## DEPARTMENT OF TRANSPORTATION

# Memo

To: Addressees

From: Nancy Sannes Estimates Engineer

Date: September 11, 2017

## RE: Highway Construction Cost Index – 4<sup>th</sup> Quarter/Year End 2016

The Minnesota Highway Construction Composite Cost Index was not computed for the 4th Quarter 2016, due to the absence of data for the Structural Steel indicator item. Without a unit price for each indicator item, the resulting index is not comparable to previous indices.

• The average Excavation cost was \$3.58/CY, down \$3.01/CY from the 4th Quarter of 2015. Four (4) projects were considered this quarter.

• The average Reinforcing Steel cost was \$1.06/lb, down \$0.20/lb from the 4th Quarter of 2015. Five (5) projects were considered this quarter.

• The average Structural Concrete cost was \$846.34/CY, up \$256.39/CY from the 4th Quarter of 2015. Six (6) projects were considered this quarter. The higher price seems to be related to a bridge project with a large quantity of Structural Concrete, but a much higher than expected price. The higher price is due to the complexity of the concrete rail construction on this project.

• The average Concrete Pavement cost was \$309.69/CY, up \$169.03/CY from the 4th Quarter of 2015. One (1) project was considered this quarter. The quantity of Concrete Pavement included in this project was quite small. As would be expected, the price for this work was higher than average.

• The average Plant Mixed Bituminous cost was \$42.00/ton, down \$7.60/ton from the 3<sup>rd</sup> Quarter of 2015. Fourteen (14) projects were considered this quarter. The price reduction for Plant Mixed Bituminous is a result of a significant decrease in the price of the oil used in the Bituminous Mixture that began during the 3<sup>rd</sup> and 4<sup>th</sup> Quarters of 2015. *Poten & Partners* reports a 25.7% drop in the average price of this commodity between the 4<sup>th</sup> Quarter of 2015 and the 4<sup>th</sup> Quarter of 2016. The low point for oil pricing occurred in the 1<sup>st</sup> Quarter of 2016 and prices have begun to rise.

Other factors that contributed to lower construction costs in the 4<sup>th</sup> Quarter of 2016 as compared with the 4<sup>th</sup> Quarter of 2015, include lower fuel prices and increased competition for our work.

The OPIS Energy Group tabulation titled "RackFax, Minneapolis, MN, OPIS Direct Gross No. 2 Distillate Fuel" indicates an 8% drop in the average price of fuel between these two quarters. The low point for fuel pricing occurred in the 1<sup>st</sup> Quarter of 2016 and prices have begun to rise.

The average number of bidders per project was 3.69 for 4<sup>th</sup> Quarter of 2015. In comparison, the average number of bidders in the 4<sup>th</sup> Quarter of 2016 was 4.73.

4<sup>th</sup> Quarter 2016 project information is compared to 4<sup>th</sup> Quarter 2015 below.

|                        | 4th                 | Quarter 20 | )15         | 4th Quarter 2016     |         |             |  |
|------------------------|---------------------|------------|-------------|----------------------|---------|-------------|--|
| Item                   | Quantity            | Cost *     | Unit Cost   | Quantity Cost * Unit |         | Unit Cost   |  |
| Excavation             | 1,099,815 CY        | \$7.25     | \$6.59/CY   | 1,361,894 CY         | \$4.87  | \$3.58/CY   |  |
| Reinforcing Steel      | 570,070 lb          | \$0.72     | \$1.26/lb   | 1,052,630 lb         | \$1.12  | \$1.06/lb   |  |
| Structural Steel       | **                  | **         | **          | **                   | **      | **          |  |
| Structural Concrete    | 3,164 CY            | \$1.87     | \$589.95/CY | 5,263 CY             | \$4.45  | \$846.34/CY |  |
| Concrete Pavement      | 182,778 CY          | \$25.71    | \$140.66/CY | 1,475 CY             | \$0.46  | \$309.69/CY |  |
| Plant-Mixed Bituminous | 583,764 ton \$28.95 |            | \$49.60/ton | 774,940 ton          | \$32.55 | \$42.00/ton |  |
| Total                  |                     | \$64.50    |             | \$43.45              |         |             |  |

#### Table 1: Indicator Costs

\* Millions of dollars

\*\* Not computed due to absent data.

| Table 2: Minnesota Highway Constructi |                  |                  |
|---------------------------------------|------------------|------------------|
|                                       | 4th Quarter 2015 | 4th Quarter 2016 |
|                                       |                  |                  |
| Number of Projects Awarded            | 45               | 30               |
| Awarded Amount (\$ million)           | \$352.51         | \$119.81         |
| Total Number of Bidders               | 166              | 142              |
| Average Number of Bidders             | 3.69             | 4.73             |
| Number of Cost Index Projects         | 24               | 18               |
| Cost Index Amount (\$ million)        | \$64.50          | \$43.45          |
|                                       |                  |                  |
| Excavation Index                      | 328.75           | 178.34           |
| Structures Index                      | **               | **               |
| Surfacing Index                       | 279.88           | 307.49           |
| Composite Cost Index (CI)             | **               | **               |

#### Table 2: Minnesota Highway Construction Project Summary

\*\* Not computed due to the absence of data for associated indicator items.

## Year End - 2016

The Minnesota Highway Construction Composite Cost Index was not computed for 2016, due to the absence of data for the Structural Steel indicator item. Without a unit price for each indicator item, the resulting index is not comparable to previous indices.

• The average Excavation cost was \$4.64/CY, down \$0.44/CY from 2015. Thirteen (13) projects were considered this year.

• The average Reinforcing Steel cost was \$1.19/lb, down \$0.16/lb from 2015. Nineteen (19) projects were considered this year. Similarly, the Bureau of Labor and Statistics, Producer Price Industry Data available for Steel indicates a decrease in prices through 2015 with a more gradual increase through 2016 leaving the average material price slightly lower in 2016 than in 2015.

• The average Structural Concrete cost was \$719.60/CY, up \$39.04/CY from 2015. Twelve (12) projects were considered this year. *The Bureau of Labor and Statistics, Producer Price Industry Data* available for Concrete indicates a decrease in prices through 2015 with a more gradual increase through 2016 leaving the average material price slightly lower in 2016 than in 2015. This reported decrease is not evident here. The higher price is due to the complexity of the concrete rail construction on a large project included in the Cost Index.

• The average Concrete Pavement cost was \$139.84/CY, down \$9.96/CY from 2015. Ten (10) project were considered this year. Similarly, the Bureau of Labor and Statistics, Producer Price Industry Data available for Concrete indicates a decrease in prices through 2015 with a more gradual increase through 2016 leaving the average material price slightly lower in 2016 than in 2015.

• The average Plant Mixed Bituminous cost was \$43.21/ton, down \$11.09/ton from 2015. Forty Nine (49) projects were considered this year. The price reduction is a result of a significant decrease in the price of the oil used in the Bituminous Mixture that began during the 3<sup>rd</sup> and 4<sup>th</sup> Quarters of 2015. *Poten & Partners* reports a 30% drop in the average price for this material between 2015 and 2016. The low point for oil pricing occurred in the 1<sup>st</sup> Quarter of 2016 and prices have been rising.

Other factors that contributed to lower construction costs in 2016 as compared with 2015, include lower fuel prices and increased competition for our work.

The OPIS Energy Group tabulation titled "RackFax, Minneapolis, MN, OPIS Direct Gross No. 2 Distillate Fuel" indicates a 14.9% drop in the yearly average price of fuel between these two years. The low point for fuel pricing occurred in the 1<sup>st</sup> Quarter of 2016 and prices have been rising.

The average number of bidders per project was 3.0 in 2015. In comparison, the average number of bidders in the 2016 was 3.89.

2016 project information is compared to 2015 below.

|                           |               |          | 2016        |               |          |             |
|---------------------------|---------------|----------|-------------|---------------|----------|-------------|
| Item                      | Quantity      | Cost *   | Unit Cost   | Quantity      | Cost *   | Unit Cost   |
| Excavation                | 5,502,674 CY  | \$27.98  | \$5.08/CY   | 2,362,112 CY  | \$10.96  | \$4.64/CY   |
| <b>Reinforcing Steel</b>  | 3,312,337 lb  | \$4.46   | \$1.35/lb   | 2,778,839 lb  | \$3.30   | \$1.19/lb   |
| Structural Steel          | **            | **       | **          | **            | **       | **          |
| Structural Concrete       | 28,419 CY     | \$19.34  | \$680.56/CY | 14,529 CY     | \$10.45  | \$719.60/CY |
| Concrete Pavement         | 414,287 CY    | \$62.06  | \$149.80/CY | 242,266 CY    | \$33.88  | \$139.84/CY |
| Plant-Mixed<br>Bituminous | 2,198,517 ton | \$119.38 | \$54.30/ton | 1,968,961 ton | \$85.07  | \$43.21/ton |
| Total                     |               | \$233.22 | -           |               | \$143.66 | -           |

### Table 3: Indicator Costs 2015 and 2016

\* Millions of dollars

\*\* Not computed due to absent data.

### Table 4: Minnesota Highway Construction Project Summary - 2016

|                                | Q1       | Q2      | Q3     | Q4     | 2016   |
|--------------------------------|----------|---------|--------|--------|--------|
|                                |          |         |        | 20     | 1.55   |
| Number of Projects Awarded     | 72       | 37      | 27     | 30     | 166    |
| Awarded Amount (\$ million)    | \$270.49 | \$82.08 | 125.72 | 119.81 | 598.09 |
| Total Number of Bidders        | 283      | 115     | 105    | 142    | 645    |
| Average Number of Bidders      | 3.93     | 3.11    | 3.89   | 4.73   | 3.89   |
| Number of Cost Index Projects  | 31       | 13      | 5      | 18     | 67     |
| Cost Index Amount (\$ million) | \$76.81  | \$18.36 | 5.04   | 43.45  | 143.66 |
|                                |          |         |        |        |        |
| Excavation Index               | 350.11   | 231.37  | **     | 178.34 | 231.36 |
| Structures Index               | **       | **      | **     | **     | **     |
| Surfacing Index                | 263.93   | **      | **     | 307.49 | 250.21 |
| Composite Cost Index (CI)      | **       | **      | **     | **     | **     |

\*\* Not computed due to absent data.

| Table 5. Minnesota Highway construction f | 2015       | 2016     |
|---|------------|----------|
|   | 2015       | 2010     |
| Number of Projects Awarded                | 222        | 166      |
| Awarded Amount (\$ million)               | \$1,029.94 | \$598.09 |
| Total Number of Bidders                   | 665        | 645      |
| Average Number of Bidders                 | 3.0        | 3.89     |
| Number of Cost Index Projects             | 80         | 67       |
| Cost Index Amount (\$ million)            | \$233.22   | \$143.66 |
| Francistica Index                         | 252.62     | 224.26   |
| Excavation Index                          | 253.63     | 231.36   |
| Structures Index                          | **         | **       |
| Surfacing Index                           | 304.86     | 250.21   |
| Composite Cost Index (CI)                 | **         | **       |

 Table 5: Minnesota Highway Construction Project Summary - 2015 and 2016

\*\* Not computed due to the absence of data for associated indicator items.

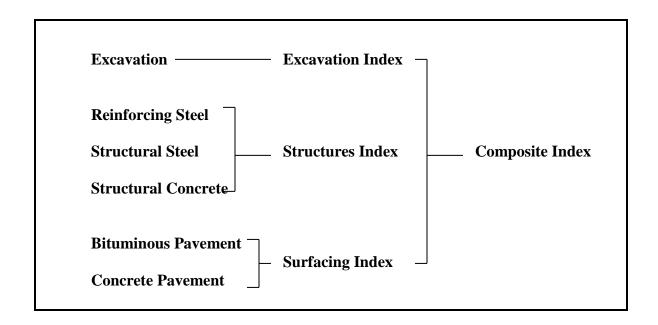
Attached is an explanation of how the Minnesota Cost index is computed, as well as charts of quarterly and annual Minnesota highway construction cost trends.

Attachments

# **Minnesota Construction Cost Index**

The Minnesota Construction Cost Index is an indicator of price trends for highway construction.

It is composed of six indicator items: roadway excavation, to indicate the price trends for all roadway excavation; concrete pavement and plant-mixed bituminous, to indicate the price trend for all surfacing types; and reinforcing steel, structural steel, and structural concrete, to indicate the price trend for structures.

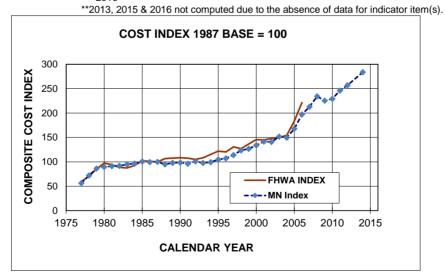


Each quarter, an average unit price is computed for each indicator item. The unit price is based upon the actual bids from projects **excluding Design Build projects**, costing more than \$100,000, and let during that quarter. These unit prices include the cost of material, labor, equipment, overhead and profit.

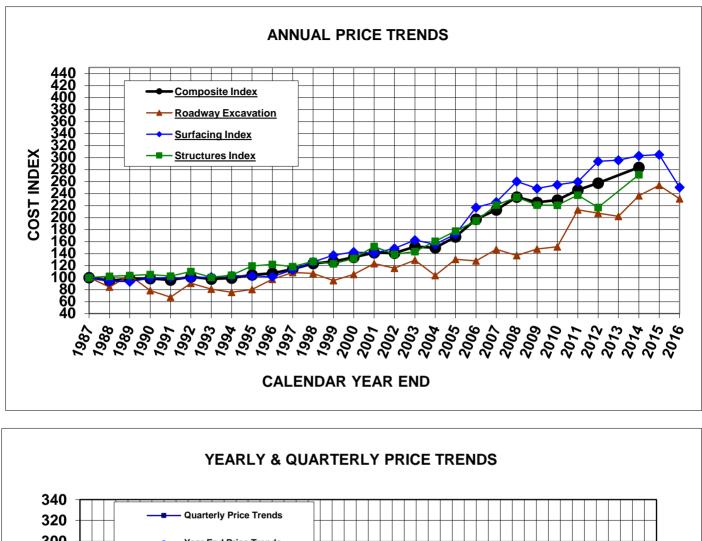
These unit prices along with the 1987 base unit prices and quantities are used to compute the Excavation, Surfacing, Structures and Composite Index.

| Year End | FHWA Index | MN Index |
|----------|------------|----------|
| 1975     |            |          |
| 1976     |            |          |
| 1977     | 59.80      | 56.40    |
| 1978     | 70.70      | 72.10    |
| 1979     | 85.50      | 86.30    |
| 1980     | 97.20      | 89.60    |
| 1981     | 94.20      | 91.20    |
| 1982     | 88.50      | 91.80    |
| 1983     | 87.60      | 94.80    |
| 1984     | 92.60      | 96.40    |
| 1985     | 102.00     | 100.70   |
| 1986     | 101.10     | 99.60    |
| 1987     | 100.00     | 100.00   |
| 1988     | 106.60     | 94.90    |
| 1989     | 107.70     | 97.90    |
| 1990     | 108.50     | 98.40    |
| 1991     | 107.50     | 96.00    |
| 1992     | 105.10     | 101.00   |
| 1993     | 108.30     | 97.70    |
| 1994     | 115.10     | 99.30    |
| 1995     | 121.90     | 104.60   |
| 1996     | 120.20     | 107.10   |
| 1997     | 130.60     | 114.00   |
| 1998     | 126.90     | 123.58   |
| 1999     | 136.50     | 126.75   |
| 2000     | 145.60     | 133.91   |
| 2001     | 144.80     | 141.61   |
| 2002     | 147.90     | 140.73   |
| 2003     | 149.80     | 151.60   |
| 2004     | 154.40     | 149.61   |
| 2005     | 183.60     | 167.97   |
| 2006     | 221.30     | 197.10   |
| 2007     |            | 212.88   |
| 2008     |            | 234.22   |
| 2009     |            | 225.32   |
| 2010     |            | 229.17   |
| 2011     |            | 245.95   |
| 2012     |            | 256.94   |
| 2013     |            |          |
| 2014     |            | 283.58   |
| 2015     |            |          |
| 2016     |            |          |

#### HIGHWAY CONSTRUCTION COST INDEX 1987 BASE-100



1987 Base Year = 100 FHWA Index includes projects > \$500,000 Mn/DOT Index includes projects > \$100,000



**Minnesota Highway Construction Cost Trends** 



(Year end price trend line corrected 2007-2015)

#### MN/DOT COST INDEX

| <u>Year</u><br>1987        | Roadway<br>Excavation<br>100.00 | <u>Bituminous</u><br><u>Surfacing</u><br>100.00 | Concrete<br>Surfacing<br>100.00 | Surfacing<br>Index<br>100.00 | Reinforce.<br>Steel<br>100.00 | <u>Structural</u><br><u>Steel</u><br>100.00 | <u>Structural</u><br><u>Concrete</u><br>100.00 | Structures<br>Index<br>100.00 | <u>Composite</u><br>Index<br>100.00 |
|----------------------------|---------------------------------|---|---------------------------------|------------------------------|-------------------------------|---|--|-------------------------------|-------------------------------------|
| 1988                       | 100100                          | 100100  |                                 |                              | 100100                        |   |  | 100.00                        | 100100                              |
| 1st Quarter                | 66.35                           | 92.87   | 76.99                           | 89.60                        | 108.25                        | 113.11                                      | 91.18  | 98.44                         | 88.98                               |
| 2nd Quarter                | 111.84                          | 96.02   | 107.04                          | 98.29                        | 107.22                        | 103.87                                      | 95.60  | 99.37                         | 100.58                              |
| 3rd Quarter                | 87.81                           | 94.14   | 107.04                          | 96.33                        | 110.27                        | 110.57                                      | 110.45   | 110.43                        | 99.46                               |
|                            |                                 |   | 104.70                          |                              |                               |   |  |                               |                                     |
| 4th Quarter<br>Year End    | 89.72                           | 103.63  | 0E EE                           | 103.63                       | 115.44                        | 107.04                                      | 94.37  | 100.80                        | 100.39                              |
|                            | 84.08                           | 95.68   | 85.55                           | 93.59                        | 109.73                        | 109.34                                      | 97.90  | 102.26                        | 94.90                               |
| <u>1989</u><br>1et Ouerter | 101.04                          | 00 E7   | 02.72                           | 90.42                        | 120.97                        | 141 70                                      | 101.41   | 110.00                        | 101 11                              |
| 1st Quarter                | 121.34                          | 88.57   | 92.72                           | 89.42                        | 120.87                        | 141.72                                      | 101.41   | 112.36                        | 101.11                              |
| 137.56                     | 70.45                           | 90.06   | 87.63                           | 89.56                        | 108.73                        | 102.24                                      | 98.24  | 101.04                        | 90.35                               |
| 3rd Quarter                | 137.56                          | 107.54  | 135.39                          | 113.28                       | 116.66                        | 107.48                                      | 94.73  | 101.34                        | 113.09                              |
| 4th Quarter                | 400 70                          | 91.13   |                                 | 91.13                        | 138.53                        | 121.78                                      | 146.33   | 140.47                        | 111.64                              |
| Year End                   | 103.72                          | 92.01   | 94.50                           | 93.23                        | 115.99                        | 111.15                                      | 97.29  | 103.45                        | 97.90                               |
| <u>1990</u>                |                                 |   | o <del></del>                   |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 75.54                           | 100.19  | 81.67                           | 96.37                        | 115.62                        | 140.73                                      | 102.05   | 111.55                        | 98.06                               |
| 2nd Quarter                | 67.71                           | 96.79   | 104.57                          | 98.39                        | 122.11                        | 105.43                                      | 110.57   | 111.97                        | 98.17                               |
| 3rd Quarter                | 97.07                           | 122.17  | 102.13                          | 118.04                       | 117.17                        | 112.70                                      | 92.03  | 100.67                        | 109.65                              |
| 4th Quarter                | 66.99                           | 106.72  | 148.85                          | 115.41                       | 118.55                        | 108.99                                      | 133.76   | 126.38                        | 111.83                              |
| Year End                   | 78.30                           | 100.58  | 97.24                           | 98.89                        | 117.48                        | 112.81                                      | 99.09  | 105.17                        | 98.41                               |
| <u>1991</u>                |                                 | 400.00  |                                 |                              |                               |   | o  | 404 70                        |                                     |
| 1st Quarter                | 86.48                           | 103.02  | 111.23                          | 104.71                       | 115.23                        | 123.22                                      | 91.37  | 101.72                        | 101.16                              |
| 2nd Quarter                | 67.72                           | 96.75   | 105.58                          | 98.57                        | 110.99                        | 128.81                                      | 103.22   | 109.27                        | 97.43                               |
| 3rd Quarter                | 105.04                          |   |                                 |                              | 122.95                        |   | 110.48   | 113.49                        | 110.44                              |
| 4th Quarter                | 47.98                           | 81.65   | 111.81                          | 87.87                        | 106.38                        | 84.44                                       | 80.29  | 86.22                         | 81.62                               |
| Year End                   | 67.31                           | 97.72   | 109.11                          | 100.07                       | 111.54                        | 121.31                                      | 93.98  | 102.28                        | 96.04                               |
| <u>1992</u>                |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 134.20                          | 110.24  | 90.36                           | 106.14                       | 106.10                        | 96.66                                       | 92.71  | 96.07                         | 107.07                              |
| 2nd Quarter                | 84.69                           | 95.94   | 103.65                          | 97.53                        | 119.25                        | 109.95                                      | 112.93   | 113.67                        | 100.67                              |
| 3rd Quarter                | 90.06                           | 102.36  | 92.40                           | 100.31                       | 99.53                         | 108.35                                      | 131.75   | 121.22                        | 105.29                              |
| 4th Quarter                | 99.54                           | 105.41  |                                 | 105.41                       | 105.69                        | 91.58                                       | 116.35   | 109.83                        | 106.01                              |
| Year End                   | 90.60                           | 99.05   | 97.07                           | 98.64                        | 106.37                        | 105.54                                      | 112.38   | 109.98                        | 100.98                              |
| <u>1993</u>                |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 81.02                           | 104.73  | 87.06                           | 101.08                       | 118.06                        | 139.75                                      | 102.08   | 111.88                        | 101.53                              |
| 2nd Quarter                | 81.51                           | 101.97  | 101.79                          | 101.93                       | 109.83                        | 128.78                                      | 97.52  | 105.46                        | 100.08                              |
| 3rd Quarter                |                                 | 117.01  |                                 | 117.01                       | 97.06                         |   | 65.66  | 73.25                         | 100.83                              |
| 4th Quarter                | 73.97                           | 94.47   | 84.12                           | 92.33                        | 119.80                        | 112.58                                      | 104.90   | 109.22                        | 94.91                               |
| Year End                   | 80.75                           | 101.91  | 96.30                           | 100.75                       | 108.13                        | 127.30                                      | 90.07  | 100.21                        | 97.70                               |
| <u>1994</u>                |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 115.56                          | 97.54   | 95.57                           | 97.13                        | 115.00                        | 95.98                                       | 123.67   | 120.83                        | 107.11                              |
| 2nd Quarter                | 75.92                           | 102.90  | 104.22                          | 103.17                       | 114.87                        |   | 109.55   | 110.84                        | 101.09                              |
| 3rd Quarter                | 152.37                          | 109.02  | 136.56                          | 114.70                       | 99.78                         | 111.66                                      | 96.09  | 99.56                         | 115.44                              |
| 4th Quarter                | 65.52                           | 110.42  | 103.89                          | 109.08                       | 109.23                        | 98.51                                       | 98.97  | 100.93                        | 100.29                              |
| Year End                   | 75.38                           | 102.48  | 104.96                          | 102.99                       | 105.52                        | 110.88                                      | 101.55   | 103.98                        | 99.32                               |
| <u>1995</u>                |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 85.69                           | 95.53   | 115.74                          | 99.70                        | 120.72                        | 122.37                                      | 114.68   | 117.23                        | 103.10                              |
| 2nd Quarter                | 71.02                           | 99.49   |                                 | 99.49                        | 121.32                        | 132.48                                      | 117.95   | 121.17                        | 102.42                              |
| 3rd Quarter                | 77.42                           | 113.46  | 111.29                          | 113.02                       | 151.42                        |   | 144.16   | 145.92                        | 116.46                              |
| 4th Quarter                | 92.70                           | 107.55  | 109.43                          | 107.93                       | 121.52                        |   | 111.82   | 114.16                        | 107.29                              |
| Year End                   |                                 | 99.81   | 113.94                          | 102.73                       | 121.47                        | 126.83                                      | 116.53   | 119.32                        | 104.63                              |
| <u>1996</u>                |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 83.05                           | 92.20   | 123.35                          | 98.62                        | 118.80                        | 178.06                                      | 100.96   | 118.05                        | 102.38                              |
| 2nd Quarter                | 119.58                          | 95.01   | 113.11                          | 98.74                        | 130.48                        |   | 127.59   | 128.29                        | 109.88                              |
| 3rd Quarter                | 124.27                          | 131.87  | 150.79                          | 135.77                       | 120.96                        |   | 119.41   | 119.79                        | 129.72                              |
| 4th Quarter                | 95.12                           | 124.66  | 113.40                          | 122.34                       | 141.02                        |   | 144.36   | 143.55                        | 123.91                              |
| Year End                   | 97.01                           | 97.12   | 117.89                          | 101.40                       | 120.85                        | 178.06                                      | 106.59   | 121.98                        | 107.13                              |
| <u>1997</u>                |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 117.41                          | 107.57  | 112.89                          | 108.66                       | 117.44                        | 93.82                                       | 125.60   | 118.39                        | 112.93                              |
| 2nd Quarter                | 96.00                           | 107.53  | 153.26                          | 116.96                       | 129.60                        | 107.48                                      | 117.89   | 118.40                        | 114.38                              |
| 3rd Quarter                | 122.35                          | 130.99  |                                 | 130.99                       | 124.92                        | 119.62                                      | 116.28   | 118.59                        | 125.27                              |
| 4th Quarter                | 127.75                          | 134.59  | 0.00                            | 134.59                       |                               |   |  |                               | 132.88                              |
| Year End                   | 108.51                          | 109.84  | 125.63                          | 113.10                       | 122.08                        | 99.44                                       | 122.32   | 118.25                        | 114.03                              |
| <u>1998</u>                |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 100.29                          | 124.56  | 135.20                          | 126.75                       | 130.86                        |   | 125.58   | 126.86                        | 122.75                              |
| 2nd Quarter                | 104.63                          | 122.21  | 133.04                          | 124.44                       | 123.71                        |   | 118.20   | 119.53                        | 120.10                              |
| 3rd Quarter                | 135.95                          | 150.01  | 129.84                          | 145.85                       | 133.21                        |   | 126.04   | 127.51                        | 139.40                              |
| 4th Quarter                |                                 | 155.16  |                                 | 155.16                       | 122.66                        | 146.08                                      | 110.58   | 119.22                        | 140.22                              |
| Year End                   | 106.99                          | 124.06  | 132.22                          | 125.95                       | 127.70                        | 146.08                                      | 121.58   | 127.10                        | 123.58                              |
| 1999                       |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 90.59                           | 130.95  | 210.30                          | 147.31                       | 133.64                        |   | 126.39   | 128.14                        | 133.51                              |
| 2nd Quarter                | 92.34                           | 137.50  | 139.09                          | 137.83                       | 121.34                        |   | 121.92   | 121.78                        | 126.58                              |
| 3rd Quarter                | 85.22                           | 135.66  |                                 | 135.66                       | 125.58                        | 168.87                                      | 121.78   | 130.81                        | 125.78                              |
| 4th Quarter                | 182.25                          | 143.08  | 202.56                          | 155.34                       | 132.10                        | 107.12                                      | 183.75   | 160.00                        | 160.66                              |
| Year End                   | 95.07                           | 135.87  | 142.46                          | 137.23                       | 124.73                        | 114.64                                      | 124.72   | 122.95                        | 126.75                              |
| 2000                       |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 96.35                           | 141.29  | 153.08                          | 143.73                       | 142.36                        | 151.96                                      | 125.61   | 133.57                        | 133.77                              |
| 2nd Quarter                | 111.93                          | 138.88  | 158.17                          | 142.86                       | 137.49                        | 136.03                                      | 120.21   | 126.43                        | 133.33                              |
| 3rd Quarter                | 102.18                          | 128.03  |                                 | 128.03                       | 137.29                        |   | 140.48   | 139.71                        | 127.13                              |
| 4th Quarter                | 115.61                          | 136.47  | 170.73                          | 143.53                       | 149.27                        |   | 185.41   | 176.66                        | 148.21                              |
| Year End                   | 105.38                          | 138.87  | 157.19                          | 142.65                       | 139.49                        | 137.59                                      | 127.59   | 131.71                        | 133.91                              |
| 2001                       |                                 |   |                                 |                              |                               |   |  |                               |                                     |
| 1st Quarter                | 91.27                           | 131.58  | 133.42                          | 131.96                       | 166.65                        |   | 196.86   | 189.55                        | 141.28                              |
| 2nd Quarter                | 116.05                          | 135.28  | 149.20                          | 138.15                       | 135.53                        | 219.62                                      | 144.03   | 155.60                        | 140.36                              |
| 3rd Quarter                | 109.17                          | 130.04  | 154.51                          | 135.09                       | 140.67                        | 166.76                                      | 138.68   | 144.01                        | 134.11                              |
| 4th Quarter                | 157.83                          | 160.90  | 185.56                          | 165.98                       | 149.31                        | 86.82                                       | 158.62   | 144.16                        | 158.06                              |
| Year End                   | 123.17                          | 137.25  | 153.92                          | 140.69                       | 142.53                        | 171.70                                      | 149.25   | 151.85                        | 141.61                              |
|                            |                                 |   |                                 |                              |                               |   |  |                               |                                     |

# MN/DOT COST INDEX (CONTINUED)

| Year                       | Roadway<br>Excavation | Bituminous<br>Surfacing | Concrete<br>Surfacing | Surfacing<br>Index | Reinforce.<br>Steel | Structural<br>Steel | Structural<br>Concrete | Structures<br>Index | <u>Composite</u><br>Index |
|----------------------------|-----------------------|-------------------------|-----------------------|--------------------|---------------------|---------------------|------------------------|---------------------|---------------------------|
| 2002                       |                       |                         |                       |                    |                     |                     |                        |                     |                           |
| 1st Quarter                | 123.44                | 147.14                  | 119.78                | 141.50             | 151.68              | 143.03              | 120.19                 | 130.48              | 135.49                    |
| 2nd Quarter<br>3rd Quarter | 148.48                | 149.69<br>132.77        | 140.07                | 147.71<br>132.77   | 150.31              | 165.23              | 85.03                  | 112.13              | 136.82<br>132.77          |
| 4th Quarter                | 95.26                 | 157.12                  | 161.93                | 158.12             | 167.64              | 154.74              | 158.85                 | 159.88              | 149.61                    |
| Year End                   | 115.64                | 150.27                  | 142.16                | 148.60             | 159.74              | 157.32              | 126.43                 | 138.49              | 140.73                    |
| <u>2003</u>                |                       | 100.00                  |                       |                    | 105.00              | 10100               |                        |                     | 150.05                    |
| 1st Quarter<br>2nd Quarter | 119.16<br>149.11      | 168.38<br>166.29        | 149.65<br>171.88      | 164.51<br>167.44   | 165.32<br>168.38    | 124.83<br>109.25    | 149.85<br>130.53       | 148.55<br>134.34    | 153.05<br>154.57          |
| 3rd Quarter                | 126.34                | 162.12                  | 190.96                | 168.07             | 166.04              | 109.25              | 161.37                 | 162.50              | 160.21                    |
| 4th Quarter                | 142.18                | 144.11                  | 100100                | 144.11             | 162.08              | 139.53              | 213.05                 | 189.98              | 159.77                    |
| Year End                   | 129.12                | 163.83                  | 156.17                | 162.25             | 166.37              | 116.91              | 143.23                 | 143.23              | 151.60                    |
| <u>2004</u>                |                       |                         |                       |                    |                     |                     |                        |                     |                           |
| 1st Quarter                | 89.34                 | 157.99                  | 145.67                | 155.45             | 184.40              | 166.06              | 166.16                 | 169.78              | 150.36                    |
| 2nd Quarter                | 101.93                | 156.99                  | 153.21                | 156.21             | 193.40              | 100.15              | 135.92                 | 149.83              | 146.23                    |
| 3rd Quarter<br>4th Quarter | 156.87<br>171.37      | 173.66<br>153.88        | 220.06<br>126.70      | 183.23<br>148.28   | 231.70<br>175.45    | 126.15<br>195.43    | 253.80<br>146.69       | 226.99<br>160.98    | 192.95<br>155.53          |
| Year End                   | 103.48                | 159.35                  | 141.15                | 155.60             | 191.19              | 162.96              | 150.02                 | 160.50              | 149.61                    |
| <u>2005</u>                |                       |                         |                       |                    |                     |                     |                        |                     |                           |
| 1st Quarter                | 91.95                 | 159.35                  | 221.30                | 172.12             | 206.72              | 281.37              | 176.99                 | 201.24              | 169.57                    |
| 2nd Quarter                | 152.75                | 163.52                  | 230.40                | 177.31             | 206.89              | 201.87              | 159.27                 | 176.24              | 173.44                    |
| 3rd Quarter<br>4th Quarter | 135.85<br>131.93      | 214.40<br>211.41        | 173.97                | 206.06<br>211.41   | 195.34<br>219.49    | 199.90              | 158.17<br>192.75       | 172.91<br>199.22    | 185.71<br>193.94          |
| Year End                   | 130.43                | 169.66                  | 183.55                | 172.53             | 202.26              | 201.13              | 162.78                 | 177.39              | 167.97                    |
| 2006                       | 100110                | 100100                  | 100100                | 112100             | 202.20              | 201110              | 102110                 |                     |                           |
| 1st Quarter                | 179.64                | 216.37                  | 168.40                | 206.48             | 209.17              | 167.23              | 196.99                 | 194.19              | 198.82                    |
| 2nd Quarter                | 137.70                | 241.00                  | 191.38                | 230.77             | 192.81              | 194.21              | 184.52                 | 187.87              | 204.11                    |
| 3rd Quarter                | 137.17                | 217.53<br>228.13        | *                     | **                 | 257.26              | *                   | 230.67                 | **                  | **                        |
| 4th Quarter<br>Year End    | 95.01<br>127.80       | 228.13                  | 173.91                | 216.88             | 247.81<br>205.99    | 183.53              | 212.00<br>193.74       | 194.39              | 197.10                    |
| 2007                       | 127.00                | 220.04                  | 175.51                | 210.00             | 200.00              | 105.55              | 155.74                 | 134.55              | 157.10                    |
| 1st Quarter                | 190.17                | 255.61                  | 222.49                | 248.78             | 236.81              | 283.08              | 202.21                 | 223.31              | 232.47                    |
| 2nd Quarter                | 114.76                | 224.06                  | 155.14                | 209.85             | 221.84              | 187.19              | 214.66                 | 211.27              | 196.60                    |
| 3rd Quarter                | * /**                 | 213.40                  | *                     | **                 | *                   | *                   | *                      | **                  | **                        |
| 4th Quarter                | 117.03                | 209.36                  |                       |                    |                     |                     | 204 70                 |                     |                           |
| Year End<br><u>2008</u>    | 147.02                | 232.91                  | 198.59                | 225.84             | 233.69              | 262.24              | 204.79                 | 220.64              | 212.88                    |
| 1st Quarter                | 143.43                | 235.23                  | 361.90                | 261.34             | 409.19              | *                   | 189.70                 | **                  | **                        |
| 2nd Quarter                | 134.37                | 278.48                  | 170.51                | 256.22             | 286.47              | 267.39              | 199.61                 | 228.83              | 230.20                    |
| 3rd Quarter                | * /**                 | 314.60                  | *                     | **                 | 295.44              | 215.32              | 196.42                 | 219.48              | **                        |
| 4th Quarter                | 217.71                | 350.82                  | 475.00                | **                 | 242.71              | *                   | 187.20                 | **                  | **                        |
| Year End<br><b>2009</b>    | 136.85                | 282.00                  | 175.62                | 260.06             | 349.63              | 239.92              | 195.24                 | 233.87              | 234.22                    |
| 1st Quarter                | 130.35                | 267.53                  | 179.27                | 249.34             | 212.65              | 703.64              | 212.26                 | 298.60              | 247.42                    |
| 2nd Quarter                | 205.07                | 254.33                  | 210.92                | 245.38             | 220.70              | 249.11              | 218.60                 | 224.37              | 233.08                    |
| 3rd Quarter                | * /**                 | 293.20                  | *                     | **                 | *                   | *                   | *                      | **                  | **                        |
| 4th Quarter                | 255.96                | 266.65                  | 174.42                | 247.63             | 202.59              | *                   | 211.65                 | **                  | **                        |
| Year End<br><u>2010</u>    | 147.46                | 265.08                  | 184.33                | 248.43             | 213.94              | 252.12              | 214.03                 | 220.70              | 225.32                    |
| 1st Quarter                | 118.81                | 297.94                  | 155.03                | 268.47             | 215.46              | 171.69              | 212.82                 | 206.13              | 227.65                    |
| 2nd Quarter                | 207.89                | 271.58                  | 181.95                | 253.10             | 226.17              | 253.31              | 208.48                 | 219.88              | 236.32                    |
| 3rd Quarter                | 266.22                | 268.87                  | *                     | **                 | *                   | *                   | *                      | **                  | **                        |
| 4th Quarter                | 263.08                | 260.16                  | 186.16                | 244.90             | 222.91              | 197.32              | 245.20                 | 232.35              | 243.64                    |
| Year End<br>2011           | 151.35                | 277.15                  | 167.66                | 254.58             | 222.32              | 197.81              | 226.24                 | 220.47              | 229.17                    |
| 1st Quarter                | 282.29                | 277.18                  | 138.12                | 248.51             | 267.60              | *                   | 233.93                 | **                  | **                        |
| 2nd Quarter                | 187.26                | 289.19                  | 147.37                | 259.95             | 249.70              | 216.82              | 236.44                 | 235.64              | 241.97                    |
| 3rd Quarter                | 206.87                | 306.20                  | 130.31                | 269.94             | *                   | *                   | *                      | **                  | **                        |
| 4th Quarter                | 290.62                | 311.17                  | 161.76                | 280.36             | 253.69              | *                   | 261.73                 | **                  | **                        |
| Year End<br><u>2012</u>    | 212.74                | 289.32                  | 145.22                | 259.61             | 254.49              | 216.82              | 237.48                 | 237.25              | 245.95                    |
| 1st Quarter                | 168.12                | 330.92                  | 164.11                | 296.53             | 282.92              | *                   | 274.47                 | **                  | **                        |
| 2nd Quarter                | 251.04                | 318.01                  | 191.58                | 291.94             | 267.40              | *                   | 218.35                 | **                  | **                        |
| 3rd Quarter                | 220.88                | 351.69                  | 154.88                | 311.11             | 228.22              | *                   | *                      | **                  | **                        |
| 4th Quarter                | 206.53                | 308.84                  | 260.42                | 298.86             | 260.22              | 221.19              | 193.13                 | 211.43              | 258.54                    |
| Year End                   | 207.23                | 322.38                  | 182.48                | 293.54             | 261.73              | 221.19              | 201.04                 | 216.68              | 257.36                    |
| 2013<br>1st Quarter        | 192.74                | 299.93                  | 211.51                | 281.70             | 237.57              | *                   | 236.42                 | **                  | **                        |
| 2nd Quarter                | 185.76                | 337.29                  | 208.92                | 310.83             | 259.80              | *                   | 294.45                 | **                  | **                        |
| 3rd Quarter                | *                     | *                       | *                     | **                 | *                   | *                   | *                      | **                  | **                        |
| 4th Quarter                | 304.08                | 329.32                  | 181.06                | 298.75             | 284.22              | *                   | 304.71                 | **                  | **                        |
| Year End                   | 201.96                | 320.88                  | 197.83                | 295.51             | 277.52              | *                   | 285.73                 | **                  | **                        |
| 2014<br>1 ot Quarter       | 206 52                | 216 42                  | 211.06                | 204 70             | 276.00              | 210 50              | 260 50                 | 260.71              | 294.46                    |
| 1st Quarter<br>2nd Quarter | 296.52<br>252.80      | 316.42<br>335.14        | 211.06<br>191.32      | 294.70<br>305.49   | 276.99<br>266.37    | 210.59<br>307.37    | 269.59<br>260.77       | 260.71<br>270.06    | 284.46<br>286.95          |
| 3rd Quarter                | 175.49                | 353.14                  | 191.32                | 320.66             | *                   | *                   | *                      | 270.00              | **                        |
| 4th Quarter                | 186.92                | 331.02                  | 219.23                | 307.97             | 280.50              | *                   | 353.97                 | **                  | **                        |
| Year End                   | 236.40                | 329.72                  | 199.71                | 302.92             | 274.37              | 247.88              | 276.96                 | 271.34              | 283.58                    |
| 2015                       | 001.1.1               | 000.40                  | 070.05                | 044.40             | 044.50              | *                   | 040.04                 | **                  | **                        |
| 1st Quarter<br>2nd Quarter | 221.14<br>246.97      | 320.13<br>329.07        | 278.25<br>286.36      | 311.49<br>320.27   | 314.58<br>307.64    | *                   | 346.21<br>323.07       | **                  | **                        |
| 3rd Quarter                | 246.97                | 329.07<br>315.16        | 286.36                | 320.27             | 307.04              | *                   | s∠s.01<br>*            | **                  | **                        |
| 4th Quarter                | 328.75                | 287.05                  | 252.29                | 279.88             | 286.55              | *                   | 283.49                 | **                  | **                        |
| Year End                   | 253.63                | 314.25                  | 268.68                | 304.86             | 307.10              | *                   | 327.03                 | **                  | **                        |
| <u>2016</u>                |                       |                         |                       |                    |                     |                     |                        |                     |                           |
| 1st Quarter                | 350.11                | 267.82                  | 248.95                | 263.93             | 287.15              | *                   | 311.20                 | **                  | **                        |
| 2nd Quarter<br>3rd Quarter | 231.37                | 234.73<br>247.55        | *                     | **                 | *<br>307.96         | *                   | *                      | **                  | **                        |
| 4th Quarter                | 178.34                | 247.55<br>243.09        | 555.46                | 307.49             | 241.99              | *                   | 406.69                 | **                  | **                        |
| Year End                   | 231.36                | 250.05                  | 250.81                | 250.21             | 270.74              | *                   | 345.79                 | **                  | **                        |
| 2017                       |                       |                         |                       |                    |                     |                     |                        |                     |                           |

\* No information available \*\*Not computed due to the absence of data for indicator item(s).