

Transportation Demand Assessment

Assessment of trips by mode that will be generated by the proposed Cruise Liner Quay

Based on Table 10 to 13 of M&N Report of Dec 2013 for Lower-Range and Upper-Range vessels

Vessels considered	Lower-range vessel	Guests	312
		Staff	160
	Upper-range vessel	Guests	3,780
		Staff	1,400

LINX 111 will arrive outside of peak hours

For assessment of transport demand for each mode considered the upper and expected estimate has been established in order to determine the busiest possible loading on each mode and the expected average demand. Percentages set out below are therefore not additive. (The busiest loading on Coach transport is likely to be linked to a low estimate for pedestrians)

Table 1 - Modal Splits

	Percentage of total passengers	
	Upper Estimate	Average Estimate
Guests disembarking	90 %	60 %
Quay Side Shuttle	40 %	30 %
Guests on Coach Tours	55 %	35 %
Guests Shuttle to / from Dun Laoghaire	15 %	10 %
Walking to Dun Laoghaire/train	35 %	20 %
Taxi / private car	15 %	10 %

Based on the modal splits set out in Table 1 and on the passenger numbers for the mid-range and upper-range vessels the number of passengers for each mode is set out in Table 2.

Table 2 - Passenger Numbers by Mode per Vessel

Mode	Lower-range Vessel		Upper-range Vessel	
	Upper	Average	Upper	Average
Total disembarking	281	187	3,402	2,268
Quay Side Shuttle	125	94	1,512	1,134
Coach	172	109	2,079	1,323
Shuttle to / from Dun Laoghaire	47	31	567	378
Walking to	109	62	1,323	756
Taxi / Private Car	47	31	567	378

In order to provide facilities to accommodate the highest loading possible the following two scenarios have been assessed and are set out in Table 3A:-

Mid-range and Upper-range vessels simultaneously for both scenarios:

- A: Upper Estimate of each Modal Split
- B: Average Estimate of each Modal Split

Tables 3A and 3B also define the capacity of each mode of transport where applicable.

Table 3A - Design Passenger Numbers by Mode - Two Vessels - Upper Estimate

Mode	Passengers	No/Unit	Demand (Trips)
Total disembarking	3,683	N/A	N/A
Quay Side Shuttle	1,637	20	82
Coach	2,251	45	50
Shuttle to / from Dun Laoghaire	614	10	61
Walking to	1,432	N/A	N/A
Taxi / Private Car	614	4	153

Table 3B - Design Passenger Numbers by Mode - Two Vessels - Average Estimate

Mode	Passengers	No/Unit	Demand (Trips)
Total disembarking	2,455	N/A	N/A
Quay Side Shuttle	1,228	20	61
Coach	1,432	45	32
Shuttle to/from Dun Laoghaire	409	10	41
Walking to	818	N/A	N/A
Taxi / Private Car	409	4	102

The total demand set out in Table 3 will be spread out over the period of the stay of the vessels
 The spread of the demand has been assessed as set out in Table 4A and 4B.
 The spread of demand is expressed as a percentage of the passenger demand for each mode as outlined Table 3
 As there are overlaps in demand from and to the vessels the demand has been split into

- A: Demand from the vessel
- B: Demand back to the vessel

Table 4A - Percentage of Total per Mode Out by Time Revised for increase in half day trips

	Morning		Lunch		Evening		
	08-10	10-12	12-14	14-16	16-18		
Total disembarking	55	10	20	10	5	100	
Quay Side Shuttle	60	5	20	10	5	100	
Coach Tour Out	60	0	40	0	0	100	
Shuttle to Dun Laoghaire	20	25	25	25	5	100	
Walking to	20	25	25	25	5	100	
Taxi / Private Car Depart	25	20	25	25	5	100	

Table 4B - Percentage of Total per Mode Return by Time

	Morning		Lunch		Evening		
	08-10	10-12	12-14	14-16	16-18		
Total embarking	5	10	20	10	55	100	
Quay Side Shuttle	5	10	20	5	60	100	
Coach Tour Return	0	0	35	0	65	100	
Shuttle from Dun Laoghaire	5	10	20	25	40	100	
Walking from Dun Laoghaire	5	10	25	25	35	100	
Taxi / Private Car Return	5	20	20	25	30	100	

Note break down of day and half day trips based on the above scenario is:

	%
Full Day	25
Half day AM	35
Half day PM	<u>40</u>
	100

Table 5 combines the demand as set out in Table 3 with the time of the demand as set out in Table 4
This table sets out the two way demand (in in and out) for each mode.
Table 5A is for the Upper estimate and Table 5B is for the Average Estimate.

Table 5A - Transport Demand by time -Upper Estimate

	Morning		Lunch		Evening		Total
	08-10	10-12	12-14	14-16	16-18		
Total disembarking	2,026	368	737	368	184	3,683	
Total Embarking	184	368	737	368	2,026	3,683	
Quay Side Shuttle From Ship	49	4	16	8	4	82	
Quay Side Shuttle To Ship	4	8	16	4	49	82	
Coach Out	30	-	20	-	-	50	
Coach In	-	-	18	-	33	50	
Shuttle to Dun Laoghaire	12	15	15	15	3	61	
Shuttle from Dun Laoghaire	3	6	12	15	25	61	
Walking to	286	358	358	358	72	1,432	
Walking from Dun Laoghaire	72	143	358	358	501	1,432	
Taxi / Private Car Out	38	31	38	38	8	153	
Taxi / Private Car In	8	31	31	38	46	153	

Table 5B - Transport Demand by time -Average Estimate

	Morning		Lunch		Evening		Total
	08-10	10-12	12-14	14-16	16-18		
Total disembarking	1,350	246	491	246	123	2,455	
Total Embarking	123	246	491	246	1,350	2,455	
Quay Side Shuttle From Ship	37	3	12	6	3	61	
Quay Side Shuttle To Ship	3	6	12	3	37	61	
Coach Out	18	3	6	3	2	32	
Coach In	-	-	11	-	21	32	
Shuttle out	8	10	10	10	2	41	
Shuttle In	2	4	8	10	16	41	
Walking to	164	205	205	205	41	818	
Walking from Dun Laoghaire	41	82	205	205	286	818	
Taxi / Private Car Out	26	20	26	26	5	102	
Taxi / Private Car In	5	20	20	26	31	102	

Note - In addition to the trips identified above, which are required to serve the passengers, there will be trips generated for both shuttles and coaches which will be empty arrivals or departures to and from the passenger area.

Coaches will arrive before 08.00 and await the disembarking passengers

Returning coaches in the evening will depart the site generally after 18.00

Shuttle service is likely to be increased to provide a higher level of service to passengers between the ship and Dun Laoghaire.

Coaches Directional Split	Assumed split	Wicklow	20 %
		Dublin	80 %

Table 6A Upper Estimate	Morning		Lunch		Evening		
Dublin Direction	08-10	10-12	12-14	14-16	16-18	Total	
Coach Out	24	0	16	0	0	40	
Coach In	0	0	14	0	26	40	
Two way	24	0	30	0	26	80	

Table 6B Average Estimate	Morning		Lunch		Evening		
Dublin Direction	08-10	10-12	12-14	14-16	16-18	Total	
Coach Out	14	3	5	3	1	25	
Coach In	0	0	9	0	17	25	
Two way	14	3	14	3	18	51	

Notes:

1. Directional split based on 80 % in the Dublin Direction
 For Wicklow direction use 20 % ie divide by 4

2. There will be coach traffic before 08.00 with coaches arriving on site empty for the morning tours and after 18.00 with coaches departing empty after leaving the guests back to the ship.

3. The above analysis includes for private hire coaches which will be a mixture of large and smaller coaches and may result in the replacement of some large coaches with two minicoaches.