolete bridges. Click on >Options > Export to save bridge shapefile in .dbf format (.dbf file could be open in Excel to create table below).
5	Open Appendix F of the CTP Report template and fill your data into the cells of the Deficient Bridges Table. See example below.

Bridge Number	Facility	Feature	Condition	Local ID
7	NC 24 Business	Marsh Grove Swamp	FO	
16	US 117 (NBL)	CSX Railroad	SD & FO	
20	NC 903	Beaver Dam Creek	SD & FO	DUPL0004-H
24	SR 1102 (Charity Road)	Taylors Creek	SD	B-1309

Step	Action 2 – Map Preparation
1	Open the Adoption map (if already created) or the new map and save it as a Bridge Map before you start working on it. See the CTP 4 - Develop CTP Maps procedure.
2	Add the bridge layer you clipped for your planning area.
3	Label deficient bridges in your planning area using the symbology in the most current CTP Style File which is located at: S:\Shared\TPB Reference\Comprehensive Transportation Plan\CTP Map Templates folder and Guidance from ArcGIS Frequently Asked Questions (3.6 Labeling Crash and Bridge Locations) .
4	<p>Insert completed map in the appropriate location in Chapter 1 of the CTP Report. A sample legend is shown below.</p> <div data-bbox="722 625 1003 1442" style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">FIGURE 5 Deficient Bridges</p>  <p style="text-align: center;">Brunswick County Comprehensive Transportation Plan</p> <p>Legend</p> <ul style="list-style-type: none"> ● Deficient Bridge (# Bridge Number) Schools Airports Ferry Study Roads Roads Railroads Rivers and Streams Water Bodies Municipal Boundary County Boundary Planning Boundary <p style="text-align: center;">0 1 2 4 6 Miles</p> <p style="text-align: center; font-size: small;">Esri map date: April 24, 2006 Refer to Appendix G for more details</p> </div>

Policy, Regulatory, and Legal Requirements

Resources

- CTP 4 - [Minimum CTP Standard Report Template](#)
- CTP 4 - [Develop CTP Maps](#) procedure
- [ArcGIS Frequently Asked Questions](#)
- S:\Shared\TPB Reference\Comprehensive Transportation Plan\CTP GIS Data Layers.xls
- S:\Shared\TPB Reference\Comprehensive Transportation Plan\CTP Map Templates folder

Background

The NCDOT Structures Management Unit inspects all bridges in North Carolina at least once every two years. A sufficiency rating for each bridge is calculated and establishes the eligibility and priority for replacement or rehabilitation. Bridges having the highest priority are replaced as federal and state funds become available. A bridge is considered deficient if it is either Structurally Deficient (SD) or Functionally Obsolete (FO). A bridge at least 10 years old is considered SD if it is in relatively poor condition due to deterioration or has insufficient load-carrying capacity due to the original design. The bridge is considered FO if it is narrow, has inadequate under-clearances, has insufficient load-carrying capacity, is poorly aligned with the roadway, or can no longer adequately serve existing traffic. A bridge must be classified as SD in order to qualify for federal replacement funds. In addition, the bridge must have a certain sufficiency rating to qualify for these funds. To qualify for replacement, the sufficiency rating must be less than 50%; for rehabilitation, the sufficiency rating must be less than 80%. Deficient bridges located on roads evaluated as a part of the CTP are listed in Table 4 of the Report.

Record of Revision

The information contained in this procedure is deemed accurate and complete when posted. Content may change at any time without notice. We cannot guarantee the accuracy or completeness of printed copies. Please refer to the online procedure for the most current version. Contact TPB Staff Engineer with all the questions about this procedure.

Version	Section Affected	Description	Effective Date
2	Procedures	Incorporates process improvement changes and updates hyperlinks.	03/01/2010
2	Contacts	Changed contact for questions on changing procedure	03/01/2010
2.1	Request letter	Updated request letter letterhead	06/21/2010
3	Procedures	Due to obtained Bridge locations GIS layer with full attributes, request was omitted and procedure simplified	05/9/2012
4	Entire Procedure	New template	04/01/2013
4.1	Action 2- Map Preparation Step 4	Updated sample legend to match version shown in CTP Report Template	1/4/2016

Flowchart

None