Service II Limit State

	Inventory		Operating		Capacity
	γ_{DC}	1	γ_{DC}	1	34.2 ksi
	γ_{LL}	1.3	γ_{LL}	1	

DC1 - Noncomposite
Note : This includes dead load from stringers, diaphragms, lateral bracing, bridge deck, and sidewalks to be conservative

DC2 & DW - Composite
Note : This includes dead load from stringers, diaphragms, lateral bracing, bridge deck, and sidewalks to be conservative

LL + IM
Note: This includes the lane live load and moving truck loads multiplied by the impact factor

Girder 1	DC1	DC2 & DW	Sum DL	LL+IM	Inventory	Operating
Transition No.	Stress (ksi)	Stress (ksi)	Stress (ksi)	Stress (ksi)	RF	RF
1	23.7	1.6	25.3	5.3	1.29	1.68
2	14.2	0.9	15.1	3.12	4.71	6.12
3	15.9	1.3	17.2	4.5	2.91	3.78
4	12.1	0.9	13	3.28	4.97	6.46
5	12	1	13	3.53	4.62	6.01
				RF	1.29	1.68

Girder 2	DC1	DC2 & DW	Sum DL	LL+IM	Inventory	Operating
Transition No.	Stress (ksi)	Stress (ksi)	Stress (ksi)	Stress (ksi)	RF	RF
1	23	1.4	24.4	5.8	1.30	1.69
2	13.5	0.8	14.3	3.5	4.44	5.77
3	16.5	1.2	17.7	4.8	2.66	3.46
4	12	0.9	12.9	3.6	4.56	5.93
5	12	0.9	12.9	3.3	5.01	6.51
				RF	1.30	1.69

Girder 3	DC1	DC2 & DW	Sum DL	LL+IM	Inventory	Operating
Transition No.	Stress (ksi)	Stress (ksi)	Stress (ksi)	Stress (ksi)	RF	RF
1	22	1.4	23.4	6.2	1.34	1.74
2	13.1	0.8	13.9	3.7	4.22	5.49
3	15.5	1.1	16.6	4.6	2.94	3.82
4	11	0.8	11.8	3.3	5.21	6.77
5	11.2	0.9	12.1	2.9	5.90	7.67
				RF	1.34	1.74

Girder 4	DC1	DC2 & DW	Sum DL	LL+IM	Inventory	Operating
Transition No.	Stress (ksi)	Stress (ksi)	Stress (ksi)	Stress (ksi)	RF	RF
1	21.1	1.4	22.5	5.8	1.55	2.02
2	12.6	0.8	13.4	3.5	4.53	5.89
3	14.5	1.2	15.7	4.6	3.09	4.02
4	11	0.9	11.9	2.9	5.89	7.66
5	11.4	0.9	12.3	2.5	6.74	8.76
				RF	1.55	2.02

Girder 5	DC1	DC2 & DW	Sum DL	LL+IM	Inventory	Operating
Transition No.	Stress (ksi)	Stress (ksi)	Stress (ksi)	Stress (ksi)	RF	RF
1	23.4	1.6	25	4.9	1.44	1.88
2	13.9	0.9	14.8	2.9	5.15	6.69
3	16.2	1.3	17.5	3.7	3.47	4.51
4	11.9	0.9	12.8	2.4	6.86	8.92
5	12.3	0.9	13.2	2.3	7.02	9.13
				RF	1.44	1.88

Girder 6	DC1	DC2 & DW	Sum DL	LL+IM	Inventory	Operating
Transition No.	Stress (ksi)	Stress (ksi)	Stress (ksi)	Stress (ksi)	RF	RF
1	23.7	2	25.7	4.1	1.59	2.07
2	15.3	1.3	16.6	2.6	5.21	6.77
3	17.3	1.5	18.8	3.0	3.95	5.13
4	11.3	1	12.3	1.9	8.87	11.53
5	12.4	1.1	13.5	2.1	7.58	9.86
				RF	1.59	2.07

Summary of Inventory Rating Factors

Transition No.	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6
1	1.29	1.30	1.34	1.55	1.44	1.59
2	4.71	4.44	4.22	4.53	5.15	5.21
3	2.91	2.66	2.94	3.09	3.47	3.95
4	4.97	4.56	5.21	5.89	6.86	8.87
5	4.62	5.01	5.90	6.74	7.02	7.58
RF	1.29	1.30	1.34	1.55	1.44	1.59

Summary of Operating Rating Factors

Transition No.	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6
1	1.68	1.69	1.74	2.02	1.88	2.07
2	6.12	5.77	5.49	5.89	6.69	6.77
3	3.78	3.46	3.82	4.02	4.51	5.13
4	6.46	5.93	6.77	7.66	8.92	11.53
5	6.01	6.51	7.67	8.76	9.13	9.86
RF	1.68	1.69	1.74	2.02	1.88	2.07

Overall Model Based Load Rating

Girder No.	1	2	3	4	5	6
Inventory	1.29	1.30	1.34	1.55	1.44	1.59
Operating	1.68	1.69	1.74	2.02	1.88	2.07

Comparison of Controlling Interior Girder (G2)

	Inventory Rating Factors		Operating Rating factors	
Transition No.	Model Based Girder 2	Conventional Interior	Model Based	Conventional Interior
1	1.30	0.50	1.69	0.65
2	4.44	1.73	5.77	2.25
3	2.66	1.34	3.46	1.75
4	4.56	2.33	5.93	3.03
5	5.01	2.18	6.51	2.83
RF	1.30	0.50	1.69	0.65

Comparison of Inventory Rating Factors

	Model Based Load Rating						Conventional	
Transition No.	Exterior Girder 1	Interior Girder				Exterior Girder 6	Exterior (Girder 6)	Interior
		Girder 2	Girder 3	Girder 4	Girder 5			
1	1.29	1.30	1.34	1.55	1.44	1.59	0.0 (-0.11)	0.50
2	4.71	4.44	4.22	4.53	5.15	5.21	0.82	1.73
3	2.91	2.66	2.94	3.09	3.47	3.95	0.56	1.34
4	4.97	4.56	5.21	5.89	6.86	8.87	0.97	2.33
5	4.62	5.01	5.90	6.74	7.02	7.58	1.55	2.18
RF	1.29	1.30	1.34	1.55	1.44	1.59	0.0 (-0.11)	0.50

Comparison of Operating Rating factors

	Model Based Load Rating						Conventional	
Transition No.	Exterior Girder 1	Interior Girder				Exterior Girder 6	Exterior (Girder 6)	Interior
		Girder 2	Girder 3	Girder 4	Girder 5			
1	1.68	1.69	1.74	2.02	1.88	2.07	0.0 (-0.15)	0.65
2	6.12	5.77	5.49	5.89	6.69	6.77	1.06	2.25
3	3.78	3.46	3.82	4.02	4.51	5.13	0.72	1.75
4	6.46	5.93	6.77	7.66	8.92	11.53	1.27	3.03
5	6.01	6.51	7.67	8.76	9.13	9.86	2.02	2.83
RF	1.68	1.69	1.74	2.02	1.88	2.07	0.0 (-0.15)	0.65