



Appendix: Savings Due to Bundling

Bundling is estimated to save 11 percent of construction costs compared with costs that would be incurred with separate contracts. This savings was estimated by examining optional tie project bids in Oklahoma. In optional tie project bids, contractors may bid on a project individually or as a bundle. A savings range of 11 percent to 15 percent was identified by comparing bids received by ODOT for bundled and unbundled optional tie projects that were let in 2012, 2013, and 2015.

As displayed in **Table 1**, three optional tie project bundles were compared. The first was let in September 2012 and consisted of two projects. The projects saved a cumulative \$217,376 compared with the lowest bids for the individual projects, representing 16 percent of project costs. The second bundle was let in August 2013. It consisted of three projects. Two projects received individual bids, and the project was ultimately awarded as a bundle. The third project did not receive an individual bid and was awarded as part of the bundled project. The bundled price for the two projects receiving individual bids saved a cumulative \$496,819 over their individual bids. The third project bundle was let in July 2015. The bundled award saved \$1,489,767 over the lowest individual bids. The range of savings due to bundling ranges from 11 percent to 16 percent, which is consistent with ranges reported by other states. The lower limit of this range was selected as a conservative estimate.

Table 1: Details of Calculations to Estimate Savings Due to Bundling

Project Number	Date	Project Low Bid (Unbundled)	Award (Bundled)	Savings	Percentage Reduction in Construction Costs
BRO-152D(117)CI	Sep-12	\$786,087	\$710,727	\$75,360	16%
BRO-152D(166)CI	Sep-12	\$613,723	\$471,707	\$142,016	
STPY-129C(030)SS	Aug-13	\$1,978,189	\$2,109,998	\$(131,809)	11%
STPY-133C(081)SS	Aug-13	\$2,574,376	\$1,945,748	\$628,628	
STPY-133C(078)SS	Aug-13	None	\$4,118,629	Not applicable	Not applicable
STP-240C(031)SS	Jul-15	\$4,526,494	\$4,060,054	\$466,440	15%
STP-240C(029)SS	Jul-15	\$3,104,767	\$2,602,328	\$502,439	
NHPP-240N(032)SS	Jul-15	\$2,104,298	\$1,583,410	\$520,888	

Table 2 shows expected bundled construction expenditures for each year of the construction period, and **Table 3** shows the equivalent bundled annual costs. Additionally, bridges will include operations and maintenance costs in every year after construction. Non-construction costs are not expected to be reduced by bundling.



**Seven Bridges, US-270,
Seminole County, Oklahoma**

Table 2: Expected Unbundled Construction Costs by Year (Nominal Values)

NBI Number	2020	2021	2022
13079	\$819,348	\$819,348	\$819,348
10053	\$560,916	\$560,916	\$560,916
13653	\$882,995	\$882,995	\$882,995
13925	\$1,493,408	\$1,493,408	\$1,493,408
12934	\$359,083	\$359,083	\$359,083
12980	\$281,853	\$281,853	\$281,853
13783	\$336,447	\$336,447	\$336,447

Table 3: Expected Bundled Construction Costs by Year (Nominal Values)

NBI Number	2020	2021	2022
13079	\$729,219	\$729,219	\$729,219
10053	\$499,215	\$499,215	\$499,215
13653	\$785,866	\$785,866	\$785,866
13925	\$1,329,133	\$1,329,133	\$1,329,133
12934	\$319,584	\$319,584	\$319,584
12980	\$250,849	\$250,849	\$250,849
13783	\$299,438	\$299,438	\$299,438