

Bridge Technical Report

Summary



Bridges are integral to the transportation system, and the stability of these structures is an important part of the transportation planning process. Due to our crumbling infrastructure, the safety of bridges everywhere has come to the forefront of the transportation planning discussion.



Bridge Programming

In the State of Michigan, funding for bridge improvements is dependent upon ownership. There are currently 190 (51%) bridges in Genesee County owned by the state, and these bridges are funded and maintained at the state level. The remaining 181 bridges are owned by the county and various cities and villages throughout the county. These bridges compete with the other bridges across the state for limited funding provided by the Michigan Local Bridge Program.

Bridge Deficiencies

Bridge deficiencies are characterized by two classifications: structurally deficient (SD) and functionally obsolete (FO). Structurally deficient refers to the health of a bridge while functionally obsolete refers to the performance of a bridge. A bridge is considered deficient if it meets either of these criteria.

Of the 371 bridges in Genesee County, 174 of them are currently deficient. Genesee County has a 46.9% bridge deficiency rating; a percentage much higher in comparison to other local, state, and national figures. In fact, the 46.9% bridge deficiency rating ranks the third worst in the entire State of Michigan.

Genesee County Bridge Deficiencies				
Owner	SD	FO	% Deficient	Total Bridges
MDOT	12	69	42.6%	190
Genesee County Road Commission	42	14	46.7%	120
City of Burton	1	5	60.0%	10
City of Clio	0	1	100.0%	1
City of Fenton	2	0	33.3%	6
City of Flint	9	14	69.7%	33
City of Flushing	0	1	100.0%	1
City of Grand Blanc	0	1	25.0%	4
City of Linden	0	1	50.0%	2
City of Swartz Creek	1	0	50.0%	2
Village of Goodrich	1	0	50.0%	2
TOTAL	68	106	46.9%	371

SD = Structurally Deficient

FO = Functionally Obsolete

With an older stock of bridges in Genesee County, the number of those classified as deficient is expected to grow considerably by the year 2040. Assuming an average bridge service life of 50 years, 329 of the existing bridges in Genesee County will need to be replaced by 2040, as they will have reached an age of 50 years or more. An estimated 90% of the bridges in the county will be deficient at that time.

Future Plans

The future of the bridge program in Genesee County is dictated by available funding. In the past, Genesee County has performed well in attaining funding for bridge projects. This performance cannot always be guaranteed, as the funding is competitive on both a regional and statewide level. From 2008 through 2012, Genesee County has received approximately \$15.6 million a year in local and state bridge funding. If this figure is projected out to 2040, it would equal roughly \$421 million in revenue for bridge projects in Genesee County. Unfortunately, even with this optimistic revenue estimate, the bridge funding projection falls severely short of the more than \$1.5 billion needed in improvement costs through 2040.

