

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

## General Notes

The CY 2018 Bridge Cost Report reflects the unit cost (\$ per square foot of bridge area) of all of the bridges let in CY 2018.

Pre-cast concrete box culverts have not been included in this report as they do not generally get reviewed (or approved) by the State Aid Bridge Office. We have produced a separate report for pre-cast concrete box culvert cost information.

The bridge unit costs are derived from the pay items on the 1<sup>st</sup> sheet of each bridge plan and therefore may include Traffic Control, Guardrail, etc.

We exclude one bridge pay item when calculating the cost of each bridge. That pay item is *Remove Existing Bridge* and it occurs prior to bridge construction and is not eligible for state or federal funding.

If a bridge has expensive aesthetic features, it may result in a higher unit cost for the bridge. Bridges with an unusually high (or low) unit cost will be omitted to ensure we are reporting "average" bridge unit costs.

Please note that the purpose of this report is to provide the approximate costs of building the various types of bridges and to track those cost trends over time.

Please report any missing bridges to the State Aid Bridge Office as soon as possible so we can revise the report. Once the report gets loaded to our website it's considered to be final.

As always we appreciate your comments and feel free to call us if you have any questions or comments.

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# **MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report**

## **Saint Louis County Tax Levy**

In April, 2015 Saint Louis County enacted a [0.5 Percent Transit Sales and Use Tax and \\$20 Vehicle Excise Tax](#) to help fund their transportation needs. The county used some of the levy dollars to fully fund some of their bridge replacements.

The county had requested courtesy reviews of these bridges, so we decided to add them to this cost report. The addition of these bridges has given us a broader look at the unit costs for the appropriate bridge types and has also helped us track the bridges that were removed (we keep track of timber-component and fracture critical bridges removed from the system).

We did not add a special summary for the Saint Louis County Tax Levy Bridges in this report. These tax levy funded bridges are included in the normal body of the report and are denoted by the \*LOCAL\* designation.

The CY 2018 let Saint Louis County Tax Levy Bridges accounted for 2% of the total dollar amount of all local bridges let in CY 2018.

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

## Separated per Structure Type

BEAM TYPE= **CONCRETE SLAB SPAN**

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
07601	SAP	007-599-060	108.00	C-SLAB	4/11/2018	3348	\$412,106	\$123.09
17536	SAP	017-599-088	49.00	C-SLAB	3/5/2018	1519	\$180,126	\$118.58
17537	SAP	017-607-020	159.00	C-SLAB	7/16/2018	6837	\$892,953	\$130.61
23536*	SAP	023-599-150	133.90	C-SLAB	8/20/2018	4156	\$800,288	\$192.56
31572*	SAP	031-625-004	47.67	C-SLAB	4/24/2018	1685	\$337,916	\$200.54
31573*	SAP	031-598-023	75.67	C-SLAB	12/18/2018	2674	\$584,902	\$218.74
32568	SAP	032-599-089	81.00	C-SLAB	10/12/2018	2511	\$368,060	\$146.58
32575	SAP	032-605-020	68.00	C-SLAB	4/27/2018	2675	\$400,033	\$149.55
42571	SAP	042-603-026	74.67	C-SLAB	5/9/2018	2937	\$392,240	\$133.55
45577*	SP	045-598-021	141.67	C-SLAB	9/25/2018	4394	\$903,844	\$205.70
45578	SP	045-598-023	123.10	C-SLAB	2/20/2018	4309	\$610,061	\$141.58
48534*	SAP	048-597-003	83.00	C-SLAB	3/5/2018	2532	\$516,374	\$203.94
64592	SAP	064-599-111	93.47	C-SLAB	5/16/2018	3271	\$472,004	\$144.30
64593	SAP	064-599-112	74.00	C-SLAB	5/16/2018	2590	\$395,883	\$152.85
67572	SAP	067-599-179	91.67	C-SLAB	3/5/2018	2842	\$318,368	\$112.02
67573	SAP	067-599-178	107.00	C-SLAB	5/14/2018	3317	\$417,371	\$125.83
68542	SP	068-598-035	111.00	C-SLAB	5/3/2018	3885	\$628,938	\$161.89
70554*	SAP	070-608-024	41.67	C-SLAB	8/7/2018	1972	\$547,872	\$277.83
73580	SAP	073-665-021	120.00	C-SLAB	1/26/2018	4680	\$603,473	\$128.95
79556	SAP	079-599-078	54.00	C-SLAB	7/10/2018	1674	\$240,315	\$143.56
83552	SAP	083-599-076	143.67	C-SLAB	3/15/2018	5028	\$515,631	\$102.55

<b>Total Cost</b>	<b>\$10,538,758</b>
<b>Total Deck Area</b>	<b>68,836</b>
<b>Average Cost per Sq Ft</b>	<b>\$133.16</b>
<b>Total Number of Bridges</b>	<b>21</b>

\* Due to the unusually high or low unit cost for this bridge, it was not included in the computation for average unit cost.

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

## Separated per Structure Type

BEAM TYPE= *PRE-CAST BEAMS*

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
02588	SAP	002-678-023	76.20	PCB	1/18/2018	7133	\$1,301,413	\$182.45
02589*	SAP	002-678-023	136.09	PCB	1/18/2018	12589	\$3,824,021	\$303.76
07599	SAP	007-652-003	97.73	PCB	2/28/2018	3372	\$461,460	\$136.85
10552	SAP	010-599-020	119.00	PCB	5/7/2018	3689	\$462,957	\$125.50
16525*	SAP	016-605-005	89.93	PCB	4/11/2018	2916	\$679,704	\$233.09
23595	SAP	023-601-029	55.92	PCB	9/10/2018	1957	\$374,121	\$191.17
27C01*	SAP	027-661-048	1807.17	PCB	2/7/2018	102839	\$6,984,919	\$67.92
27C02	SAP	027-661-048	81.73	PCB	2/7/2018	6483	\$1,285,438	\$198.28
37554	SP	037-607-037	100.17	PCB	5/31/2018	3856	\$682,237	\$176.93
54553	SAP	054-620-012	68.00	PCB	2/5/2018	2403	\$368,421	\$153.32
65566	SAP	065-608-012	102.92	PCB	5/7/2018	4460	\$587,557	\$131.74
69A61*	SAP	069-599-043	42.17	PCB	1/25/2018	1321	\$398,332	\$301.54
69A62*	LOCAL	*LOCAL*	60.17	PCB	3/22/2018	2186	\$490,576	\$224.42
69A64	SAP	069-652-020	110.71	PCB	12/20/2018	3912	\$637,498	\$162.96
69A65*	LOCAL	*LOCAL*	42.17	PCB	2/8/2018	1321	\$494,389	\$374.25
71531	SAP	071-606-013	140.92	PCB	8/14/2018	6107	\$877,475	\$143.68
71532	SAP	071-603-023	170.84	PCB	5/22/2018	7346	\$842,391	\$114.67

<b>Total Cost</b>	<b>\$20,752,911</b>
<b>Total Deck Area</b>	<b>173,890</b>
<b>Average Cost per Sq Ft</b>	<b>\$155.39</b>
<b>Total Number of Bridges</b>	<b>17</b>

\*LOCAL\* DENOTES ST. LOUIS COUNTY BRIDGES FUNDED WITH TAX LEVY DOLLARS.

\* Due to the unusually high or low unit cost for this bridge, it was not included in the computation for average unit cost.

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

## Separated per Structure Type

BEAM TYPE= *STEEL BEAM*

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
14545	SAP	144-123-011	217.73	STEEL	4/25/2018	5051	\$3,451,229	\$683.28
14546	SAP	144-123-011	169.80	STEEL	4/25/2018	3510	\$1,797,535	\$512.12
14547	SAP	144-594-002	187.11	STEEL	4/25/2018	4490	\$2,068,707	\$460.74

All three STEEL bridges let in CY 2018 were railroad bridges.

<b>Total Cost</b>	<b>\$7,317,471</b>
<b>Total Deck Area</b>	<b>13,051</b>
<b>Average Cost per Sq Ft</b>	<b>\$560.68</b>
<b>Total Number of Bridges</b>	<b>3</b>

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

Separated per Structure Type

BEAM TYPE= *STEEL TRUSS*

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
66551	SP	092-090-054	150.00	TRUSS	7/10/2018	1800	\$525,172	\$291.76
R0714	SP	129-090-007	307.50	TRUSS	5/8/2018	3948	\$1,062,028	\$269.00

<b>Total Cost</b>	<b>\$1,587,200</b>
<b>Total Deck Area</b>	<b>5,748</b>
<b>Average Cost per Sq Ft</b>	<b>\$276.13</b>
<b>Total Number of Bridges</b>	<b>2</b>

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

Separated per Structure Type

BEAM TYPE= **CONCRETE ARCH**

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
27J67	SAP	027-666-019	100.00	C-ARCH	1/30/2018	1800	\$1,335,321	\$741.84

<b>Total Cost</b>	<b>\$1,335,321</b>
<b>Total Deck Area</b>	<b>1,800</b>
<b>Average Cost per Sq Ft</b>	<b>\$741.84</b>
<b>Total Number of Bridges</b>	<b>1</b>

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

Separated per Structure Type

BEAM TYPE= *RIGID FRAME*

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
27C52	SAP	142-153-007	36.33	R-FRAME	2/22/2018	3796	\$678,355	\$178.70

<b>Total Cost</b>	<b>\$678,355</b>
<b>Total Deck Area</b>	<b>3,796</b>
<b>Average Cost per Sq Ft</b>	<b>\$178.70</b>
<b>Total Number of Bridges</b>	<b>1</b>

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

## Separated per Structure Type

BEAM TYPE= *TREATED TIMBER SLAB*

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
11531	SAP	011-598-009	64.00	TTS	4/23/2018	2048	\$442,889	\$216.25
27C53*	SP	027-596-009	68.00	TTS	9/25/2018	2720	\$1,048,855	\$385.61

\* Due to the unusually high or low unit cost for this bridge, it was not included in the computation for average unit cost.

<b>Total Cost</b>	<b>\$442,889</b>
<b>Total Deck Area</b>	<b>2,048</b>
<b>Average Cost per Sq Ft</b>	<b>\$216.25</b>
<b>Total Number of Bridges</b>	<b>2</b>

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

## Summary of Structure Type Unit Costs As Compared to Previous Fiscal Years

### STATE AID BRIDGES SUMMARY OF BRIDGE UNIT COST PER BEAM TYPE

CALENDAR YEAR	2018	2017	2016	2015	2014	2013	2012	2011
TYPE								
C-ARCH	\$741.84				\$448.81	\$485.92	\$366.96	\$126.38
C-SLAB	\$133.16	\$118.63	\$136.38	\$121.49	\$123.08	\$110.91	\$112.60	\$109.17
DBL T								
GLULAM								\$343.48
PCB	\$155.39	\$136.03	\$135.07	\$151.93	\$136.58	\$130.44	\$125.39	\$118.83
PCBped			\$222.45			\$218.74		
PT SLAB								
R-FRAME	\$178.70							
STEEL	\$560.68		\$230.18				\$610.71	\$1,241.08
TRUSS	\$276.13	\$216.26	\$263.65	\$293.89	\$243.64	\$322.73	\$149.83	\$191.93
TTS	\$216.25		\$192.11				\$222.25	
INV-T			\$283.79	\$289.96			\$212.70	
BRDWLK		\$89.96	\$72.68	\$53.11				

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

Separated per Bridge Length < 150'

SORTED BY BRIDGE LENGTH

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
27C52	SAP	142-153-007	36.33	R-FRAME	2/22/2018	3796	\$678,355	\$178.70
70554	SAP	070-608-024	41.67	C-SLAB	8/7/2018	1972	\$547,872	\$277.83
69A61	SAP	069-599-043	42.17	PCB	1/25/2018	1321	\$398,332	\$301.54
69A65	LOCAL	*LOCAL*	42.17	PCB	2/8/2018	1321	\$494,389	\$374.25
31572	SAP	031-625-004	47.67	C-SLAB	4/24/2018	1685	\$337,916	\$200.54
17536	SAP	017-599-088	49.00	C-SLAB	3/5/2018	1519	\$180,126	\$118.58
79556	SAP	079-599-078	54.00	C-SLAB	7/10/2018	1674	\$240,315	\$143.56
23595	SAP	023-601-029	55.92	PCB	9/10/2018	1957	\$374,121	\$191.17
69A62	LOCAL	*LOCAL*	60.17	PCB	3/22/2018	2186	\$490,576	\$224.42
52508	SAP	052-610-015	62.58	REHAB	5/1/2018	2190	\$202,136	\$92.30
11531	SAP	011-598-009	64.00	TTS	4/23/2018	2048	\$442,889	\$216.25
32575	SAP	032-605-020	68.00	C-SLAB	4/27/2018	2675	\$400,033	\$149.55
54553	SAP	054-620-012	68.00	PCB	2/5/2018	2403	\$368,421	\$153.32
27C53	SP	027-596-009	68.00	TTS	9/25/2018	2720	\$1,048,855	\$385.61
64593	SAP	064-599-112	74.00	C-SLAB	5/16/2018	2590	\$395,883	\$152.85
42571	SAP	042-603-026	74.67	C-SLAB	5/9/2018	2937	\$392,240	\$133.55
31573	SAP	031-598-023	75.67	C-SLAB	12/18/2018	2674	\$584,902	\$218.74
02588	SAP	002-678-023	76.20	PCB	1/18/2018	7133	\$1,301,413	\$182.45
32568	SAP	032-599-089	81.00	C-SLAB	10/12/2018	2511	\$368,060	\$146.58
27C02	SAP	027-661-048	81.73	PCB	2/7/2018	6483	\$1,285,438	\$198.28
48534	SAP	048-597-003	83.00	C-SLAB	3/5/2018	2532	\$516,374	\$203.94
16525	SAP	016-605-005	89.93	PCB	4/11/2018	2916	\$679,704	\$233.09
67572	SAP	067-599-179	91.67	C-SLAB	3/5/2018	2842	\$318,368	\$112.02
35502	SP	035-622-009	93.17	REHAB	5/22/2018	2950	\$653,127	\$221.40
64592	SAP	064-599-111	93.47	C-SLAB	5/16/2018	3271	\$472,004	\$144.30
07599	SAP	007-652-003	97.73	PCB	2/28/2018	3372	\$461,460	\$136.85

\*LOCAL\* DENOTES ST. LOUIS COUNTY BRIDGES FUNDED WITH TAX LEVY DOLLARS.

NOTE: LIST OF BRIDGES LESS THAN 150' LENGTH CONTINUED ON NEXT SHEET.

**MnDOT State Aid Bridge Office**  
**2018 Calendar Year - - Bridge Cost Report**  
 Separated per Bridge Length < 150' (Cont'd)

SORTED BY BRIDGE LENGTH

New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
27J67	SAP	027-666-019	100.00	C-ARCH	1/30/2018	1800	\$1,335,321	\$741.84
37554	SP	037-607-037	100.17	PCB	5/31/2018	3856	\$682,237	\$176.93
65566	SAP	065-608-012	102.92	PCB	5/7/2018	4460	\$587,557	\$131.74
67573	SAP	067-599-178	107.00	C-SLAB	5/14/2018	3317	\$417,371	\$125.83
07601	SAP	007-599-060	108.00	C-SLAB	4/11/2018	3348	\$412,106	\$123.09
69A64	SAP	069-652-020	110.71	PCB	12/20/2018	3912	\$637,498	\$162.96
68542	SP	068-598-035	111.00	C-SLAB	5/3/2018	3885	\$628,938	\$161.89
10552	SAP	010-599-020	119.00	PCB	5/7/2018	3689	\$462,957	\$125.50
73580	SAP	073-665-021	120.00	C-SLAB	1/26/2018	4680	\$603,473	\$128.95
36501	SAP	036-610-010	120.00	REHAB	1/18/2018	3680	\$287,995	\$78.26
45578	SP	045-598-023	123.10	C-SLAB	2/20/2018	4309	\$610,061	\$141.58
23536	SAP	023-599-150	133.90	C-SLAB	8/20/2018	4156	\$800,288	\$192.56
7182	SAP	069-652-019	134.33	REHAB	3/1/2018	4366	\$292,999	\$67.11
02589	SAP	002-678-023	136.09	PCB	1/18/2018	12589	\$3,824,021	\$303.76
71531	SAP	071-606-013	140.92	PCB	8/14/2018	6107	\$877,475	\$143.68
45577	SP	045-598-021	141.67	C-SLAB	9/25/2018	4394	\$903,844	\$205.70
83552	SAP	083-599-076	143.67	C-SLAB	3/15/2018	5028	\$515,631	\$102.55

\*LOCAL\* DENOTES ST. LOUIS COUNTY BRIDGES FUNDED WITH TAX LEVY DOLLARS.

<b>Total Cost</b>	<b>\$27,513,083</b>
<b>Total Deck Area</b>	<b>149,254</b>
<b>Average Cost per Sq Ft</b>	<b>\$184.34</b>
<b>Total No. of Bridges &lt; 150'</b>	<b>43</b>

## MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

Separated per Bridge Length > 150'

SORTED BY BRIDGE LENGTH

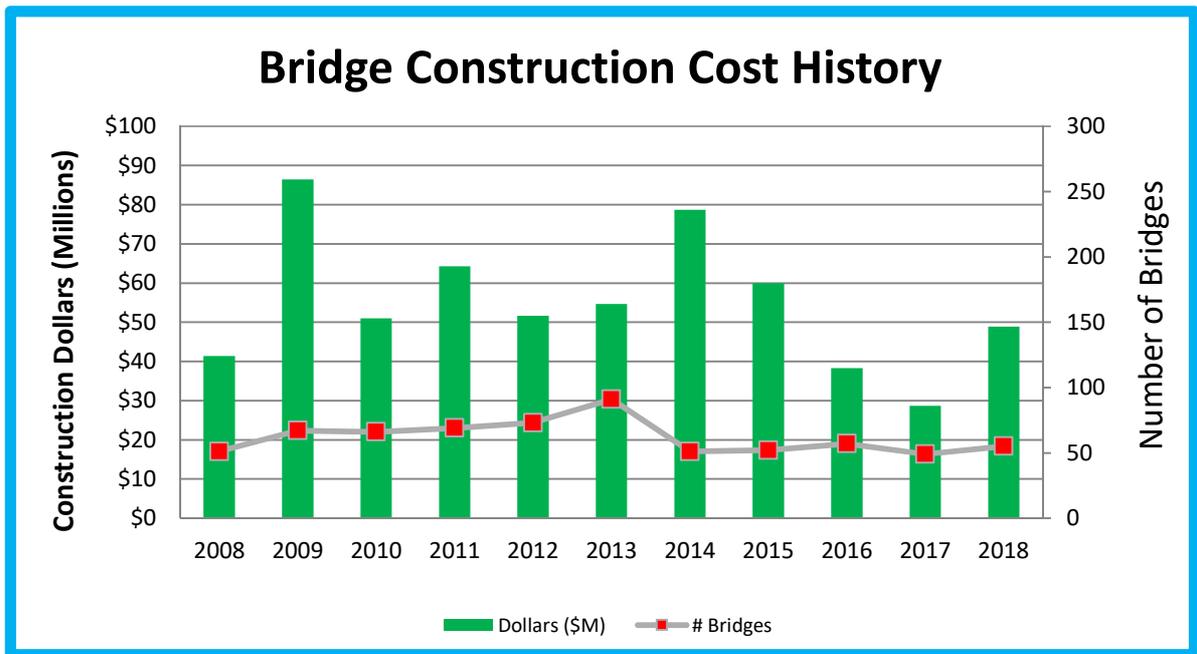
New Bridge Number	Project Type	Project Number	Length	Beam Type Code	Letting Date	Area	Cost	Unit Cost
66551	SP	092-090-054	150.00	TRUSS	7/10/2018	1800	\$525,172	\$291.76
17537	SAP	017-607-020	159.00	C-SLAB	7/16/2018	6837	\$892,953	\$130.61
7183	SAP	069-700-016	168.33	REHAB	3/1/2018	5471	\$354,174	\$64.74
14546	SAP	144-123-011	169.80	STEEL	4/25/2018	3510	\$1,797,535	\$512.12
71532	SAP	071-603-023	170.84	PCB	5/22/2018	7346	\$842,391	\$114.67
14547	SAP	144-594-002	187.11	STEEL	4/25/2018	4490	\$2,068,707	\$460.74
14545	SAP	144-123-011	217.73	STEEL	4/25/2018	5051	\$3,451,229	\$683.28
R0714	SP	129-090-007	307.50	TRUSS	5/8/2018	3948	\$1,062,028	\$269.00
02015	SP	002-614-044	962.41	REHAB	8/13/2018	100411	\$1,274,604	\$12.69
62531	SP	062-636-011	986.29	REHAB	4/27/2018	33698	\$760,359	\$22.56
05525	SAP	005-629-015	1173.02	REHAB	7/27/2018	62020	\$1,370,335	\$22.10
27C01	SAP	027-661-048	1807.17	PCB	2/7/2018	102839	\$6,984,919	\$67.92

<b>Total Cost</b>	<b>\$21,384,406</b>
<b>Total Deck Area</b>	<b>337,421</b>
<b>Average Cost per Sq Ft</b>	<b>\$63.38</b>
<b>Total No. of Bridges &gt; 150'</b>	<b>12</b>

# MnDOT State Aid Bridge Office 2018 Calendar Year - - Bridge Cost Report

Totals for All Bridges Let in CY 2018

<b>Total Cost for all Bridges</b>	<b>\$48,897,490</b>
<b>Total Deck Area for all Bridges</b>	<b>486,675</b>
<b>Average Cost per Sq Ft</b>	<b>\$100.47</b>
<b>Total Number of Bridges</b>	<b>55</b>



# MnDOT State Aid Bridge Office 2018 Calendar Year - - Box Culvert Report

## General Notes

The CY 2018 Box Culvert Report reflects the basic cost data for the majority of the pre-cast box culverts let in CY 2018. This report is not meant to cover every box culvert let, but to show the 'average' culvert projects (which is most of them). We omitted pedestrian underpass culverts and culverts with pre-cast or cast in place headwalls. We reported the standard sizes as well as 'special' projects which include multiple sized barrels and 20' wide special designs.

The purpose of this report is to summarize basic cost data for box culverts (barrel cost per linear foot and end section cost per each) as well as the project cost. The Project Cost for each project reflects the entire bridge replacement cost (from bedding under the culvert all the way to the road surfacing). It does not separate out the participating or non-participating portions, it contains both portions.

The report also tracks the box culvert volume totals and volume cost. This method is useful because it relates to the waterway area of the structure. The volume cost is the total cost of the barrels and end sections divided by the total volume.

Once a culvert size is determined, then the appropriate project cost example could be used by a local agency to compare to a bridge structure cost at a proposed project site. This could be done by estimating a bridge length (and width) and then applying the appropriate unit cost for the desired structure type (PCB, C-SLAB, STEEL, etc.).

While bridge sites can vary widely, many box culverts are done on the township road system and most of these bridge sites have low traffic volumes. This means that many of these sites have similar roadway widths and clear zones, so the main differences are usually skew angle and fill height over the culvert.

As always we appreciate your comments and feel free to call us if you have any questions or comments.

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**MnDOT State Aid Bridge Office  
2018 Calendar Year - - Precast Concrete Box Culvert Cost Report**

Totals for 8' Wide Box Culverts Let in CY 2018

8w x 5h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
17J52	SAP 017-599-108	10/1/2018	40'	2	0°	2'	\$870	\$6,700	\$112,950	3200	\$30.13

<b>Average Barrel Cost (\$/LF)</b>	<b>\$870</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$6,700</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>3,200</b>	8w x 5h Averages
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$30.13</b>	

8w x 7h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
28J57	SAP 028-599-088	5/30/2018	60'	1	50°	2'	\$675	\$16,000	\$137,099	3360	\$21.58

<b>Average Barrel Cost (\$/LF)</b>	<b>\$675</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$16,000</b>	
<b>Average Total Barrel Volume (CF)</b>	<b>3,360</b>	8w x 7h Averages
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$21.58</b>	













**MnDOT State Aid Bridge Office**  
**2018 Calendar Year - - Precast Concrete Box Culvert Cost Report**

Totals for 16' Wide Box Culverts Let in CY 2018

16w x 5h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
67K27	SAP 067-598-018	4/6/2018	46'	2	30°	2'	\$700	\$11,000	\$141,921	7360	\$14.73
67K29	SAP 067-599-172	4/6/2018	35'	2	0°	2'	\$1,020	\$9,000	\$159,362	5600	\$19.18
67K30	SAP 067-598-017	4/6/2018	48'	2	0°	3'	\$950	\$9,000	\$156,830	7680	\$16.56
67K37	SAP 067-599-176	4/6/2018	40'	1	0°	2'	\$1,090	\$8,362	\$84,654	3200	\$18.85

**Average Barrel Cost (\$/LF)** **\$940**  
**Average End Section Cost (\$/EA)** **\$9,341**  
**Average Total Barrel Volume (CF)** **5,960** 16w x 5h Averages  
**Average Barrel Volume Cost (\$/CF)** **\$17.33**

16w x 7h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
69K63	*LOCAL*	4/19/2018	36'	1	0°	2'	\$1,185	\$11,265	\$160,143	4032	\$16.17
76J34	SAP 076-599-041	6/27/2018	36'	3	0°	2'	\$1,400	\$10,700	\$257,712	12096	\$17.81

**Average Barrel Cost (\$/LF)** **\$1,293**  
**Average End Section Cost (\$/EA)** **\$10,983**  
**Average Total Barrel Volume (CF)** **8,064** 16w x 7h Averages  
**Average Barrel Volume Cost (\$/CF)** **\$16.99**

16w x 8h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
69K62	*LOCAL*	4/19/2018	36'	1	0°	2'	\$1,220	\$13,050	\$179,853	4608	\$15.20
77J86	SAP 077-599-061	9/18/2018	40'	1	20°	2'	\$1,325	\$14,500	\$175,166	5120	\$16.02

**Average Barrel Cost (\$/LF)** **\$1,273**  
**Average End Section Cost (\$/EA)** **\$13,775**  
**Average Total Barrel Volume (CF)** **4,864** 16w x 8h Averages  
**Average Barrel Volume Cost (\$/CF)** **\$15.61**

16w x 9h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
84J74	SAP 084-599-142	9/13/2018	40'	2	0°	<2'	\$2,000	\$21,000	\$276,800	11520	\$21.18

**Average Barrel Cost (\$/LF)** **\$2,000**  
**Average End Section Cost (\$/EA)** **\$21,000**  
**Average Total Barrel Volume (CF)** **11,520** 16w x 9h Averages  
**Average Barrel Volume Cost (\$/CF)** **\$21.18**

**MnDOT State Aid Bridge Office**  
**2018 Calendar Year - - Precast Concrete Box Culvert Cost Report**

Totals for 16' Wide (Cont'd) Box Culverts Let in CY 2018

16w x 10h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
19J73	SAP 019-686-019	2/27/2018	84'	1	0°	4'	\$1,300	\$8,000	\$4,241,898	13440	\$9.32
26J21	SAP 026-598-008	9/4/2018	38'	1	15°	2'	\$1,000	\$7,000	\$223,913	6080	\$8.55

<i>Average Barrel Cost (\$/LF)</i>	<b>\$1,150</b>	
<i>Average End Section Cost (\$/EA)</i>	<b>\$7,500</b>	
<i>Average Total Barrel Volume (CF)</i>	<b>9,760</b>	16w x 10h Averages
<i>Average Barrel Volume Cost (\$/CF)</i>	<b>\$8.93</b>	

16w x 11h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
65J77	SAP 065-599-076	6/20/2018	52'	2	12°	2'	\$1,523	\$23,000	\$335,357	18304	\$13.68
65J78	SAP 065-599-075	6/20/2018	48'	2	1°	2'	\$1,510	\$22,000	\$322,680	16896	\$13.79
86J16	SAP 086-599-027	8/7/2018	98'	1	8°	14'	\$2,034	\$27,285	\$408,292	17248	\$14.72

<i>Average Barrel Cost (\$/LF)</i>	<b>\$1,689</b>	
<i>Average End Section Cost (\$/EA)</i>	<b>\$24,095</b>	
<i>Average Total Barrel Volume (CF)</i>	<b>17,483</b>	16w x 11h Averages
<i>Average Barrel Volume Cost (\$/CF)</i>	<b>\$14.06</b>	

16w x 12h Precast Concrete Box Culvert											
Bridge/Project Info			Culvert Info				Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
08J21	SAP 008-599-056	5/9/2018	56'	1	0°	6'	\$1,800	\$23,500	\$197,900	10752	\$13.75
22J50	SAP 022-599-112	7/16/2018	46'	3	0°	2'	\$1,800	\$30,000	\$460,042	26496	\$16.17

<i>Average Barrel Cost (\$/LF)</i>	<b>\$1,800</b>	
<i>Average End Section Cost (\$/EA)</i>	<b>\$26,750</b>	
<i>Average Total Barrel Volume (CF)</i>	<b>18,624</b>	16w x 12h Averages
<i>Average Barrel Volume Cost (\$/CF)</i>	<b>\$14.96</b>	

**MnDOT State Aid Bridge Office**  
**2018 Calendar Year - - Precast Concrete Box Culvert Cost Report**

Totals for Multi-Sized Box Culverts Let in CY 2018

Multi-Sized Precast Concrete Box Culvert - 10w x 8h & 14w x 10h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
20J40	SAP 020-598-031	2/21/2018	10w x 8h	54'	2	0°	5'	\$900	\$10,750		8640	
			14w x 10h	54'	1	0°	5'	\$1,200	\$15,000		7560	
			Total No. of Lines:		3			Totals:	\$339,244	16200	\$14.51	

Multi-Sized Precast Concrete Box Culvert - 12w x 12h & 14w x 14h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
72J75	SAP 072-599-063	4/12/2018	12w x 12h	104'	1	10°	14'	\$1,250	\$35,250		14976	
			14w x 14h	104'	1	10°	14'	\$1,550	\$48,250		20384	
			Total No. of Lines:		2			Totals:	\$581,502	35360	\$12.96	

Multi-Sized Precast Concrete Box Culvert - 14w x 11h & 14w x 12h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
28J56	SAP 028-599-082	2/26/2018	14w x 11h	42'	1	0°	<2'	\$1,250	\$17,000		6468	
			14w x 12h	42'	1	0°	<2'	\$1,275	\$18,000		7056	
			Total No. of Lines:		2			Totals:	\$198,908	13524	\$13.02	

Multi-Sized Precast Concrete Box Culvert - 16w x 8h & 16w x 9h												
Bridge/Project Info			Culvert Info					Cost Info			Waterway Info	
Bridge Number	Project Number	Letting Date	Barrel Size	Length of Barrel (EA)	No. of Lines	Skew Angle	Fill Depth	Barrel Cost (LF)	End Section Cost (EA)	Project Cost	Total Barrel Volume (CF)	Volume Cost (\$ per CF)
69K58	SAP 069-737-003	5/24/2018	16w x 8h	96'	1	50°	2'	\$1,300	\$23,500		12288	
			16w x 9h	96'	1	50°	2'	\$1,400	\$25,500		13824	
			Total No. of Lines:		2			Totals:	\$686,422	26112	\$13.68	

## MnDOT State Aid Bridge Office 2018 Calendar Year - - Precast Concrete Box Culvert Cost Report

Totals/Averages for ALL SIZES Box Culverts Let in CY 2018

<b>Total Number of Culvert Projects</b>	<b>69</b>	
<b>Average Barrel Length (LF)</b>	<b>58'</b>	
<b>Average Barrel Cost (\$/LF)</b>	<b>\$1,100</b>	
<b>Average End Section Cost (\$/EA)</b>	<b>\$15,354</b>	All Sizes Combined
<b>Average Total Barrel Volume (CF)</b>	<b>9,456</b>	
<b>Average Barrel Volume Cost (\$/CF)</b>	<b>\$18.46</b>	

