

Memo

To: Addressees

From: Nancy Sannes
Estimates Engineer

Date: April 28, 2017

RE: Highway Construction Cost Index – 2nd Quarter 2016

The Minnesota Highway Construction Composite Cost Index was not computed for the 2nd Quarter 2016, due to the absence of data for the Reinforcing Steel, Structural Steel, Structural Concrete and Concrete Pavement indicator items. 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 \$0.31/CY from the 2nd Quarter of 2015. Three (3) projects were considered this quarter.
- The average Plant Mixed Bituminous cost was \$40.56/ton, down \$16.30/ton from the 2nd Quarter of 2015. Twelve (12) projects were considered this quarter. The price reduction is a result of a significant decrease in the price of the oil used in the Bituminous Mixture that occurred during the 3rd and 4th Quarters of 2015. *Poten & Partners* reports a 35.29% drop in the price of this commodity between the 2nd Quarter of 2015 and the 2nd Quarter of 2016.

Other factors that contributed to lower construction costs in the 2nd Quarter of 2016 as compared with the 2nd 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 18.8% drop in the price of fuel between these two quarters.

The average number of bidders per project was 2.6 for the 2nd Quarter of 2015. In comparison, the average number of bidders in the 2nd Quarter of 2016 was 3.11.

2nd Quarter 2016 project information is compared to 2nd Quarter 2015 below.

Table 1: Indicator Costs

Item	2nd Quarter 2015			2nd Quarter 2016		
	Quantity	Cost *	Unit Cost	Quantity	Cost *	Unit Cost
Excavation	2,338,736 CY	\$11.58	\$4.95/CY	392,246 CY	\$1.82	\$4.64/CY
Reinforcing Steel	1,267,765 lb	\$1.71	\$1.35/lb	**	**	**
Structural Steel	**	**	**	**	**	**
Structural Concrete	14,976 CY	\$10.07	\$672.31/CY	**	**	**
Concrete Pavement	96,078 CY	\$15.34	\$159.66/CY	**	**	**
Plant-Mixed Bituminous	753,739 ton	\$42.86	\$56.86/ton	407,807 ton	\$16.54	\$40.56/ton
Total		\$81.55			\$18.36	

* Millions of dollars

** Not computed due to absent data.

Table 2: Minnesota Highway Construction Project Summary

	2nd Quarter 2015	2nd Quarter 2016
Number of Projects Awarded	81	37
Awarded Amount (\$ million)	\$290.30	\$82.08
Total Number of Bidders	208	115
Average Number of Bidders	2.6	3.11
Number of Cost Index Projects	29	13
Cost Index Amount (\$ million)	\$81.55	\$18.36
Excavation Index	246.97	231.37
Structures Index	**	**
Surfacing Index	320.27	**
Composite Cost Index (CI)	**	**

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

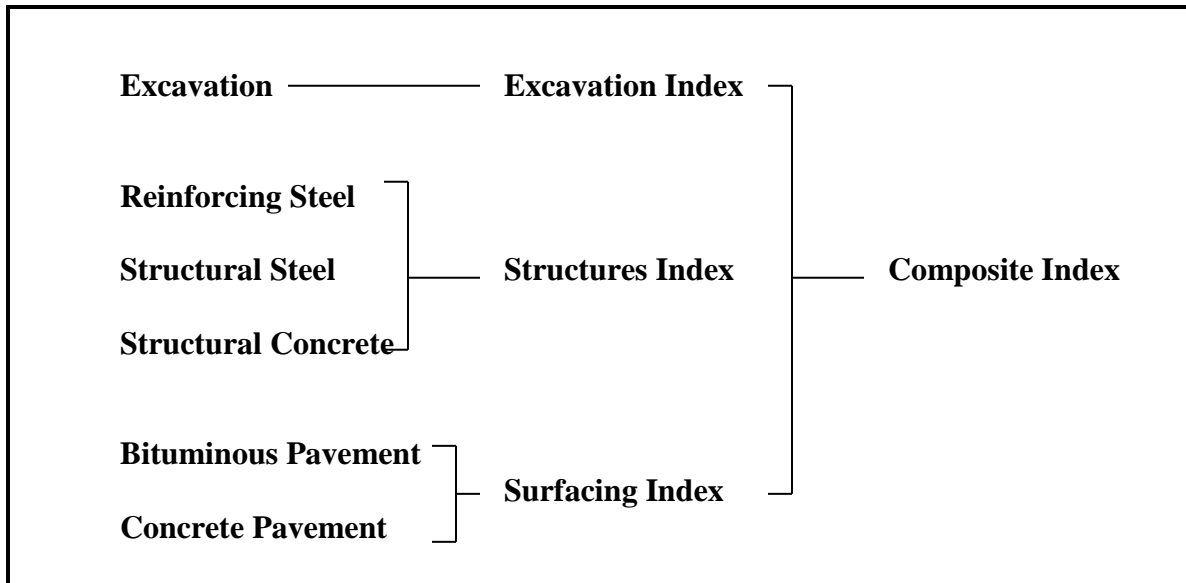
Attached is an explanation of the derivation of the Minnesota Cost index, charts of quarterly and annual Minnesota highway construction cost trends.

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.

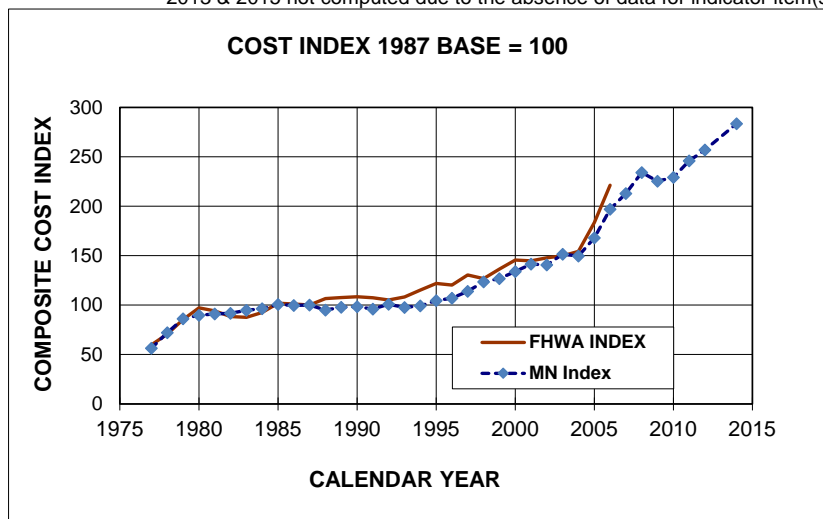
These unit prices along with the 1987 base unit prices and quantities are used to compute the Excavation, Surfacing, Structures and Composite Index.

NOTE: In 2007, the FHWA stopped collecting Price Trend data,
and no longer provide the reports necessary to complete the comparison graphs.

HIGHWAY CONSTRUCTION COST INDEX 1987 BASE-100

<u>Year End</u>	<u>FHWA Index</u>	<u>MN Index</u>
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		

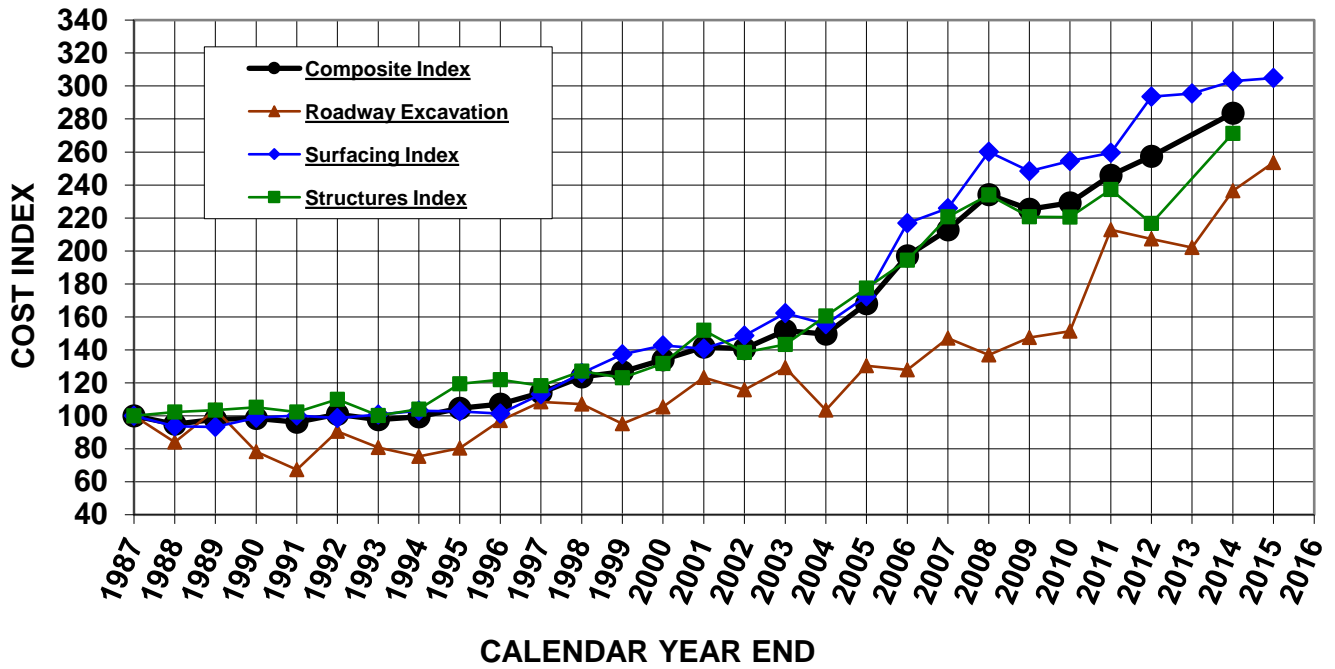
**2013 & 2015 not computed due to the absence of data for indicator item(s).



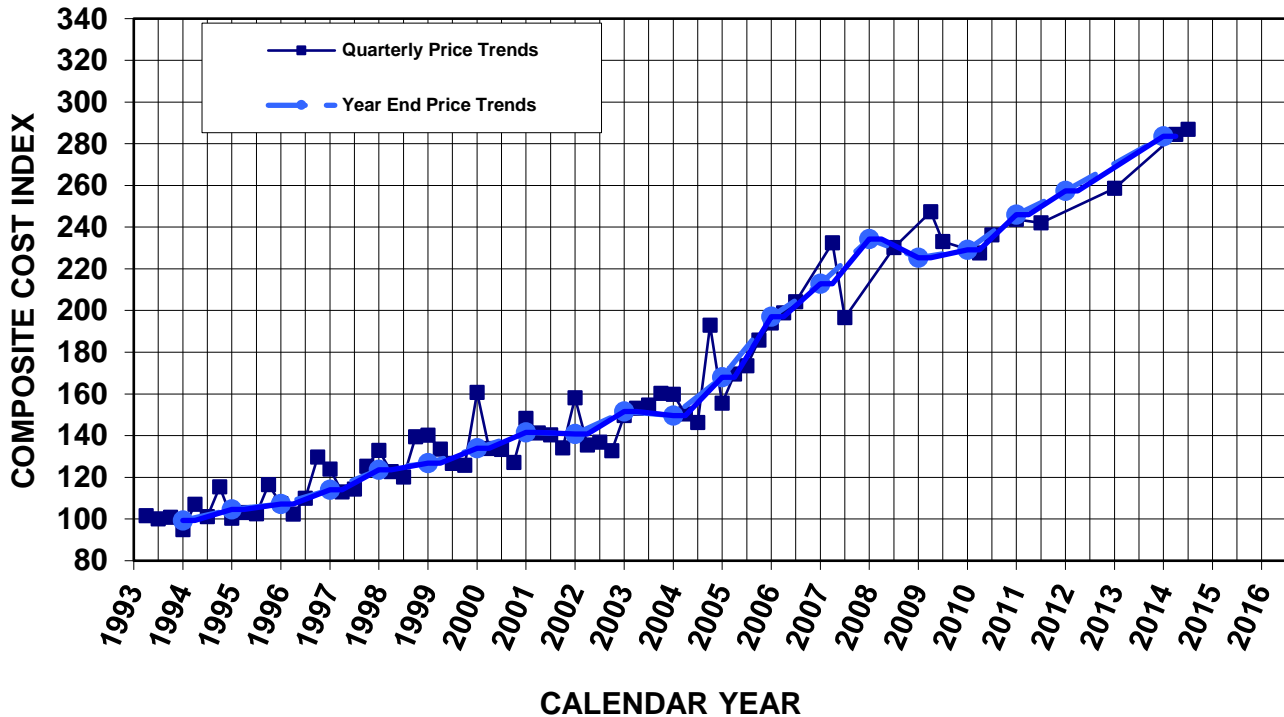
1987 Base Year = 100
 FHWA Index includes projects > \$500,000
 Mn/DOT Index includes projects > \$100,000

Minnesota Highway Construction Cost Trends

ANNUAL PRICE TRENDS



YEARLY & QUARTERLY PRICE TRENDS



(Year end price trend line corrected 2007-2015)

MN/DOT COST INDEX

<u>Year</u>	<u>Roadway Excavation</u>	<u>Bituminous Surfacing</u>	<u>Concrete Surfacing</u>	<u>Surfacing Index</u>	<u>Reinforce. Steel</u>	<u>Structural Steel</u>	<u>Structural Concrete</u>	<u>Structures Index</u>	<u>Composite Index</u>
1987	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1988									
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	104.76	96.33	110.27	110.57	110.45	110.43	99.46
4th Quarter	89.72	103.63		103.63	115.44	107.04	94.37	100.80	100.39
Year End	84.08	95.68	85.55	93.59	109.73	109.34	97.90	102.26	94.90
1989									
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		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
1990									
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
1991									
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
1992									
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
1993									
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
1994									
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
1995									
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
1996									
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
1997									
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
1998									
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)

<u>Year</u>	<u>Roadway Excavation</u>	<u>Bituminous Surfacing</u>	<u>Concrete Surfacing</u>	<u>Surfacing Index</u>	<u>Reinforce. Steel</u>	<u>Structural Steel</u>	<u>Structural Concrete</u>	<u>Structures Index</u>	<u>Composite Index</u>
2002									
1st Quarter	123.44	147.14	119.78	141.50	151.68	143.03	120.19	130.48	135.49
2nd Quarter	148.48	149.69	140.07	147.71	150.31	165.23	85.03	112.13	136.82
3rd Quarter		132.77		132.77					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
2003									
1st Quarter	119.16	168.38	149.65	164.51	165.32	124.83	149.85	148.55	153.05
2nd Quarter	149.11	166.29	171.88	167.44	168.38	109.25	130.53	134.34	154.57
3rd Quarter	126.34	162.12	190.96	168.07	166.04		161.37	162.50	160.21
4th Quarter	142.18	144.11		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
2004									
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		135.92	149.83	146.23
3rd Quarter	156.87	173.66	220.06	183.23	231.70	126.15	253.80	226.99	192.95
4th Quarter	171.37	153.88	126.70	148.28	175.45	195.43	146.69	160.98	155.53
Year End	103.48	159.35	141.15	155.60	191.19	162.96	150.02	160.50	149.61
2005									
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	135.85	214.40	173.97	206.06	195.34	199.90	158.17	172.91	185.71
4th Quarter	131.93	211.41		211.41	219.49		192.75	199.22	193.94
Year End	130.43	169.66	183.55	172.53	202.26	201.13	162.78	177.39	167.97
2006									
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	*	**	257.26	*	230.67	**	**
4th Quarter	95.01	228.13	*	**	247.81	*	212.00	**	**
Year End	127.80	228.04	173.91	216.88	205.99	183.53	193.74	194.39	197.10
2007									
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	*	**	*	*	*	**	**
Year End	147.02	232.91	198.59	225.84	233.69	262.24	204.79	220.64	212.88
2008									
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	*	**	242.71	*	187.20	**	**
Year End	136.85	282.00	175.62	260.06	349.63	239.92	195.24	233.87	234.22
2009									
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	147.46	265.08	184.33	248.43	213.94	252.12	214.03	220.70	225.32
2010									
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	151.35	277.15	167.66	254.58	222.32	197.81	226.24	220.47	229.17
2011									
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	212.74	289.32	145.22	259.61	254.49	216.82	237.48	237.25	245.95
2012									
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	257.36	257.36
2013									
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									
1st Quarter	296.52	316.42	211.06	294.70	276.99	210.59	269.59	260.71	284.46
2nd Quarter	252.80	335.14	191.32	305.49	266.37	307.37	260.77	270.06	286.95
3rd Quarter	175.49	353.17	195.49	320.66	*	*	*	**	**
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									
1st Quarter	221.14	320.13	278.25	311.49	314.58	*	346.21	**	**
2nd Quarter	246.97	329.07	286.36	320.27	307.64	*	323.07	**	**
3rd Quarter	*	315.16	*	**	*	*	*	**	**
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	**	**
2016									
1st Quarter	350.11	267.82	248.95	263.93	287.15	*	311.20	**	**
2nd Quarter	231.37	234.73	*	**	*	*	*	**	**

* No information available

**Not computed due to the absence of data for indicator item(s).