Appendix A

Arbitrary strategy’s average waiting time

|  |  |  |
| --- | --- | --- |
|  |  | (1) |

Where: is the average waiting time, is the average headway, is the standard variance of headway.

Appendix X

Null strategy’s

Appendix B

Optimization problem of prudent strategy’s waiting time.

We constitute the optimization problem in the following formula.

|  |  |  |
| --- | --- | --- |
|  |  | (2) |

Subject to:

|  |  |  |
| --- | --- | --- |
|  |  | (3) |
|  |  | (4) |
|  |  | (5) |
|  |  |  |

Where: is the actual waiting time for the user who lives walking time from the stop and intends to catch trip . is the collection of all trips, and is the stops on trip , is the designated walking time range. is the actual departure time of target bus, and is the actual arrival time at the stop for the user. is the expected waiting time as well as the insurance buffer. is the expected departure time of the scheduled bus.