BEARING SCHEDULE
BRIDGE 29 - SERVICE LOADS

PIER	BEAM	BEARING TYPE	DEAD LOAD (KIPS)	SDL (KIPS)	MAX LL+I (KIPS)	MIN LL+I (KIPS)	MAXIMUM VERTICAL LOAD (KIPS)	MINIMUM VERTICAL LOAD (KIPS)	HORIZONTAL CAPACITY (KIPS)
1	1	FREE	97.86	27.61	81.06	-21.56	207	103	21
	2	FREE	98.80	26.21	77.62	-11.00	203	114	21
	3	GUIDED	94.57	25.43	78.68	-9.03	199	110	60
	4	FREE	91.05	24.61	76.26	-9.89	192	105	20
	5	FREE	84.51	23.49	74.68	-20.95	183	87	19
2	1	FREE	323.79	87.06	165.00	-27.00	576	383	58
	2	FREE	365.88	94.22	168.03	-16.31	629	443	63
	3	GUIDED	350.99	90.12	155.22	-11.86	597	429	180
	4	FREE	343.52	87.87	158.85	-14.23	591	417	60
	5	FREE	355.63	93.99	184.90	-39.08	635	410	64
3	1	FREE	309.44	85.28	179.17	-43.48	574	351	58
	2	FREE	334.71	87.84	169.43	-24.08	592	398	60
	3	GUIDED	331.47	86.82	160.50	-19.18	579	399	174
	4	FREE	324.84	85.76	166.52	-22.94	578	387	58
	5	FREE	327.72	87.89	183.38	-45.17	599	370	60
4	1	GUIDED	344.47	90.78	187.38	-46.18	623	389	187
	2	GUIDED	329.82	86.67	166.74	-22.17	584	394	176
	3	FIXED	342.31	88.73	162.72	-18.65	594	412	179
	4	GUIDED	342.27	89.78	170.87	-23.14	603	408	181
	5	GUIDED	331.77	89.70	184.15	-43.53	606	377	182
5	1	FREE	349.05	91.14	191.01	-49.94	632	390	64
	2	FREE	307.67	81.70	159.74	-20.25	550	369	55
	3	GUIDED	327.63	86.19	159.66	-18.23	574	395	173
	4	FREE	339.55	89.13	169.86	-23.67	599	405	60
	5	FREE	323.93	87.44	178.00	-40.24	590	371	59
6	1	FREE	356.89	93.21	180.58	-34.98	631	415	64
	2	FREE	332.73	86.43	158.62	-13.27	578	405	58
	3	GUIDED	352.56	90.49	157.55	-11.89	601	431	181
	4	FREE	356.64	92.01	166.35	-15.65	615	433	62
	5	FREE	340.82	90.48	173.16	-30.44	605	400	61
7	1	FREE	91.04	25.44	75.35	-19.72	192	96	20
	2	FREE	96.26	25.85	75.45	-9.18	198	112	20
	3	GUIDED	96.67	25.99	78.20	-8.05	201	114	61
	4	FREE	100.27	26.73	76.21	-10.19	204	116	21
	5	FREE	96.53	27.13	78.69	-20.58	203	103	21

SPAN	CROSS FRAMES
1, 6	8 SPA. @ 20'-7½"
2 – 5	10 SPA. @ 20'-0"

BRIDGE 29 - I-75 I-575 NW CORRIDOR
Girder System : Analysis Output : Reactions - Girder 1 BM 3

Girder 1 Service Vertical Reactions - k

BRIDGE 29

Supp/Node	Noncomp Dead	Super-Imposed Dead	Max Live+ Impact	Min Live+ Impact	Sidewalk Max	Sidewalk Min
Governing						
1 1	84.51	23.49	74.68	-20.95	0.00	0.00
Steel	20.72					
Concrete	63.79					

Global x concurrent LL+I rot. 0.0001 0.0001 deg
Global y concurrent LL+I rot. 0.0465 -0.0143 deg

Max LL+I Contribution by Lane

1	2	3
58.59	16.09	0.80

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 2 - 60.02

Concurrent at gdr 3 - 36.27

Concurrent at gdr 4 - 13.60

Concurrent at gdr 5 - 3.83

2 20	355.63	93.99	184.90	-39.08	0.00	0.00
Steel	97.70					
Concrete	257.92					

Global x concurrent LL+I rot. 0.0015 -0.0027 deg
Global y concurrent LL+I rot. 0.0316 -0.0263 deg

Max LL+I Contribution by Lane

1	2	3
140.61	44.30	4.98

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 2 - 138.04

Concurrent at gdr 3 - 94.45

Concurrent at gdr 4 - 30.57

Concurrent at gdr 5 - 10.16

3 64	327.72	87.89	183.38	-45.17	0.00	0.00
Steel	89.69					
Concrete	238.03					

Global x concurrent LL+I rot. 0.0028 -0.0037 deg

```
Global y concurrent LL+I rot.   0.0338   -0.0329 deg

    Max LL+I Contribution by Lane
         1          2          3
      139.76     43.62      4.72

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  2 -     148.62

     Concurrent at gdr  3 -     100.10

     Concurrent at gdr  4 -      35.08

     Concurrent at gdr  5 -      13.71

  4  114    331.77     89.70    184.15    -43.53    0.00     0.00
     Steel     85.95
     Concrete 245.82

Global x concurrent LL+I rot.   0.0028   -0.0038 deg
Global y concurrent LL+I rot.   0.0348   -0.0341 deg

    Max LL+I Contribution by Lane
         1          2          3
      139.86     44.29      5.81

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  2 -     153.06

     Concurrent at gdr  3 -     102.61

     Concurrent at gdr  4 -      34.96

     Concurrent at gdr  5 -      14.88

  5  164    323.93     87.44    178.00    -40.24    0.00     0.00
     Steel     86.71
     Concrete 237.22

Global x concurrent LL+I rot.   0.0022   -0.0027 deg
Global y concurrent LL+I rot.   0.0342   -0.0342 deg

    Max LL+I Contribution by Lane
         1          2          3
      135.83     42.17      5.51

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  2 -     153.39

     Concurrent at gdr  3 -     101.29

     Concurrent at gdr  4 -      36.31

     Concurrent at gdr  5 -      15.51

  6  214    340.82     90.48    173.16    -30.44    0.00     0.00
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Steel 93.88
Concrete 246.94

Global x concurrent LL+I rot. 0.0010 -0.0012 deg
Global y concurrent LL+I rot. 0.0337 -0.0321 deg

Max LL+I Contribution by Lane

1	2	3
133.45	39.71	4.76

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 2 - 150.63

Concurrent at gdr 3 - 98.89

Concurrent at gdr 4 - 34.33

Concurrent at gdr 5 - 11.87

7	260	96.53	27.13	78.69	-20.58	0.00	0.00

Steel 23.13
Concrete 73.40

Global x concurrent LL+I rot. 0.0001 -0.0001 deg
Global y concurrent LL+I rot. 0.0196 -0.0502 deg

Max LL+I Contribution by Lane

1	2	3
59.93	18.76	2.53

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 2 - 63.60

Concurrent at gdr 3 - 43.57

Concurrent at gdr 4 - 15.08

Concurrent at gdr 5 - 6.17

Truck Loading

1	1	71.61	-9.12
2	20	86.34	-15.48
3	64	84.46	-13.19
4	114	84.42	-11.76
5	164	83.53	-11.36
6	214	83.11	-11.79
7	260	73.62	-9.26

Lane Loading

1	1	74.20	-13.23
2	20	184.90	-24.04
3	64	183.38	-29.74
4	114	184.15	-29.32
5	164	178.00	-27.30
6	214	173.16	-18.30
7	260	78.69	-14.13

Fatigue Truck

1	1	42.69	-6.81
2	20	50.33	-11.84
3	64	50.38	-10.11
4	114	50.37	-9.03
5	164	50.23	-8.71
6	214	50.07	-9.04
7	260	43.14	-7.10

Support Rotations - Degrees

About global axes used in Girder Geometry table

Supp/Node		Noncomp Dead x-axis	Noncomp Dead y-axis	Superimp Dead x-axis	Superimp Dead y-axis	LL+I+SDWK Range x-axis		LL+I+SDWK Range y-axis	
1	1	0.00	0.29	0.00	0.06	(0.00 to	0.00)	(-0.05 to	0.13)
		Concurrent live vertical reaction				35.23	12.77	-4.94	44.00
2	20	0.00	0.01	0.00	0.00	(-0.01 to	0.01)	(-0.08 to	0.09)
		Concurrent live vertical reaction				69.49	64.59	64.59	69.49
3	64	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.10)
		Concurrent live vertical reaction				64.67	63.07	63.07	64.67
4	114	0.00	0.01	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.10)
		Concurrent live vertical reaction				63.98	62.10	62.10	63.98
5	164	0.00	-0.03	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.10)
		Concurrent live vertical reaction				60.65	61.59	61.59	60.65
6	214	0.00	0.06	0.00	0.01	(0.00 to	0.00)	(-0.09 to	0.10)
		Concurrent live vertical reaction				60.99	61.13	61.13	60.99
7	260	0.00	-0.38	0.00	-0.08	(0.00 to	0.00)	(-0.15 to	0.06)
		Concurrent live vertical reaction				32.25	10.77	47.05	-5.18

Torsional and flexural rotations - member local axes

Supp/Node		Noncomp Dead tors	Noncomp Dead flex	Superimp Dead tors	Superimp Dead flex	LL+I+SDWK Range tors		LL+I+SDWK Range flex	
1	1	0.00	0.29	0.00	0.06	(0.00 to	0.00)	(-0.05 to	0.13)
2	20	0.00	0.01	0.00	0.00	(-0.01 to	0.01)	(-0.08 to	0.09)
3	64	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.10)
4	114	0.00	0.01	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.10)
5	164	0.00	-0.03	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.10)
6	214	0.00	0.06	0.00	0.01	(0.00 to	0.00)	(-0.09 to	0.10)
7	260	0.00	-0.38	0.00	-0.08	(0.00 to	0.00)	(-0.15 to	0.06)

BRIDGE 29 - I-75 I-575 NW CORRIDOR
Girder System : Analysis Output : Reactions - Girder 2 BEAM 4

Girder 2 Service Vertical Reactions - k

Supp/Node	Noncomp Dead	Super-Imposed Dead	Max Live+ Impact	Min Live+ Impact	Sidewalk Max	Sidewalk Min
Governing						
1 2	91.05	24.61	76.26	-9.89	0.00	0.00
Steel	23.62					
Concrete	67.43					

Global x concurrent LL+I rot. 0.0002 -0.0001 deg
Global y concurrent LL+I rot. 0.0410 -0.0149 deg

Max LL+I Contribution by Lane

1	2	3
37.42	37.55	9.76

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 1 - 44.49

Concurrent at gdr 3 - 60.21

Concurrent at gdr 4 - 45.71

Concurrent at gdr 5 - 20.38

2 28	343.52	87.87	158.85	-14.23	0.00	0.00
Steel	96.19					
Concrete	247.33					

Global x concurrent LL+I rot. 0.0019 -0.0022 deg
Global y concurrent LL+I rot. 0.0263 -0.0235 deg

Max LL+I Contribution by Lane

1	2	3
77.11	74.11	25.28

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 1 - 148.62

Concurrent at gdr 3 - 142.47

Concurrent at gdr 4 - 115.43

Concurrent at gdr 5 - 50.60

3 74	324.84	85.76	166.52	-22.94	0.00	0.00
Steel	87.58					
Concrete	237.27					

Global x concurrent LL+I rot. 0.0032 -0.0031 deg

```
Global y concurrent LL+I rot.   0.0272   -0.0282 deg

    Max LL+I Contribution by Lane
         1          2          3
      83.72      76.64      24.67

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -     146.76

     Concurrent at gdr  3 -     148.32

     Concurrent at gdr  4 -     120.37

     Concurrent at gdr  5 -      58.93

  4  124    342.27     89.78    170.87    -23.14    0.00     0.00
     Steel     91.29
     Concrete 250.98

Global x concurrent LL+I rot.   0.0032   -0.0031 deg
Global y concurrent LL+I rot.   0.0276   -0.0288 deg

    Max LL+I Contribution by Lane
         1          2          3
      86.16      78.20      25.49

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -     148.32

     Concurrent at gdr  3 -     150.40

     Concurrent at gdr  4 -     119.31

     Concurrent at gdr  5 -      62.99

  5  174    339.55     89.13    169.86    -23.67    0.00     0.00
     Steel     91.71
     Concrete 247.84

Global x concurrent LL+I rot.   0.0024   -0.0023 deg
Global y concurrent LL+I rot.   0.0273   -0.0282 deg

    Max LL+I Contribution by Lane
         1          2          3
      86.34      77.61      24.79

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -     142.71

     Concurrent at gdr  3 -     147.69

     Concurrent at gdr  4 -     117.52

     Concurrent at gdr  5 -      65.27

  6  224    356.64     92.01    166.35    -15.65    0.00     0.00
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      Steel     99.21
      Concrete 257.43

  Global x concurrent LL+I rot.   0.0010   -0.0010 deg
  Global y concurrent LL+I rot.   0.0268   -0.0264 deg

      Max LL+I Contribution by Lane
           1          2          3
        84.55      76.61      23.67

      Concurrent reactions using same governing loaded lanes
      as for Max LL+I

       Concurrent at gdr  1 -     137.62

       Concurrent at gdr  3 -     145.53

       Concurrent at gdr  4 -     115.66

       Concurrent at gdr  5 -      58.10

    7  268    100.27     26.73     76.21    -10.19    0.00     0.00
       Steel     25.31
       Concrete  74.96

  Global x concurrent LL+I rot.   0.0001    0.0000 deg
  Global y concurrent LL+I rot.  -0.0312   -0.0426 deg

      Max LL+I Contribution by Lane
           1          2          3
        36.65      37.07      10.96

      Concurrent reactions using same governing loaded lanes
      as for Max LL+I

       Concurrent at gdr  1 -      47.45

       Concurrent at gdr  3 -      59.33

       Concurrent at gdr  4 -      44.52

       Concurrent at gdr  5 -      17.42


Truck Loading

    1    2                         75.36     -6.34
    2   28                         88.95     -9.09
    3   74                         88.56     -9.63
    4  124                         89.42     -9.06
    5  174                         88.86     -9.64
    6  224                         88.37     -9.86
    7  268                         75.01     -6.51

Lane Loading

    1    2                         72.11     -9.61
    2   28                        158.85    -13.71
    3   74                        166.52    -21.97
    4  124                        170.87    -22.20
    5  174                        169.86    -22.69
    6  224                        166.35    -14.83
    7  268                         73.60     -9.97

Fatigue Truck
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1	2	27.01	-4.77
2	28	33.10	-6.97
3	74	33.27	-7.25
4	124	33.56	-6.83
5	174	33.36	-7.38
6	224	33.10	-7.43
7	268	26.68	-4.98

Support Rotations - Degrees

About global axes used in Girder Geometry table

Supp/Node		Noncomp Dead x-axis	Noncomp Dead y-axis	Superimp Dead x-axis	Superimp Dead y-axis	LL+I+SDWK Range x-axis	LL+I+SDWK Range y-axis
1	2	0.00	0.31	0.00	0.07	(0.00 to 0.00)	(-0.04 to 0.11)
		Concurrent live vertical reaction				-3.58 35.65	-3.57 35.65
2	28	0.00	0.00	0.00	0.00	(-0.01 to 0.01)	(-0.07 to 0.07)
		Concurrent live vertical reaction				48.16 48.71	48.71 48.16
3	74	0.00	-0.01	0.00	0.00	(-0.01 to 0.01)	(-0.08 to 0.08)
		Concurrent live vertical reaction				52.03 51.84	51.84 52.03
4	124	0.00	-0.01	0.00	0.00	(-0.01 to 0.01)	(-0.08 to 0.08)
		Concurrent live vertical reaction				53.56 52.28	52.28 53.56
5	174	0.00	-0.03	0.00	0.00	(-0.01 to 0.01)	(-0.08 to 0.08)
		Concurrent live vertical reaction				52.32 53.49	53.49 52.32
6	224	0.00	0.06	0.00	0.01	(0.00 to 0.00)	(-0.07 to 0.08)
		Concurrent live vertical reaction				52.69 52.95	52.95 52.69
7	268	0.00	-0.37	0.00	-0.08	(0.00 to 0.00)	(-0.12 to 0.04)
		Concurrent live vertical reaction				-3.65 33.71	37.53 -3.65

Torsional and flexural rotations - member local axes

Supp/Node		Noncomp Dead tors	Noncomp Dead flex	Superimp Dead tors	Superimp Dead flex	LL+I+SDWK Range tors	LL+I+SDWK Range flex
1	2	0.00	0.31	0.00	0.07	(0.00 to 0.00)	(-0.04 to 0.11)
2	28	0.00	0.00	0.00	0.00	(-0.01 to 0.01)	(-0.07 to 0.07)
3	74	0.00	-0.01	0.00	0.00	(-0.01 to 0.01)	(-0.08 to 0.08)
4	124	0.00	-0.01	0.00	0.00	(-0.01 to 0.01)	(-0.08 to 0.08)
5	174	0.00	-0.03	0.00	0.00	(-0.01 to 0.01)	(-0.08 to 0.08)
6	224	0.00	0.06	0.00	0.01	(0.00 to 0.00)	(-0.07 to 0.08)
7	268	0.00	-0.37	0.00	-0.08	(0.00 to 0.00)	(-0.12 to 0.04)

BRIDGE 29 - I-75 I-575 NW CORRIDOR
Girder System : Analysis Output : Reactions - Girder 3

Girder 3 Service Vertical Reactions - k

Supp/Node	Noncomp Dead	Super-Imposed Dead	Max Live+ Impact	Min Live+ Impact	Sidewalk Max	Sidewalk Min
Governing						
1 3	94.57	25.43	78.68	-9.03	0.00	0.00
Steel	24.47					
Concrete	70.10					

Global x concurrent LL+I rot. 0.0001 -0.0001 deg
Global y concurrent LL+I rot. 0.0399 -0.0133 deg

Max LL+I Contribution by Lane

1	2	3
13.25	48.80	25.38

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 1 - 45.25

Concurrent at gdr 2 - 59.49

Concurrent at gdr 4 - 55.79

Concurrent at gdr 5 - 9.09

2 36	350.99	90.12	155.22	-11.86	0.00	0.00
Steel	98.10					
Concrete	252.90					

Global x concurrent LL+I rot. 0.0017 -0.0020 deg
Global y concurrent LL+I rot. 0.0233 -0.0215 deg

Max LL+I Contribution by Lane

1	2	3
28.69	85.58	58.19

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 1 - 144.23

Concurrent at gdr 2 - 146.34

Concurrent at gdr 4 - 119.95

Concurrent at gdr 5 - 52.84

3 84	331.47	86.82	160.50	-19.18	0.00	0.00
Steel	88.48					
Concrete	242.98					

Global x concurrent LL+I rot. 0.0028 -0.0027 deg

```
Global y concurrent LL+I rot.   0.0236   -0.0246 deg

    Max LL+I Contribution by Lane
         1          2          3
      31.64      87.31      59.38

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -     142.21

     Concurrent at gdr  2 -     153.26

     Concurrent at gdr  4 -     124.56

     Concurrent at gdr  5 -      61.74

  4  134    342.31     88.73    162.72    -18.65    0.00     0.00
     Steel     91.84
     Concrete 250.47

Global x concurrent LL+I rot.   0.0028   -0.0026 deg
Global y concurrent LL+I rot.   0.0234   -0.0248 deg

    Max LL+I Contribution by Lane
         1          2          3
      33.06      88.23      59.51

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -     143.77

     Concurrent at gdr  2 -     157.44

     Concurrent at gdr  4 -     123.36

     Concurrent at gdr  5 -      66.05

  5  184    327.63     86.19    159.66    -18.23    0.00     0.00
     Steel     87.97
     Concrete 239.66

Global x concurrent LL+I rot.   0.0020   -0.0019 deg
Global y concurrent LL+I rot.   0.0231   -0.0239 deg

    Max LL+I Contribution by Lane
         1          2          3
      32.50      86.84      58.06

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -     138.12

     Concurrent at gdr  2 -     156.28

     Concurrent at gdr  4 -     121.25

     Concurrent at gdr  5 -      68.40

  6  234    352.56     90.49    157.55    -11.89    0.00     0.00
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      Steel     98.35
      Concrete 254.21

  Global x concurrent LL+I rot.   0.0009   -0.0009 deg
  Global y concurrent LL+I rot.   0.0230   -0.0222 deg

     Max LL+I Contribution by Lane
          1         2         3
       30.87     86.59     57.60

     Concurrent reactions using same governing loaded lanes
     as for Max LL+I

      Concurrent at gdr  1 -     133.28

      Concurrent at gdr  2 -     152.59

      Concurrent at gdr  4 -     119.47

      Concurrent at gdr  5 -      60.68

   7  276     96.67     25.99     78.20     -8.05    0.00     0.00
      Steel     24.55
      Concrete  72.12

  Global x concurrent LL+I rot.   0.0001    0.0000 deg
  Global y concurrent LL+I rot.  -0.0239   -0.0374 deg

     Max LL+I Contribution by Lane
          1         2         3
       14.18     47.42     25.29

     Concurrent reactions using same governing loaded lanes
     as for Max LL+I

      Concurrent at gdr  1 -      47.85

      Concurrent at gdr  2 -      60.11

      Concurrent at gdr  4 -      53.78

      Concurrent at gdr  5 -       9.32


Truck Loading

    1    3                        76.75     -5.81
    2   36                        90.45     -7.66
    3   84                        91.30     -8.22
    4  134                        91.76     -7.62
    5  184                        91.54     -7.78
    6  234                        90.95     -7.84
    7  276                        76.37     -5.23

Lane Loading

    1    3                        70.96     -8.80
    2   36                       155.22    -11.56
    3   84                       160.50    -18.74
    4  134                       162.72    -18.56
    5  184                       159.66    -18.12
    6  234                       157.55    -11.82
    7  276                        70.96     -7.99

Fatigue Truck
```

1	3	34.52	-4.37
2	36	44.02	-5.87
3	84	44.30	-6.19
4	134	44.48	-5.73
5	184	44.34	-5.95
6	234	43.75	-5.90
7	276	33.72	-4.01

Support Rotations - Degrees

About global axes used in Girder Geometry table

Supp/Node		Noncomp Dead x-axis	Noncomp Dead y-axis	Superimp Dead x-axis	Superimp Dead y-axis	LL+I+SDWK Range x-axis		LL+I+SDWK Range y-axis	
1	3	0.00	0.33	0.00	0.07	(0.00 to	0.00)	(-0.04 to	0.10)
		Concurrent live vertical reaction				-2.37	25.38	-3.27	32.51
2	36	0.00	-0.01	0.00	0.00	(-0.01 to	0.00)	(-0.06 to	0.07)
		Concurrent live vertical reaction				47.51	46.93	46.93	47.51
3	84	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.07 to	0.07)
		Concurrent live vertical reaction				49.32	47.65	47.65	49.32
4	134	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.07 to	0.07)
		Concurrent live vertical reaction				49.49	48.00	48.00	49.49
5	184	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.07 to	0.07)
		Concurrent live vertical reaction				47.61	48.59	48.59	47.61
6	234	0.00	0.06	0.00	0.01	(0.00 to	0.00)	(-0.06 to	0.06)
		Concurrent live vertical reaction				47.42	49.38	48.52	47.42
7	276	0.00	-0.36	0.00	-0.08	(0.00 to	0.00)	(-0.11 to	0.04)
		Concurrent live vertical reaction				9.03	25.58	31.09	-2.93

Torsional and flexural rotations - member local axes

Supp/Node		Noncomp Dead tors	Noncomp Dead flex	Superimp Dead tors	Superimp Dead flex	LL+I+SDWK Range tors		LL+I+SDWK Range flex	
1	3	0.00	0.33	0.00	0.07	(0.00 to	0.00)	(-0.04 to	0.10)
2	36	0.00	-0.01	0.00	0.00	(-0.01 to	0.00)	(-0.06 to	0.07)
3	84	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.07 to	0.07)
4	134	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.07 to	0.07)
5	184	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.07 to	0.07)
6	234	0.00	0.06	0.00	0.01	(0.00 to	0.00)	(-0.06 to	0.06)
7	276	0.00	-0.36	0.00	-0.08	(0.00 to	0.00)	(-0.11 to	0.04)

BRIDGE 29 - I-75 I-575 NW CORRIDOR
Girder System : Analysis Output : Reactions - Girder 4 BEAM 2

Girder 4 Service Vertical Reactions - k

Supp/Node	Noncomp Dead	Super-Imposed Dead	Max Live+ Impact	Min Live+ Impact	Sidewalk Max	Sidewalk Min
Governing						
1 4	98.80	26.21	77.62	-11.00	0.00	0.00
Steel	25.49					
Concrete	73.31					

Global x concurrent LL+I rot. 0.0002 -0.0001 deg
Global y concurrent LL+I rot. 0.0448 -0.0174 deg

Max LL+I Contribution by Lane

1	2	3
11.32	37.75	37.17

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 1 - 16.44

Concurrent at gdr 2 - 44.59

Concurrent at gdr 3 - 60.09

Concurrent at gdr 5 - 48.55

2 44	365.88	94.22	168.03	-16.31	0.00	0.00
Steel	100.71					
Concrete	265.17					

Global x concurrent LL+I rot. 0.0022 -0.0024 deg
Global y concurrent LL+I rot. 0.0287 -0.0271 deg

Max LL+I Contribution by Lane

1	2	3
22.89	76.91	86.90

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 1 - 61.11

Concurrent at gdr 2 - 118.47

Concurrent at gdr 3 - 145.09

Concurrent at gdr 5 - 129.85

3 94	334.71	87.84	169.43	-24.08	0.00	0.00
Steel	88.91					
Concrete	245.81					

Global x concurrent LL+I rot. 0.0032 -0.0031 deg

```
Global y concurrent LL+I rot.   0.0274   -0.0288 deg

    Max LL+I Contribution by Lane
         1          2          3
      24.98      77.67      85.62

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -      61.20

     Concurrent at gdr  2 -     118.90

     Concurrent at gdr  3 -     148.91

     Concurrent at gdr  5 -     143.40

  4  144    329.82     86.67    166.74    -22.17    0.00     0.00
     Steel     89.39
     Concrete 240.42

Global x concurrent LL+I rot.   0.0032   -0.0029 deg
Global y concurrent LL+I rot.   0.0262   -0.0282 deg

    Max LL+I Contribution by Lane
         1          2          3
      24.72      76.83      83.71

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -      61.84

     Concurrent at gdr  2 -     121.77

     Concurrent at gdr  3 -     149.48

     Concurrent at gdr  5 -     150.23

  5  194    307.67     81.70    159.74    -20.25    0.00     0.00
     Steel     84.99
     Concrete 222.68

Global x concurrent LL+I rot.   0.0022   -0.0021 deg
Global y concurrent LL+I rot.   0.0249   -0.0259 deg

    Max LL+I Contribution by Lane
         1          2          3
      24.85      74.20      78.44

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -      58.65

     Concurrent at gdr  2 -     119.61

     Concurrent at gdr  3 -     145.87

     Concurrent at gdr  5 -     153.88

  6  244    332.73     86.43    158.62    -13.27    0.00     0.00
```

```
      Steel     93.06
      Concrete 239.68

  Global x concurrent LL+I rot.   0.0009   -0.0010 deg
  Global y concurrent LL+I rot.   0.0248   -0.0243 deg

     Max LL+I Contribution by Lane
          1         2         3
       23.93     74.07     78.25

     Concurrent reactions using same governing loaded lanes
     as for Max LL+I

      Concurrent at gdr  1 -      54.50

      Concurrent at gdr  2 -     117.02

      Concurrent at gdr  3 -     144.05

      Concurrent at gdr  5 -     143.94

   7  284     96.26     25.85     75.45     -9.18    0.00     0.00
      Steel     24.48
      Concrete  71.79

  Global x concurrent LL+I rot.   0.0001    0.0000 deg
  Global y concurrent LL+I rot.  -0.0297   -0.0403 deg

     Max LL+I Contribution by Lane
          1         2         3
       10.24     36.92     36.67

     Concurrent reactions using same governing loaded lanes
     as for Max LL+I

      Concurrent at gdr  1 -      19.29

      Concurrent at gdr  2 -      45.32

      Concurrent at gdr  3 -      59.45

      Concurrent at gdr  5 -      45.56


Truck Loading

   1    4                        76.32     -7.14
   2   44                        88.47    -10.13
   3   94                        88.85     -9.88
   4  144                        88.63     -9.07
   5  194                        88.53     -8.38
   6  244                        88.23     -8.37
   7  284                        74.44     -5.88

Lane Loading

   1    4                        74.72    -10.78
   2   44                       168.03    -15.19
   3   94                       169.43    -23.06
   4  144                       166.74    -21.19
   5  194                       159.74    -19.50
   6  244                       158.62    -12.62
   7  284                        71.88     -8.97

Fatigue Truck
```

1	4	27.09	-5.38
2	44	33.15	-7.78
3	94	33.37	-7.54
4	144	33.33	-6.83
5	194	33.25	-6.41
6	244	33.08	-6.30
7	284	26.62	-4.50

Support Rotations - Degrees

About global axes used in Girder Geometry table

Supp/Node		Noncomp Dead x-axis	Noncomp Dead y-axis	Superimp Dead x-axis	Superimp Dead y-axis	LL+I+SDWK Range x-axis		LL+I+SDWK Range y-axis	
1	4	0.00	0.35	0.00	0.08	(0.00 to	0.00)	(-0.05 to	0.12)
		Concurrent live vertical reaction				-4.01	37.01	-4.01	38.18
2	44	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.08 to	0.08)
		Concurrent live vertical reaction				53.67	54.35	54.35	53.67
3	94	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.08 to	0.08)
		Concurrent live vertical reaction				52.38	54.18	54.18	52.38
4	144	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.08 to	0.07)
		Concurrent live vertical reaction				50.08	52.35	52.35	50.08
5	194	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.07 to	0.07)
		Concurrent live vertical reaction				48.81	48.87	48.87	48.81
6	244	0.00	0.05	0.00	0.01	(0.00 to	0.00)	(-0.07 to	0.07)
		Concurrent live vertical reaction				49.59	49.58	49.58	49.59
7	284	0.00	-0.35	0.00	-0.08	(0.00 to	0.00)	(-0.11 to	0.04)
		Concurrent live vertical reaction				-3.29	32.16	35.62	-3.29

Torsional and flexural rotations - member local axes

Supp/Node		Noncomp Dead tors	Noncomp Dead flex	Superimp Dead tors	Superimp Dead flex	LL+I+SDWK Range tors		LL+I+SDWK Range flex	
1	4	0.00	0.35	0.00	0.08	(0.00 to	0.00)	(-0.05 to	0.12)
2	44	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.08 to	0.08)
3	94	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.08 to	0.08)
4	144	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.08 to	0.07)
5	194	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.07 to	0.07)
6	244	0.00	0.05	0.00	0.01	(0.00 to	0.00)	(-0.07 to	0.07)
7	284	0.00	-0.35	0.00	-0.08	(0.00 to	0.00)	(-0.11 to	0.04)

BRIDGE 29 - I-75 I-575 NW CORRIDOR
Girder System : Analysis Output : Reactions - Girder 5 BEAM 1

Girder 5 Service Vertical Reactions - k

Supp/Node	Noncomp Dead	Super-Imposed Dead	Max Live+ Impact	Min Live+ Impact	Sidewalk Max	Sidewalk Min
Governing						
1 5	97.86	27.61	81.06	-21.56	0.00	0.00
Steel	23.97					
Concrete	73.89					

Global x concurrent LL+I rot. 0.0001 -0.0002 deg
Global y concurrent LL+I rot. 0.0550 -0.0220 deg

Max LL+I Contribution by Lane

1	2	3
3.24	19.72	61.34

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 1 - 5.98

Concurrent at gdr 2 - 14.15

Concurrent at gdr 3 - 44.14

Concurrent at gdr 4 - 64.25

2 45	323.79	87.06	165.00	-27.04	0.00	0.00
Steel	87.33					
Concrete	236.46					

Global x concurrent LL+I rot. 0.0020 -0.0030 deg
Global y concurrent LL+I rot. 0.0362 -0.0335 deg

Max LL+I Contribution by Lane

1	2	3
3.79	36.85	128.15

Concurrent reactions using same governing loaded lanes as for Max LL+I

Concurrent at gdr 1 - 12.77

Concurrent at gdr 2 - 37.52

Concurrent at gdr 3 - 99.56

Concurrent at gdr 4 - 154.68

3 95	309.44	85.28	179.17	-43.48	0.00	0.00
Steel	80.08					
Concrete	229.36					

Global x concurrent LL+I rot. 0.0029 -0.0037 deg

```
Global y concurrent LL+I rot.   0.0347   -0.0341 deg

    Max LL+I Contribution by Lane
         1          2          3
       5.09      42.30     136.87

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -      14.53

     Concurrent at gdr  2 -      34.80

     Concurrent at gdr  3 -     101.37

     Concurrent at gdr  4 -     152.28

  4  145    344.47     90.78    187.38    -46.18    0.00     0.00
     Steel     94.70
     Concrete 249.77

Global x concurrent LL+I rot.   0.0028   -0.0035 deg
Global y concurrent LL+I rot.   0.0324   -0.0324 deg

    Max LL+I Contribution by Lane
         1          2          3
       4.96      44.96     142.41

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -      14.72

     Concurrent at gdr  2 -      36.01

     Concurrent at gdr  3 -     100.88

     Concurrent at gdr  4 -     148.58

  5  195    349.05     91.14    191.01    -49.94    0.00     0.00
     Steel     99.73
     Concrete 249.31

Global x concurrent LL+I rot.   0.0019   -0.0023 deg
Global y concurrent LL+I rot.   0.0294   -0.0297 deg

    Max LL+I Contribution by Lane
         1          2          3
       5.04      46.45     144.56

    Concurrent reactions using same governing loaded lanes
    as for Max LL+I

     Concurrent at gdr  1 -      13.82

     Concurrent at gdr  2 -      34.37

     Concurrent at gdr  3 -      97.56

     Concurrent at gdr  4 -     140.00

  6  245    356.89     93.21    180.58    -34.98    0.00     0.00
```

```
      Steel    100.50
      Concrete 256.39

  Global x concurrent LL+I rot.   0.0009   -0.0010 deg
  Global y concurrent LL+I rot.   0.0291   -0.0284 deg

     Max LL+I Contribution by Lane
          1          2          3
        4.04      42.03     138.56

     Concurrent reactions using same governing loaded lanes
     as for Max LL+I

      Concurrent at gdr  1 -      11.23

      Concurrent at gdr  2 -      32.62

      Concurrent at gdr  3 -      96.31

      Concurrent at gdr  4 -     139.50

   7  285     91.04     25.44     75.35    -19.72    0.00     0.00
      Steel     21.97
      Concrete  69.07

  Global x concurrent LL+I rot.   0.0003   -0.0002 deg
  Global y concurrent LL+I rot.   0.0168   -0.0453 deg

     Max LL+I Contribution by Lane
          1          2          3
        1.36      17.06      58.29

     Concurrent reactions using same governing loaded lanes
     as for Max LL+I

      Concurrent at gdr  1 -       6.78

      Concurrent at gdr  2 -      16.19

      Concurrent at gdr  3 -      43.72

      Concurrent at gdr  4 -      62.28


Truck Loading

   1    5                        75.36    -10.46
   2   45                        82.81    -10.09
   3   95                        83.40    -12.40
   4  145                        84.67    -12.88
   5  195                        85.94    -14.52
   6  245                        84.85    -13.16
   7  285                        71.98     -8.24

Lane Loading

   1    5                        81.06    -15.69
   2   45                       165.00    -15.17
   3   95                       179.17    -29.42
   4  145                       187.38    -30.19
   5  195                       191.01    -33.29
   6  245                       180.58    -20.20
   7  285                        75.35    -12.38

Fatigue Truck
```

1	5	43.90	-7.88
2	45	50.01	-7.58
3	95	50.14	-9.46
4	145	50.43	-9.52
5	195	50.69	-11.11
6	245	50.44	-9.89
7	285	42.62	-6.29

Support Rotations - Degrees

About global axes used in Girder Geometry table

Supp/Node		Noncomp Dead x-axis	Noncomp Dead y-axis	Superimp Dead x-axis	Superimp Dead y-axis	LL+I+SDWK Range x-axis		LL+I+SDWK Range y-axis	
1	5	0.00	0.37	0.00	0.08	(0.00 to	0.00)	(-0.06 to	0.16)
		Concurrent live vertical reaction				-3.70	46.80	-5.86	49.14
2	45	0.00	-0.03	0.00	-0.01	(-0.01 to	0.01)	(-0.10 to	0.10)
		Concurrent live vertical reaction				56.27	59.85	59.85	56.27
3	95	0.00	0.01	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.10)
		Concurrent live vertical reaction				61.91	61.96	61.96	61.91
4	145	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.09)
		Concurrent live vertical reaction				63.79	65.29	65.29	63.79
5	195	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.09 to	0.08)
		Concurrent live vertical reaction				65.22	68.30	68.30	65.22
6	245	0.00	0.04	0.00	0.01	(0.00 to	0.00)	(-0.08 to	0.08)
		Concurrent live vertical reaction				65.71	64.20	64.20	65.71
7	285	0.00	-0.34	0.00	-0.07	(0.00 to	0.00)	(-0.14 to	0.05)
		Concurrent live vertical reaction				-3.72	41.95	44.84	-4.57

Torsional and flexural rotations - member local axes

Supp/Node		Noncomp Dead tors	Noncomp Dead flex	Superimp Dead tors	Superimp Dead flex	LL+I+SDWK Range tors		LL+I+SDWK Range flex	
1	5	0.00	0.37	0.00	0.08	(0.00 to	0.00)	(-0.06 to	0.16)
2	45	0.00	-0.03	0.00	-0.01	(-0.01 to	0.01)	(-0.10 to	0.10)
3	95	0.00	0.01	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.10)
4	145	0.00	-0.01	0.00	0.00	(-0.01 to	0.01)	(-0.10 to	0.09)
5	195	0.00	-0.02	0.00	0.00	(-0.01 to	0.01)	(-0.09 to	0.08)
6	245	0.00	0.04	0.00	0.01	(0.00 to	0.00)	(-0.08 to	0.08)
7	285	0.00	-0.34	0.00	-0.07	(0.00 to	0.00)	(-0.14 to	0.05)