ANNEX G

Pedestrian Survey Report

Agreement No. CE 41/2014 (HY)

Boardwalk underneath Island Eastern Corridor – Investigation

Assessment on Pedestrian and Cyclist Demand

For Proposed Boardwalk

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1 INTRODUCTION

Following the presentations on the 2 meetings held with Development Bureau and CEDD on 20 May and 12 Jun 2015 regarding the Step by Step Approach for the preparation of the Cogent and Convincing Materials to demonstrate compliance with the Overriding Public Need test under Protection of Harbour Ordinance, recommendation of carrying out assessment on pedestrian and cyclist demand to support the demonstration of social needs of the boardwalk has been discussed and considered worthwhile to further explore.

This report is a summary of preliminary findings of the On-Site Pedestrian and Cyclist Demand Survey.

2 TASKS

2.1 Survey Areas and Time

2.1.1 A pedestrian survey and random interview was carried out at two general areas. The two areas were at the project vicinity and Quarry Bay Park.

2.1.2 The survey counts and interviews were conducted on Sunday 16 August 2015 during the hours of 11am to 7pm, and on Friday 21 August 2015 during the hours of 7am to 11am and 5pm to 10pm.

2.2 Objective of On-Site Pedestrian and Cyclist Demand Survey

2.2.1 The objective of the survey is to:

- Obtain the volume of pedestrians using the pathway parallel to the proposed boardwalk
- Understand the origin and destination of those pedestrians
- Understand the characteristics of the pedestrian's travel behaviour and pattern
- Understand the volume, characteristic and needs of boardwalk/promenade users

The purpose of obtaining data from the project area was to obtain the pedestrian volumes within the study area with their corresponding trips origins/destinations, pedestrian characteristics, trips purposes, etc. and to understand the extent of the catchment area and pedestrian trip generation/attraction in relations to the catchment area's population (since 2015 data is not available the 2016 data from the Enhanced 2011-based Territorial Population and Employment Data Matrices (TPEDM) published by the Planning Department (PlanD) was adopted).

2.3 Time period and location of the on-site survey

2.3.1 Several time periods were proposed for the On-Site Survey (pedestrian & cyclist turning movement headcounts and also pedestrian interviews). The locations were:

Table 2.1 Location and Time of Surveys

Location	Time of Survey	Remark on headcount survey or interview
Electric Road footpaths at Oil Street	Friday 21 Aug 2015: 7am to 11am 5pm to 10pm Sunday 16 Aug 2015: 11am to 7pm	16 directional movements at the street corners and crossings counted at 5 minutes intervals for pedestrians. Bicyclist found using the junction, whether on footpath or road, was included and noted in the count.
Java Road footpaths at Tong Shui Road		16 directional movements at the street corners and crossings counted at 5 minutes intervals for pedestrians. Bicyclist found using the junction, whether on footpath or road, was included and noted in the count.
Java Road footpaths at Tin Chiu Street		16 directional movements at the street corners and crossings counted at 5 minutes intervals for pedestrians. Bicyclist found using the junction, whether on footpath or road, was included and noted in the count.
Java Road footpaths at Hoi Yu Street		10 directional movements at the street corners and crossings counted at 5 minutes intervals for pedestrians. Bicyclist found using the junction, whether on footpath or road, was included and noted in the count.
A location on King's Road northside / southside footpath between Kam Hong Street and Shu Kuk Street		4 directional movements count at 5 minutes intervals for pedestrians on northside and southside of King's Road. Bicyclist found using the footpath or road, was included and noted in the count.
Western limit of Quarry Bay Promenade (at the pathway junction to pet area and to Hoi Yu Street)		10 directional movements count at 5 minutes intervals for pedestrians entering and exiting Promenade. Bicyclist found using the footpath or road, was included and noted in the count.
Tai Koo Shing footbridge at Quarry Bay Promenade		
Eastern limit of Quarry Bay Promenade		

2.3.2 The questionnaires used for random interview are shown in Annex A.

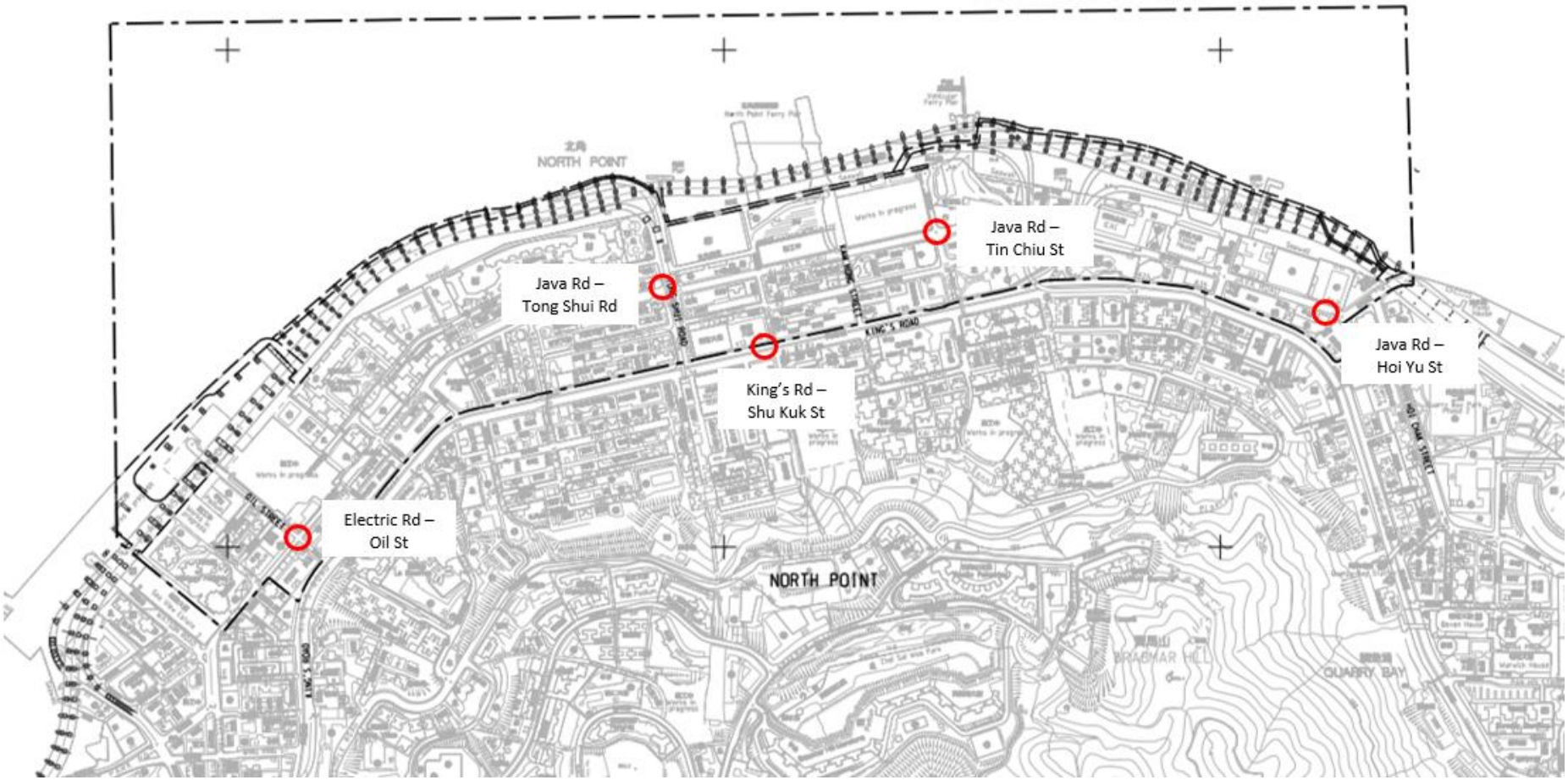

Figure 2.1 Locations of the Pedestrian Counts Survey

3 QUARRY BAY SURVEY SUMMARY

3.1.1 The park's Friday morning peak two way volume is 1368. The peak hour is from 07:05 to 08:05. The park's 7am to 11am total two way volume is 3666.

3.1.2 The park's Friday evening peak two way volume is 1681. The peak hour is from 20:55 to 21:55. The park's 5pm to 10pm total two way volume is 6696.

3.1.3 Sunday peak two way volume is 2011. The peak hour is from 16:30 to 17:30. The park's 11am to 7pm total two way volume is 9057.

3.1.4 The interview survey indicated the following general characteristics about the Friday park users.

Table 3.1 General Characteristics of Users on Weekday

Work		Non-work	
Area	**% of Trip Related to Zone**	**Area**	**% of Trip Related to Zone**
Quarry Bay	1%	Quarry Bay	61%
North Point	0%	North Point	24%
Fortress Hill	0%	Fortress Hill	0%
Sai Wan Ho	0%	Sai Wan Ho	5%
Others	0%	Others	10%

3.1.5 The interview survey indicated the following general characteristics about the Sunday park users.

Table 3.2 General Characteristics of Users on Weekend

Work		Non-work	
Area	**% of Trip Related to Zone**	**Area**	**% of Trip Generated from Zone**
Quarry Bay	0%	Quarry Bay	37%
North Point	0%	North Point	21%
Fortress Hill	0%	Fortress Hill	1%
Sai Wan Ho	2%	Sai Wan Ho	14%
Others	0%	Others	25%

3.1.6 Summary of the full surveyed results are shown in Annex B. Total pedestrian volume of 19,419 was recorded at the park boundary and 311 interviews were obtained thereby achieving at least a Confidence Level of 90%.

4 ELECTRIC ROAD, JAVA ROAD AND KING'S ROAD SUMMARY

4.1.1 The pedestrian volumes of the 5 surveyed locations are summarized below. Summary of the full surveyed results are shown in Annex B. Total pedestrian volume of 211,564 was recorded at the 5 footpath locations combined and 714 interviews were obtained thereby achieving at least a Confidence Level of 95%.

Table 4.1 Surveyed Average Hourly Pedestrian Volumes

Location	Weekday AM	Weekday PM	Weekend
Electric Road footpaths at Oil Street	3255	3915	2187
Java Road footpaths at Tong Shui Road	5209	4293	5741
Along King's Road footpaths near Shu Kuk Street	2419	3200	3539
Java Road footpaths at Tin Chiu Street	596	632	1028
Java Road footpaths at Hoi Yu Street	477	348	230

4.1.2 The interview survey indicated the following work and non-work proportion about the footpath users.

Table 4.2 Work and Non-Work Proportions of Interviewees

Location	Friday Weekday	Weekend
Electric Road footpaths at Oil Street	24% work	0% work
	77% non-work	100% non-work
Java Road footpaths at Tong Shui Road	7% work	8% work
	93% non-work	92% non-work
Along King's Road footpaths near Shu Kuk Street	37% work	35% work
	63% non-work	65% non-work
Java Road footpaths at Tin Chiu Street	44% work	14% work
	56% non-work	86% non-work
Java Road footpaths at Hoi Yu Street	19% work	4% work
	81% non-work	96% non-work

5 DATA ANALYSIS OF ELECTRIC ROAD, JAVA ROAD AND KING'S ROAD PEDESTRIAN VOLUMES

5.1 Approach

5.1.1 The expected usage volume is a critical aspect of justifying an infrastructure such as the Boardwalk under the IEC. To estimate the usage volume, the pedestrian volumes at key locations near the future access points to the proposed Boardwalk was surveyed. By interviewing the pedestrians at these locations regarding whether they will be using the Boardwalk under the IEC as an alternative route, the shift of pedestrian volume from the surveyed location to the Boardwalk can be estimated. The estimated volume represents a hypothetical scenario of boardwalk usage as at the time of the survey, which was August 2015. This scenario is assumed to be the "2016 with Boardwalk" scenario. The reason for assuming this scenario is 2016 instead of 2015 is that a 2016 TPEDM data set is readily available and that the survey period is only months away from 2016.

5.1.2 To correlate those surveyed volumes and interviews with the TPEDM, the analysis has been carried out under two categories which are work trips and non-work trips. The work trips and non-work trips obtained from the survey and interview, are correlated to the 2016 usual population (residential population) and employment population data in Enhanced-2011 based TPEDM.

5.1.3 For the future usage volume of the Boardwalk, % change in the TPEDM usual population and employment population from 2016, to 2019 (year of commissioning) and to 2034 (15 years after commissioning) will be applied to the "2016 with Boardwalk" scenario. The 2019 and 2034 population and employment data are interpolated from 2016, 2021, 2031 and 2036 data in Enhanced-2011 based TPEDM. The population and employment growths are tabulated in the following tables.

Table 5.1 Population and Employment Data in Relevant Zones in Enhanced-2011 based TPEDM

		2016		2021		2031		2036		2041	
Area	**Zone**	**Pop**	**Emp**	**Pop**	**Emp**	**Pop**	**Emp**	**Pop**	**Emp**	**Pop**	**Emp**
Fortress Hill	21	44450	42500	41100	44850	38700	43400	39300	43700	39400	43850
	35	19150	4500	18000	4500	17150	4400	17050	4400	17050	4350
North Point	22	41300	19800	37100	19750	36150	19900	36850	20300	37000	20600
	23	24650	18100	24850	18200	24600	17550	24800	17500	24850	17300
	24	10700	24700	10650	26500	11050	24350	11000	23900	10950	23600
Quarry Bay	25	18800	53000	17000	52850	16100	50250	16350	50050	16400	49800
	26	32850	21750	29700	22350	26800	20550	27150	20200	27200	19800
Sai Wan Ho	27	50100	11850	46350	11350	43700	11200	43850	11250	43850	11450

Table 5.2 Population and Employment Growths in Relevant Zones in 2019 and 2034

		2019				2034			
Area	**Zone**	**Pop**	**% growth from 2016**	**Emp**	**% growth from 2016**	**Pop**	**% growth from 2016**	**Emp**	**% growth from 2016**
Fortress Hill	21	42440	-4.25%	43910	3.00%	39060	-11.71%	43580	2.09%
	35	18460		4500		17090		4400	
North Point	22	38780	-3.17%	19770	1.77%	36570	-5.66%	20140	-1.37%
	23	24770		18160		24720		17520	
	24	10670		25780		11020		24080	
Quarry Bay	25	17720	-5.75%	52910	0.36%	16250	-16.24%	50130	-5.73%
	26	30960		22110		27010		20340	
Sai Wan Ho	27	47850	-4.49%	11550	-2.53%	43790	-12.59%	11230	-5.23%

5.2 Summary of Analysis

5.2.1 The proportions of survey respondents indicating whether they would use the Boardwalk as an alternative route for their current trip were simply multiplied with the pedestrian counts at the respective survey locations to reach a projected number of pedestrians that would use or would not use the Boardwalk in the "2016 with Boardwalk" scenario.

5.2.2 The projected number of pedestrians from the "2016 with Boardwalk" scenario were then simply factored up or factored down according to the percentage growth in population and employment in the respective zones, as tabulated in the previous section.

5.2.3 The following table lists the locations of the survey and the estimated number of pedestrians using the Boardwalk closest to the survey location in 2016, 2019 and 2034.

Table 5.3 Estimated Number of Pedestrians using the Boardwalk in 2016, 2019 and 2034

Location	Trip Purpose	Interviewed Number		Respondent will Use Boardwalk?					Pedestrian Counts		Projection to Use Boardwalk "2016 Boardwalk Scenario"			2019 Projections			2034 Projections		
		Week-day	Week-end		Week-day	% of Daily Flow	Week-end	% of Daily Flow	Weekday (Average Hourly)	Weekend (Average Hourly)		Weekday (Average Hourly)	Weekend (Average Hourly)		Weekday (Average Hourly)	Weekend (Average Hourly)		Weekday (Average Hourly)	Weekend (Average Hourly)
Electric Road - Oil Street	Work	6	0	Yes	3	12%	0	0%	3622	2187	Yes	418	0	Yes	430	0	Yes	369	0
				No	3	12%	0	0%			No	418	0	No	430	0	No	369	0
	Non-work	20	18	Yes	18	69%	17	94%			Yes	2507	2066	Yes	2401	1978	Yes	2560	2109
				No	2	8%	1	6%			No	279	122	No	267	116	No	284	124
Java Road - Tong Shui Road	Work	8	6	Yes	7	6%	6	8%	4700	5741	Yes	286	485	Yes	291	494	Yes	270	458
				No	1	1%	0	0%			No	41	0	No	42	0	No	39	0
	Non-work	107	65	Yes	70	61%	49	69%			Yes	2861	3962	Yes	2770	3836	Yes	2822	3907
				No	37	32%	16	23%			No	1512	1294	No	1464	1253	No	1491	1276
King's Road - Shu Kuk Street	Work	35	16	Yes	18	19%	8	17%	2853	3539	Yes	552	615	Yes	562	626	Yes	521	581
				No	17	18%	8	17%			No	521	615	No	531	626	No	492	581
	Non-work	58	30	Yes	37	40%	18	39%			Yes	1135	1385	Yes	1099	1341	Yes	1119	1366
				No	21	23%	12	26%			No	644	923	No	624	894	No	635	910
Java Road - Tin Chiu Street	Work	62	20	Yes	34	24%	13	9%	616	1028	Yes	149	93	Yes	151	94	Yes	140	88
				No	28	20%	7	5%			No	122	50	No	124	51	No	115	47
	Non-work	79	124	Yes	68	48%	89	62%			Yes	297	636	Yes	288	615	Yes	293	627
				No	11	8%	35	24%			No	48	250	No	47	242	No	47	246
Java Road - Hoi Yu Street	Work	6	1	Yes	1	3%	1	4%	405	230	Yes	13	9	Yes	13	9	Yes	12	8
				No	5	16%	0	0%			No	65	0	No	67	0	No	62	0
	Non-work	25	26	Yes	23	74%	15	56%			Yes	301	128	Yes	291	124	Yes	297	126
				No	2	6%	11	41%			No	26	94	No	25	91	No	26	92
Overall	Total	406	306	Yes	279	-	216	-	12196	12725	Yes total	8519	9378	Yes total	8297	9117	Yes total	8402	9269
											No total	3677	3347	No total	3620	3273	No total	3561	3277

5.2.4 Based on the above information concerning pedestrian characteristics parallel to the Boardwalk routes, the Boardwalk under the IEC near the following access locations are expected to have the following two way volumes.

Table 5.4 Expected Two-way Volumes at Access Locations in 2019 and 2034

At Proposed Boardwalk in the vicinity of:	Est. Boardwalk hourly users in 2019		Est. Boardwalk hourly users in 2034	
	Weekday (Hourly)	Weekend (Hourly)	Weekday (Hourly)	Weekend (Hourly)
Oil Street	2,831 of which W=430 NW=2,401	1,978 of which W=0 NW=1,978	2,928(1) of which W=369 NW=2,560	2,109 of which W=0 NW=2,109
Tong Shui Road	3,061 of which W=291 NW=2,770	4,330 of which W=494 NW=3,836	3,092 of which W=270 NW=2,822	4,365 of which W=458 NW=3,907
Shu Kuk Street	1,661 of which W=562 NW=1,099	1,967 of which W=626 NW=1,341	1,640 of which W=521 NW=1,119	1,946(1) of which W=581 NW=1,366
Tin Chiu Street	439 of which W=151 NW=288	710(1) of which W=94 NW=615	433 of which W=140 NW=293	714(1) of which W=88 NW=627
Hoi Yu Street	304 of which W=13 NW=291	132(1) of which W=9 NW=124	309 of which W=12 NW=297	134 of which W=8 NW=126

Where:
W= Work trip users
NW= Non-Work trip users

Note: (1) Due to rounding of W and NW numbers, the summation may appear to be +1 or -1.

6 DATA ANALYSIS OF QUARRY BAY PARK

6.1 Approach

6.1.1 The Quarry Bay Park data set was used to focus on the catchment of a Harbourfront pedestrian walkway and park. Furthermore, to understand the waterfront walkway and park users' need of various facilities such as bicycle tracks, sitting area, view podiums. The data was then correlated to the usual population and employment population of the area in the vicinity of the park contained in Enhanced-2011 based TPEDM. The park pedestrian volume and characteristics represented the park's usage as of the time of study, which was August 2015. This scenario is assumed to be the "2016 with Boardwalk" scenario. The reason for assuming this scenario is 2016 instead of 2015 is that a 2016 TPEDM data set is readily available and that the survey period is only months away from 2016.

6.1.2 By understanding the pedestrian catchment characteristics of the Quarry Bay Park, the pedestrian volumes of similar parks, such as the Boardwalk under the IEC, can be estimated. For instance, the Quarry Bay Park catchment data shows that the parks served "weekend non-work people" from various directions and their proportions are 37% from the south zone (Quarry Bay), 22% from the west zone (North Point/Fortress Hill), and 14% from the east zone (Sai Wan Ho). The weekend surveyed volumes are then distributed based on those directional percentage and then correlated with the residential population of the area as percentage of the market captured. The directional market captured percentage is then adopted for the park at North Point Ferry Pier where south zone market captured percentage is applied to North Point population data simply because the exercise is to adopt a park catchment pattern.

6.2 Summary of Analysis

6.2.1 The following summarises the catchment of the Quarry Bay Park in relations to the neighbouring areas and in relations to the 2016 population data from TPEDM. The analysis has been carried out under two categories, which are work trips and non-work trips. The work trips and non-work trips obtained from the survey and interview, are correlated to the 2016 usual population (residential population) and employment population data in Enhanced-2011 based TPEDM.

Table 6.1 Quarry Bay Park Users in relation to Neighbouring Area Population Data – Weekday

Work					
Area of Employment	**Quarry Bay Park Total Usage (1) (In + Out)**	**% of Trip Related to Zone**	**No. of Park Users (Work Usage) from the Zone**	**Zone's Total Residential Population in 2016 (2)**	**Market Captured**
Quarry Bay	1,151	1%	15	74,750	0.02%
North Point		0%	0	62,600	0.00%
Fortress Hill		0%	0	47,000	0.00%
Sai Wan Ho		0%	0	11,850	0.00%
Others		0%	0	3,571,650	0.00%
Subtotal	-	1%	15	-	-
Non-work					
Area of Residence	**Quarry Bay Park Total Usage (1) (In + Out)**	**% of Trip Generated from Zone**	**No. of Park Users (Leisure Usage) from the Zone**	**Zone's Total Residential Population in 2016 (2)**	**Market Captured**
Quarry Bay	1,151	60%	697	51,650	1.35%
North Point		24%	273	76,650	0.36%
Fortress Hill		0%	0	63,600	0.00%
Sai Wan Ho		5%	53	50,100	0.11%
Others		10%	114	6,908,900	0.00%
Subtotal	-	99%	1.136	-	-

Note: (1) no. of people using the park over the whole surveyed period;
(2) population and employment data from Enhanced-2011 based TPEDM.

Table 6.2 Quarry Bay Park Users in relation to Neighbouring Area Population Data – Weekend

Work					
Area of Employment	**Quarry Bay Park Total Usage (1) (In + Out)**	**% of Trip Related to Zone**	**No. of Park Users (Work Usage) from the Zone**	**Zone's Total Residential Population in 2016 (2)**	**Market Captured**
Quarry Bay	1,132	0%	0	74,750	0.00%
North Point		0%	0	62,600	0.00%
Fortress Hill		0%	0	47,000	0.00%
Sai Wan Ho		2%	21	11,850	0.18%
Others		0%	0	3,571,650	0.00%
Subtotal	-	2%	21	-	-
Non-work					
Area of Residence	**Quarry Bay Park Total Usage (1) (In + Out)**	**% of Trip Generated from Zone**	**No. of Park Users (Leisure Usage) from the Zone**	**Zone's Total Residential Population in 2016 (2)**	**Market Captured**
Quarry Bay	1,132	37%	420	51,650	0.81%
North Point		21%	242	76,650	0.32%
Fortress Hill		1%	7	63,600	0.01%
Sai Wan Ho		14%	157	50,100	0.31%
Others		25%	285	6,908,900	0.00%
Subtotal	-	98%	1,111	-	-

Note: (1) no. of people using the park over the whole surveyed period;

(2) population and employment data from Enhanced-2011 based TPEDM.

6.2.2 By adopting the relative catchment pattern of Quarry Bay Park from North Point, Quarry Bay, Sai Wan Ho and other vicinity for the Boardwalk under IEC (assumed as a park attraction with a major green area at North Point Ferry Pier), the following are the estimated non-work and work pedestrians pattern to be used for the Boardwalk in the 2016, 2019 and 2034. The Fortress Hill Market Capture data was ignored because the percentage was low and furthermore if applied to the TPEDM zone further west, the value would be insignificant because of the insignificant population and employment Victoria Park area. Further adjustment was applied due to the similarity of the area east and west of the park at the North Point Ferry Pier; the Market Capture should be somewhat symmetrical. The resultant adjustments are:

- For weekend work related trips, the 0.18% Market Capture from east of park being used for Market Captured from west of the park
- For weekday non-work related trips, the 0.36% Market Capture from the west of park being used for Market Captured from the east of the park.

Table 6.3 Estimated Catchment Pattern of Boardwalk Users in 2016, 2019 and 2034

Area	Market Capture	
Work	**Weekday**	**Weekend**
Zone immediately east of park	0.00%	0.18%
Zone of the park	0.02%	0.00%
Zone immediately west of park	0.00%	0.18%
Others zones	0.00%	0.00%
Non-work		
Zone immediately east of park	0.36%	0.32%
Zone of the park	1.35%	0.81%
Zone immediately west of park	0.36%	0.32%
Others zones	0.002%	0.004%

6.2.3 The above market captured percentage applied to the Boardwalk Park vicinity population data are shown in the follow tables.

Table 6.4 Estimated Weekday Trip assuming Boardwalk Park Area is Same Size as Quarry Bay Park

Work		2019		2034	
Area of Employment	Market Captured	Zone's Total Employment Population	No. of Park Users (Work Usage) from the Zone	Zone's Total Employment Population(1)	No. of Park Users (Work Usage) from the Zone
Quarry Bay	0.00%	75,020	0	70,470	0
North Point	0.02%	63,710	13	61,740	13
Fortress Hill	0.00%	48,410	0	47,980	0
Others	0.00%	3,672,360	0	3,902,750	0
Subtotal	-	-	13	-	13
Non-Work		**2019**		**2034**	
Area of Residence	Market Captured	Zone's Total Residential Population	No. of Park Users (Leisure Usage) from the Zone	Zone's Total Residential Population(1)	No. of Park Users (Leisure Usage) from the Zone
Quarry Bay	0.36%	48,680	173	43,260	154
North Point	1.35%	74,220	1,001	72,310	976
Fortress Hill	0.36%	60,900	217	56,150	200
Others	0.0016%	7,141,040	117	7,854,980	129
Subtotal	-	-	1,509	-	1,458

Note: (1) Population and employment data from Enhanced-2011 based TPEDM.

Table 6.5 Estimated Weekend Trip assuming Boardwalk Park Area is Same Size as Quarry Bay Park

Work					
		2019		2034	
Area of Employment	Market Captured	Zone's Total Employment Population	No. of Park Users (Work Usage) from the Zone	Zone's Total Employment Population(1)	No. of Park Users (Work Usage) from the Zone
Quarry Bay	0.18%	75,020	135	70,470	127
North Point	0.00%	63,710	0	61,740	0
Fortress Hill	0.18%	48,410	87	47,980	86
Others	0.00%	3,672,360	0	3,902,750	0
Subtotal	-	-	222	-	214
Non-Work					
		2019		2034	
Area of Residence	Market Captured	Zone's Total Residential Population	No. of Park Users (Leisure Usage) from the Zone	Zone's Total Residential Population(1)	No. of Park Users (Leisure Usage) from the Zone
Quarry Bay	0.32%	48,680	154	43,260	137
North Point	0.81%	74,220	604	72,310	588
Fortress Hill	0.32%	60,900	190	56,150	176
Others	0.004%	7,141,040	294	7,854,980	324
Subtotal	-	-	1,242	-	1,224

Note: (1) Population and employment data from Enhanced-2011 based TPEDM.

6.2.4 The estimated number of park users is based on a park and park facilities of same size as the Quarry Bay Park and adjustment in the relative size between Quarry Bay Park and the Park at North Point Ferry Pier needs to be considered. The reason for this adjustment is that while the demand based on population in the vicinity is presented, the lack of park area resulting in overcrowding at park area will deter the public from using a park facility. The adjustment factor of 1/3 is applied to the initial estimate because the North Point Ferry Pier park is approximately 1/3 of the Quarry Bay Park.

Table 6.6 Expected Park Users in Weekdays of 2019 and 2034

Weekday Hourly Park Users	YEAR 2019	YEAR 2034
expected total Boardwalk park users assuming Boardwalk park area is of same size as Quarry Bay *Park (directly extracted from Table 6.5 and Table 6.4*	**1,522** W=13 NW=1,509	**1,471** W=13 NW=1,458
expected total Boardwalk park users with consideration the Boardwalk park area at North Point Ferry Pier is approx. 1/3 of Quarry Bay Park *(W directly extracted from Table 6.5 and Table 6.4; NW from Table 6.5 and Table 6.4 then divided by 3)*	**516** North Point W=13 *(not expected to be affected by park size)* Quarry Bay NW=58	**499** North Point W=13 *(not expected to be affected by park size)* Quarry Bay NW=51

	North Point NW=334 Fortress Hill NW=72 Others NW=39 *(factored down due to reduction in park size)*	North Point NW=325 Fortress Hill NW=67 Others NW=43 *(factored down due to reduction in park size)*

Table 6.7 Expected Park Users in Weekends of 2019 and 2034

Weekend Hourly Average Park Users	Year 2019	Year 2034
expected total Boardwalk park users assuming Boardwalk park area is of same size as Quarry Bay Park *(directly extracted from Table 6.5 and Table 6.4*	**1,464** W=222 NW=1,242	**1,438** W=214 NW=1,224
expected total Boardwalk park users with consideration the Boardwalk park area at North Point Ferry Pier is approx. 1/3 of Quarry Bay Park *(W directly extracted from Table 6.5 and Table 6.4; NW from Table 6.5 and Table 6.4 then divided by 3)*	**636** Quarry Bay W=135 Fortress Hill W=87 *(not expected to be affected by park size)* Quarry Bay NW=51 North Point NW=201 Fortress Hill NW=63 Others NW=98 *factored down due to reduction in park size)*	**621** Quarry Bay W=127 Fortress Hill W=86 *(not expected to be affected by park size)* Quarry Bay NW=46 North Point NW=196 Fortress Hill NW=59 Others NW=108 *factored down due to reduction in park size)*

7 REVIEWING COMBINED RESULTS OF BOTH ESTIMATES DERIVED FROM SURVEY

7.1.1 The estimates in Sections 5 and 6 are independent estimates of the pedestrian volume anticipated on the Boardwalk; Section 5 focuses on the public work trip and urban route usage at the central area of Boardwalk project while Section 6 focuses on the attractiveness of a waterfront park and the resultant catchment extent. The purpose of this section is to review both set of estimates and combine the results without double counting.

7.1.2 The park's catchment estimate in the direction to/from Fortress Hill, North Point and Quarry Bay, the works and non-work, are compared with estimates of Oil Street, Tong Shui Road/Shu Kuk Street/Tin Chiu Street and Hoi Yu Street, respectively.

Table 7.1 Comparison of Expected Pedestrian Volume Entering and Leaving the Boardwalk at the 5 Locations

At Proposed Board walk in the vicinity of	Comparison of Expected Pedestrian Volume in 2019				Comparison of Expected Pedestrian Volume in 2034 of both methods			
	Weekday (Hourly Average)		Weekend (Hourly Average)		Weekday (Hourly Average)		Weekend (Hourly Average)	
	Est. of Footpath users who are expected to use boardwalk	Est. of Boardwalk park catchment	Est. of Footpath users who are expected to use boardwalk	Est. of Boardwalk park catchment	Est. of Footpath users who are expected to use boardwalk	Est. of Boardwalk park catchment	Est. of Footpath users who are expected to use boardwalk	Est. of Boardwalk park catchment
Oil Street	W=430 NW=2401	Fortress Hill NW=72 Others NW=13	W=0 NW=1978	Fortress Hill W=87 Fortress Hill NW=63 Others NW=33	W=369 NW=2560	Fortress Hill NW=67 Others NW=14	W=0 NW=2109	Fortress Hill W=86 Fortress Hill NW=59 Others NW=36
Tong Shui Road	W=291 NW=2770	North Point W=13 North Point NW=334 Others NW=13	W=494 NW=3836	North Point NW=201 Others NW=33	W=270 NW=2822	North Point W=13 North Point NW=325 Others NW=14	W=458 NW=3907	North Point NW=196 Others NW=36
Shu Kuk Street	W=562 NW=1099		W=626 NW=1341		W=521 NW=1119		W=581 NW=1366	
Tin Chiu Street	W=151 NW=288		W=94 NW=615		W=140 NW=293		W=88 NW=627	
Hoi Yu Street	W=13 NW=291	Quarry Bay NW=58 Others NW=13	W=9 NW=124	Quarry Bay W=135 Quarry Bay NW=51 Others NW=33	W=12 NW=297	Quarry Bay NW=51 Others NW=14	W=8 NW=126	Quarry Bay W=127 Quarry Bay NW=46 Others NW=36

Where:
W= Work trip users
NW= Non-Work trip users

7.1.3 The high figure of work or non-work trips is adopted for the locations and is assumed to be inclusive of the lower figure estimated volume to avoid any possible overlapping. Hence the following is the revised estimate adopted after the comparison of estimation by both methods.

Table 7.2 Revised Estimates of Boardwalk Hourly Users

At Proposed Boardwalk in the vicinity of:	Boardwalk hourly users in 2019 of both methods		Boardwalk hourly users in 2034 of both methods	
	Weekday (Hourly Average)	Weekend (Hourly Average)	Weekday (Hourly Average)	Weekend (Hourly Average)
Oil Street	W=430 NW=2401	W=87 NW=1978	W=369 NW=2560	W=86 NW=2109
Tong Shui Road	W=291 NW=2770	W=494 NW=3836	W=270 NW=2822	W=458 NW=3907
Shu Kuk Street	W=562 NW=1099	W=626 NW=1341	W=521 NW=1119	W=581 NW=1366
Tin Chiu Street	W=151 NW=288	W=94 NW=615	W=140 NW=293	W=88 NW=627
Hoi Yu Street	W=13 NW=291	W=135 NW=124	W=12 NW=297	W=127 NW=126

Legend: W – Work Trips NW – Non-Work trips

8 CYCLIST ESTIMATE

8.1.1 The bicycling trend in Hong Kong tends to be for leisure basis and that the weekend periods there are more bicyclist on the bicycle tracks. Hence, for the weekday estimate, people responding to the usage frequency of using the track "daily" have been used for the weekday estimate. For the weekend estimate, people responding to "more than 3 times a week" have also been included. The resultant of the expected percentage of Boardwalk users likely be bicyclist is as follows. Summary of the full survey results are shown in Annex B.

Table 8.1 Expected Percentage of Bicyclist Boardwalk Users on Weekday

	Responded would use bicycle track	Responded would use daily	Estimated % of Boardwalk users likely to be bicyclists during weekday peak hour
North Point Data	31%	8%	2.5%
Quarry Bay Park Data	63%	3%	2.0%

Table 8.2 Expected Percentage of Bicyclist Boardwalk Users on Weekend

	Responded would use bicycle track	Responded would use daily	Estimated % of Boardwalk users likely to be bicyclists during weekend peak hour
North Point Data	31%	38%	11.8%
Quarry Bay Park Data	63%	19%	12.0%

8.1.2 Based on the above estimated percentage of Boardwalk users likely to be bicyclists, 2.5% and 12% are adopted for the weekday and weekend estimates. The estimated bicyclist volumes are presented in the following table.

Table 8.3 Expected Percentage of Bicyclist Boardwalk Users on Weekend

At Proposed Board- walk in the vicinity of	Boardwalk hourly bicyclists in 2019		Boardwalk hourly bicyclists in 2034	
	Weekday (Hourly)	Weekend (Hourly)	Weekday (Hourly)	Weekend (Hourly)
Oil Street	71	279	73	295
Tong Shui Road	77	520	77	524
Shu Kuk Street	42	236	41	234
Tin Chiu Street	11	85	11	86
Hoi Yu Street	8	90	8	83

Annex A

渣華道、電氣道及 英皇道調查問卷

你好，我是 AECOM 公司的調查員。我們受土木工程拓展署的委託進行一項關於行人步行習慣的調查。你所提供的資料，會絕對保密。而所收集的資料，只會用作綜合分析。

性別： □男 / □女

調查時間及地點	
1. 調查員寫下陪同人數	兒童人數– 成人人數– 長者/殘疾人士人數– 寵物數量 – 單車數量 –
2. 你是否曾在此次出行期間被採訪？ **本次步行起點**	□ 是（不用繼續調查） □ 不是（往下一問題） 在地圖上找出相應位置的編號，填寫在此欄 **（請注意是步行起點，不是出行起點，如搭港鐵從中環來到北角，則步行起點為港鐵北角站某出口）**
3. 此次出行的終點 **調查員需要將地圖上終點所在位置的編號填寫**	
4. 這些出行/到訪的目的多是? **平均一星期會沿此路線出行多少次?** **(可選多個選擇)** **這些出行的目的多是?**	□休閒散步____ （你將會最遠走到哪裡____(填寫編號)或你曾最遠走到哪裡____(填寫編號)） □ 運動____ □探親訪友____ □ 娛樂（如看電影，旅遊觀光）____ □用餐____ □ 返工____ □ 返學____ □ 前往社區公共設施（如圖書館，社區中心，體育館等）____ □日常消費購物（如車行，五金鋪，街市等）____ □其他:_____
5. 你對此行人路線的評價?	請使用 1-10 評分，1 分表示**非常不滿意**，10 分表示**非常滿意**。 行人路闊度 ____ 行人路線環境 (例如整齊,清潔,衛生,绿化的程度) ____ 道路安全 (例如行人和車輛衝突點) ____ 個人安全 (例如行人路線光線充足,行人路線能見度充足,少暗角) ____
6. 你在哪裡居住？	香港島: □ 鰂魚涌，□ 北角，□ 砲台山， □其他:_____ □ 九龍 □ 新界 □ 其他地區

調查時間及地點	
7. 你在哪裡工作？	香港島: □ 鰂魚涌，□ 北角，□ 砲台山， □其他:_____ □ 九龍 □ 新界 □ 其他地區 □ 不適用
8. 若於現有海旁建設一條優化行人專用區，你是否會考慮將其作為替代路線? (只可由油街，糖水道，書局街，琴行街，電照街，北角汽車渡海輪碼頭遊樂場及海裕街進入）	□ 會 □ 不會 (理由:_____)
9. 若會，每星期會去那條優化行人專用區多少次?	□少於 1 次____ □多過 3 次____ □每日都會去____
10. 若於北角海傍建設單車徑，你會使用單車徑踏單車嗎?	□ 會 □ 不會 (考慮因素:_____)
11. 若會，每星期會去使用單車徑踏單車多少次?	□少於 1 次____ □多過 3 次____ □每日都會去____

鰂魚涌海濱花園 調查問卷

你好，我是 AECOM 公司的調查員。我們受土木工程拓展署的委託進行一項關於海濱花園使用情況的調查。你所提供的資料，會絕對保密。而所收集的資料，只會用作綜合分析。

性別： □男 / □女

調查時間及地點	
1. 調查員寫下陪同人數	兒童人數– 成人人數– 長者/殘疾人士人數– 寵物數量 – 單車數量 –
2. 你是否曾在此次出行期間被採訪？ **本次步行起點**	□ 是（不用繼續調查） □ 不是（往下一問題） 在地圖上找出相應位置的編號，填寫在此欄 **(請注意是步行起點，不是出行起點，如搭港鐵從中環來到北角，則步行起點為港鐵北角站某出口）**
3. 此次出行的終點調查員需要將地圖上終點所在位置的編號填寫	
4. 這些出行/到訪的目的多是? **平均一星期會沿此路線出行多少次?** **(可選多個選擇)**	□休閒散步____ （你將會最遠走到哪裡____(填寫編號)或你曾最遠走到哪裡____(填寫編號)） □ 運動____ □探親訪友____ □ 娛樂（如看電影，旅遊觀光）____ □用餐____ □ 返工____ □返學____ □ 前往社區公共設施（如圖書館，社區中心，體育館等）____ □日常消費購物（如車行，五金鋪，街市等）____ □其他:_____
5. 你在哪裡居住？	香港島: □ 鰂魚涌，□ 北角，□ 砲台山， □其他:_____ □ 九龍 □ 新界 □ 其他地區
6. 你在哪裡工作？	香港島: □ 鰂魚涌，□ 北角，□ 砲台山， □其他:_____ □ 九龍 □ 新界 □ 其他地區 □ 不適用
7. 如果鰂魚涌海濱花園在海傍西延，你會不會使用？	□ 會 □ 不會 (理由:_____)
8. 你認為海濱花園有需要建設單車徑嗎?	□ 有 □ 沒有 (理由:_____)

調查時間及地點	
9. 若於東區海傍建設單車徑，你會使用單車徑踏單車嗎?	□ 會 □ 不會 (考慮因素:_____)
10. 若會，每星期會使用單車徑踏單車多少次?	□少於 1 次____ □多過 3 次____ □每日都會去____
11. 你通常會用以下什麼設施在這個海濱花園? 如會用,會留數分鐘?	□ 座位 - 會留 ___ 分鐘 □ 觀景台-會留 ___ 分鐘 □ 不使用任何上述設施

Annex B

Java Road, Electric Road and King's Road Interviews

Gender of Interviewee

Gender	Count	Percentage
Male	400	56%
Female	312	44%
Total	712	100%

1. Survey Time and Location

Various. Locations A to F.

2. Pedestrian Category

Pedestrian Category	Count	Percentage
Children	52	7%
Adult	625	88%
Elderly / Disabled	35	5%
Pet	43	-
Bicycle	0	-
Total	712	100%

3. Have you been interviewed before during your current trip?

Interviewed before?	Count
Yes	40
No	712

Origin of your trip

Origin Code	Count	Percentage
20	10	1%
21	119	17%
22	268	38%
23	155	22%
24	112	16%
25	19	3%
26	2	0%
27	4	1%
28	2	0%
29	1	0%
31	0	0%
35	1	0%
36	0	0%
228	7	1%
345	12	2%
Total	712	100%

4. Destination of your trip

Destination Code	Count	Percentage
20	18	3%
21	105	15%
22	266	37%
23	161	23%
24	77	11%
25	32	4%
26	3	0%
27	9	1%
28	0	0%
29	1	0%
31	3	0%
35	5	1%
36	0	0%
228	2	0%
345	30	4%
Total	712	100%

5. What's the purpose of your trip?

Purpose	Count	Percentage
As Leisure Walk	173	24%
As Sport	57	8%
To/ From Entertainment	43	6%
To Work	120	17%
To / From Community Facilities	13	2%
Shopping	136	19%
Others	40	6%
Visiting Friends or Relatives	45	6%
To / From Eatery	78	11%
To School	7	1%
Total	712	100%

6. Please evaluate your current route

Rating	Width	Environment	Safety	Security
1	18	8	16	15
2	27	29	26	36
3	48	63	40	25
4	77	70	45	52
5	154	144	138	130
6	108	119	139	124
7	90	99	133	135
8	91	63	81	66
9	9	14	14	16
10	31	28	21	25
no comment	59	75	59	88
Total	712	712	712	712

7. Where do you live?

Area	Count	Percentage
Quarry Bay	55	8%
North Point	391	55%
Fortress Hill	89	13%
Other Hong Kong Island	47	7%
Kowloon	72	10%
New Territories	40	6%
Other Areas	18	3%
Not answered	0	0%
Total	712	100%

8. Where do you work?

Area	Count	Percentage
Quarry Bay	50	7%
North Point	148	21%
Fortress Hill	23	3%
Other Hong Kong Island	78	11%
Kowloon	114	16%
New Territories	20	3%
Other Areas	28	4%
Not Applicable	251	35%
Total	712	100%

9. If a pedestrian only route is constructed on the promenade, will you use it as an alternative route for your trip?

Use Alternative Route on the Promenade?	Count	Percentage
Yes	495	70%
No	217	30%
Total	712	100%

10. If yes, how many times would you use the alternative pedestrian route each week?

How Many Times Each Week?	Count	Percentage
Less than 1	183	37%
More than 3	185	37%
Every day	99	20%
Not sure / Irregular	28	6%
Total	495	100%

11. If a cycle track is constructed along the promenade in North Point, will you use it?

Use Cycle Track on the Promenade?	Count	Percentage
Yes	217	31%
No	435	61%
Don't Know	60	8%
Total	712	712

12. If yes, how many times would you use the cycle tract each week?

How Many Times Each Week?	Count	Percentage
Less than 1	110	51%
More than 3	66	30%
Every day	18	8%
Not sure / Irregular	23	11%
Total	217	100%

Quarry Bay Park Interviews

Gender of Interviewee

Gender	Count	Percentage
Male	195	63%
Female	116	37%
Toal	311	100%

1. Survey Time and Location:

Various. Locations G to I

2. Pedestrian Category

Pedestrian Category	Count	Percentage
Children	36	12%
Adult	224	72%
Elderly / Disabled	51	16%
Pet	48	-
Bicycle	4	-
Total	311	100%

3. Have you been interviewed before during your current trip?

Interviewed before?	Count
Yes	36
No	311

4. Origin of your trip

(Please refer to zonal plan at the end of Annex B)

Origin Code	Count	Percentage
20	0	0%
21	4	1%
22	1	0%
23	0	0%
24	0	0%
25	138	44%
26	84	27%
27	52	17%
28	0	0%
29	22	7%
31	4	1%
35	3	1%
36	1	0%
228	2	1%
345	0	0%
Total	311	100%

5. Destination of your trip

(Please refer to zonal plan at the end of Annex B)

Destination Code	Count	Percentage
20	0	0%
21	2	1%
22	1	0%
23	2	1%
24	2	1%
25	153	49%
26	86	28%
27	48	15%
28	0	0%
29	9	3%
31	4	1%
35	1	0%
36	1	0%
228	2	1%
345	0	0%
Total	311	100%

6. What's the purpose of your trip?

Purpose	Count	Percentage
As Leisure Walk	239	77%
As Sport	59	19%
To/ From Entertainment	6	2%
To Work	5	2%
To / From Community Facilities	1	0%
Shopping	0	0%
Others	0	0%
Visiting Friends or Relatives	0	0%
To / From Eatery	0	0%
To School	0	0%
Total	311	100%

7. Where do you live?

Area	Count	Percentage
Quarry Bay	155	50%
North Point	70	23%
Fortress Hill	1	0%
Other Hong Kong Island	58	19%
Kowloon	11	4%
New Territories	5	2%
Other Areas	10	3%
Not answered	0	0%
Total	311	100%

8. Where do you work?

Area	Count	Percentage
Quarry Bay	27	9%
North Point	35	11%
Fortress Hill	10	3%
Other Hong Kong Island	56	18%
Kowloon	39	13%
New Territories	4	1%
Other Areas	5	2%
Don't Work	135	43%
Total	311	100%

9. If the Quarry Bay Park extends to the West, will you use the extension?

Use Promenade to the West?	Count	Percentage
Yes	293	94%
No	17	6%
Don't Know	1	0%
Toal	311	100%

10. Do you think the construction of a cycle track on the promenade is necessary?

Need Cycle Path?	Count	Percentage
Yes	218	70%
No	90	29%
Don't Know	3	1%
Toal	311	100%

11. If a cycle track is constructed along the promenade in North Point, will you use it?

Use Cycle Track on the Promenade?	Count	Percentage
Yes	196	63%
No	109	35%
Don't Know	6	2%
Total	311	100%

12. If yes, how many times would you use the cycle tract each week?

How Many Times Each Week?	Count	Percentage
Less than 1	98	50%
More than 3	32	16%
Every day	6	3%
Not sure / Irregular	60	31%
Total	196	100%

13. Which facilities do you usually use on this promenade?

Facilities Used	Count	Percentage
Seatings	205	66%
Viewing Platform	11	4%
None of the Above	47	15%
No answer	48	15%
Total	311	100%

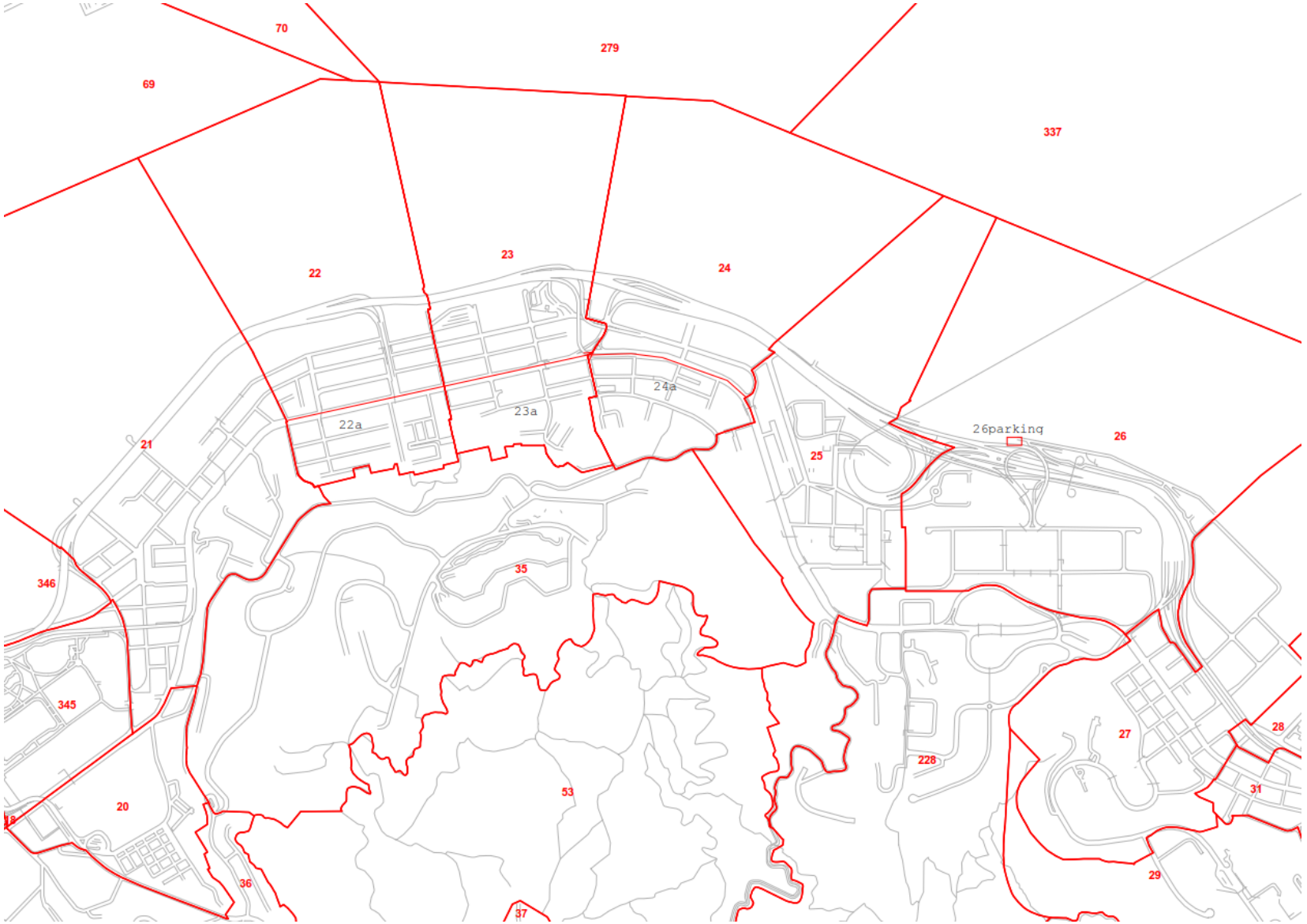

Figure 8.1 Locations of the Pedestrian Counts Survey