Supplementary material for Han F, Cheng L, Stochastic user equilibrium model with tradable credit scheme and application in maximizing network reserve capacity, *Engineering Optimization*, 2016

✧ *Network topology and test data of Sioux Falls network*

Figure 1. The Sioux Falls network.

Table 1. The link characteristic parameters of Sioux Falls (10^{-2} hours, vehicles/hour).

Link	Free flow time	Capacity	Link	Free flow time	Capacity	Link	Free flow time	Capacity	Link	Free flow time	Capacity
1	6	25900	20	3	7842	39	4	5091	58	2	4824
2	4	23403	21	10	5050	40	4	4877	59	4	5003
3	6	25900	22	5	5046	41	5	5128	60	4	23403
4	5	4958	23	5	10000	42	4	4925	61	4	5003
5	4	23403	24	10	5050	43	6	13512	62	6	5060
6	4	17111	25	3	13916	44	5	5128	63	5	5076
7	4	23403	26	3	13916	45	3	14565	64	6	5060
8	4	17111	27	5	10000	46	3	9599	65	2	5230
9	2	17783	28	6	13512	47	5	5046	66	3	4885
10	6	4909	29	4	4855	48	4	4855	67	3	9599
11	2	17783	30	8	4994	49	2	5230	68	5	5076
12	4	4948	31	6	4909	50	3	19680	69	2	5230
13	5	10000	32	5	10000	51	8	4994	70	4	5000
14	5	4958	33	6	4909	52	2	5230	71	4	4925
15	4	4948	34	4	4877	53	2	4824	72	4	5000
16	2	4899	35	4	23403	54	2	23403	73	2	5079
17	3	7842	36	6	4909	55	3	19680	74	4	5091
18	2	23403	37	3	25900	56	4	23403	75	3	4885
19	2	4899	38	3	25900	57	3	14565	76	2	5079

Table 2. The OD demand matrix for Sioux Falls network (vehicles/hour).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0	40	40	200	80	120	200	320	200	520	200	80	200	120	200	200	160	40	120	120	40	160	120	40
2	40	0	40	80	40	160	80	160	80	240	80	40	120	40	40	160	80	0	40	40	0	40	0	0
3	40	40	0	80	40	120	40	80	40	120	120	80	40	40	40	80	40	0	0	0	0	40	40	0
4	200	80	80	0	200	160	160	280	280	520	560	240	240	200	200	320	200	40	80	120	80	160	200	80
5	80	40	40	200	0	80	80	200	320	400	200	80	80	40	80	200	80	0	40	40	40	80	40	0
6	120	160	120	160	80	0	160	320	160	320	160	80	80	40	80	360	200	40	80	120	40	80	40	40
7	200	80	40	160	80	160	0	400	240	760	200	280	160	80	200	560	400	80	160	200	80	200	80	40
8	320	160	80	280	200	320	400	0	320	640	320	240	240	160	240	880	560	120	280	360	160	200	120	80
9	200	80	40	280	320	160	240	320	0	1120	560	240	280	240	360	560	360	80	160	240	120	280	200	80
10	520	240	120	480	400	320	760	640	1120	0	1600	800	760	840	1600	1760	1560	280	720	1000	480	1040	720	320
11	200	80	120	600	200	160	200	320	560	1560	0	560	400	640	560	560	400	80	160	240	160	440	520	240
12	80	40	80	240	80	80	280	240	240	800	560	0	520	280	280	280	240	80	120	200	120	280	280	200
13	200	120	40	240	80	80	160	240	240	760	400	520	0	240	280	240	200	40	120	240	240	520	320	320
14	120	40	40	200	40	40	80	160	240	840	640	280	240	0	520	280	280	40	120	200	160	480	440	160
15	200	40	40	200	80	80	200	240	400	1600	560	280	280	520	0	480	600	80	320	440	320	1040	400	200
16	200	160	80	320	200	360	560	880	560	1760	560	280	240	280	480	0	1120	200	520	640	240	480	200	120
17	160	80	40	200	80	200	400	560	360	1560	400	240	200	280	600	1120	0	240	680	680	240	680	240	120
18	40	0	0	40	0	40	80	120	80	280	80	80	40	40	80	200	240	0	120	160	40	120	40	0
19	120	40	0	80	40	80	160	280	160	720	160	120	120	120	320	520	680	120	0	480	160	480	120	40
20	120	40	0	120	40	120	200	360	240	1000	240	200	240	200	440	640	680	160	480	0	480	960	280	160
21	40	0	0	80	40	40	80	160	120	480	160	120	240	160	320	240	240	40	160	480	0	720	280	200
22	160	40	40	160	80	80	200	200	280	1040	440	280	520	480	1040	480	680	120	480	960	720	0	840	440
23	120	0	40	200	40	40	80	120	200	720	520	280	320	440	400	200	240	40	120	280	280	840	0	280
24	40	0	0	80	0	40	40	80	80	320	240	200	280	160	240	120	120	0	40	160	200	440	280	0