Intersection	Intersection control configuration											
	0U + 14S (baseline)		2U + 12S		4U + 10S		6U + 8S		8U + 6S		10U + 4S	
	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q
1	5.27	391	0.5	326	0.58	337	0.7	338	0.71	347	0.91	339
2	3.07	194	4.99	190	4.95	189	0.27	211	0.35	211	0.34	210
3	7.26	464	7.42	334	7.29	348	7.98	342	7.49	358	6.93	357
4	0.95	56	2.58	64	2.45	62	0.11	66	0.12	65	0.31	70
5	9.74	515	10.33	501	12.8	390	12.52	396	12.17	379	13.08	372
6	5.10	88	3.43	87	4.48	86	4.44	87	0.1	104	**0.08**	107
7	12.89	488	13.29	490	21.34	373	21.27	378	20.14	378	19.28	375
8	7.62	198	6.66	180	7.36	182	7.15	184	4.22	174	4.15	179
9	1.91	190	2.07	187	2.01	189	2.08	193	2.09	191	2.1	189
10	0.28	39	0.36	44	0.33	42	0.38	42	0.4	43	0.01	46
11	17.83	144	16.21	136	17.22	140	16.4	143	16.56	142	16.89	143
12	0.79	112	0.78	113	0.81	116	0.81	116	1.13	121	0.14	127
13	4.19	221	4.84	226	5.01	229	5.12	232	5.21	235	5.51	236
14	9.49	354	8.07	356	8.45	359	8.4	358	8.53	362	8.35	363
Network	6.17	454	5.89	474	6.9	452	6.43	468	**5.74**	477	5.94	**483**

TABLE IV: Average waiting time $\bar{W}$ and vehicle throughput Q for fourteen individual intersections and entire network under six different network control configurations when RV rate = 40%. Rows 1-14 show individual intersection data, while the last row represents the entire network's data. For a single intersection, Q represents the number of vehicles that successfully leave this intersection. For the entire network, Q refers to the total number of vehicles that reach their designated destinations within an episode. Increasing the number of unsignalized intersections leads to variable performance. The configurations $2U + 12S$, $8U + 6S$ and $10U + 4S$ achieve lower network $\bar{W}$ and higher network Q, while $4U + 10S$ and $6U + 8S$ get higher $\bar{W}$ compared to the baseline $0U + 14S$. For the network, bold values indicate the highest improvement for the two metrics, occurring at $8U + 6S$ and $10U + 4S$ configuration. Our method impacts individual intersections differently: some achieve lower $\bar{W}$ and others experience higher $\bar{W}$. For intersection 6, bold value indicates the highest improvement with an 98.43% reduction in $\bar{W}$.

Intersection	Intersection control configuration											
	0U + 14S (baseline)		2U + 12S		4U + 10S		6U + 8S		8U + 6S		10U + 4S	
	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q
1	5.27	391	0.6	346	0.64	356	0.82	355	0.88	356	0.85	348
2	3.07	194	4.91	190	4.96	190	2.91	199	0.22	212	0.23	212
3	7.26	464	5.42	372	5.7	397	5.61	400	5.6	396	6.83	371
4	0.95	56	2.57	65	2.51	65	6.67	59	0.11	66	0.45	69
5	9.74	515	9.58	499	9.25	426	9.63	411	9.98	420	11.9	394
6	5.10	88	3.16	87	4.35	86	4.4	87	**0.06**	101	0.07	107
7	12.89	488	13.36	493	18.19	406	16.46	422	16.31	414	17.31	405
8	7.62	198	6.71	184	7.18	185	7.34	186	2.96	187	4.03	175
9	1.91	190	2.03	191	2.1	188	2.03	190	2.06	190	2.06	190
10	0.28	39	0.37	44	0.37	43	0.39	43	0.4	43	0.0	45
11	17.83	144	15.83	138	16.89	143	16.87	141	17.22	138	17.02	141
12	0.79	112	0.76	115	0.8	115	0.81	117	1.15	120	0.15	127
13	4.19	221	4.91	229	5.04	230	5.01	232	5.21	234	5.57	237
14	9.49	354	8.21	355	8.45	357	8.23	359	8.34	363	8.24	361
Network	6.17	454	5.72	475	6.22	468	6.41	476	**5.22**	**492**	5.51	481

TABLE V: Average waiting time $\bar{W}$ and vehicle throughput Q for fourteen individual intersections and entire network under six different network control configurations when RV rate = 60%. Rows 1-14 show individual intersection data, while the last row represents the entire network's data. For a single intersection, Q represents the number of vehicles that successfully leave this intersection. For the entire network, Q refers to the total number of vehicles that reach their designated destinations within an episode. Increasing the number of unsignalized intersections leads to variable performance. The configurations $2U + 12S$, $8U + 6S$ and $10U + 4S$ achieve lower network $\bar{W}$ and higher network Q, while $4U + 10S$ and $6U + 8S$ get higher $\bar{W}$ and higher Q compared to the baseline $0U + 14S$. For the network, bold values indicate the highest improvement for the two metrics, both occurring at $8U + 6S$ configuration. Our method impacts individual intersections differently: some achieve lower $\bar{W}$ and others experience higher $\bar{W}$. For intersection 6, bold value indicates the highest improvement with an 98.82% reduction in $\bar{W}$.

| Intersection | Intersection control configuration | | | | | | | | | | | |
| | $0U + 14S$ (baseline) | | $2U + 12S$ | | $4U + 10S$ | | $6U + 8S$ | | $8U + 6S$ | | $10U + 4S$ | |
	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q	$\bar{W}(s)$	Q
1	5.27	391	0.62	348	0.83	356	0.76	357	0.79	363	0.72	361
2	3.07	194	4.92	190	4.89	191	18.71	165	4.0	198	6.33	193
3	7.26	464	5.34	396	6.38	388	7.75	371	5.54	414	5.91	406
4	0.95	56	2.48	63	2.48	63	7.22	53	0.28	65	5.8	61
5	9.74	515	10.73	487	9.2	421	9.93	420	9.13	432	9.81	409
6	5.10	88	4.5	87	4.41	86	4.46	87	**0.09**	101	0.11	104
7	12.89	488	13.41	492	19.11	410	19.75	395	17.17	423	18.25	421
8	7.62	198	6.85	181	7.26	186	7.05	185	3.71	182	4.03	175
9	1.91	190	2.04	187	2.05	190	1.99	191	2.05	191	2.02	189
10	0.28	39	0.36	43	0.33	42	0.36	41	0.39	43	0.01	45
11	17.83	144	16.53	139	17.39	139	16.61	141	16.87	141	16.85	140
12	0.79	112	0.78	113	0.81	117	0.81	117	1.15	122	0.16	126
13	4.19	221	4.87	227	4.98	230	5.07	233	5.13	234	5.57	236
14	9.49	354	8.13	359	8.29	358	8.3	358	8.22	361	8.28	360
Network	6.17	454	5.9	471	6.36	457	7.85	453	**5.6**	**490**	6.23	487

TABLE VI: Average waiting time $\bar{W}$ and vehicle throughput Q for fourteen individual intersections and entire network under six different network control configurations when RV rate = 70%. Rows 1-14 show individual intersection data, while the last row represents the entire network's data. For a single intersection, Q represents the number of vehicles that successfully leave this intersection. For the entire network, Q refers to the total number of vehicles that reach their designated destinations within an episode. Increasing the number of unsignalized intersections leads to variable performance. The configurations $2U + 12S$ and $8U + 6S$ achieve lower network $\bar{W}$ and higher network Q, while $4U + 10S$, $6U + 8S$ and $10U + 4S$ get higher $\bar{W}$ and higher Q compared to the baseline $0U + 14S$. For the network, bold values indicate the highest improvement for the two metrics, both occurring at $8U + 6S$ configuration. Our method impacts individual intersections differently: some achieve lower $\bar{W}$ and others experience higher $\bar{W}$. For intersection 6, bold value indicates the highest improvement with an 98.24% reduction in $\bar{W}$.