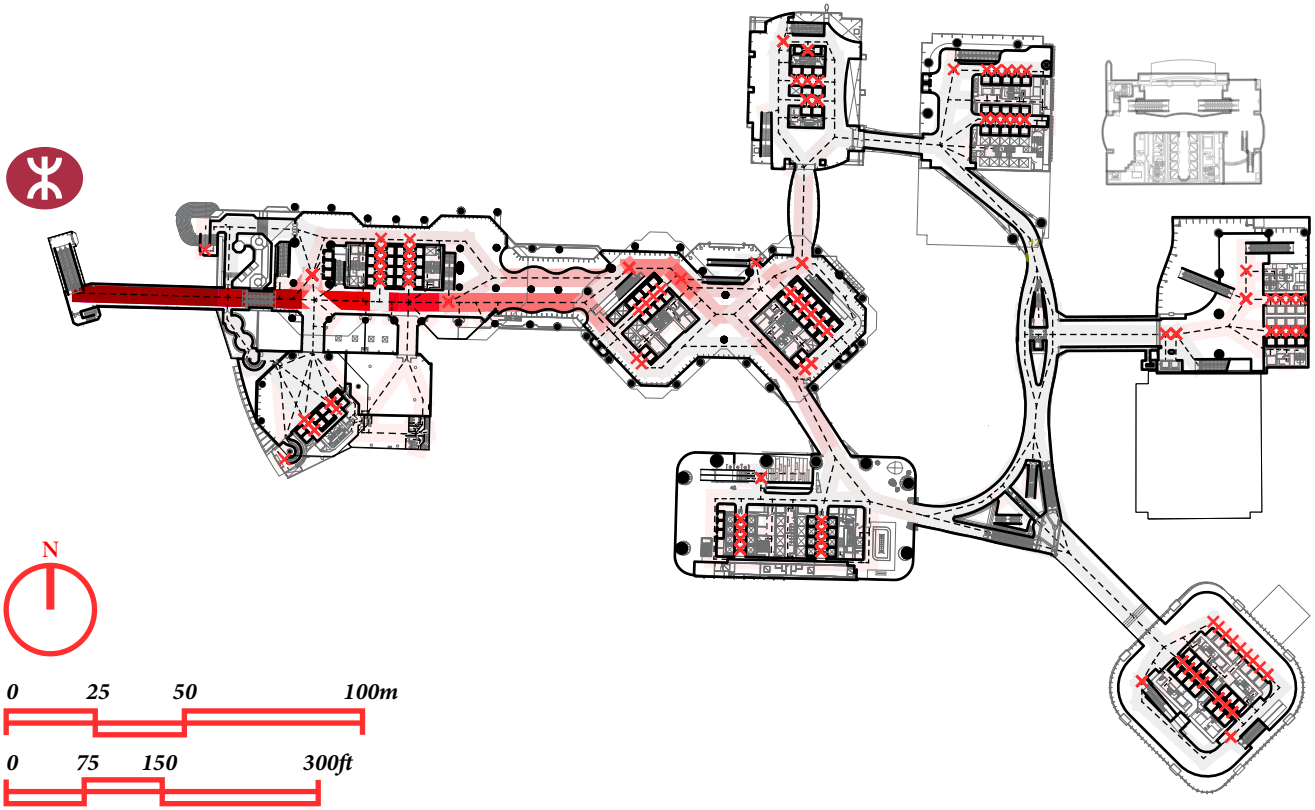
The Taikoo Place

Origin-Destination Analysis

The Taikoo Place

All Available Routes from the MTR to Elevator Halls and their Betweenness Index

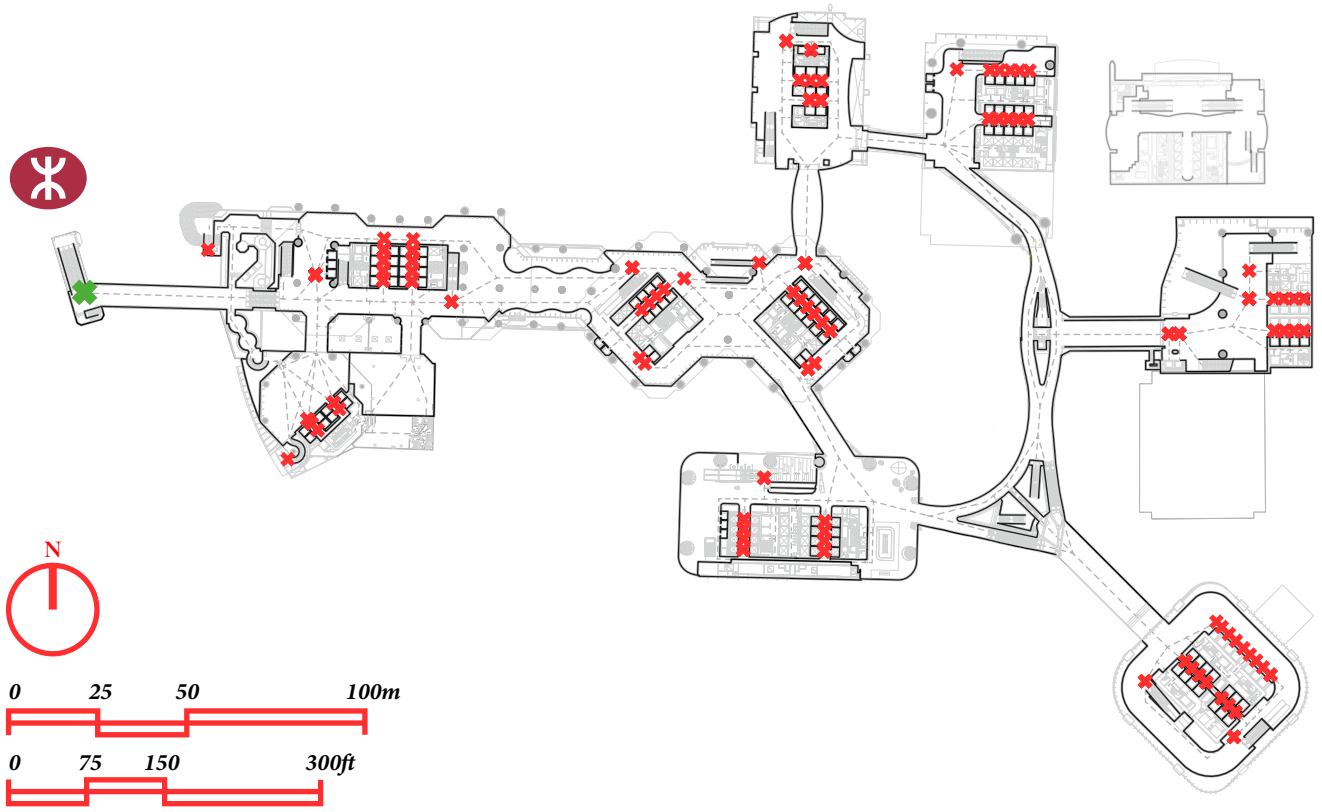


The Betweenness Index Bar

8 7 6 5 4 3 2 1

The Taikoo Place

The Point of Origin and All Main Destinations

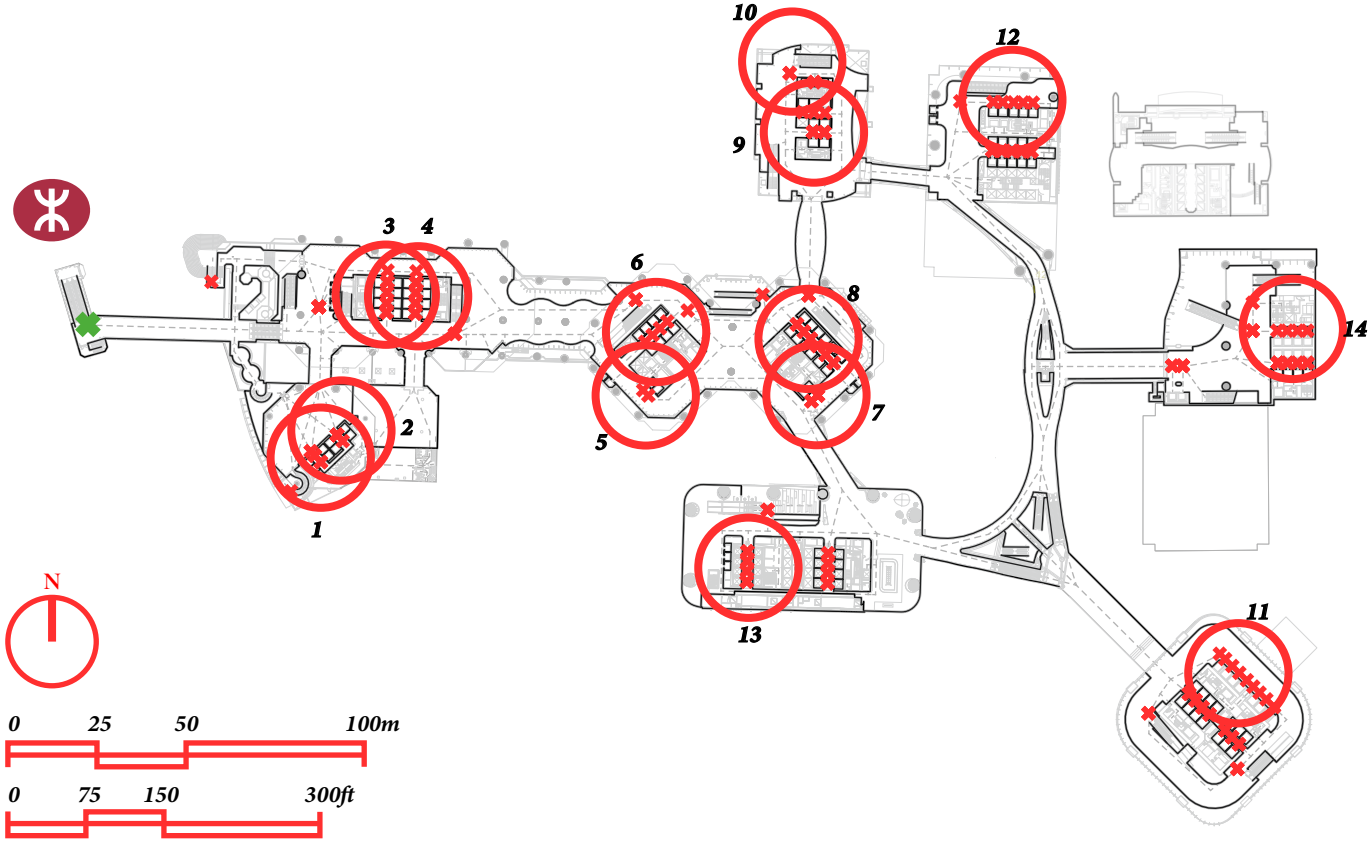


Origin (from MTR)

Destination (Escalators and Elevators within the Buildings, excluding emergency exits)

The Taikoo Place

The Point of Origin and Simplified Set of Destinations*



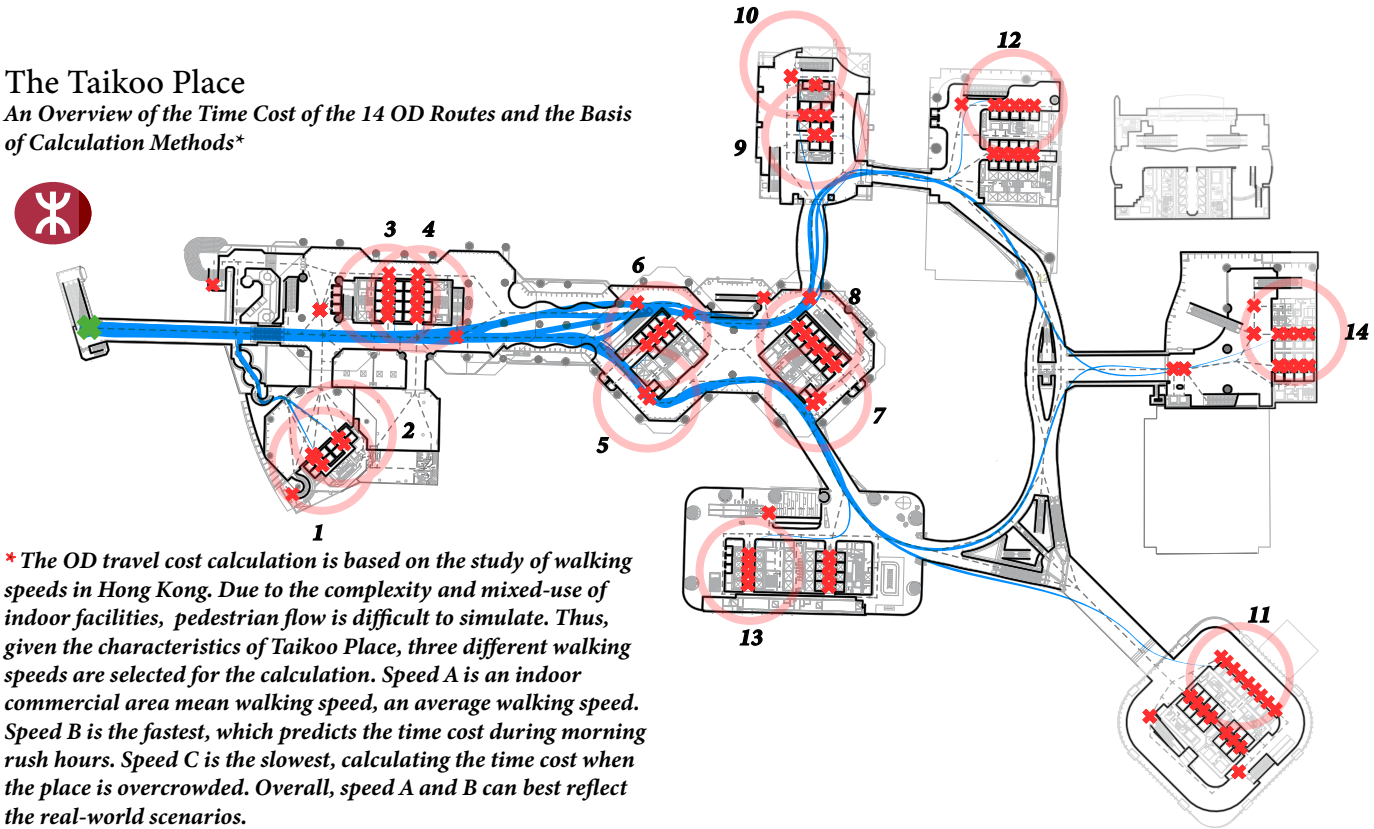
Destination (Escalators and Elevators within the Buildings, excluding emergency exits)

*

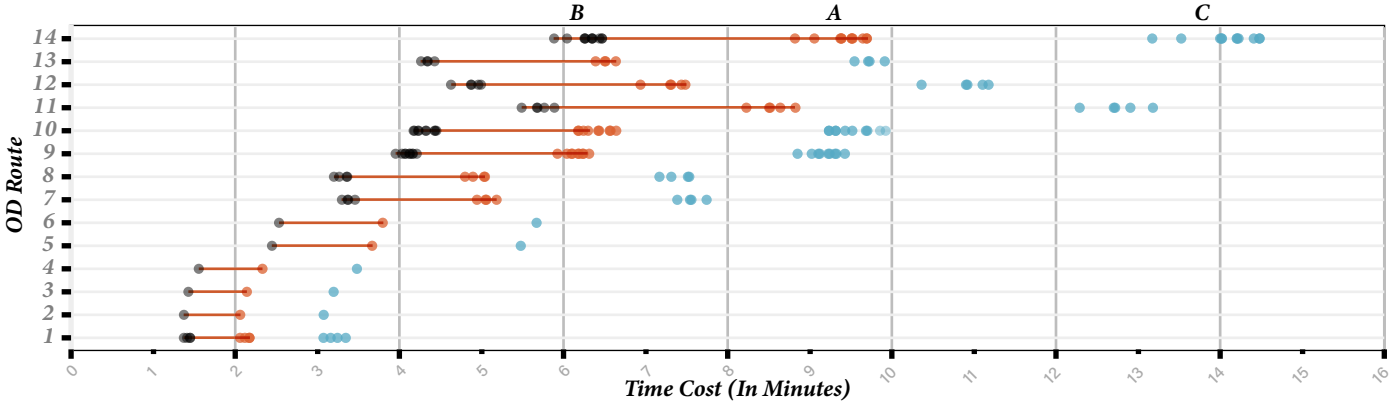
Destination points are reduced to 14 to facilitate OD analysis. For example, four points within one elevator hall can be deemed as one, because the difference of their calculation results can be fairly negligible.

The Taikoo Place

An Overview of the Time Cost of the 14 OD Routes and the Basis of Calculation Methods*



**The OD travel cost calculation is based on the study of walking speeds in Hong Kong. Due to the complexity and mixed-use of indoor facilities, pedestrian flow is difficult to simulate. Thus, given the characteristics of Taikoo Place, three different walking speeds are selected for the calculation. Speed A is an indoor commercial area mean walking speed, an average walking speed. Speed B is the fastest, which predicts the time cost during morning rush hours. Speed C is the slowest, calculating the time cost when the place is overcrowded. Overall, speed A and B can best reflect the real-world scenarios.*



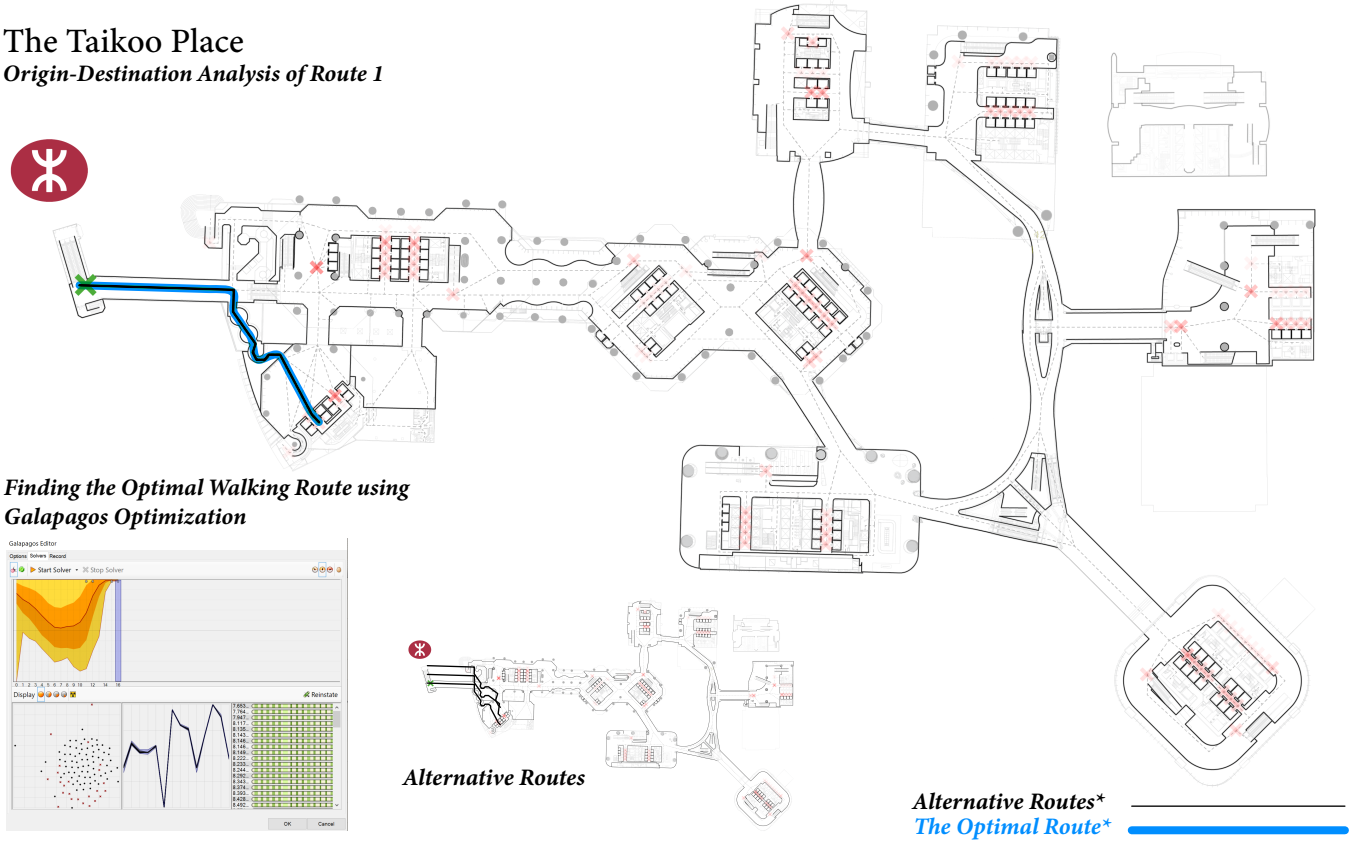
*A - Indoor Commercial Area Mean Walking Speed: 54.89 (m/min) **
*B - MTR Passageway Free-flow Walking Speed: 82.26 (m/min)**
*C - MTR Passageway Walking Speed at Capacity: 36.75 (m/min)**

Reference:

Lam, W. H. K., & Cheung, C. (2000). Pedestrian Speed Flow Relationships for Walking Facilities in Hong Kong. Journal of Transportation Engineering, 126(4), 343–349. https://doi.org/10.1061/(ASCE)0733-947X(2000)126:4(343)

The Taikoo Place

Origin-Destination Analysis of Route 1

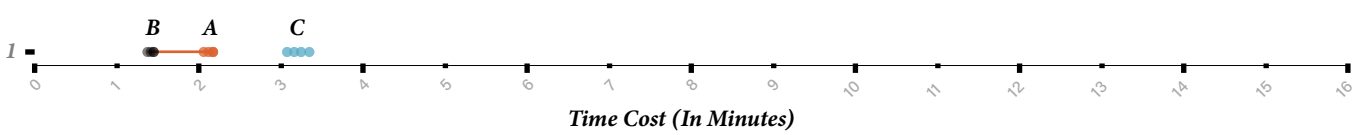


Finding the Optimal Walking Route using Galapagos Optimization

Alternative Routes

Alternative Routes*

The Optimal Route*



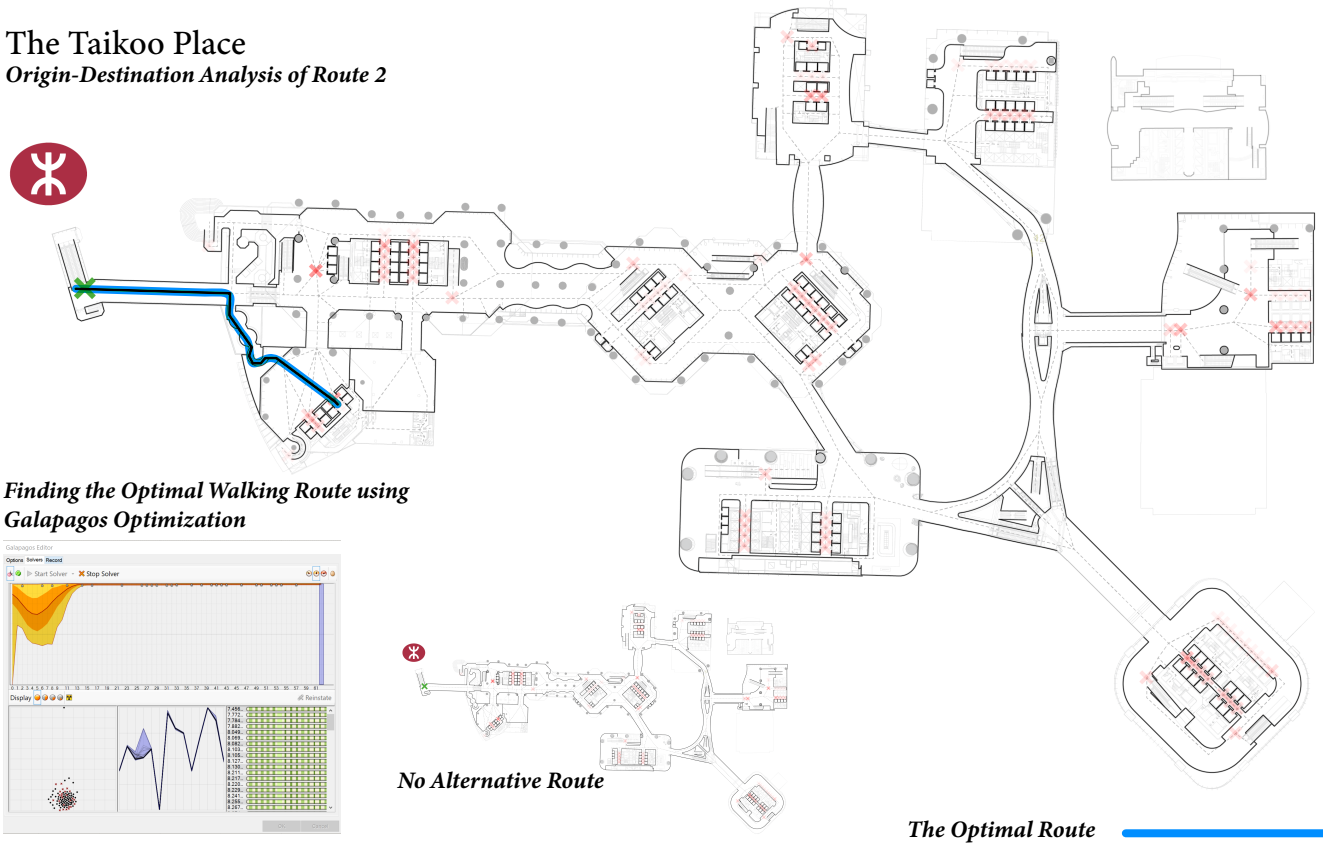
Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	113.020216	2.059031	1.373939	3.07538
Alternative Route	116.224258	2.117403	1.412889	3.162565
Alternative Route	119.275434	2.17299	1.449981	3.24559
Alternative Route	119.311368	2.173645	1.450418	3.246568

*

The optimal route denotes the shortest route optimized by Galapagos optimization, allowing the curve to match real-world pedestrian flows as much as possible. The alternative routes are acquired from the redundancy calculation, which takes any routes with lengths no more than 5% longer than the optimal route.

The Taikoo Place

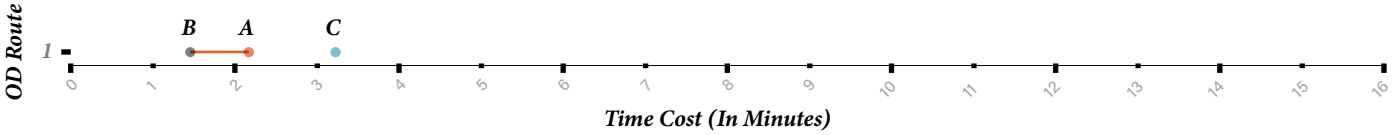
Origin-Destination Analysis of Route 2



Finding the Optimal Walking Route using Galapagos Optimization

No Alternative Route

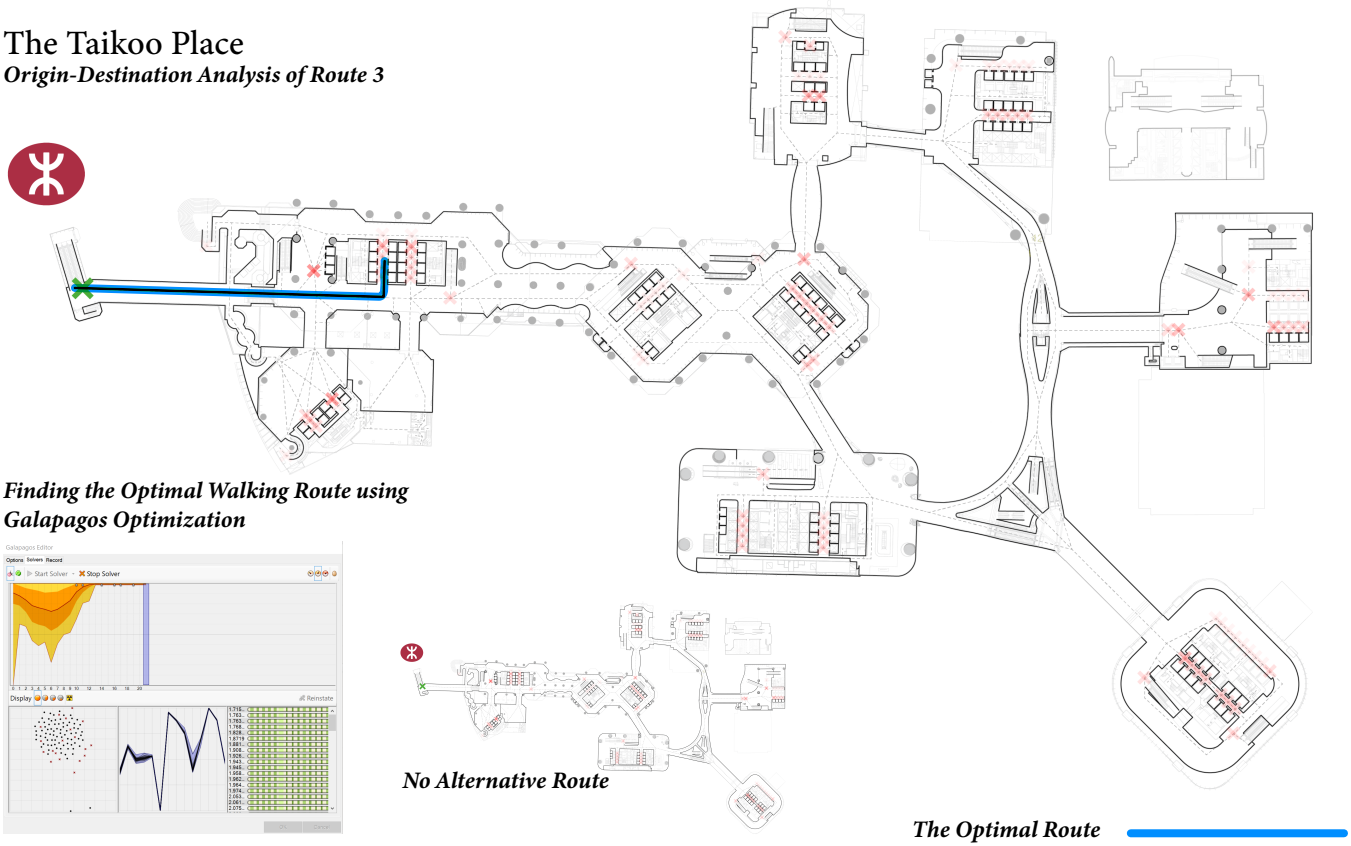
The Optimal Route



Type of Route	Distance (in Meters)	Time A	Time B	Time C
The Optimal Route	113.104871	2.060573	1.374968	3.077684

The Taikoo Place

Origin-Destination Analysis of Route 3



Finding the Optimal Walking Route using Galapagos Optimization

No Alternative Route

The Optimal Route

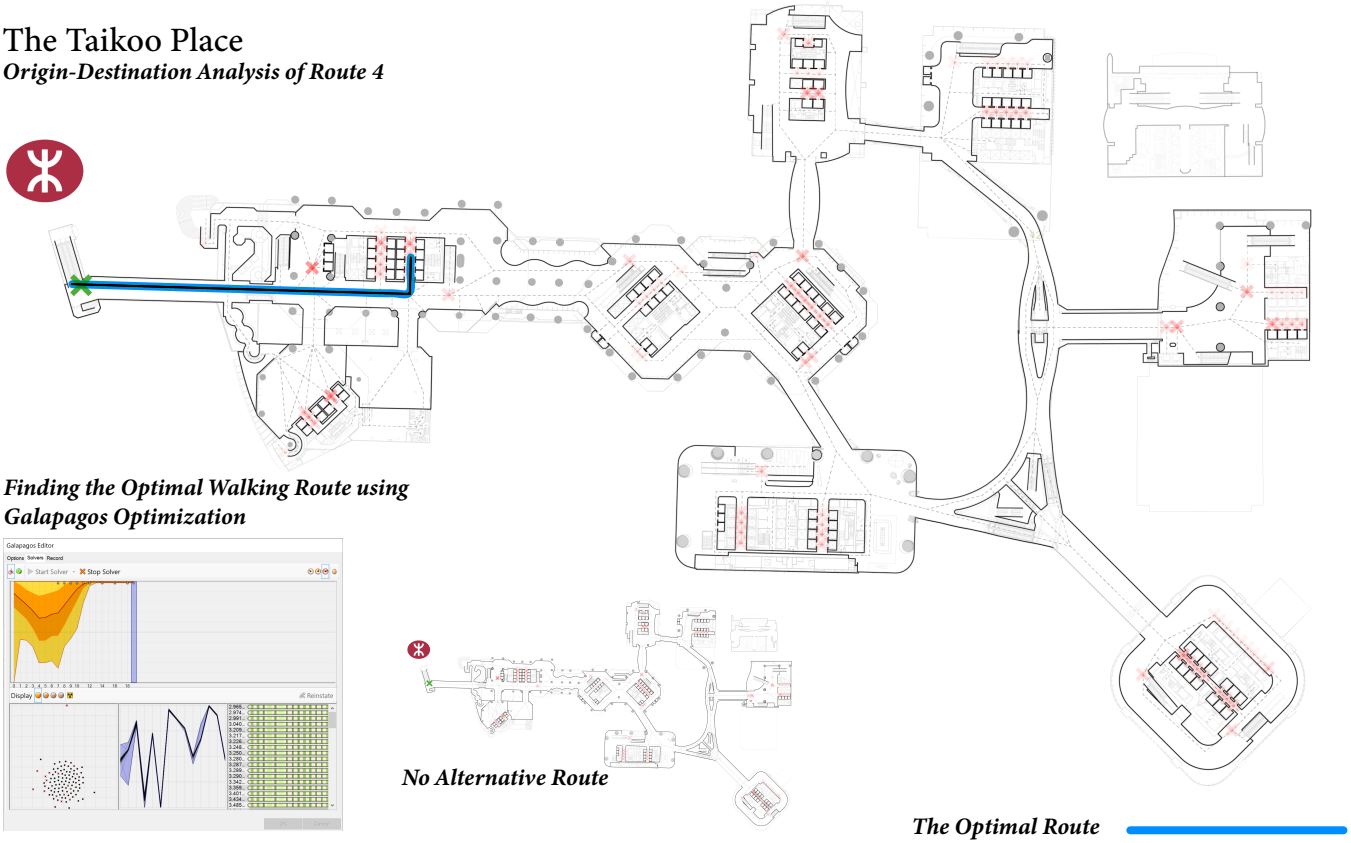


Time Cost (In Minutes)

Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	117.557164	2.141686	1.429093	3.198834

The Taikoo Place

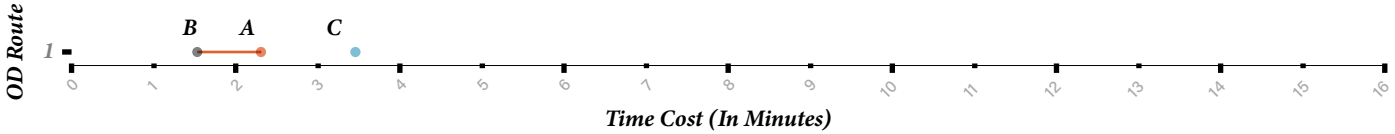
Origin-Destination Analysis of Route 4



Finding the Optimal Walking Route using Galapagos Optimization

No Alternative Route

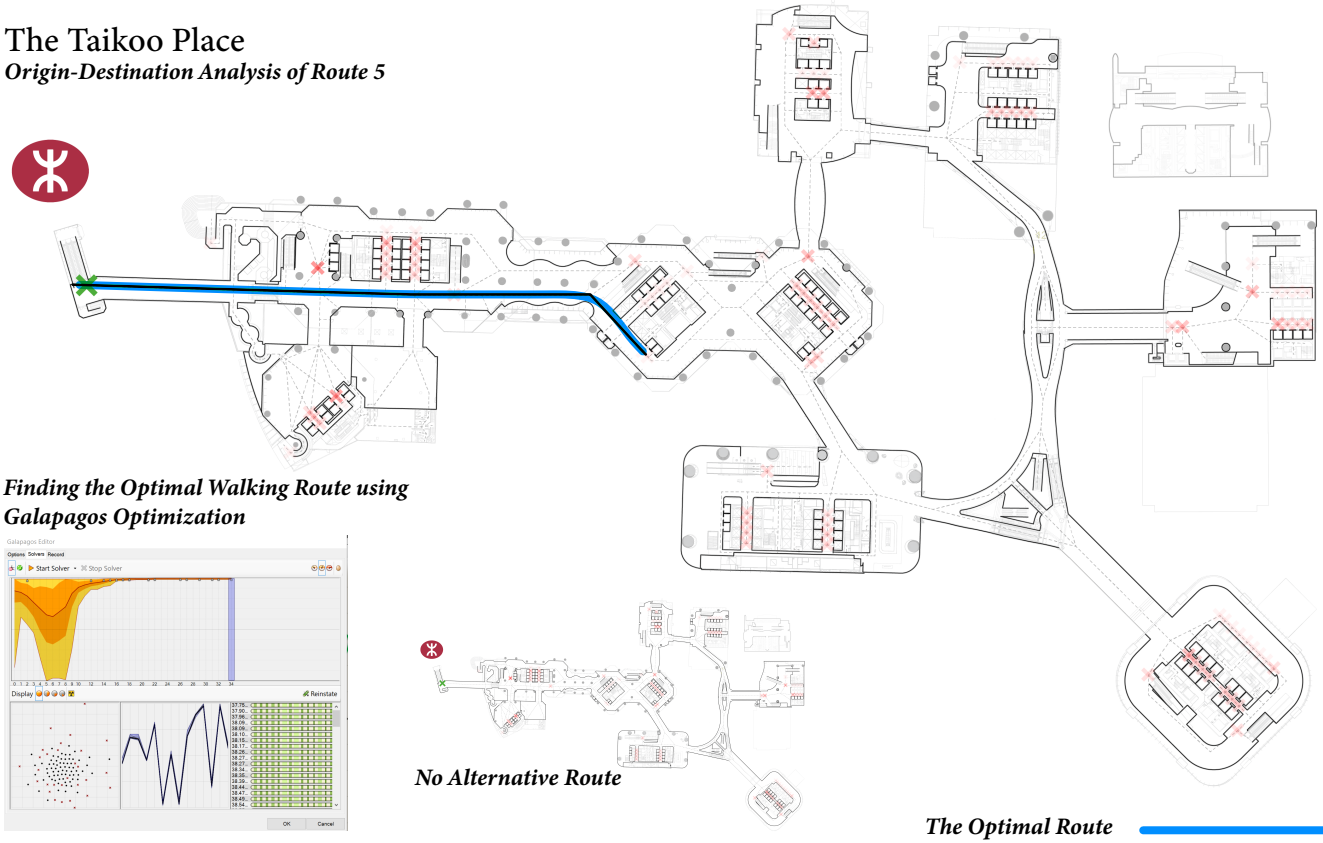
The Optimal Route



Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	127.990594	2.331765	1.555927	3.482737

The Taikoo Place

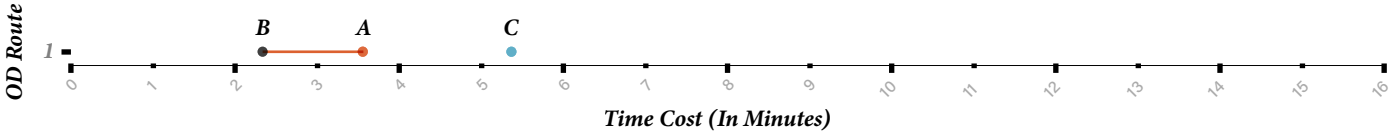
Origin-Destination Analysis of Route 5



Finding the Optimal Walking Route using Galapagos Optimization

No Alternative Route

The Optimal Route

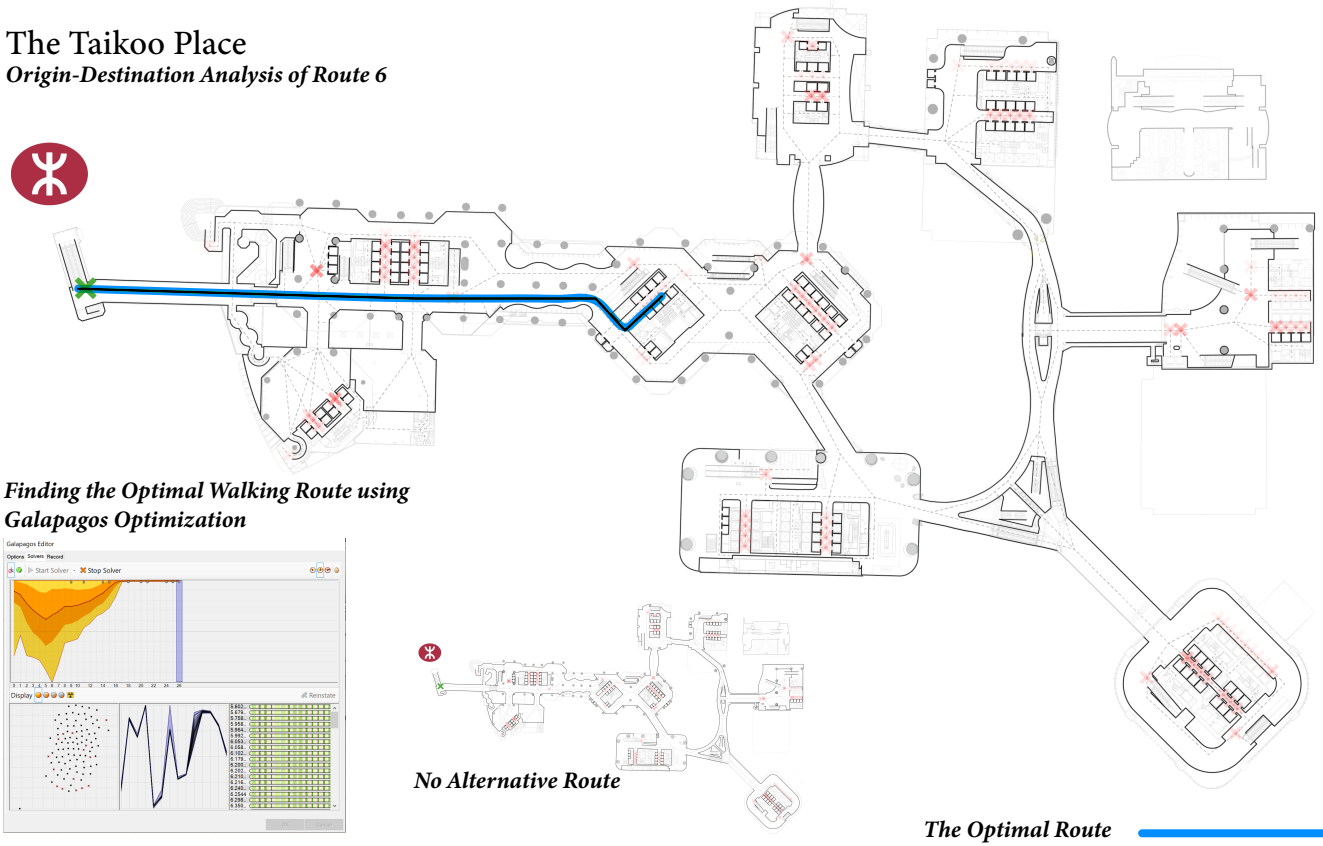


Time Cost (In Minutes)

Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	201.349238	3.668232	2.447717	5.478891

The Taikoo Place

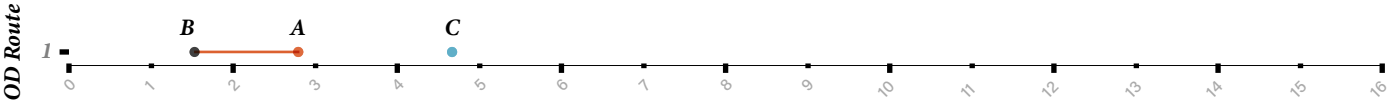
Origin-Destination Analysis of Route 6



Finding the Optimal Walking Route using Galapagos Optimization

No Alternative Route

The Optimal Route

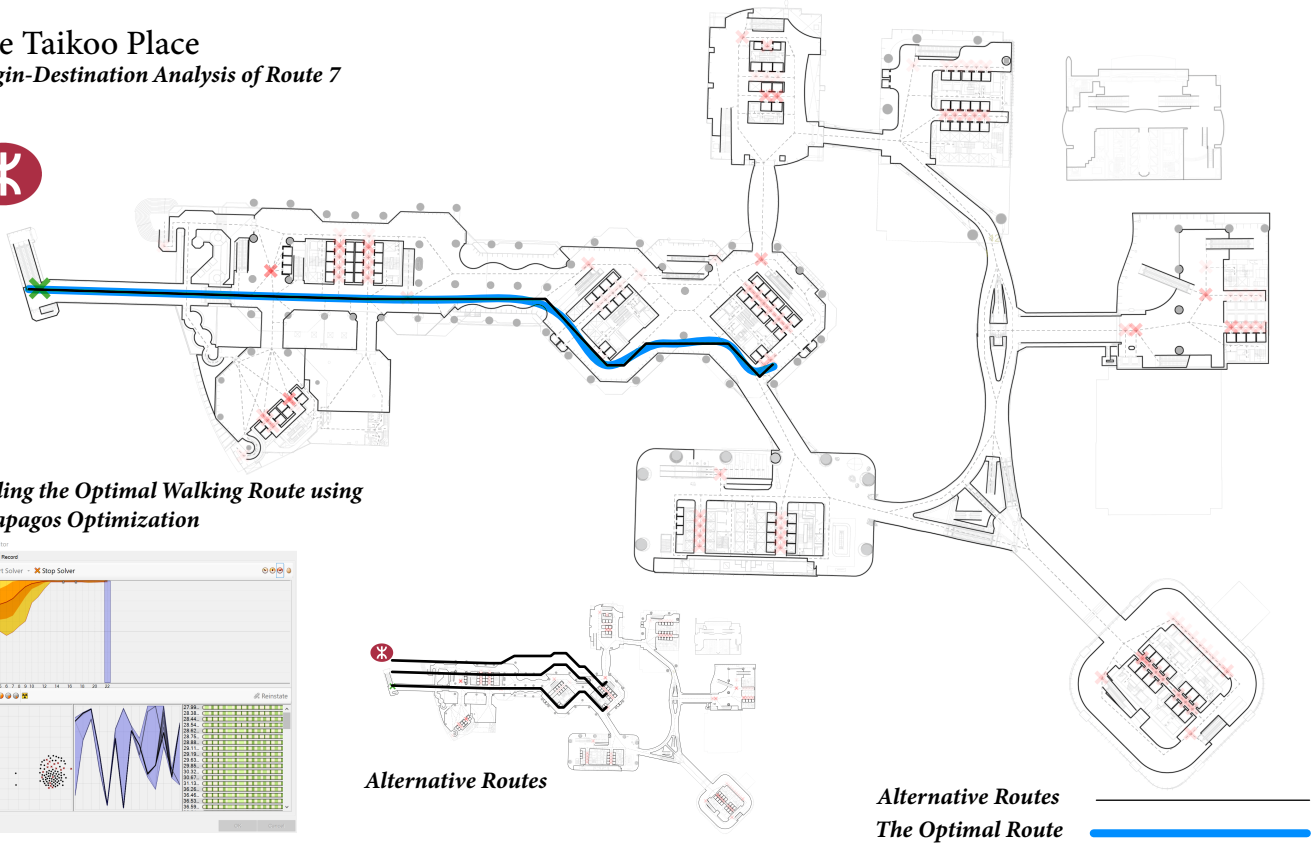


Time Cost (In Minutes)

Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	127.990594	2.331765	1.555927	3.482737

The Taikoo Place

Origin-Destination Analysis of Route 7

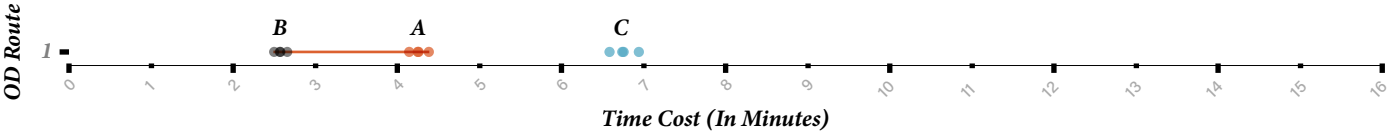


Finding the Optimal Walking Route using Galapagos Optimization

Alternative Routes

Alternative Routes

The Optimal Route

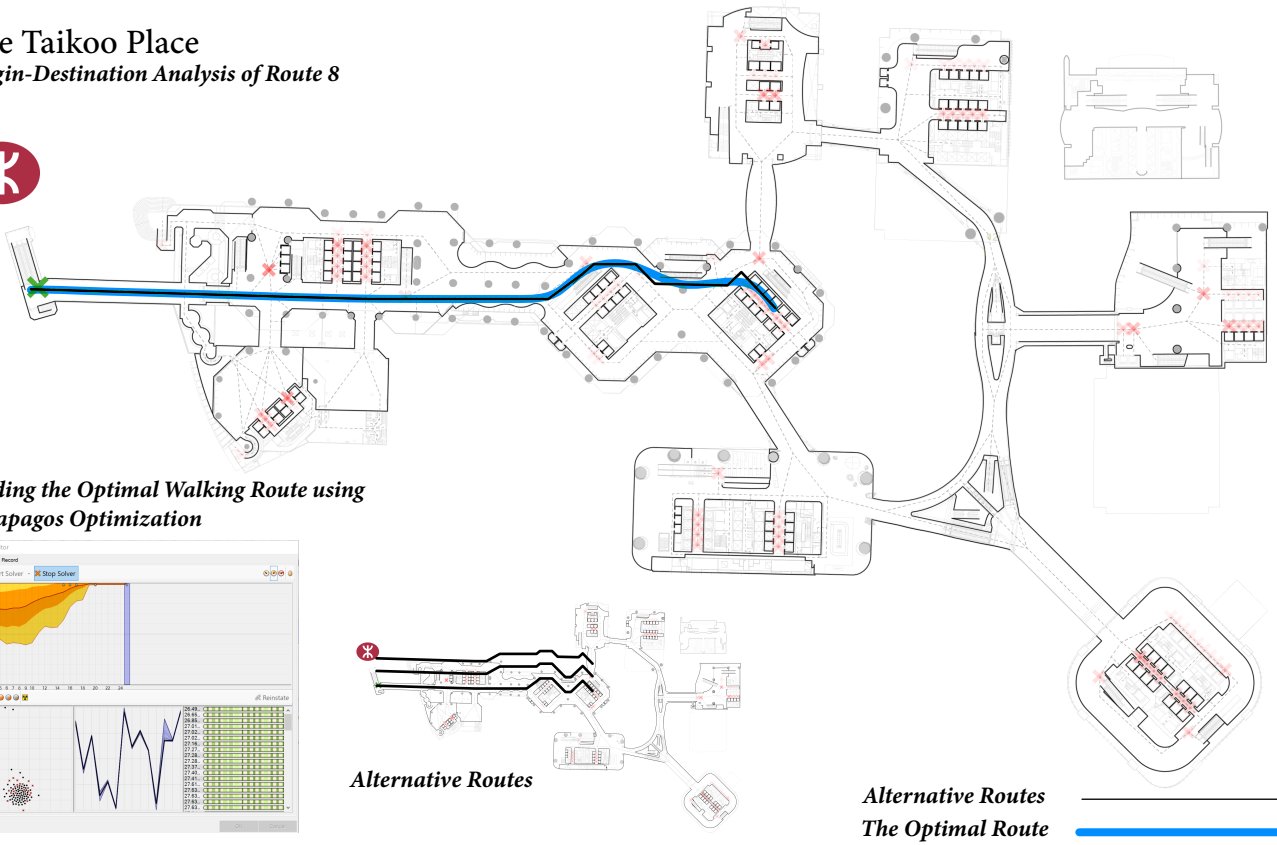


Time Cost (In Minutes)

Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	271.436266	4.945095	3.299736	7.386021
Alternative Route	277.138115	5.048973	3.369051	7.541173
Alternative Route	277.747624	5.060077	3.37646	7.557758
Alternative Route	284.56011	5.184189	3.459277	7.743132

The Taikoo Place

Origin-Destination Analysis of Route 8

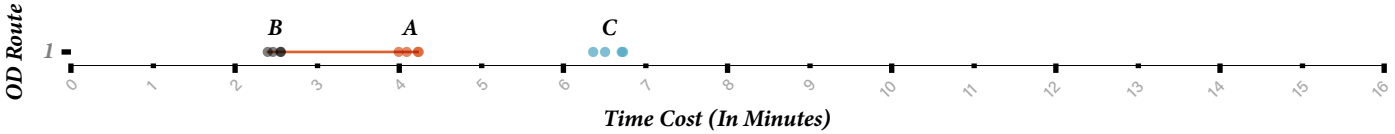


Finding the Optimal Walking Route using Galapagos Optimization

Alternative Routes

Alternative Routes

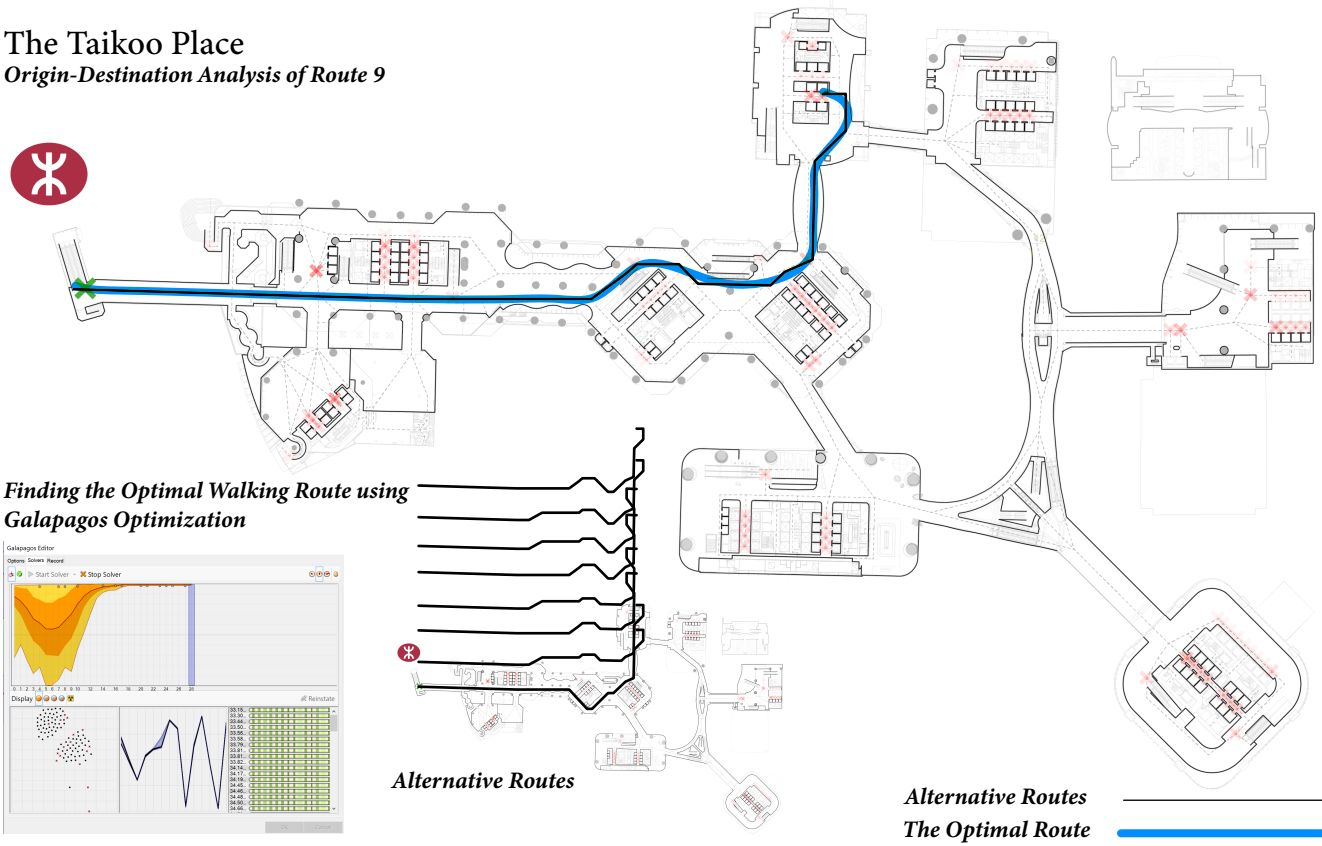
The Optimal Route



Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	263.43525	4.79933	3.202471	7.168306
Alternative Route	268.757739	4.896297	3.267174	7.313136
Alternative Route	276.18492	5.031607	3.357463	7.515236
Alternative Route	276.794428	5.042711	3.364873	7.531821

The Taikoo Place

Origin-Destination Analysis of Route 9

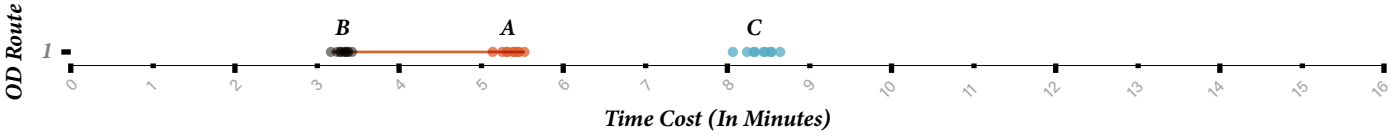


Finding the Optimal Walking Route using Galapagos Optimization

Alternative Routes

Alternative Routes

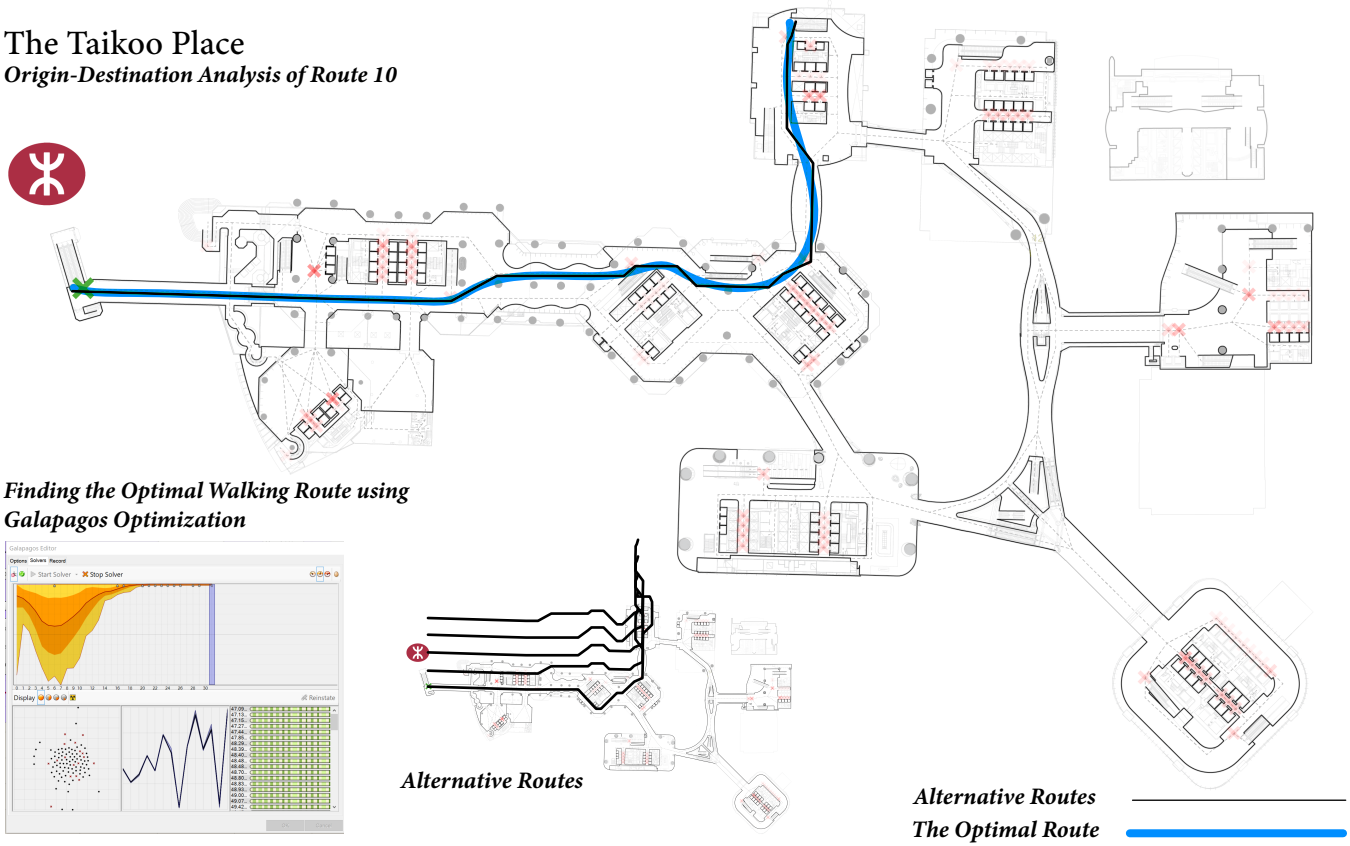
The Optimal Route



Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	325.271814	5.925885	3.954192	8.850934
Alternative Route	331.629312	6.041707	4.031477	9.023927
Alternative Route	334.62012	6.096195	4.067835	9.105309
Alternative Route	335.229629	6.107299	4.075245	9.121895
Alternative Route	339.056493	6.177018	4.121766	9.226027
Alternative Route	339.666001	6.188122	4.129176	9.242612
Alternative Route	342.0473	6.231505	4.158124	9.30741
Alternative Route	342.656809	6.242609	4.165534	9.323995
Alternative Route	346.478488	6.312233	4.211992	9.427986

The Taikoo Place

Origin-Destination Analysis of Route 10

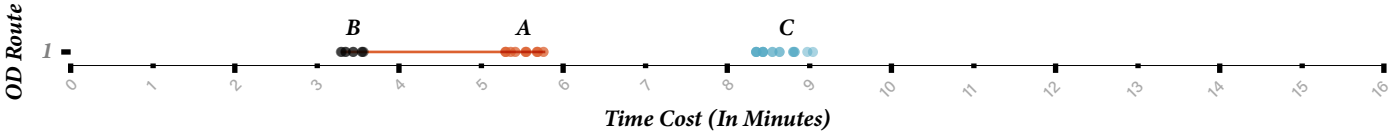


Finding the Optimal Walking Route using Galapagos Optimization

Alternative Routes

Alternative Routes

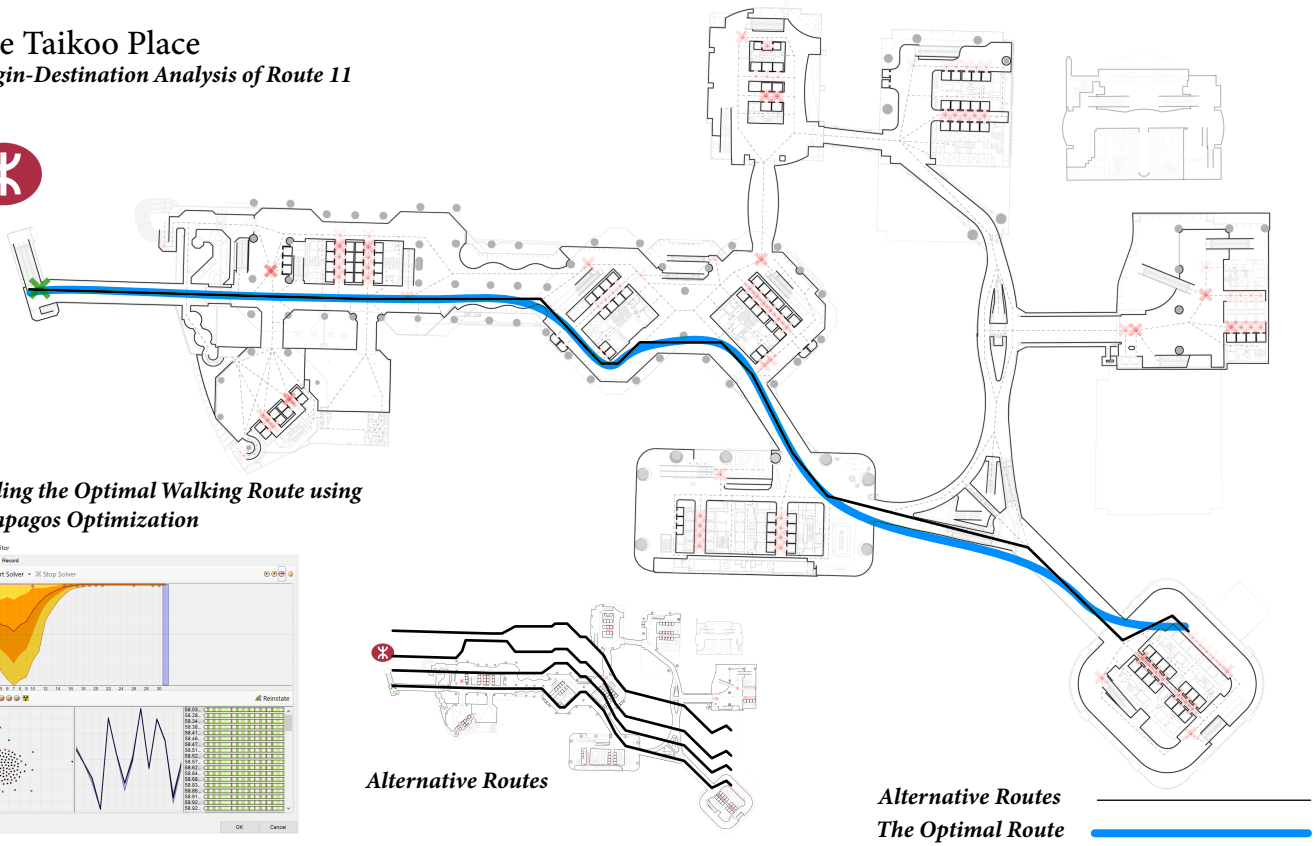
The Optimal Route



Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	339.811471	6.190772	4.130944	9.246571
Alternative Route	348.95783	6.357403	4.242133	9.495451
Alternative Route	355.775502	6.481609	4.325012	9.680966
Alternative Route	356.385011	6.492713	4.332422	9.697551
Alternative Route	363.197497	6.616825	4.415238	9.882925
Alternative Route	365.250976	6.654235	4.440202	9.938802

The Taikoo Place

Origin-Destination Analysis of Route 11

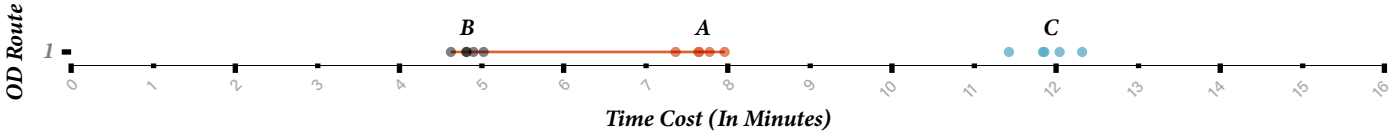


Finding the Optimal Walking Route using Galapagos Optimization

Alternative Routes

Alternative Routes

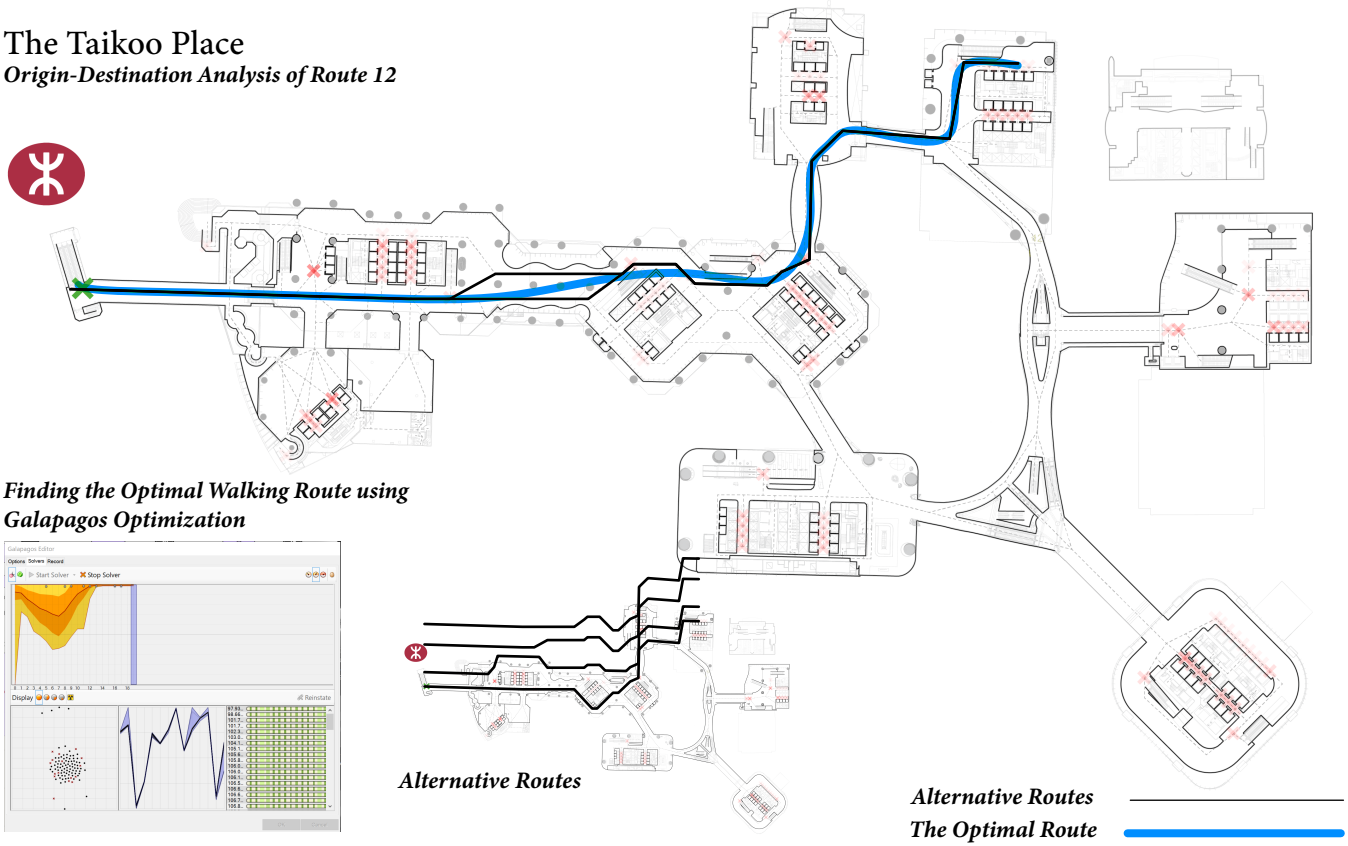
The Optimal Route



Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	451.602092	8.227402	5.489935	12.288492
Alternative Route	466.87793	8.505701	5.675637	12.704161
Alternative Route	467.487438	8.516805	5.683047	12.720747
Alternative Route	474.299925	8.640917	5.765863	12.90612
Alternative Route	484.399751	8.824918	5.888643	13.180946

The Taikoo Place

Origin-Destination Analysis of Route 12

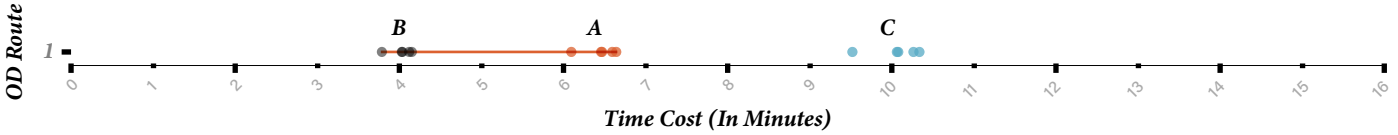


Finding the Optimal Walking Route using Galapagos Optimization

Alternative Routes

Alternative Routes

The Optimal Route

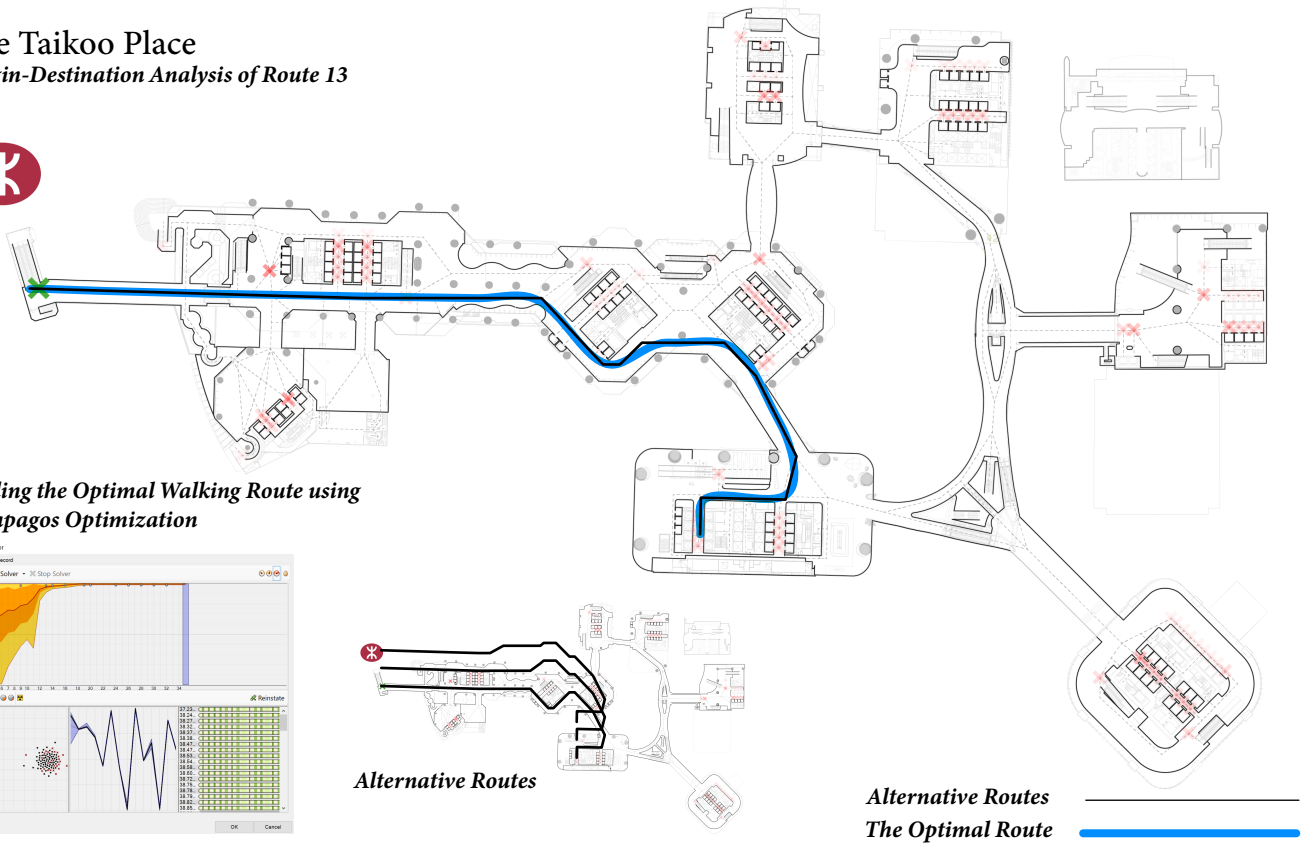


Time Cost (In Minutes)

Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	380.79695	6.937456	4.629187	10.361822
Alternative Route	400.714494	7.300319	4.871316	10.903796
Alternative Route	401.324003	7.311423	4.878726	10.920381
Alternative Route	408.136489	7.435535	4.961543	11.105755
Alternative Route	410.809135	7.484225	4.994033	11.17848

The Taikoo Place

Origin-Destination Analysis of Route 13

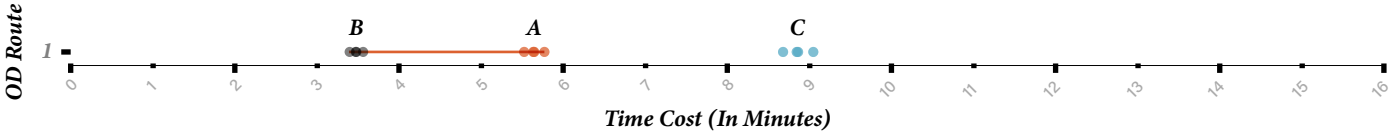


Finding the Optimal Walking Route using Galapagos Optimization

Alternative Routes

Alternative Routes

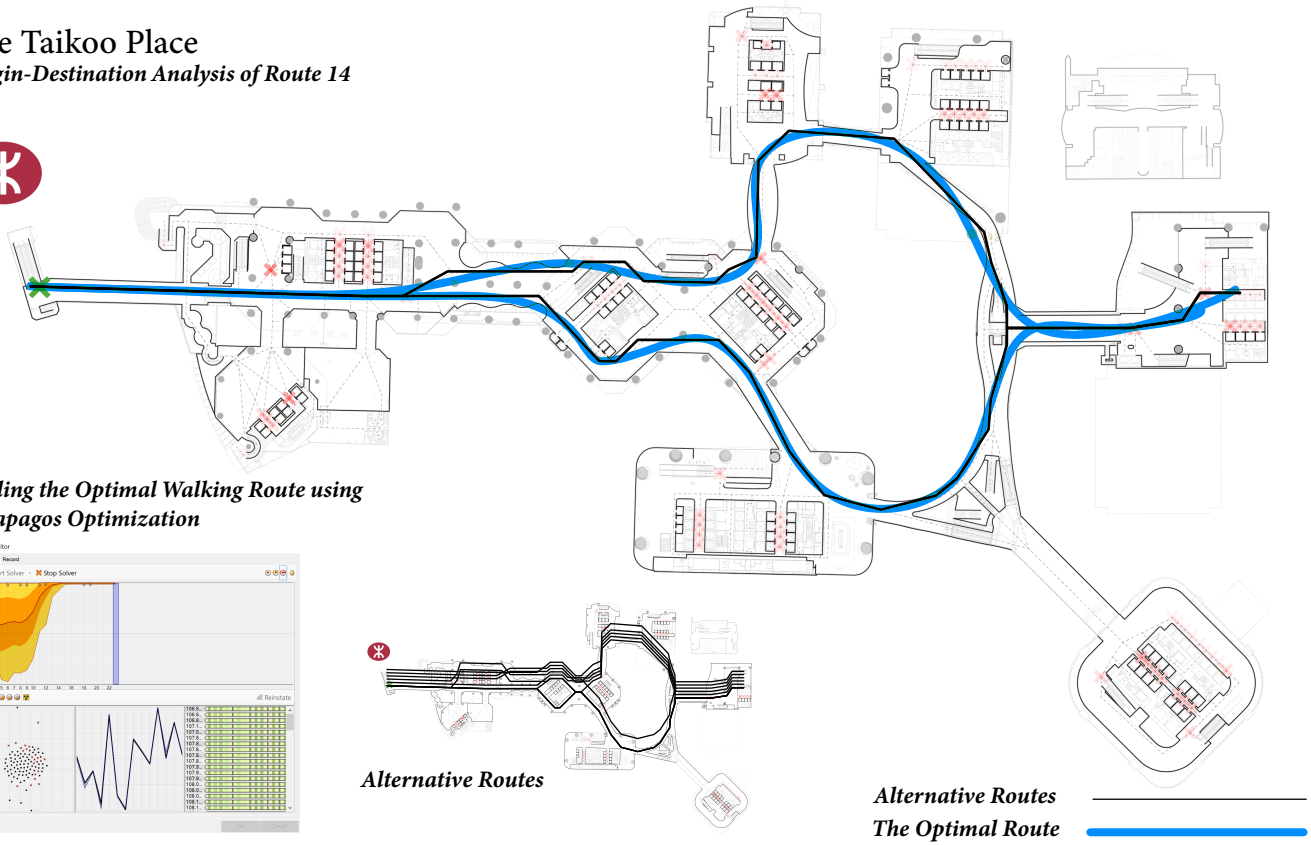
The Optimal Route



Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	350.781321	6.390623	4.2643	9.54507
Alternative Route	356.890739	6.501926	4.33857	9.711313
Alternative Route	357.500248	6.513031	4.345979	9.727898
Alternative Route	364.312734	6.637142	4.428796	9.913272

The Taikoo Place

Origin-Destination Analysis of Route 14

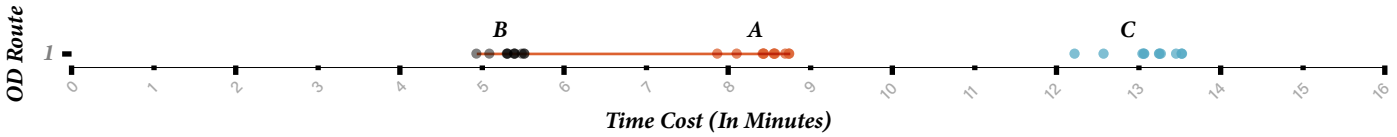


Finding the Optimal Walking Route using Galapagos Optimization

Alternative Routes

Alternative Routes

The Optimal Route



Time Cost (In Minutes)

Type of Route	Distance (in Meters)	Time A (Minutes)	Time B	Time C
The Optimal Route	484.099463	8.819447	5.884992	13.172774
Alternative Route	497.080052	9.055931	6.042792	13.525988
Alternative Route	514.486185	9.37304	6.254391	13.999624
Alternative Route	515.095693	9.384145	6.2618	14.016209
Alternative Route	515.317291	9.388182	6.264494	14.022239
Alternative Route	521.90818	9.508256	6.344617	14.201583
Alternative Route	522.134963	9.512388	6.347374	14.207754
Alternative Route	522.744471	9.523492	6.354783	14.224339
Alternative Route	529.556958	9.647604	6.4376	14.409713
Alternative Route	532.008006	9.692257	6.467396	14.476408
Alternative Route	532.229603	9.696294	6.47009	14.482438