

Corrigendum

Corrigendum to “Optimization Model of Traffic Sensor Layout considering Traffic Big Data”

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In the article titled “Optimization Model of Traffic Sensor Layout considering Traffic Big Data” [1], the authors identified a number of minor errors in the article. The road network data have been refined since the publication of the study, thus obtaining more accurate results. The contents of Tables 2 and 3 should be amended as follows.

An error was identified in the system cost of the detector, and Figure 2 should be revised as follows.

In Section 5.3 (Calculation Procedure), the procedure should be corrected as follows.

Step 1 (minimum system cost optimization): the minimum system cost CC^* and the maximum system cost CC_{max} can be obtained by solving (19), the values of which are 1.86 and 33.48 million, respectively.

Step 2 (maximum truncation flow optimization): the maximum truncation flow IF^* and the maximum value of truncation flow IF_{max} are both 1400 pcu/h according to (20), on the basis of CC^* , CC_{max} , and $CC^* (\varepsilon_{CC} + 1) = 0.2CC_{max} = 6.694$ (22).

A minor data error was also identified in Section 5.2.4 (Comparative Analysis) as follows: “For ingle-objective optimization, the range of feasible number of points is [1, 18;] the system cost varies within [1.68, 30.24] and is optimal when the, number of points is 1; the truncated flow varies in [725,1400] and takes the optimal value when the number of points is greater than 2; the path coverage varies in [4, 48]

TABLE 2: OD traffic demand.

OD pairs	Origin	Destination	OD traffic demand (pcu/h)
1	1	2	400
2	1	3	300
3	4	2	450
4	4	3	250

TABLE 3: Effective path sets and flow.

Path	Section	Flow (pcu/h)
1	2 → 18 → 11	235
2	2 → 17 → 7 → 9 → 11	100
3	1 → 5 → 7 → 10 → 15	65
4	1 → 5 → 7 → 10 → 16	120
5	1 → 6 → 12 → 14 → 16	145
6	1 → 6 → 13 → 19	35
7	3 → 5 → 7 → 9 → 11	65
8	3 → 5 → 8 → 14 → 15	135
9	3 → 6 → 12 → 14 → 15	200
10	3 → 5 → 7 → 10 → 16	70
11	4 → 13 → 19	180

and takes the optimal value when the number of points is 2 or 3” should be corrected to “For ingle-objective optimization, the range of feasible number of points is [1, 18;] the system cost varies within [1.86, 33.48] and is optimal when

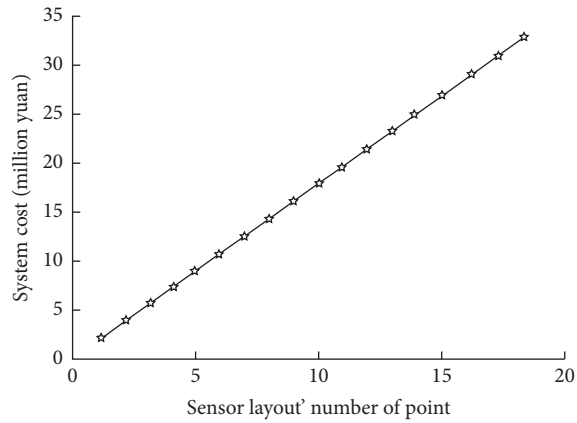


FIGURE 2: Minimum system cost change with the number of points.

the, number of points is 1; the truncated flow varies in [725, 1400] and takes the optimal value when the number of points is greater than 2; the path coverage varies in [4, 48] and takes the optimal value when the number of points is 2 or 3.”

References

- [1] X. Sun, Z. Bai, K. Lin, P. Jiao, and H. Lu, “Optimization model of traffic sensor layout considering traffic big data,” *Journal of Advanced Transportation*, vol. 2020, pp. 1–11, Article ID 8845832, 2020.