Intersection	Intersection control configuration											
	$0U + 14S$ (baseline)		$2U + 12S$		$4U + 10S$		$6U + 8S$		$8U + 6S$		$10U + 4S$	
	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$
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 III: Average waiting time $\overline{W}$ and vehicle throughput Q for fourteen individual intersections and entire network when RV rate = 40%. The configurations $2U + 12S$, $8U + 6S$ and $10U + 4S$ achieve lower network $\overline{W}$ and higher network Q, while $4U + 10S$ and $6U + 8S$ get higher $\overline{W}$ 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 $\overline{W}$ and others experience higher $\overline{W}$. For intersection 6, bold value indicates the highest improvement with an 98.43% reduction in $\overline{W}$. $8U + 6S$ achieves the lowest $\overline{W}$ of 5.74 s across the entire network and $10U + 4S$ has the lowest $\overline{W}$ at five of the 14 intersections. For Q, $10U + 4S$ achieves the highest network-wide value of 483 $v/500s$ and has the highest Q at six intersections, while the baseline ranks second with five intersections. These results indicate that $10U + 4S$ is the best configuration for maximizing throughput.

Intersection	Intersection control configuration											
	$0U + 14S$ (baseline)		$2U + 12S$		$4U + 10S$		$6U + 8S$		$8U + 6S$		$10U + 4S$	
	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$
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	0.01	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 IV: Average waiting time $\overline{W}$ and vehicle throughput Q for fourteen individual intersections and entire network when RV rate = 60%. The configurations $2U+12S$, $8U+6S$ and $10U+4S$ achieve lower network $\overline{W}$ and higher network Q, while $4U+10S$ and $6U+8S$ get higher $\overline{W}$ 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 $\overline{W}$ and others experience higher $\overline{W}$. For intersection 6, bold value indicates the highest improvement with an 98.82% reduction in $\overline{W}$. $8U + 6S$ achieves the lowest $\overline{W}$ of 5.22 s across the entire network and has the lowest $\overline{W}$ at four of the 14 intersections, making it the best configuration for minimizing delays. For Q, $8U + 6S$ also achieves the highest network-wide value of 492 $v/500s$ and $10U + 4S$ has the highest Q at five intersections. These results indicate that $8U + 6S$ is the best configuration for maximizing network throughput and $10U + 4S$ is the best for maximizing individual intersection throughput.

Intersection	Intersection control configuration											
	$0U + 14S$ (baseline)		$2U + 12S$		$4U + 10S$		$6U + 8S$		$8U + 6S$		$10U + 4S$	
	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$	$\overline{W}$ (s)	Q $(v/500s)$
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 V: Average waiting time $\overline{W}$ and vehicle throughput Q for fourteen individual intersections and entire network when RV rate = 70%. The configurations $2U+12S$ and $8U+6S$ achieve lower network $\overline{W}$ and higher network Q, while $4U+10S$, $6U+8S$ and $10U+4S$ get higher $\overline{W}$ 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 $\overline{W}$ and others experience higher $\overline{W}$. For intersection 6, bold value indicates the highest improvement with an 98.24% reduction in $\overline{W}$. $8U + 6S$ achieves the lowest $\overline{W}$ of 5.6 s across the entire network and has the lowest $\overline{W}$ at four of the 14 intersections, making it the best configuration for minimizing delays. For Q, $8U + 6S$ achieves the highest network-wide value of 490 $v/500s$ and $0U + 14S$ has the highest Q at five intersections. These results indicate that $8U + 6S$ is the best configuration for maximizing network throughput.