Table 6. Specific bandwidth of Models

intersection no.	bound	specific bandwidth(sec)		
		TYPE 1-b (MAXBAND)	TYPE 1-c (VBM)	TYPE 2-c (SVBM)
3	1 → 6	48	47	36
	6 → 1	30	16	0
4	1 → 6	27	46	36
	6 → 1	30	46	0
5	1 → 6	0	32	34
	6 → 1	48	47	5
summation		183	232	108

5. CONCLUSION

In rush hour, there exist a significant difference between traffic volumes of each direction on arterial road. In that case, conventional models seek only to optimize an average intersection signal time of both directions. This makes signal phases inefficient and connecting arterial roads congested. VBM and SVBM developed in this paper are one of the solutions to that problem. They optimizes the signal times of each direction and attains global optimum. Moreover, SVBM calculates optimum offsets by actual travel time which of congestion internal link delay is considered. From the numerical example, we found that VBM and SVBM were more efficient than expected and reduced the total travel times in all cases.

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