

Outer Dowsing Offshore Wind Preliminary Environmental Information Report

Volume 2, Appendix 27.2: Traffic and Transport Trip Generation

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**OUTER DOWSING OFFSHORE
WIND
PRELIMINARY ENVIRONMENTAL
INFORMATION REPORT**

**VOLUME 2, APPENDIX 27.2:
TRAFFIC AND TRANSPORT
TRIP GENERATION**

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1.0 Introduction

This report has been produced as a technical appendix to support Volume 1, Chapter 27: Traffic and Transport, of the Preliminary Environmental Information Report (PEIR) for Outer Dowsing Offshore Wind (ODOW) (“the Project”).

The report sets out the trip generation and distribution (parameters and results) associated with the Maximum Design Scenario (MDS) used for the assessment of the likely significant effects associated with the onshore elements of the Project on traffic and transport.

The MDS sets out the maximum design parameters of the combined project assets that result in the greatest potential for change in relation to each impact assessed.

2.0 Source of Data

The project design consultant has derived the trip generation forecasts for the construction phase of the Project across a 24 month construction programme, which is a worst-case scenario for daily vehicle movements, given the anticipated construction programme up to 36 months, based on the forecast construction traffic and routeing associated with the two potential Onshore ECC, which are as follows:

1. Wolla Bank to Weston Marsh (with two alignment options to the south and north of the A52; or
2. Wolla Bank to Lincolnshire Node.

The Onshore ECC includes some optionality in routeing and crossing technology; however, this optionality does not alter trip generation forecasts or vehicle routeing. The trip generation forecasts do not differ for the two onshore Substation (OnSS) options for the Weston Marsh Onshore ECC option.

The Project traffic numbers informing PEIR have been derived at an early stage of the Project development, using professional judgement, experience of other offshore wind farm projects of a similar scale and best practice. The traffic numbers will be refined for the selected onshore route option taken forward for the DCO application, which will be presented and analysed in the Environmental Statement (ES).

The data is provided in **Annex 01** (Weston Marsh south of the A52), **Annex 02** (Weston Marsh north of the A52) and **Annex 03** (Lincolnshire Node) and includes a breakdown of the anticipated daily number of two-way (arrivals and departures), employee and Heavy Goods Vehicle (HGV) movements per month, for the segments that comprise the Onshore ECC and OnSS for each option, as set out in **Table 2-1**, **Table 2-2** and **Table 2-3**.

Table 2-1: Onshore ECC segments - Weston Marsh south of the A52 Onshore ECC option

Segment	Starts	Ends
WM1	Landfall	A52 West of Hogsthorpe
WM2	A52 West of Hogsthorpe	Marsh Lane
WM3	Marsh Lane	A158
WM4	A158	Low Road
WM5	Low Road	Steeping River
WM6	Steeping River	Ivy House/Marsh Yard
WM7	Ivy House /Marsh Yard	Staples Farm
WM8	Staples Farm	Crowhall Lane, Bennington
WM9	Crowhall Lane, Bennington	Church End Lane
WM10	Church End Lane	The Haven
WM11	The Haven	Marsh Road
WM12	Marsh Road	Fosdyke Bridge
WM13	Fosdyke Bridge	OnSS (north)
WM14	Fosdyke Bridge	OnSS (south)

Table 2-2: Alternative Onshore ECC segments - Weston Marsh north of the A52 Onshore ECC option

Segment	Starts	Ends
A1	Low Road	Steeping River
A2	Steeping River	Fodder Dike Bank/Fen Bank
A3	Fodder Dike Bank/Fen Bank	Broadgate
A4	Broadgate	Ings Drove
A5	Ings Drove	Church End Lane

Table 2-3: Onshore ECC segments - Lincolnshire Node option

Segment	Starts	Ends
LN1	Landfall	A52 – Mumby
LN2	A52 - Mumby	OnSS (Lincolnshire Node)

3.0 Maximum Design Scenario (MDS)

3.1 Approach

The approach taken to derive the Maximum Design Scenario (MDS) is to establish the peak forecast vehicle movements to and from each Onshore ECC segment/OnSS. Whilst the anticipated construction programme is up to 36 months, the derived construction vehicle numbers have been assessed over a 24-month period and are based on HGVs and workforce vehicle movements independently, both of which would result in a robust assessment of vehicular impact on the Local Road Network (LRN).

3.1.1 Weston Marsh south of the A52 Onshore ECC option

HGVs

Table 3-1 below sets out a summary of the maximum two-way HGV daily trip generation for each of the Weston Marsh Onshore ECC south of the A52 segments/OnSS and the corresponding month. It also shows the difference between the peak HGVs for each segment and the number of HGVs in the month for the greatest number of vehicle movements in total (HGV and construction workforce vehicles) across all Onshore ECC segments.

Table 3-1: Maximum HGV trip generation - Weston Marsh south of the A52 Onshore ECC option

Onshore segment	ECC	Maximum daily HGVs (2-way)	Month	Peak month 21 (overall) Maximum daily HGVs (2-way)	Difference
WM1		74	18	51	-23
WM2		74	18	51	-23
WM3		72	19	53	-20
WM4/WM5		93	19	68	-25
WM6		103	20	83	-20
WM7		155	20	124	-30
WM8		144	21	127	-17
WM9		62	21	55	-7
WM10		66	22	55	-11
WM11		93	22	78	-15
WM12		93	23	77	-16
WM13 or WM14		62	23	51	-10
OnSS		94	All	94	0
Total		1,185	n/a	966	-219

As **Table 3-1** shows, the assessment based on the maximum HGVs to each Onshore ECC segment is 219 two-way HGV movements greater than the total based on the peak month overall and therefore a very robust assessment.

Workforce

The same exercise has been undertaken for the anticipated construction workforce, as set out in **Table 3-2**.

Table 3-2: Maximum workforce trip generation - Weston Marsh south of the A52 Onshore ECC option

Onshore segment	ECC	Maximum daily workers (2-way)	Month	Peak Month 10 (overall) Maximum daily workers (2-way)	Difference
WM1		41	7	41	0
WM2		41	7	41	0
WM3		32	7 or 9	32	0
WM4/WM5		41	8 or 10	40	-1
WM6		46	9 or 11	46	0
WM7		69	9 or 11	69	-1
WM8		65	12	62	-2
WM9		28	12	27	-1
WM10		30	13	26	-3
WM11		41	11 or 13	37	-5
WM12		41	12 or 14	28	-14
WM13 or WM14		28	14	19	-9
OnSS		30	All	30	0
Total		534	n/a	499	-35

As **Table 3-2** shows, the assessment based on the maximum number of construction workers to each Onshore ECC segment is 35 two-way worker movements greater than the total based on the peak month overall and therefore a robust assessment.

Summary

Given the above, the assessment of construction traffic for the Weston Marsh Onshore ECC option south of the A52 has been undertaken based on a set of robust forecasts.

3.1.2 Weston Marsh north of the A52 Onshore ECC option

HGVs

Table 3-3 below sets out a summary of the maximum two-way HGV daily trip generation for each of the Weston Marsh Onshore ECC north of the A52 segments/OnSS and the corresponding month. It also shows the difference between the peak HGVs for each segment and the number of HGVs in the month for the greatest number of vehicle movements in total (HGV and construction workforce vehicles) across all segments.

Table 3-3: Maximum HGV trip generation - Weston Marsh north of the A52 Onshore ECC option

Onshore segment	ECC	Maximum daily HGVs (2-way)	Month	Peak Month 21 (overall) Maximum daily HGVs (2-way)	Difference
WM1		74	18	51	-23
WM2		74	18	51	-23
WM3		72	19	53	-20
WM4/A1		155	19	113	-42
A2		62	20	50	-12
A3		113	20	91	-22
A4		113	21	100	-13
A5		144	21	127	-17
WM10		66	22	55	-11
WM11		93	22	78	-15
WM12		93	23	77	-16
WM13 or WM14		62	23	51	-10
OnSS		94	All	94	0
Total		1,216	n/a	991	-225

As **Table 3-3** shows, the assessment based on the maximum HGVs to each Onshore ECC segment is 225 two-way HGV movements greater than the total based on the peak month overall and therefore a very robust assessment.

Workforce

The same exercise has been undertaken for the anticipated construction workforce, as set out in **Table 3-4**.

Table 3-4: Maximum workforce trip generation - Weston Marsh north of the A52 Onshore ECC option

Onshore segment	ECC	Maximum daily workforce vehicles (2-way)	Month	Peak month 10 (overall) Maximum daily workforce vehicles (2-way)	Difference
WM1		41	7 or 9	41	0
WM2		41	7 or 9	41	0
WM3		32	7 or 9	32	0
WM4/A1		69	8 or 10	67	-2
A2		28	11	27	0
A3		51	11	50	0
A4		51	12	49	-2

Onshore segment	ECC	Maximum daily workforce vehicles (2-way)	Month	Peak month 10 (overall) Maximum daily workforce vehicles (2-way)	Difference
A5		65	12	62	-2
WM10		30	13	26	-3
WM11		41	11 or 13	37	-5
WM12		41	12 or 14	28	-14
WM13 or WM14		28	14	19	-9
OnSS		30	All	30	0
Total		548	n/a	511	-37

As **Table 3-4** shows, the assessment based on the maximum number of construction workers to each Onshore ECC segment is 37 two-way worker movements greater than the total based on the peak month overall and therefore a robust assessment.

Summary

Given the above, the assessment of construction traffic for the Weston Marsh north of the A52 Onshore ECC option has been undertaken based on a set of robust forecasts.

3.1.3 Lincolnshire Node Onshore ECC option

HGVs

Table 3-5 below sets out a summary of the maximum two-way HGV daily trip generation for each of the Lincolnshire Node Onshore ECC segments/OnSS and the corresponding month. It also shows the difference between the peak HGVs for each segment and the number of HGVs in the month for the greatest number of vehicle movements in total (HGV and construction workforce vehicles) across all segments.

Table 3-5: Maximum HGV trip generation – Lincolnshire Node Onshore ECC option

Onshore ECC segment	Maximum daily HGVs (2-way)	Month	Peak Month 6 (overall) Maximum daily HGVs (2-way)	Difference
LN1	89	18	83	-6
LN2	62	18	58	-4
OnSS	94	All	94	0
Total	245	n/a	235	-10

As **Table 3-5** shows, the assessment based on the maximum HGVs to each Onshore ECC segment is 10 two-way HGV movements greater than the total based on the peak month overall and therefore a robust assessment.

Workforce

The same exercise has been undertaken for the anticipated construction workforce, as set out in Table 3-6.

Table 3-6: Maximum workforce trip generation - Lincolnshire Node Onshore ECC option

Onshore ECC Segment	Maximum daily workers (2-way)	Month	Peak Month 6 (overall) Maximum daily workers (2-way)	Difference
LN1	40	9	38	-1
LN2	28	19 - 24	27	-2
OnSS	30	All	30	0
Total	98	n/a	95	-3

As **Table 3-6** shows, the assessment based on the maximum number of construction workers to each Onshore ECC segment is three two-way worker movements greater than the total based on the peak month overall and therefore a robust assessment.

Summary

Given the above, the assessment of construction traffic for the Project (Lincolnshire Node Onshore ECC option) has been undertaken based on a set of robust forecasts.

3.2 Trip generation parameters

3.2.1 Trip generation parameters

In order to undertake an assessment of the likely significant effects of the MDS identified for the construction phase of the Project, a number of trip generation parameters have been identified, which have been discussed with Expert Topic Group (ETG) members as part of the Evidence Plan process. The assumptions have been informed by the evolving project design parameters and are considered suitable in order to provide a robust but reasonable forecast of the likely traffic effects of the Project during construction.

The key trip generation parameters are:

- Core working hours – 07:00 to 19:00, which doesn't take into account some 24 hour working that may be required for trenchless technique crossing works;
- The construction workforce arrive and depart in cars or light goods vehicles (LGVs);
- Construction workforce arrival and departures:
 - 80% arriving before 07:00 and leaving after 18:00 (April to October), or before 16:00 (November to March), based on approximate daylight hours; and
 - 20% arriving between 07:00 and 09:00 and leaving between 16:00 and 18:00 (the peak hour periods identified on the highway network, which varies across the study area; predominantly 08:00 to 09:00 and 16:00 to 17:00).
- Core HGV deliveries - 07:00 to 19:00;
- The two-way HGV movements assumes a vehicle arriving at a construction access and Temporary Construction Compound (TCC), uploading and departing at the same access;

- With the exception of the haul roads that may be used to provide off-road routes for construction traffic between segments of the highway network, the HGV movements along each of the haul roads is not known and is not specifically assessed as part of Volume 3, Chapter 9. The construction traffic data that has been provided to inform Volume 3, Chapter 3.10: Noise and Vibration (for the assessment of noise receptors along the haul roads) it has assumed that all HGVs arriving at an access to the Onshore ECC would also use the haul roads;
- Car occupancy – two construction workers per car, which is considered a conservative estimate, given core working hours will be the same for the majority of workers, who may frequent the same local accommodation and wish to share travel costs; and
- The two-way employee movements assumes a vehicle arriving at a construction access and/or TCC in the morning and leaving in the evening, as per the assumptions above.

3.2.2 Daily trip generation – Weston Marsh south of the A52 Onshore ECC option

The maximum daily trip generation for HGVs and construction worker vehicle movements associated with the Weston Marsh south of the A52 Onshore ECC option, based on **Table 3-1** and **Table 3-2** is summarised in **Table 3-7**, which also shows the minimum and average (across the assumed 24 month construction programme) vehicle movements as a comparison.

Table 3-7: Daily trip generation summary- Weston Marsh south of the A52 Onshore ECC option

Onshore segment	ECC	Total vehicles			HGVs			Workers (cars/LGVs)		
		Min	Max	Average	Min	Max	Average	Min	Max	Average
WM1		42	116	84	27	74	54	16	41	30
WM2		42	116	84	27	74	54	16	41	30
WM3		38	104	75	26	72	52	12	32	23
WM4/WM5		49	134	97	33	93	67	16	41	30
WM6		54	149	107	37	103	75	17	46	33
WM7		81	224	161	55	155	112	26	69	49
WM8		76	209	150	52	144	104	24	65	46
WM9		33	90	64	22	62	45	10	28	20
WM10		35	96	69	24	66	48	11	30	21
WM11		49	134	97	33	93	67	16	41	30
WM12		49	134	97	33	93	67	16	41	30
WM13 or WM14		33	90	64	22	62	45	10	28	20
OnSS		124	124	124	94	94	94	30	30	30

3.2.3 Daily trip generation – Weston Marsh north of the A52 Onshore ECC option

The maximum daily trip generation for HGVs and construction worker vehicle movements associated with the Weston Marsh (north of the A52), Onshore ECC option based on **Table 3-3** and **Table 3-4** is summarised in **Table 3-7**, which also shows the minimum and average (across the assumed 24 month construction programme) vehicle movements as a comparison.

Table 3-8: Daily trip generation summary - Weston Marsh north of the A52 Onshore ECC option

Onshore segment	ECC	Total vehicles			HGVs			Workers (cars/LGVs)		
		Min	Max	Average	Min	Max	Average	Min	Max	Average
WM1		42	116	84	27	74	54	16	41	30
WM2		42	116	84	27	74	54	16	41	30
WM3		38	104	75	26	72	52	12	32	23
WM4/A1		81	224	161	55	155	112	26	69	49
A2		33	90	64	22	62	45	10	28	20
A3		60	164	118	41	113	82	19	51	36
A4		60	164	118	41	113	82	19	51	36
A5		76	209	150	52	144	104	24	65	46
WM10		35	96	69	24	66	48	11	30	21
WM11		49	134	97	33	93	67	16	41	30
WM12		49	134	97	33	93	67	16	41	30
WM13 or WM14		33	90	64	22	62	45	10	28	20
OnSS		124	124	124	94	94	94	30	30	30

3.2.4 Daily trip generation – Lincolnshire Node Onshore ECC option

The maximum daily trip generation for HGVs and construction worker vehicle movements associated with the Lincolnshire Node Onshore ECC option, based on **Table 3-5** and **Table 3-6** is summarised in **Table 3-9**, which also shows the minimum and average (across the 24-month construction programme) vehicle movements as a comparison.

Table 3-9: Daily trip generation summary - Lincolnshire Node Onshore ECC option

Onshore ECC segment	Total vehicles			HGVs			Workers (cars/LGVs)		
	Min	Max	Average	Min	Max	Average	Min	Max	Average
LN1	47	128	92	32	89	64	15	40	28
LN2	33	90	67	22	62	45	10	28	22
OnSS	124	124	124	94	94	94	30	30	30

3.2.5 Peak hour trip generation - Weston Marsh south of the A52 Onshore ECC option

The forecast vehicular traffic associated with the Weston Marsh south of the A52, Onshore ECC option

during the morning and evening peak hours on the highway network is summarised in **Table 3-10** based on the assumptions set out in **Section 3.2.1**.

Table 3-10: Peak hour trip generation summary (AM or PM peak)

Onshore segment	ECC	Total vehicles	HGVs	Workers (cars/LGVs)
WM1		23	15	8
WM2		23	15	8
WM3		20	14	6
WM4/WM5		27	19	8
WM6		30	21	9
WM7		45	31	14
WM8		42	29	13
WM9		18	12	6
WM10		19	13	6
WM11		27	19	8
WM12		27	19	8
WM13 or WM14		18	12	6
OnSS		25	19	6

3.2.6 Peak hour trip generation - Weston Marsh north of the A52 Onshore ECC option

The forecast vehicular traffic associated with the Weston Marsh north of the A52 Onshore ECC option, during the morning and evening peak hours on the highway network is summarised in **Table 3-11** based on the assumptions set out in **Section 3.2.1**.

Table 3-11: Peak hour trip generation summary (AM or PM peak)

Onshore segment	ECC	Total vehicles	HGVs	Workers (cars/LGVs)
WM1		23	15	8
WM2		23	15	8
WM3		20	14	6
WM4/A1		45	31	14
A2		18	12	6
A3		33	23	10
A4		33	23	10
A5		42	29	13
WM10		19	13	6
WM11		27	19	8
WM12		27	19	8
WM13 or WM14		18	12	6
OnSS		25	19	6

3.2.7 Peak hour trip generation – Lincolnshire Node Onshore ECC option

The forecast vehicular traffic associated with the Lincolnshire Node Onshore ECC option, during the morning and evening peak hours on the highway network is summarised in **Table 3-12** based on the assumptions set out in

Section 3.2.1.

Table 3-12: Peak hour trip generation summary (AM or PM peak)

Onshore Segment	ECC	Total vehicles	HGVs	Workers (cars/LGVs)
LN1		26	18	8
LN2		18	12	6
OnSS		25	19	6

3.2.8 Traffic distribution parameters

Construction workforce

A simple population/distance (squared) gravity model has been prepared (see **Annex 04**) based on settlements within a one-hour (approximate) journey time from the centre of the study area to distribute the likely vehicle movements from the construction workforce, noting that this will be highly dependent on the availability of accommodation at the time of the construction period.

For the purposes of the assessment, HGVs and construction employee vehicles will use the same routes to ensure a robust assessment along these highway links. However, in reality, depending on the proportion of local employees and the availability of local accommodation for workers who do not live in the local area, the distribution of construction worker vehicles is likely to be spread across the wider network, reducing the level of likely impact across the LRN.

HGV

In terms of the traffic distribution parameters, all HGV traffic associated with the construction phase of the Project is assumed to use the routes identified in Volume 6, Annex 8.1 (**Table 2-12** for the Weston Marsh Onshore ECC option south of the A52, **Table 2-13** for the Weston Marsh north of the A52 Onshore ECC option and **Table 2-14** for the Lincolnshire Node Onshore ECC option), with the exception of Abnormal Indivisible Loads (AILs), which would follow the route(s) confirmed with the AIL route assessment, which will be undertaken for the DCO application once the preferred Onshore ECC and OnSS is selected.

The HGV traffic assignment assumptions for each Onshore ECC option (see **Annex 05**) are summarised in **Table 3-13**, **Table 3-14** and **Table 3-15**.

Construction workforce

A simple population/ distance (squared) gravity model has been prepared (see **Annex 02**) based on settlements within an one hour (approximate) journey time from the centre of the study area to distribute the likely vehicle movements from the construction workforce, noting that this will be highly dependent on the availability of accommodation at the time of the construction period.

For the purposes of the assessment, HGVs and construction employee vehicles will use the same routes to ensure a robust assessment along these highway links. However, in reality, depending on the proportion of local employees and the availability of local accommodation for workers who do not live in the local area, the distribution of construction worker vehicles is likely to be spread across the wider network, reducing the level of likely impact across the LRN.

3.2.9 Assessment scenarios

Two assessment scenarios have been considered to take account of the maximum likely impact on all highway links in the study area, for the Weston Marsh ECC option (both alignments).

The assessment scenarios are:

- Scenario 1: Maximum impact in Skegness; and
- Scenario 2: Use of haul road between the A158 and A52 to avoid Skegness.

There is only one scenario for the assignment of construction traffic for the Lincolnshire Node ECC option.

The traffic assignment assumptions are set out in **Table 3-13** to **Table 3-15**.

Table 3-13: Trip distribution scenarios - Weston Marsh south of the A52 Onshore ECC option

Construction access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
A	A158/A16/A1104 (Alford)/A1449	n/a	50	50
	A16/A1104 (Alford)/A1449	n/a	50	50
B	A158 /Gunby Road/Marsh Lane/	South Ings Lane/Sloothby High Lane	50	50
	A16/A1028/A158/Gunby Road/Marsh Lane/	South Ings Lane/Sloothby High Lane	50	50
C	A158/Gunby Road/Marsh Lane/	South Ings Lane	50	50
	A16/A1028/A158/Gunby Road/Marsh Lane/	South Ings Lane	50	50
D	A158/Gunby Road/Marsh Lane	n/a	50	50
	A16/A1028/A158/Gunby Road/Marsh Lane	n/a	50	50
E	A158	n/a	50	50
	A16/A1028/A158	n/a	50	50
F	A158/Lincoln Road (via Skegness)/A52	n/a	50	0
	A16/A1028/A158/Lincoln Road (via Skegness)/A52	n/a	50	0
	A158/Haul Road/A52	n/a	0	50
	A16/A1028/A158/Haul Road/A52	n/a	0	50
J	A158/Lincoln Road (via Skegness)/A52	n/a	50	0

Construction access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
	A16/A1028/A158/Lincoln Road (via Skegness)/A52	n/a	50	0
	A158/Haul Road/A52	n/a	0	50
	A16/A1028/A158/Haul Road/A52	n/a	0	50
	A17/A1121/A16 (via Boston)/A52	n/a	50	50
K	A17/A1121/A6 (via Boston)/A52	n/a	30	30
	A158/A16/A52 (avoiding Boston)	n/a	35	35
	A16/A52 (avoiding Boston)	n/a	35	35
L, M and G	A17/A1121/A16 (via Boston)/A52	L – Church End Road M - Church End Road/Haul Road/Cut End Road G - Church End Road/Haul Road/Cut End Road/Pinfold Lane	30	30
	A158/A16/A52 (avoiding Boston)	L – Church End Road M - Church End Road/Haul Road/Cut End Road G - Church End Road/Haul Road/Cut End Road/Pinfold Lane	35	35
	A16/A152 (avoiding Boston)	L – Church End Road M - Church End Road/Haul Road/Cut End Road	35	35

Construction access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
N and O	A16	N - Millfield Road East/Low Road/Streetway/Wyberton Roads O - Station Road/Skeldyke Road/Nidd's Lane/Marsh Road	25	25
	A17 North/A16	N - Millfield Road East/Low Road/Streetway/Wyberton Roads O - Station Road/Skeldyke Road/Nidd's Lane/Marsh Road	50	50
	A17 South/A16	N - Millfield Road East/Low Road/Streetway/Wyberton Roads O - Station Road/Skeldyke Road/Nidd's Lane/Marsh Road	25	25
P and Q	A17 North	P - Wash Road/Craven's Lane Q - Wash Road/Middlemarsh Road	50	50
	A17 South	P - Wash Road/Craven's Lane Q - Wash Road/Middlemarsh Road	25	25
	A16 /A17	P - Wash Road/Craven's Lane Q - Wash Road/Middlemarsh Road	25	25
R	A17 North	n/a	50	50
	A17 South	n/a	25	25
	A16/A17	n/a	25	25
S	A17 North	Surfleet Bank	50	50

Construction access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
	A17 South	Surfleet Bank	25	25
	A16/A17	n/a	25	25
T	A16	n/a	25	25
	A17 North/A16	n/a	50	50
	A17 South/A16	n/a	25	25

Table 3-14: Trip distribution scenarios - Weston Marsh north of the A52 Onshore ECC option

Construction Access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
A	A158/A16/A1104 (Alford)/A1449	n/a	50	50
	A16/A1104 (Alford)/A1449	n/a	50	50
B	A158	Gunby Road/Marsh Lane/South Ings Lane/Sloothby High Lane	50	50
	A16/A1028/A158	Gunby Road/Marsh Lane/South Ings Lane/Sloothby High Lane	50	50
C	A158	Gunby Road/Marsh Lane/South Ings Lane	50	50

Construction Access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
	A16/A1028/A158	Gunby Road/Marsh Lane/South Ings Lane	50	50
D	A158/	Gunby Road/Marsh Lane	50	50
	A16/A1028/A158/	Gunby Road/Marsh Lane	50	50
E	A158	n/a	50	50
	A16/A1028/A158	n/a	50	50
F and U	A158/Lincoln Road (via Skegness)/A52	n/a	50	0
	A16/A1028/A158/Lincoln Road (via Skegness)/A52	n/a	50	0
	A158/Haul Road/A52	n/a	0	50
	A16/A1028/A158/Haul Road/A52	n/a	0	50
V	A158/Gunby Road/B1995	n/a	100	100
	A16/A1028/A158/Gunby Road/B1995	n/a	100	100
W - Z, AA and AF	A158/Lincoln Road (via Skegness)/A52	W - Boston Road/Mill Lane/Collision Gate/Crow's Lane/Brewster Lane X - Boston Road/Mill Lane Y - Boston Road/Low Lane/Church Lane Z - Boston Road/Low Lane/Scald Lane	50	0

Construction Access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
		AA - Low Road/Yawning Gate Road/Howgarth Lane AF - Boston Road/Mill Lane/Collision Gate		
	A16/A1028/A158/Lincoln Road (via Skegness)/A52	W - Boston Road/Mill Lane/Collision Gate/Crow's Lane/Brewster Lane X - Boston Road/Mill Lane Y - Boston Road/Low Lane/Church Lane Z - Boston Road/Low Lane/Scald Lane AA - Low Road/Yawning Gate Road/Howgarth Lane AF - Boston Road/Mill Lane/Collision Gate	50	0
	A158/Haul Road/A52	W - Boston Road/Mill Lane/Collision Gate/Crow's Lane/Brewster Lane X - Boston Road/Mill Lane Y - Boston Road/Low Lane/Church Lane Z - Boston Road/Low Lane/Scald Lane	0	50

Construction Access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
		AA - Low Road/Yawning Gate Road/Howgarth Lane AF - Boston Road/Mill Lane/Collision Gate		
	A16/A1028/A158/Haul Road/A52	W - Boston Road/Mill Lane/Collision Gate/Crow's Lane/Brewster Lane X - Boston Road/Mill Lane Y - Boston Road/Low Lane/Church Lane Z - Boston Road/Low Lane/Scald Lane AA - Low Road/Yawning Gate Road/Howgarth Lane AF - Boston Road/Mill Lane/Collision Gate	0	50
AB – AE	A17/A1121/A6 (via Boston)/A52/Broadgate or A158/A16/A52 (avoiding Boston)	AB – Broadgate AC – Common Road	30	30
	A158/A16/A52 (avoiding Boston)	AD - West End Lane/Lowfields Road/Ings Road AE – n/a	70	70
L, M and G	A17/A1121/A16 (via Boston)/A52	L – Church End Road	30	30

Construction Access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
		M - Church End Road/Haul Road/Cut End Road		
		G - Church End Road/Haul Road/Cut End Road/Pinfold Lane		
	A158/A16/A52 (avoiding Boston)	L – Church End Road	35	35
		M - Church End Road/Haul Road/Cut End Road		
		G - Church End Road/Haul Road/Cut End Road/Pinfold Lane		
	A16/A152 (avoiding Boston)	L – Church End Road	35	35
		M - Church End Road/Haul Road/Cut End Road		
		G - Church End Road/Haul Road/Cut End Road/Pinfold Lane		
N	A16	N - Millfield Road East/Low Road/Streetway/Wyberton Roads	25	25
		O - Station Road/Skeldyke Road/Nidd’s Lane/Marsh Road		
	A17 North/A16	N - Millfield Road East/Low Road/Streetway/Wyberton Roads	50	50
		O - Station Road/Skeldyke Road/Nidd’s Lane/Marsh Road		
	A17 South/A16	N - Millfield Road East/Low Road/Streetway/Wyberton Roads	25	25
		O - Station Road/Skeldyke Road/Nidd’s Lane/Marsh Road		
P	A17 North	P - Wash Road/Craven’s Lane	50	50

Construction Access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
		Q - Wash Road/Middlemarsh Road		
	A17 South	P - Wash Road/Craven's Lane Q - Wash Road/Middlemarsh Road	25	25
	A16 /A17	P - Wash Road/Craven's Lane	25	25
		Q - Wash Road/Middlemarsh Road		
R	A17 North	n/a	50	50
	A17 South	n/a	25	25
	A16/A17	n/a	25	25
S	A17 North	Surfleet Bank	50	50
	A17 South	Surfleet Bank	25	25
	A16/A17	n/a	25	25
T	A16	n/a	25	25
	A17 North/A16	n/a	50	50
	A17 South/A16	n/a	25	25

Table 3-15: Trip distribution scenarios – Lincolnshire Node Onshore ECC option

Construction Access	Core construction vehicle route	Local construction vehicle route	Scenario distribution (%)	
			1	2
A and B	A158/A16/A1104 (Alford)/A1449	n/a	50	50
	A16/A1104 (Alford)/A1449	n/a	50	50

3.2.10 Assessment scenarios

Two assessment scenarios have been considered to take account of the maximum likely impact on all highway links in the study area, for the Weston Marsh south of the A52 Onshore ECC option.

The assessment scenarios are:

- Scenario 1: Maximum impact in Skegness; and
- Scenario 2: Use of the haul road between the A158 and A52 for HGV through movements.

There is only one scenario for the assignment of construction traffic for the Lincolnshire Mode Onshore ECC option.

3.2.11 Daily trip generation per highway link

Weston Marsh south of the A52 Onshore ECC option

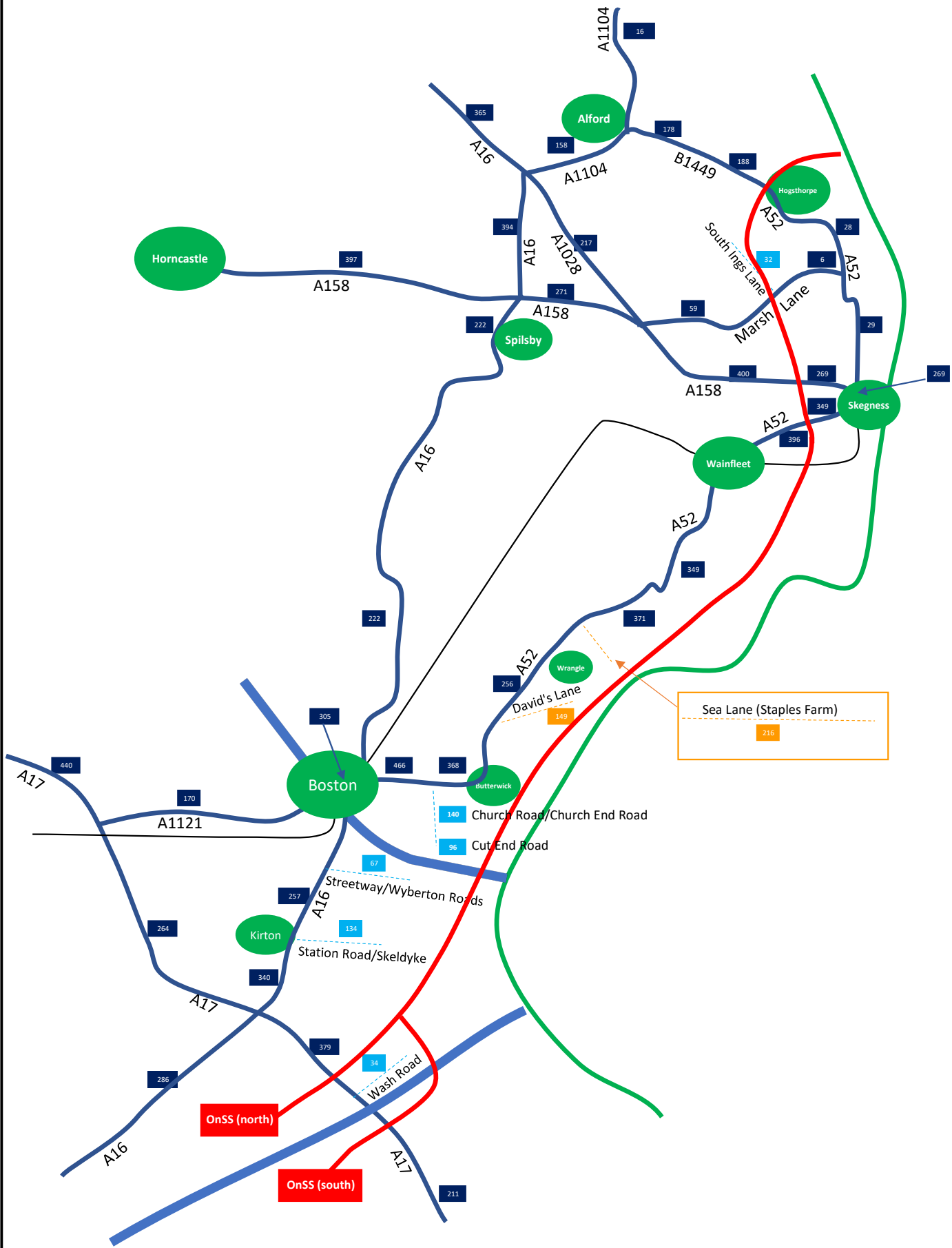
The two-way daily vehicular trip generation (total, LGV and HGV) on each highway link for Weston Marsh south of the A52 Onshore ECC option Scenario 1 (vehicle movements via Skegness) is shown in Table 3-16 and in **Figure 3-1** (Total vehicles), **Figure 3-2** (HGVs) and **Figure 3-3** (workforce).

Table 3-16: Maximum two-way daily vehicle movements - Weston Marsh south of the A52 Onshore ECC option - Scenario 1

Location reference	Highway link	Maximum two-way ¹		
		Total	HGV	Car/LGV
8	Sea Lane (Staples Farm)	216	150	67
9	David's Lane	149	103	46
14	Church End Road/Church Road	140	97	43
15	Cut End Road	96	66	30
16	Wyberton Roads	67	46	21
17	Skeldyke Road/Station Road	134	93	41
18	Wash Road	34	23	10
23	B1449 Thurlby Road	178	111	67
24	B1449 Long Lane	188	111	77
25	A1104 (Alford)	158	111	47
26	A52 (south of Hogsthorpe)	28	0	28
27	A52 (south of Marsh Lane)	29	0	29
28	South Ings Lane	32	14	18
29	Marsh Lane (between the Onshore ECC and the A52)	6	0	6
30	Marsh Lane (between the Onshore ECC and the A158)	58	27	31
31	A158 Skegness Road (east of the Onshore ECC)	269	255	14
32	A158 Skegness Road (west of the Onshore ECC)	400	338	62

¹ The figures in this table have been altered to take account of errors associated with rounding and therefore some total vehicle movements shown in Figure 3-1 may differ slightly.

Location reference	Highway link	Maximum two-way ¹		
		Total	HGV	Car/LGV
33	A52 (east of Croft)	349	255	94
34	A52 (Wainfleet)	396	255	141
35	A52 (Holland Lane)	349	204	145
36	A52 (Wrangle)	372	204	168
37	A52 (Butterwick)	257	75	182
38	A52 Wainfleet Road (Haltoft End)	368	178	190
39	A52 Wainfleet Road (Haltoft End)	466	275	191
60	A16 (south of Boston)	257	46	211
61	A16 (south of Boston)	340	139	201
62	A17 (south of River Welland)	210	124	86
63	A17 (north of River Welland)	378	256	122
64	A17 (north of the A16)	264	248	16
65	A17 (west of the A1221)	440	383	57
66	A16 (south of the A17)	287	195	92
67	A1121	170	135	35
68	A16 (south of the A155)	222	140	82
69	A16 (north of the A155)	222	140	82
70	A16 (between the A158 and the A1028)	394	322	72
71	A16 (north of the A1028)	365	322	43
72	A1028	217	196	21
73	A158 (between the A1028 and the A16)	272	234	38
74	A158 (west of the A16)	397	359	38
75	A1104 (north of the B1449)	16	0	16
76	A16 (Boston)	306	135	171
80	Lincoln Road, Skegness	269	255	14

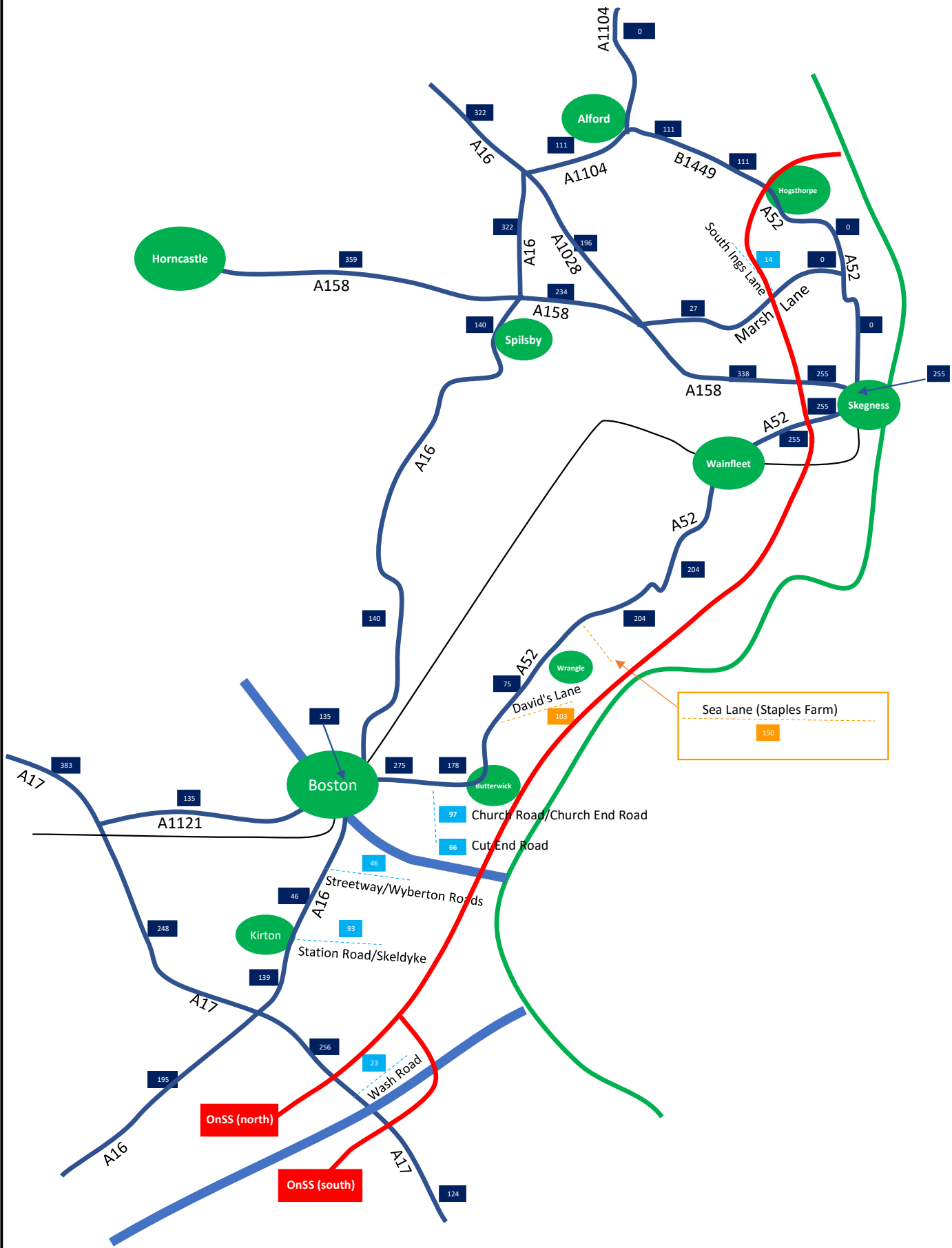


KEY

- XX Core Construction Vehicle Route (all Onshore ECC route options)
- XX Local Construction Vehicle Route - Weston Marsh Onshore ECC route option (both alignments)
- XX Local Construction Vehicle Routes - Weston Marsh (south of the A52) Onshore ECC route option only

Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Figure 3-1: Weston Marsh (South of the A52) Onshore ECC Route Option Maximum ODOW Daily Hour Vehicles (Total)

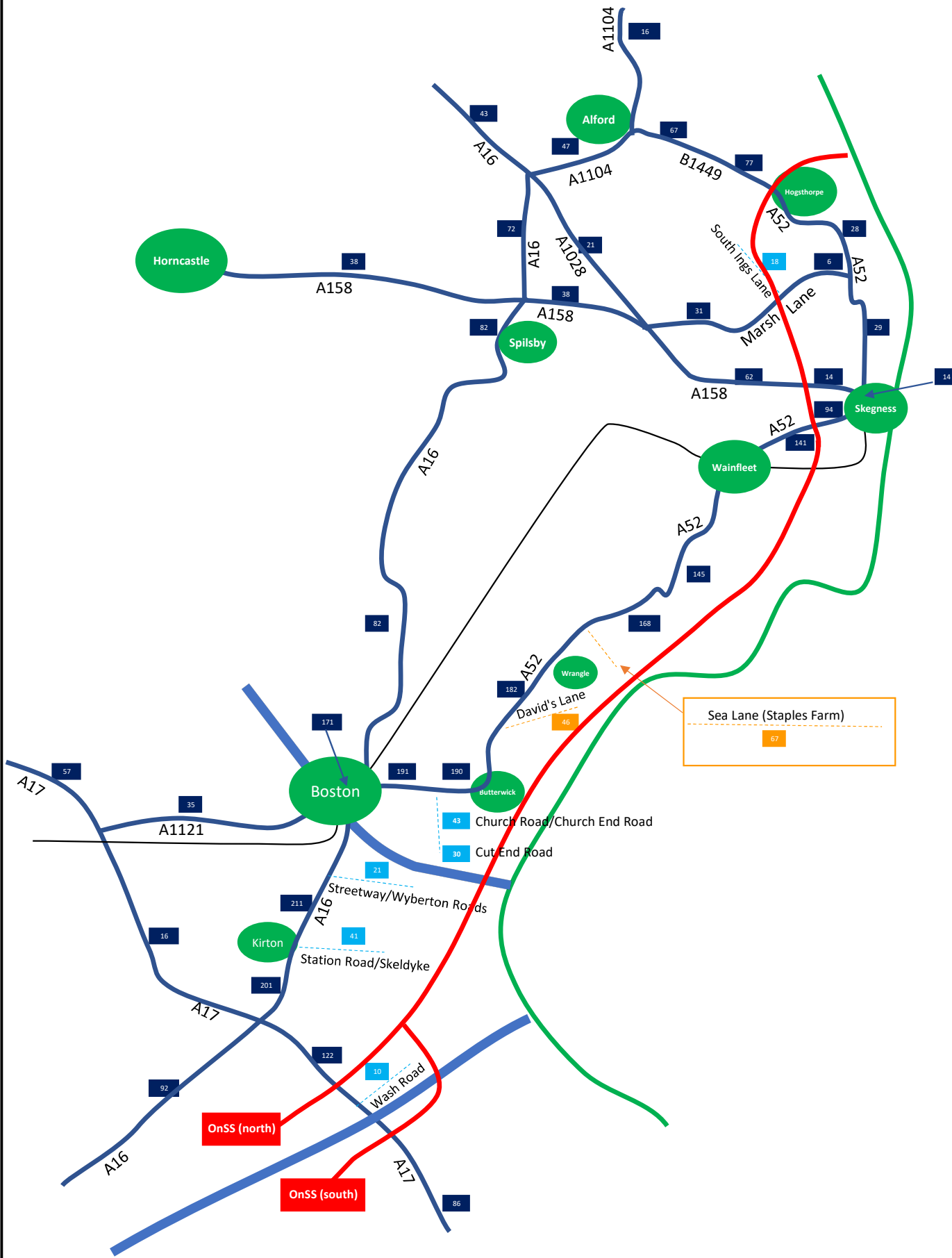


KEY




- XX Core Construction Vehicle Route (all Onshore ECC route options)
- XX Local Construction Vehicle Route - Weston Marsh Onshore ECC route option (both alignments)
- XX Local Construction Vehicle Routes - Weston Marsh (south of the A52) Onshore ECC route option only

Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Figure 3-2: Weston Marsh (South of the A52) Onshore ECC Route Option Maximum ODOW Daily Hour Vehicles (HGVs)



KEY

-  Core Construction Vehicle Route (all Onshore ECC route options)
-  Local Construction Vehicle Route - Weston Marsh Onshore ECC route option (both alignments)
-  Local Construction Vehicle Routes - Weston Marsh (south of the A52) Onshore ECC route option only

Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Figure 3-3: Weston Marsh (South of the A52) Onshore ECC Route Option Maximum ODOW Daily Hour Vehicles (Workforce)

The two-way daily vehicular trip generation (total, LGV and HGV) on each highway link for Scenario 2 that is different to Scenario 1, is shown in Table 3-17.

Table 3-17: Maximum two-way daily vehicle movements - Weston Marsh south of the A52 Onshore ECC option - Scenario 2

Location reference	Highway link (different to Scenario 1)	Maximum two-way		
		Total	HGV	Car/LGV
31	A158 Skegness Road (east of Onshore ECC)	14	0	14
33	A52 (east of Croft)	94	0	94
80	Lincoln Road, Skegness	14	0	14

Weston Marsh north of the A52 Onshore ECC option

The two-way daily vehicular trip generation (total, LGV and HGV) on each highway link for Weston Marsh north of the A52 Onshore ECC option Scenario 1 (vehicle movements via Skegness) is shown in **Table 3-18** and **Figure 3-4** (Total vehicles), **Figure 3-5** (HGVs) and **Figure 3-6** (workforce).

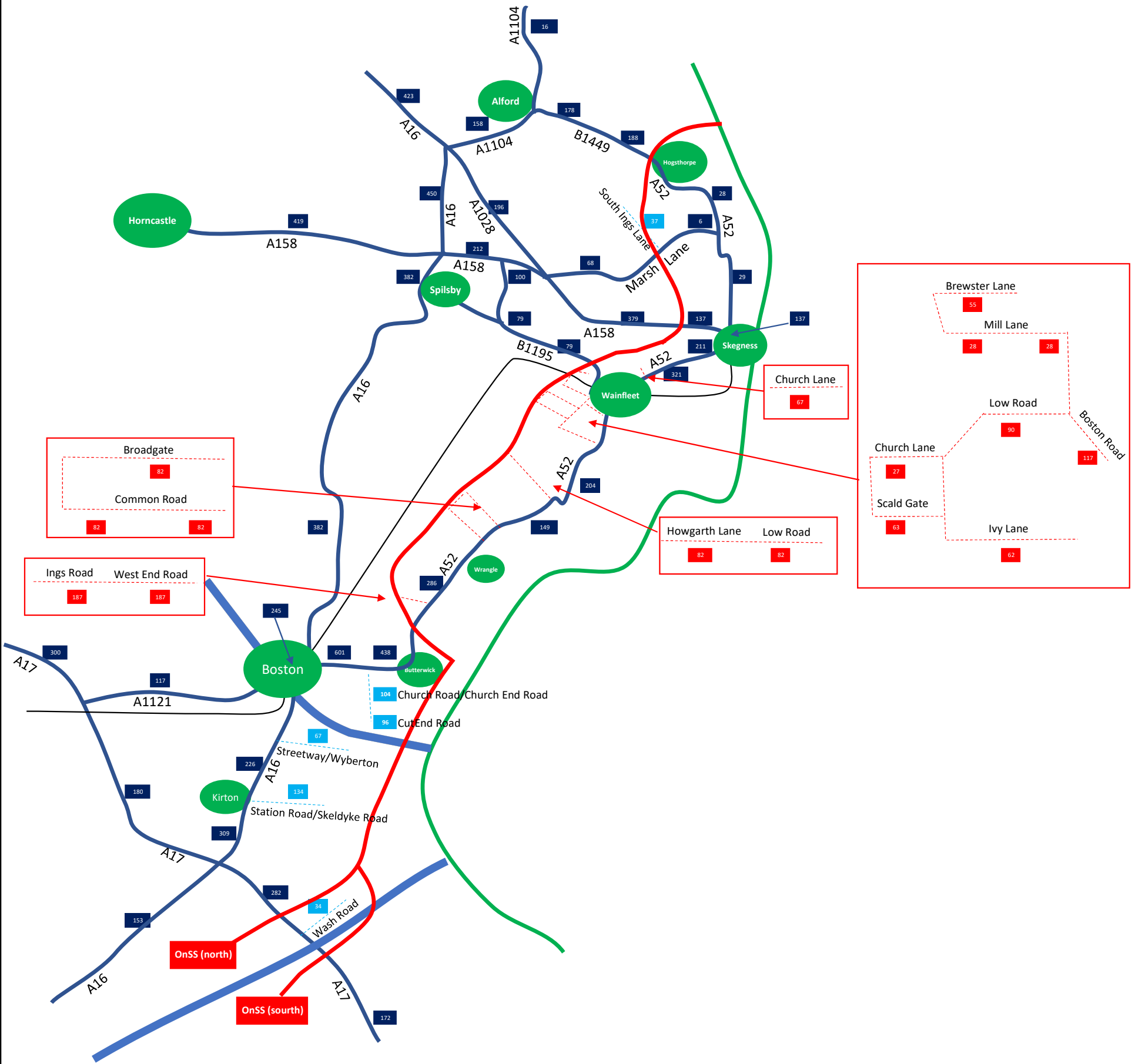
Table 3-18: Maximum two-way daily vehicle movements - Weston Marsh north of the A52 Onshore ECC option - Scenario 1

Location reference	Highway link	Maximum two-way ²		
		Total	HGV	Car/LGV
15	Cut End Road	96	66	30
16	Wyberton Roads	67	46	21
17	Skeldyke Road	134	93	41
18	Wash Road	33	23	10
23	B1449 Thurlby Road	178	111	67
24	B1449 Long Lane	187	111	76
25	A1104 (Alford)	158	111	47
26	A52 (south of Hogsthorpe)	28	0	28
27	A52 (south of Marsh Lane)	29	0	29
28	South Ings Lane	36	18	18
29	Marsh Lane (between the Onshore ECC and the A52)	6	0	6
30	Marsh Lane (between the Onshore ECC and the A158)	68	37	31
31	A158 Skegness Road (east of Onshore ECC)	137	122	15
32	A158 Skegness Road (west of Onshore ECC)	379	310	69
33	A52 (east of Croft)	211	122	90
34	A52 (Wainfleet)	321	172	149

² The figures in this table have been altered to take account of errors associated with rounding and therefore some total vehicle movements shown in Figure 3-4 may differ slightly.

Location reference	Highway link	Maximum two-way ²		
		Total	HGV	Car/LGV
35	A52 (Holland Lane)	204	57	147
36	A52 (Wrangle)	149	0	149
37	A52 (Butterwick)	286	113	173
38	A52 Wainfleet Road (Haltoft End)	438	242	196
39	A52 Wainfleet Road (Haltoft End)	601	381	220
40	Church Lane	67	46	21
41	Brewster Lane	55	14	41
42	Mill Lane	28	7	21
43	Mill Lane (at Brewery)	28	7	21
44	Boston Road	117	69	48
45	Church Lane	27	19	8
46	Low Road (north)	45	31	14
47	Scald Gate	62	43	19
49	Ivy Lane	45	31	14
51	Howgarth Lane	82	57	25
52	Low Road	82	57	25
53	Broadgate	82	57	25
54	Common Road	82	57	25
55	Common Road (near A52)	82	57	25
58	Ings Road	187	129	58
59	West End Road	187	129	58
60	A16 (south of Boston)	226	46	180
61	A16 (south of Boston)	309	139	170
62	A17 (south of River Welland)	171	85	86
63	A17 (north of River Welland)	282	186	96
64	A17 (north of the A16)	181	171	10
65	A17 (west of the A1221)	300	247	53
66	A16 (south of the A17)	153	85	68
67	A1121	117	76	41
68	A16 (south of the A155)	382	304	78
69	A16 (north of the A155)	382	304	78
70	A16 (between the A158 and the A1028)	468	399	69
71	A16 (north of the A1028)	441	399	42
72	A1028	214	191	23
73	A158 (between the A1028 and the A16)	230	191	39
74	A158 (west of the A16)	437	399	38
75	A1104 (north of the B1449)	16	0	16
76	A16 (Boston)	245	76	169
77	Gunby Lane	100	39	61

Location reference	Highway link	Maximum two-way ²		
		Total	HGV	Car/LGV
78	B1195 (Irby in the Marsh)	79	39	40
79	B1195 (Thorpe St. Peter)	26	39	40
80	Lincoln Road, Skegness	176	161	15

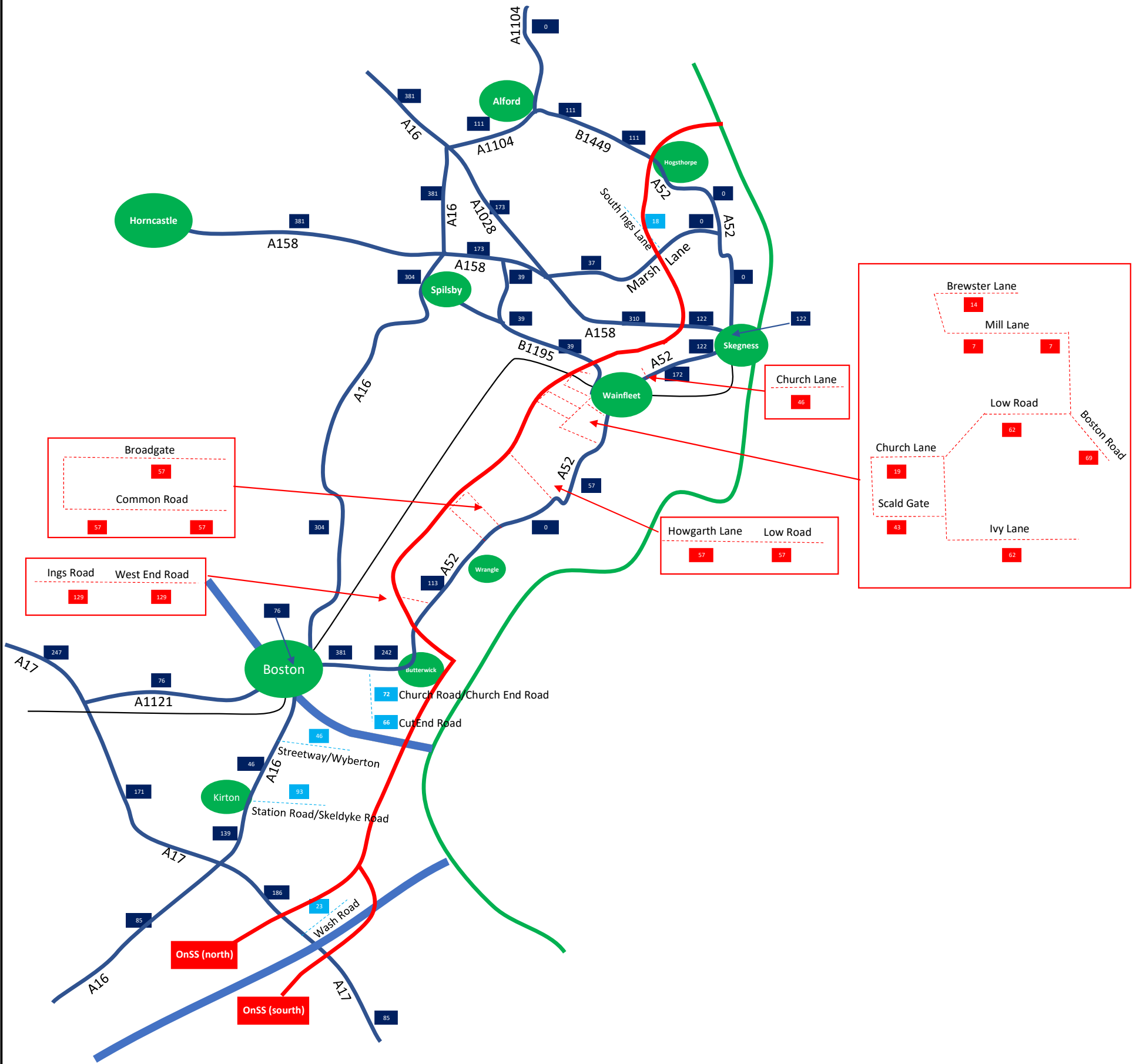


KEY

- XX Core Construction Vehicle Route (all Onshore ECC route options)
- XX Local Construction Vehicle Route - Weston Marsh Onshore ECC route option (both alignments)
- XX Local Construction Vehicle Routes - Weston Marsh (north of the A52) Onshore ECC route option only

Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

**Figure 3-4: ODOW Weston Marsh (north of the A52)
Maximum Daily (Total)**

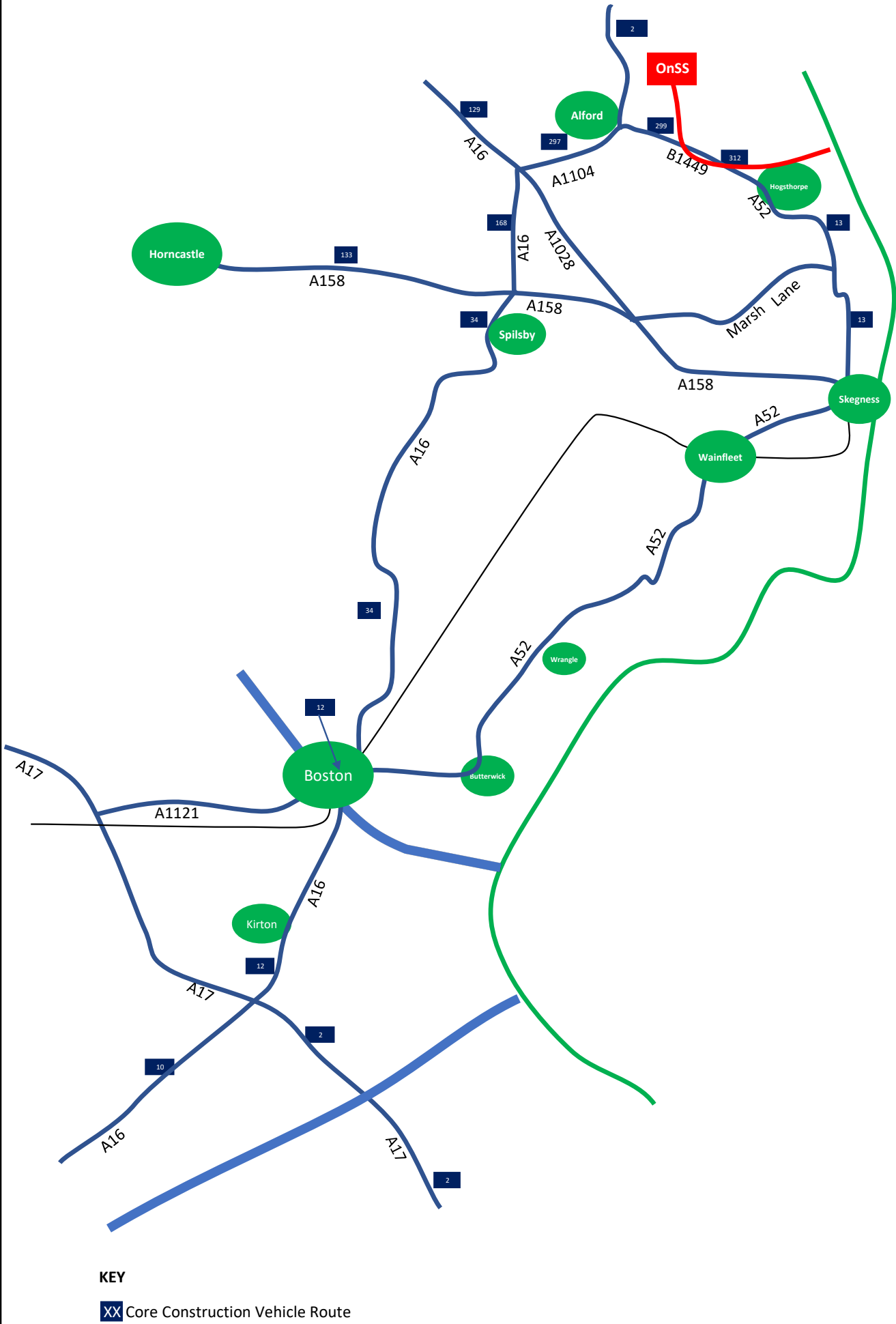


KEY

- XX Core Construction Vehicle Route (all Onshore ECC route options)
- XX Local Construction Vehicle Route - Weston Marsh Onshore ECC route option (both alignments)
- XX Local Construction Vehicle Routes - Weston Marsh (north of the A52) Onshore ECC route option only

Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

**Figure 3-5: ODOW Weston Marsh (north of the A52)
Maximum Daily (HGVs)**



**Figure 3-7: Lincolnshire Node Onshore ECC Route Option
Maximum ODOW Daily Vehicles (Total)**

The two-way daily vehicular trip generation (total, LGV and HGV) on each highway link for Scenario 2 that is different to Scenario 1, is shown in Table 3-19.

Table 3-19: Maximum two-way daily vehicle movements - Weston Marsh north of the A52 Onshore ECC option - Scenario 2

Location reference	Highway link (different to Scenario 1)	Maximum two-way		
		Total	HGV	Car/LGV
31	A158 Skegness Road (east of the Onshore ECC)	15	0	15
33	A52 (east of Croft)	84	0	84
53	Lincoln Road, Skegness	15	0	15

Lincolnshire Node Onshore ECC option

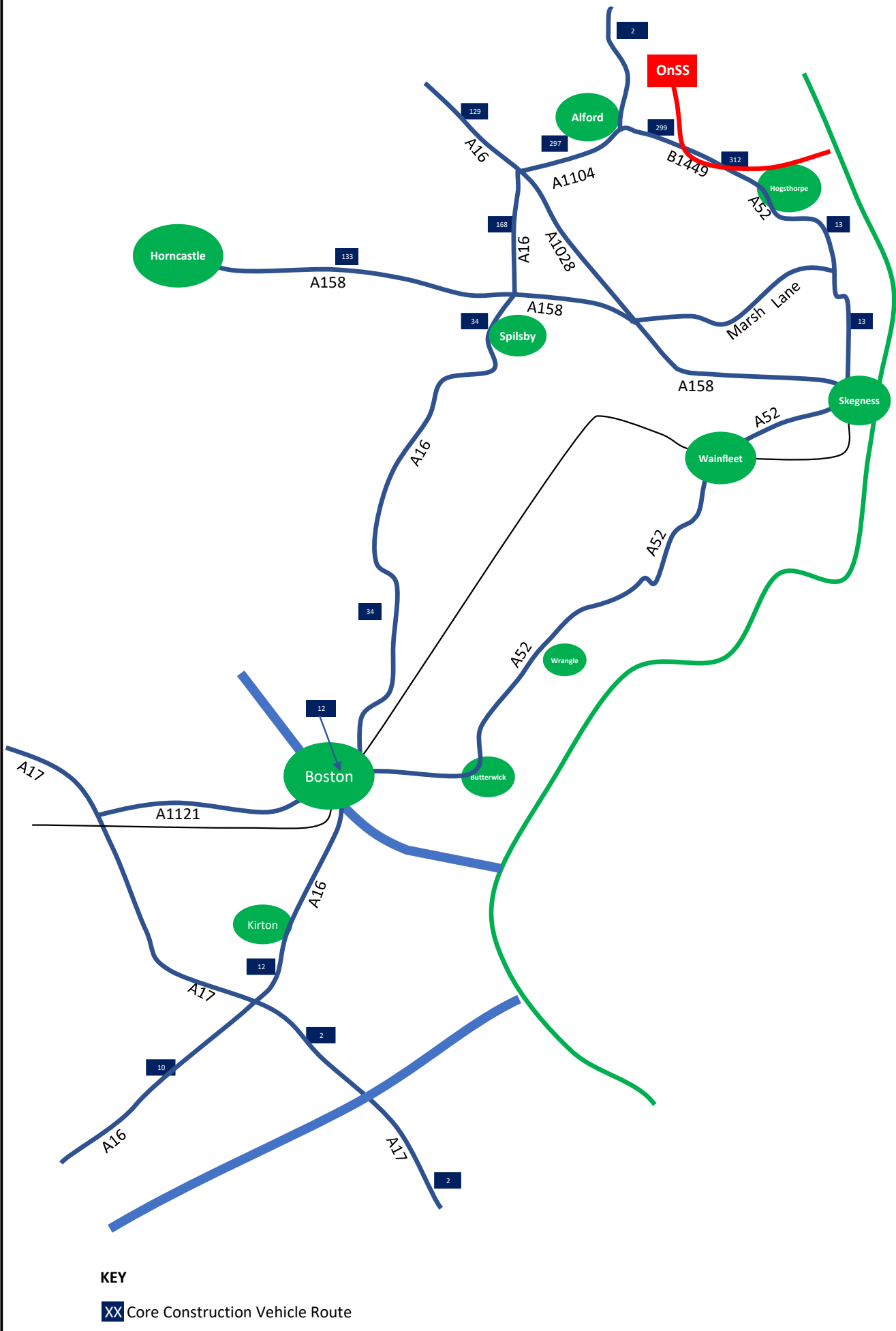
The two-way daily vehicular trip generation (total, LGV and HGV) on each highway link for Lincolnshire Node Onshore ECC option is shown in Table 3-20 and in **Figure 3-7** (Total vehicles), **Figure 3-8** (HGVs) and **Figure 3-9** (workforce).

Table 3-20: Maximum two-way daily vehicle movements - Lincolnshire Node Onshore ECC option

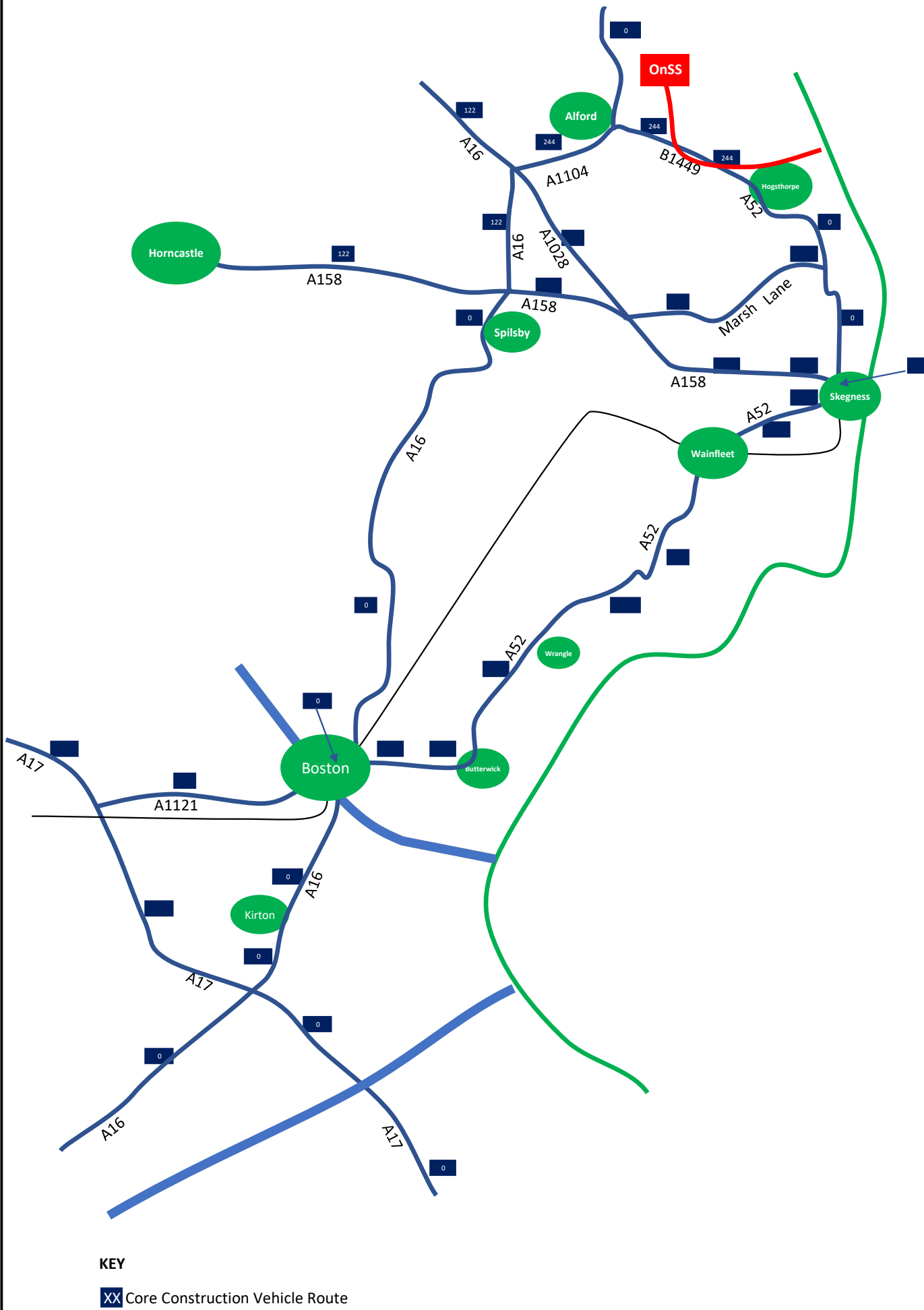
Location reference	Highway link	Maximum two-way ³		
		Total	HGV	Car/LGV
23	B1449 Thurlby Road	312	244	68
24	B1449 Long Lane	299	244	55
25	A1104 (Alford)	298	244	53
26	A52 (south of Hogsthorpe)	13	0	13
27	A52 (south of Marsh Lane)	13	0	13
60	A16 (south of Boston)	12	0	12
61	A16 (south of Boston)	12	0	12
62	A17 (south of River Welland)	2	0	2
63	A17 (north of River Welland)	2	0	2
64	A16 (south of the A17)	10	0	10
65	A16 (south of the A155)	34	0	34
66	A16 (north of the A155)	34	0	34
67	A16 (between the A158 and the A1028)	168	122	46
68	A16 (north of the A1028)	129	122	7
69	A158 (west of the A16)	133	122	11
75	A1104 (north of the B1449)	2	0	2

³ The figures in this table have been altered to take account of errors associated with rounding and therefore some total vehicle movements shown in Figure 3-7 may differ slightly.

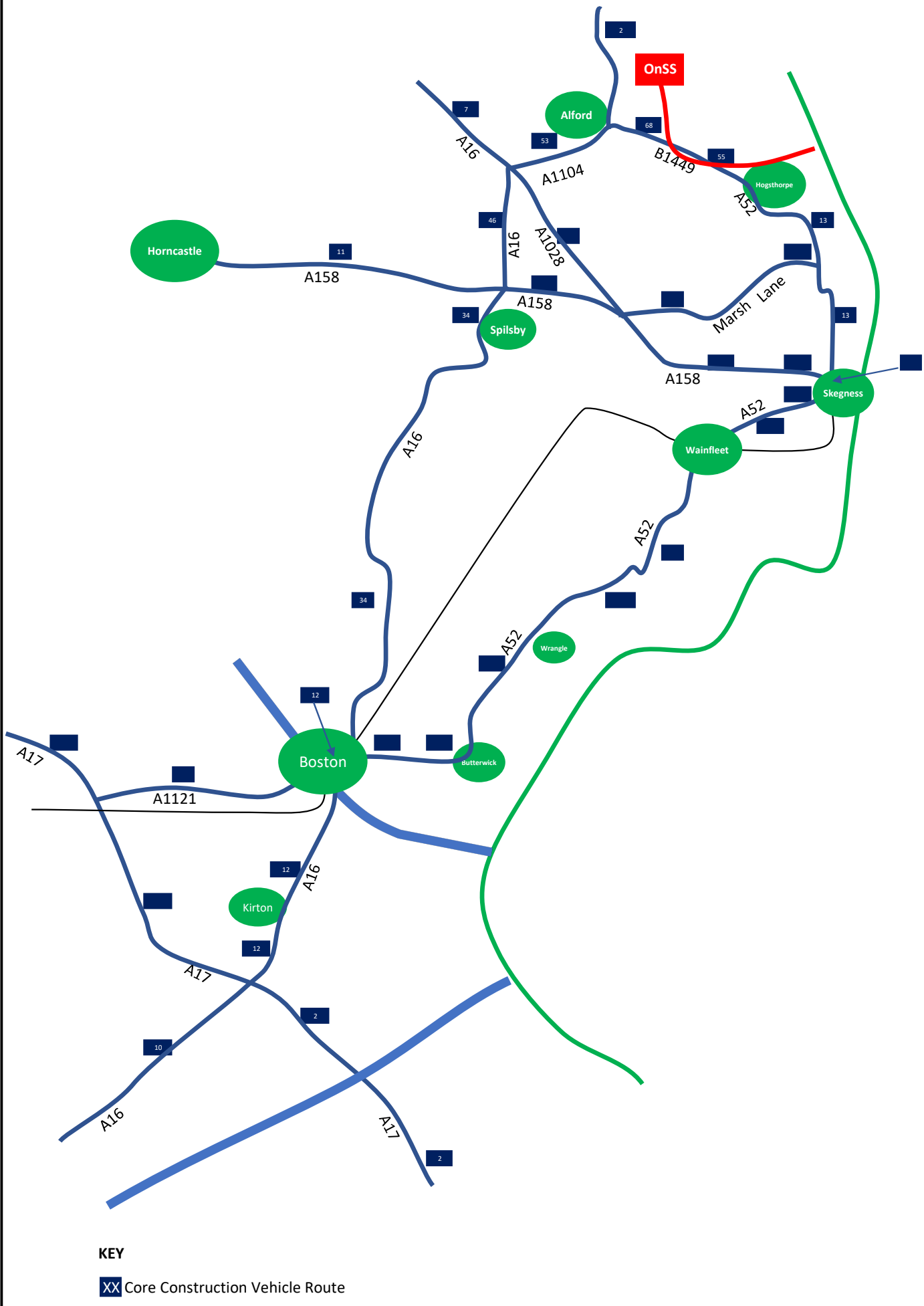
Location reference	Highway link	Maximum two-way ³		
		Total	HGV	Car/LGV
76	A16 (Boston)	12	0	12



**Figure 3-7: Lincolnshire Node Onshore ECC Route Option
Maximum ODOW Daily Vehicles (Total)**



**Figure 3-8: Lincolnshire Node Onshore ECC Route Option
Maximum ODOW Daily Vehicles (HGVs)**



**Figure 3-9: Lincolnshire Node Onshore ECC Route Option
Maximum ODOW Daily Vehicles (Workforce)**

3.2.12 Peak hour trip generation per highway link

Weston Marsh south of the A52 Onshore ECC option

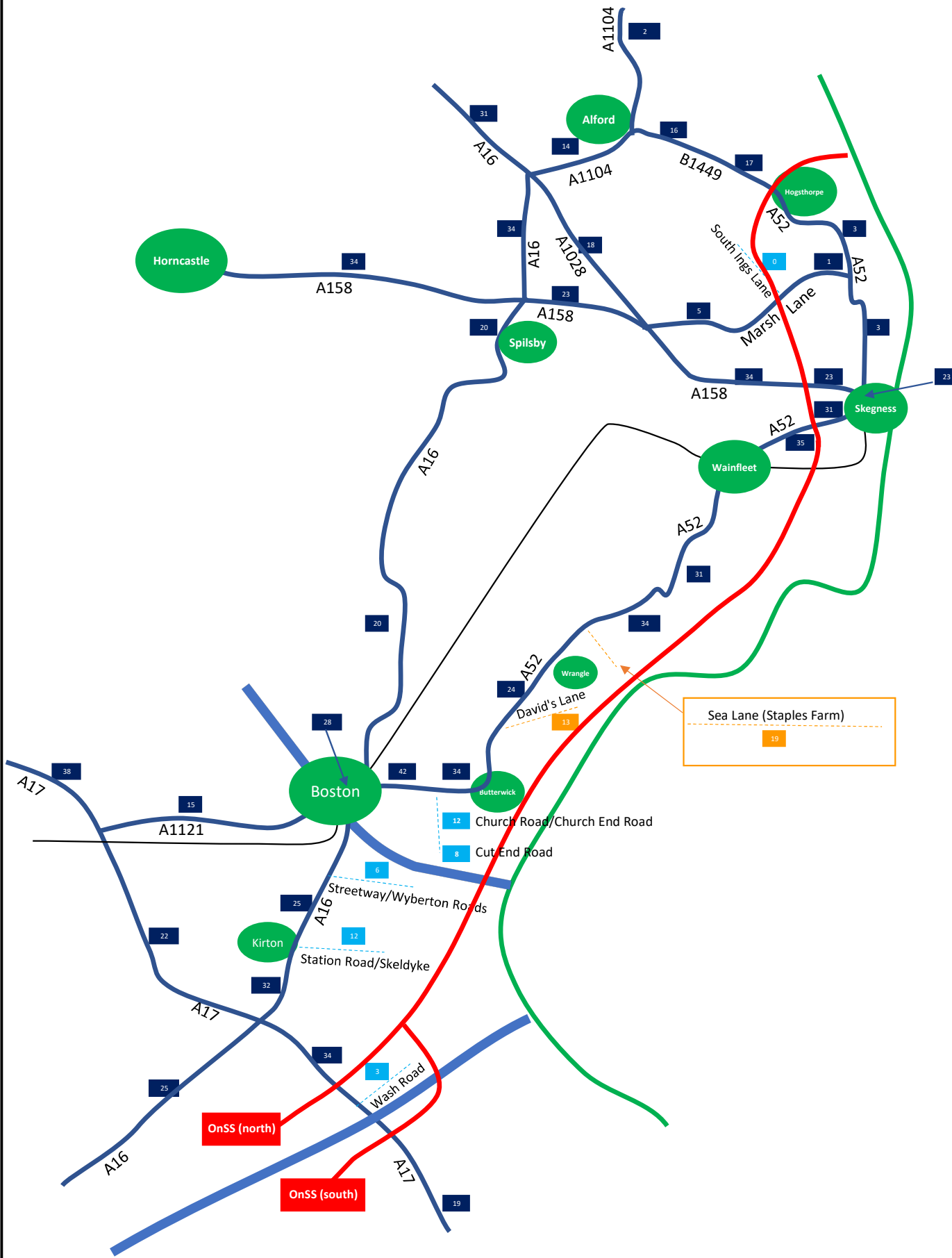
The two-way peak hour vehicular trip generation (total, LGV and HGV) on each highway link for Weston Marsh south of the A52 Onshore ECC option Scenario 1 (vehicle movements via Skegness) is shown in **Table 3-21** and in **Figure 3-10** (Total vehicles), **Figure 3-11** (HGVs) and **Figure 3-12** (workforce).

Table 3-21: Maximum two-way peak hour vehicle movements - Weston Marsh south of the A52 Onshore ECC option - Scenario 1

Location reference	Highway link	Maximum two-way ⁴		
		Total	HGV	Car/LGV
8	Sea Lane (Staples Farm)	19	12	7
9	David's Lane	14	9	5
14	Church End Road/Church Road	12	8	4
15	Cut End Road	9	6	3
16	Wyberton Roads	6	4	2
17	Skeldyke Road/Station Road	12	8	4
18	Wash Road	3	2	1
23	B1449 Thurlby Road	16	9	7
24	B1449 Long Lane	17	9	8
25	A1104 (Alford)	14	9	5
26	A52 (south of Hogsthorpe)	3	0	3
27	A52 (south of Marsh Lane)	3	0	3
28	South Ings Lane	3	1	2
29	Marsh Lane (between the Onshore ECC and the A52)	1	0	1
30	Marsh Lane (between the Onshore ECC and the A158)	5	2	3
31	A158 Skegness Road (east of the Onshore ECC)	22	21	1
32	A158 Skegness Road (west of the Onshore ECC)	34	28	6
33	A52 (east of Croft)	30	21	9
34	A52 (Wainfleet)	35	21	14
35	A52 (Holland Lane)	31	17	14
36	A52 (Wrangle)	34	17	17
37	A52 (Butterwick)	24	6	18
38	A52 Wainfleet Road (Haltoft End)	34	15	19
39	A52 Wainfleet Road (Haltoft End)	42	23	19
60	A16 (south of Boston)	25	4	21
61	A16 (south of Boston)	32	12	20
62	A17 (south of River Welland)	19	10	9
63	A17 (north of River Welland)	33	21	12

⁴ The figures in this table have been altered to take account of errors associated with rounding and therefore some total vehicle movements shown in Figure 3-10 may differ slightly.

Location reference	Highway link	Maximum two-way ⁴		
		Total	HGV	Car/LGV
64	A17 (north of the A16)	23	21	2
65	A17 (west of the A1221)	38	32	6
66	A16 (south of the A17)	25	16	9
67	A1121	14	11	3
68	A16 (south of the A155)	20	12	8
69	A16 (north of the A155)	20	12	8
70	A16 (between the A158 and the A1028)	34	27	7
71	A16 (north of the A1028)	31	27	4
72	A1028	18	16	2
73	A158 (between the A1028 and the A16)	23	19	4
74	A158 (west of the A16)	34	30	4
75	A1104 (north of the B1449)	2	0	2
76	A16 (Boston)	28	11	17
80	Lincoln Road, Skegness	22	21	1

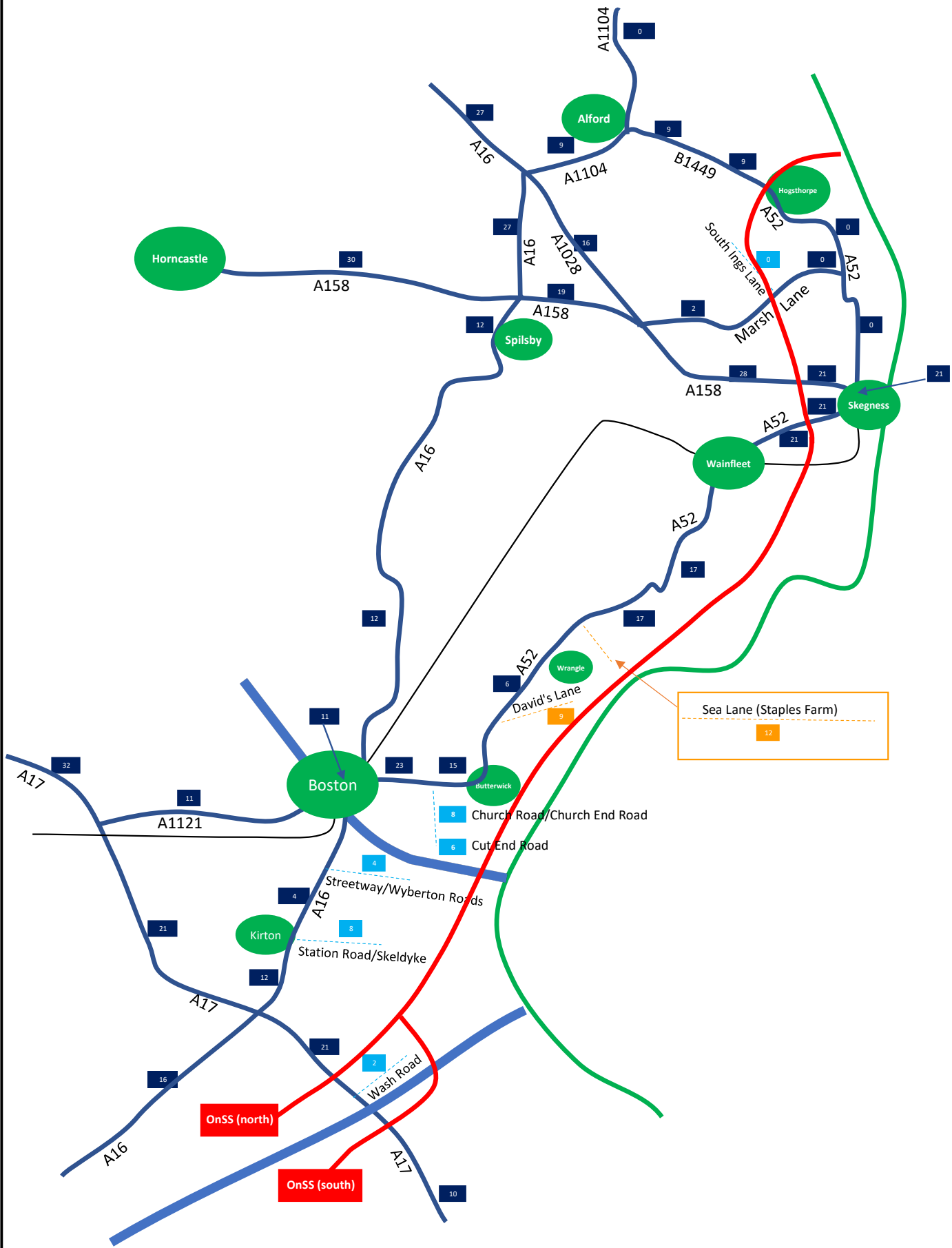


KEY

- XX Core Construction Vehicle Route (all Onshore ECC route options)
- XX Local Construction Vehicle Route - Weston Marsh Onshore ECC route option (both alignments)
- XX Local Construction Vehicle Routes - Weston Marsh (south of the A52) Onshore ECC route option only

Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Figure 3-10: Weston Marsh (South of the A52) Onshore ECC Route Option Maximum ODOW Peak Hour Vehicles (Total)

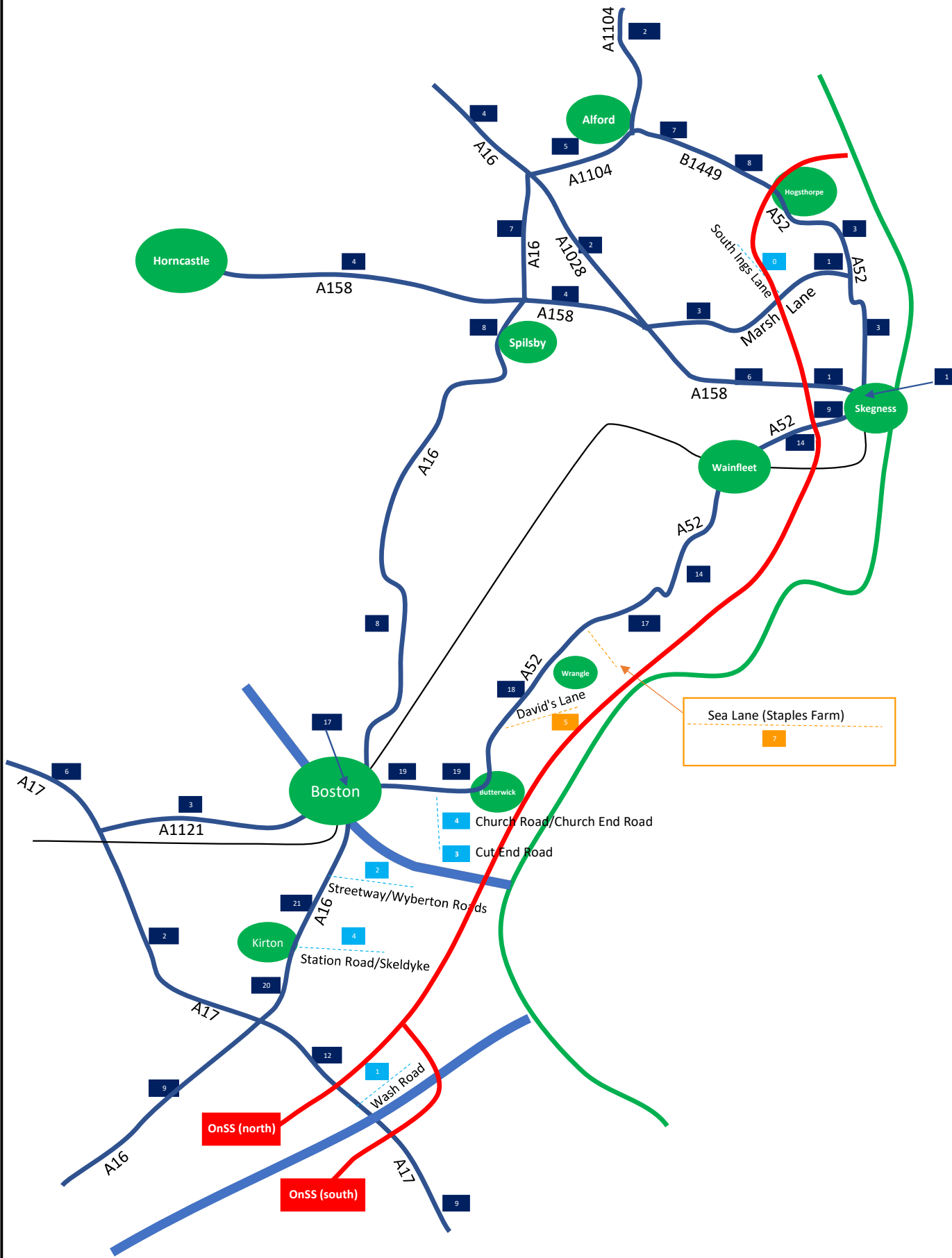


KEY

- XX Core Construction Vehicle Route (all Onshore ECC route options)
- XX Local Construction Vehicle Route - Weston Marsh Onshore ECC route option (both alignments)
- XX Local Construction Vehicle Routes - Weston Marsh (south of the A52) Onshore ECC route option only

Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Figure 3-11: Weston Marsh (South of the A52) Onshore ECC Route Option Maximum ODOV Peak Hour Vehicles (HGVs)



KEY

- XX Core Construction Vehicle Route (all Onshore ECC route options)
- XX Local Construction Vehicle Route - Weston Marsh Onshore ECC route option (both alignments)
- XX Local Construction Vehicle Routes - Weston Marsh (south of the A52) Onshore ECC route option only

Not all local construction vehicle route road names shown between the core construction vehicle routes and the Onshore ECC

Figure 3-12: Weston Marsh (South of the A52) Onshore ECC Route Option Maximum ODOW Peak Hour Vehicles (Workforce)

The two-way peak hour vehicular trip generation (total, LGV and HGV) on each highway link for Scenario 2 that is different to Scenario 1, is shown in Table 3-22.

Table 3-22: Maximum two-way peak hour vehicle movements - Weston Marsh south of the A52 Onshore ECC option - Scenario 2

Location reference	Highway link (different to Scenario 1)	Maximum two-way		
		Total	HGV	Car/LGV
31	A158 Skegness Road (east of the Onshore ECC)	1	0	1
33	A52 (east of Croft)	9	0	9
80	Lincoln Road, Skegness	1	0	1

Weston Marsh north of the A52 Onshore ECC option

The two-way peak hour vehicular trip generation (total, LGV and HGV) on each highway link for Weston Marsh north of the A52 Onshore ECC option Scenario 1 (vehicle movements via Skegness) is shown in Table 3-23 and in and **Figure 3-13** (Total vehicles), **Figure 3-14** (HGVs) and **Figure 3-15** (workforce).

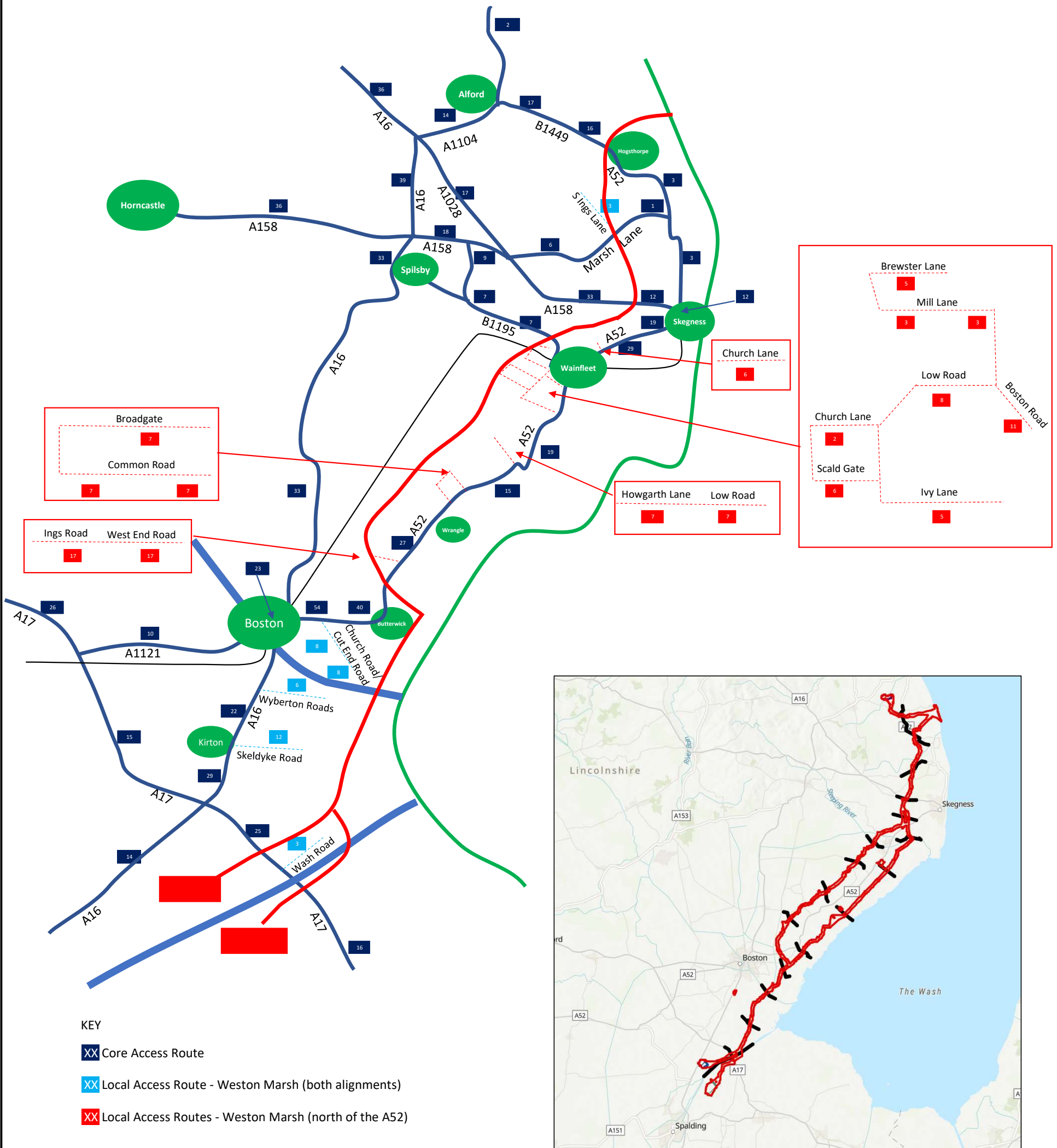
Table 3-23: Maximum two-way peak hour vehicle movements - Weston Marsh north of the A52 Onshore ECC option- Scenario 1

Location reference	Highway link	Maximum two-way ⁵		
		Total	HGV	Car/LGV
15	Cut End Road	9	6	3
16	Wyberton Roads	6	4	2
17	Skeldyke Road/Station Road	12	8	4
18	Wash Road	3	2	1
23	B1449 Thurlby Road	16	9	7
24	B1449 Long Lane	17	9	8
25	A1104 (Alford)	14	9	5
26	A52 (south of Hogsthorpe)	3	0	3
27	A52 (south of Marsh Lane)	3	0	3
28	South Ings Lane	3	2	2
29	Marsh Lane (between the Onshore ECC and the A52)	1	0	1
30	Marsh Lane (between the Onshore ECC and the A158)	6	3	3
31	A158 Skegness Road (east of the Onshore ECC)	12	10	2
32	A158 Skegness Road (west of the Onshore ECC)	33	26	7
33	A52 (east of Croft)	19	10	9
34	A52 (Wainfleet)	29	14	15

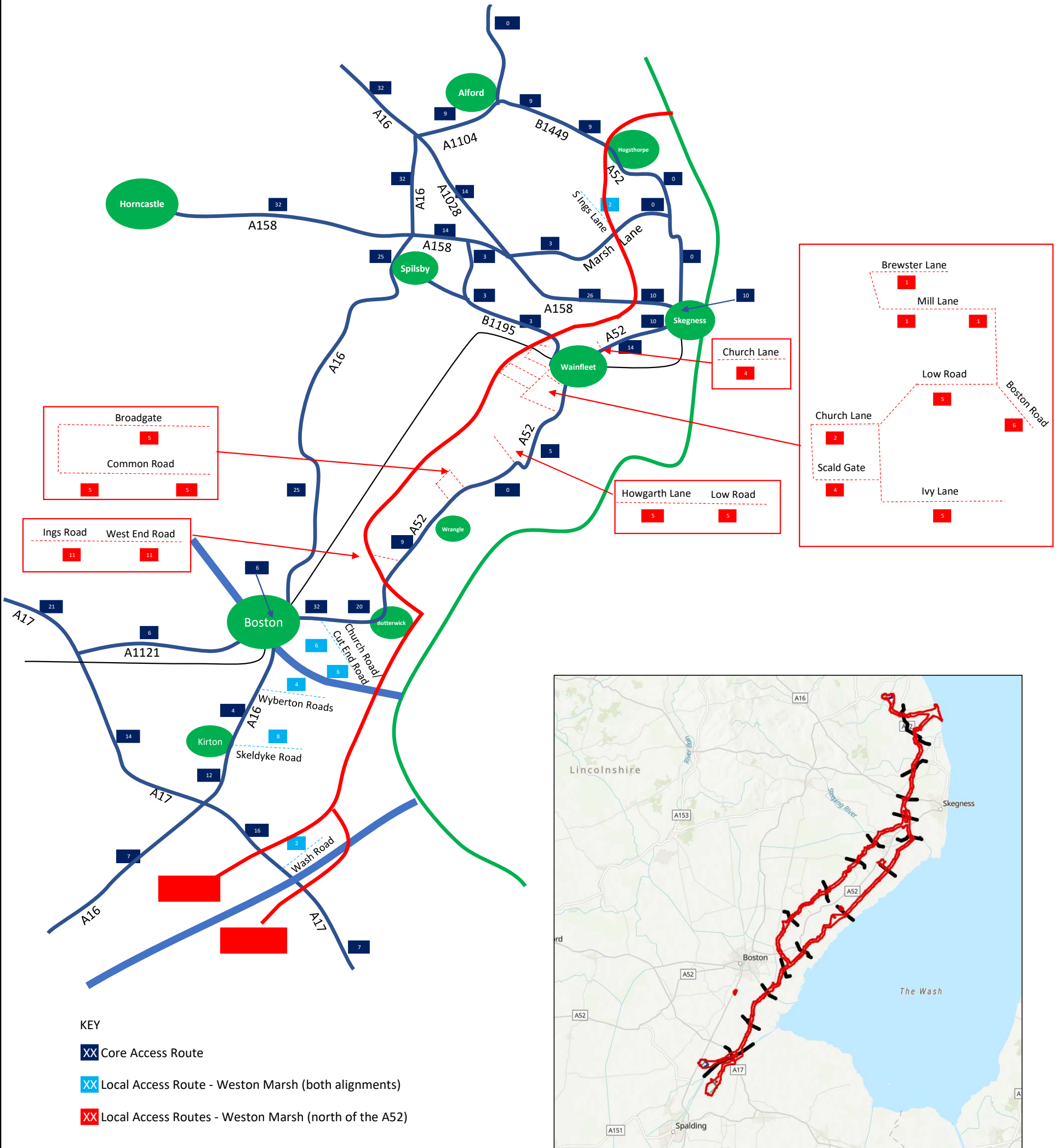
⁵ The figures in this table have been altered to take account of errors associated with rounding and therefore some total vehicle movements shown in Figure 3-7 may differ slightly.

Location reference	Highway link	Maximum two-way ⁵		
		Total	HGV	Car/LGV
35	A52 (Holland Lane)	20	5	15
36	A52 (Wrangle)	15	0	15
37	A52 (Butterwick)	26	9	17
38	A52 Wainfleet Road (Haltoft End)	40	20	20
39	A52 Wainfleet Road (Haltoft End)	54	32	22
40	Church Lane	6	4	2
41	Brewster Lane	5	1	4
42	Mill Lane	3	1	2
43	Mill Lane (at Brewery)	3	1	2
44	Boston Road	11	6	5
45	Church Lane	3	2	1
46	Low Road (north)	8	5	3
47	Scald Gate	6	4	2
49	Ivy Lane	5	5	0
51	Howgarth Lane	8	5	3
52	Low Road	8	5	3
53	Broadgate	8	5	3
54	Common Road	8	5	3
55	Common Road (near A52)	8	5	3
58	Ings Road	17	11	6
59	West End Road	17	11	6
60	A16 (south of Boston)	22	4	18
61	A16 (south of Boston)	29	12	17
62	A17 (south of River Welland)	16	7	9
63	A17 (north of River Welland)	25	16	10
64	A17 (north of the A16)	15	14	1
65	A17 (west of the A1221)	26	21	5
66	A16 (south of the A17)	14	7	7
67	A1121	10	6	4
68	A16 (south of the A155)	33	25	8
69	A16 (north of the A155)	33	25	8
70	A16 (between the A158 and the A1028)	39	32	7
71	A16 (north of the A1028)	36	32	4
72	A1028	16	14	2
73	A158 (between the A1028 and the A16)	18	14	4
74	A158 (west of the A16)	36	32	4
75	A1104 (north of the B1449)	2	0	2
76	A16 (Boston)	23	6	17
77	Gunby Lane	9	3	6

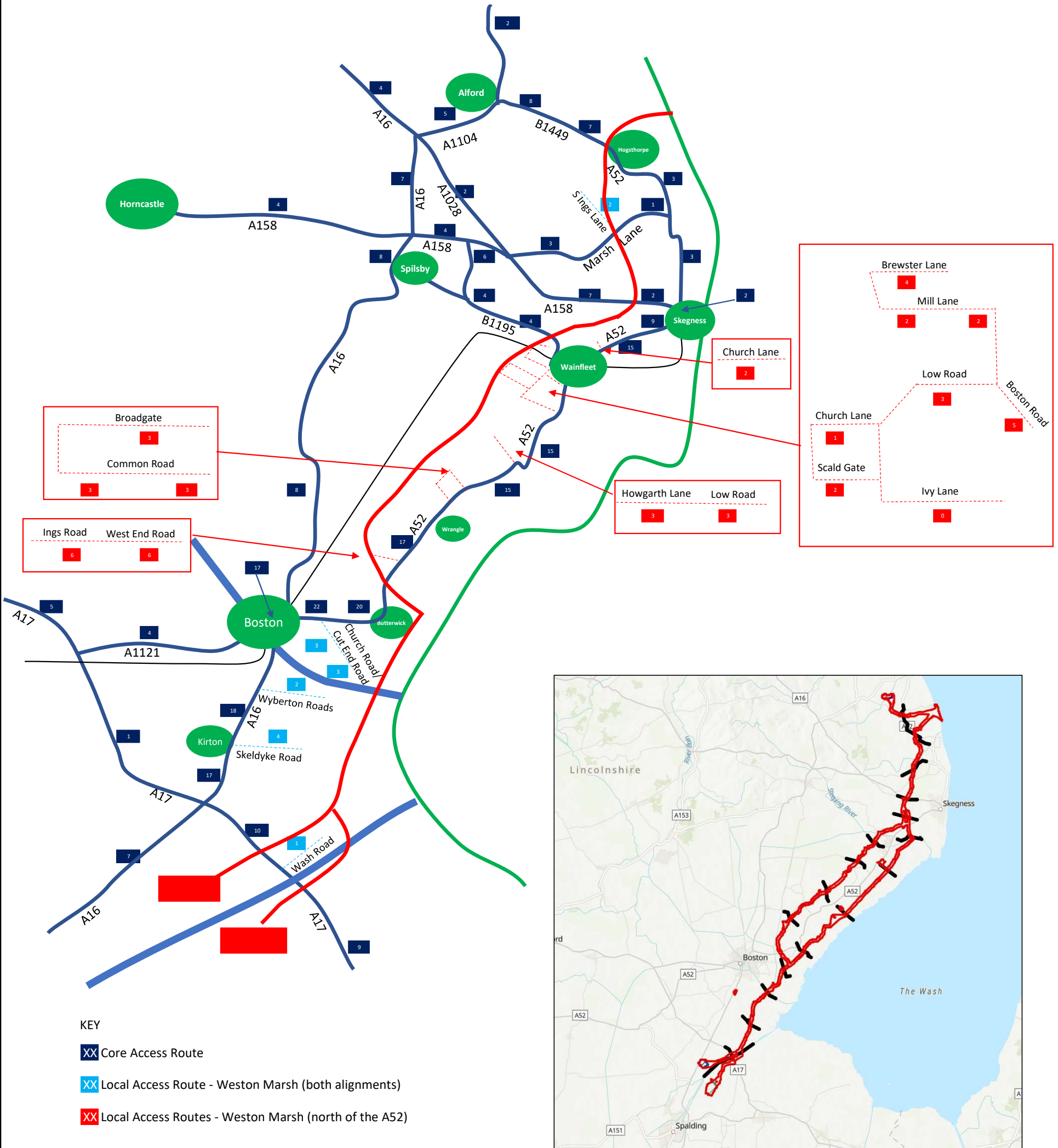
Location reference	Highway link	Maximum two-way ⁵		
		Total	HGV	Car/LGV
78	B1195 (Irby in the Marsh)	7	3	4
79	B1195 (Thorpe St. Peter)	7	3	4
80	Lincoln Road, Skegness	12	10	2



**Figure 3-13: ODOW Weston Marsh (north of the A52)
Maximum Peak Hour (Total)**



**Figure 3-14: ODOW Weston Marsh (north of the A52)
Maximum Peak Hour (HGVs)**



**Figure 3-15: ODOW Weston Marsh (north of the A52)
Maximum Peak Hour (Workforce Vehicles)**

The two-way peak hour vehicular trip generation (total, LGV and HGV) on each highway link for Scenario 2 that is different to Scenario 1, is shown in Table 3-24.

Table 3-24: Maximum two-way peak hour vehicle movements - Weston Marsh north of the A52 Onshore ECC option - Scenario 2

Location reference	Highway link (different to Scenario 1)	Maximum two-way		
		Total	HGV	Car/LGV
31	A158 Skegness Road (east of Onshore ECC)	2	0	2
33	A52 (east of Croft)	8	0	8
80	Lincoln Road, Skegness	2	0	2

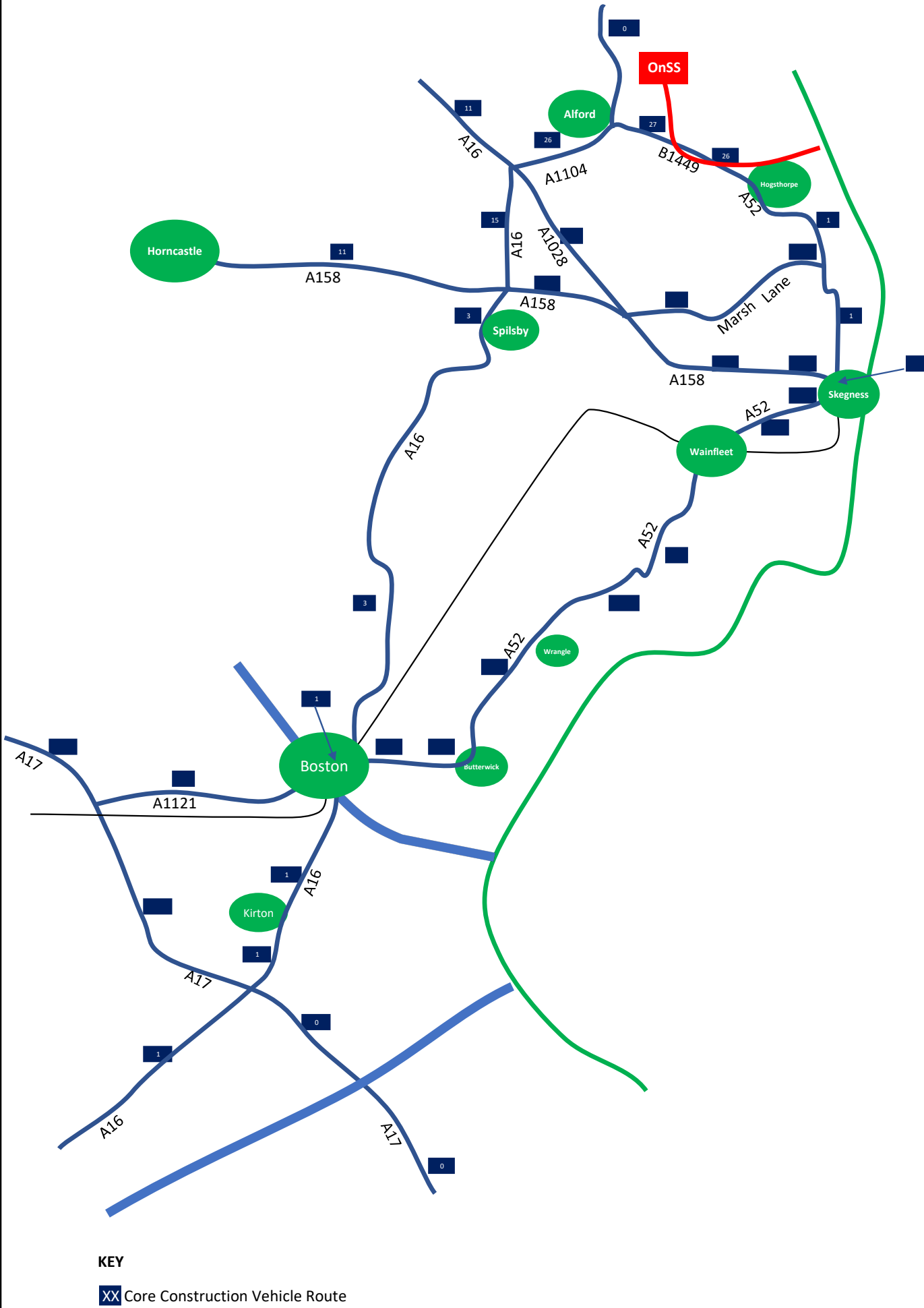
Lincolnshire Node Onshore ECC option

The two-way daily peak hour trip generation (total, LGV and HGV) on each highway link for Lincolnshire Node Onshore ECC option is shown in Table 3-25 and in **Figure 3-16** (Total vehicles), **Figure 3-17** (HGVs) and **Figure 3-18** (workforce).

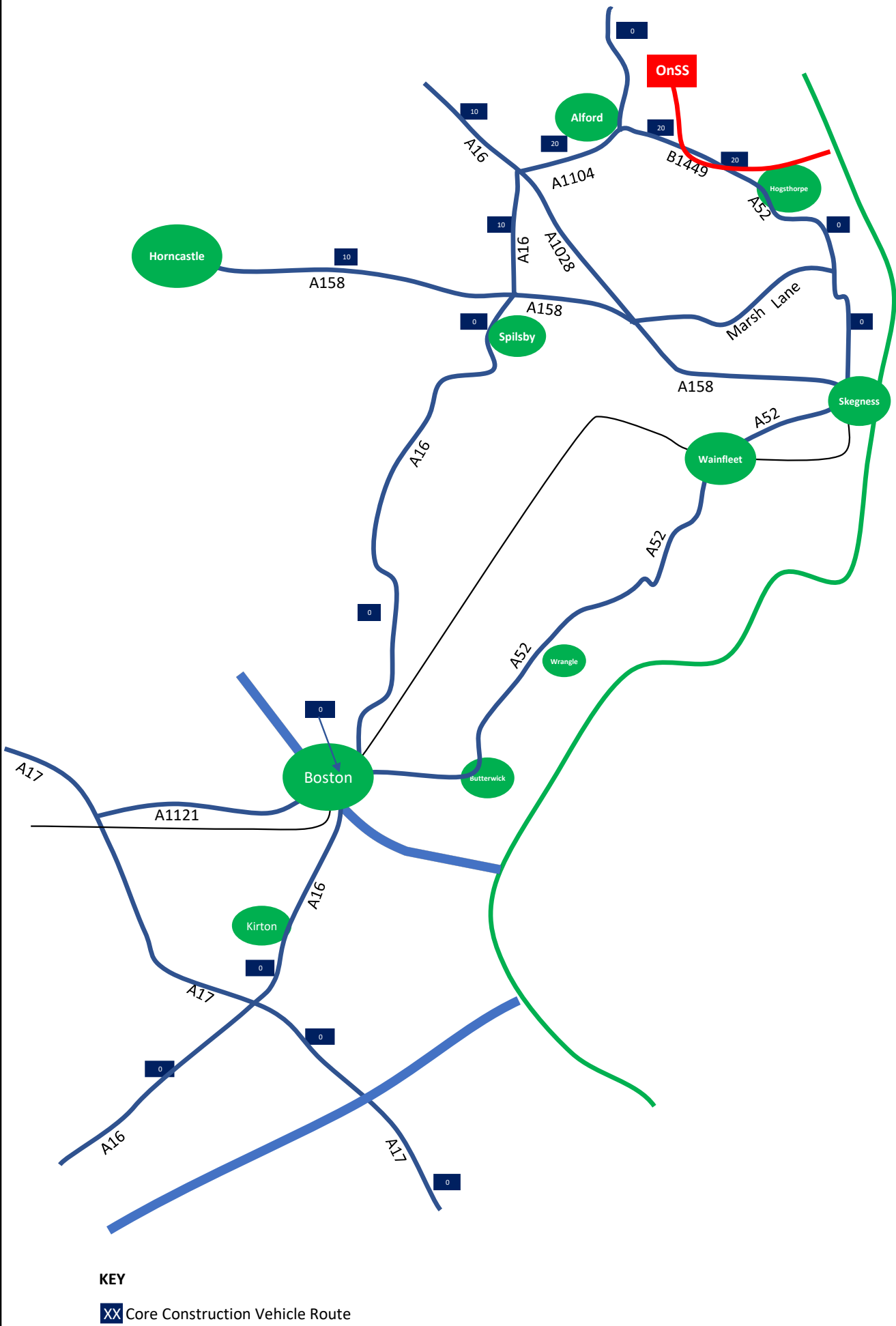
Table 3-25: Maximum two-way peak hour vehicle movements - Lincolnshire Node Onshore ECC option

Location reference	Highway link	Maximum two-way ⁶		
		Total	HGV	Car/LGV
23	B1449 Thurlby Road	27	20	7
24	B1449 Long Lane	25	20	6
25	A1104 (Alford)	25	20	5
26	A52 (south of Hogsthorpe)	1	0	1
27	A52 (south of Marsh Lane)	1	0	1
60	A16 (south of Boston)	1	0	1
61	A16 (south of Boston)	1	0	1
62	A17 (south of River Welland)	0	0	0
63	A17 (north of River Welland)	0	0	0
64	A16 (south of the A17)	1	0	1
65	A16 (south of the A155)	3	0	3
66	A16 (north of the A155)	3	0	3
67	A16 (between the A158 and the A1028)	15	10	5
68	A16 (north of the A1028)	11	10	1
69	A158 (west of the A16)	11	10	1
75	A1104 (north of the B1449)	0	0	0
76	A16 (Boston)	1	0	1

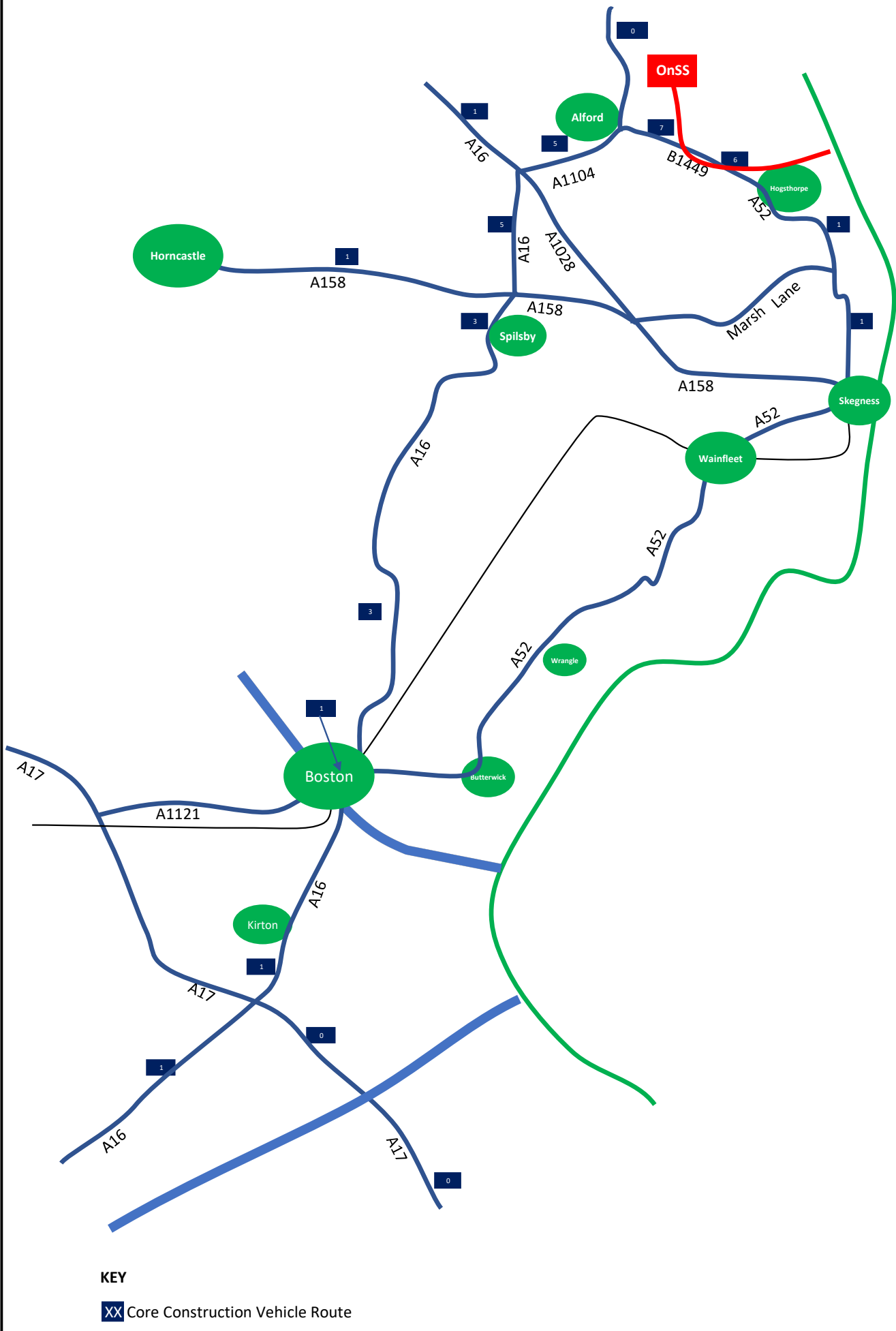
⁶ The figures in this table have been altered to take account of errors associated with rounding and therefore some total vehicle movements shown in Figure 3-7 may differ slightly.



**Figure 3-16: Lincolnshire Node Onshore ECC Route Option
Maximum ODOW Peak Hour Vehicles (Total)**



**Figure 3-17: Lincolnshire Node Onshore ECC Route Option
Maximum ODOW Peak Hour Vehicles (HGVs)**



**Figure 3-18: Lincolnshire Node Onshore ECC Route Option
Maximum ODOW Peak Hour Vehicles (Workforce)**

As shown in **Table 3-21** to **Table 3-24**, even with a robust estimate of 20% of construction workers arriving at or departing from the construction sites during highway peak hours, the only locations forecast to have a greater than 30 two-way vehicle movements at a junction on the LRN for the Weston Marsh Onshore ECC option (south of the A52) are:

- A16 (between the A158 and A1028, south of the A155, north of the A155, north of A1028 and south of Boston); and
- A52 (east of Croft, Holland Lane, Wrangle and Haltoft End);
- A158 Skegness Road and west of A16; and
- A17 (north of River Welland and west of A1121).

The majority of the peak hour forecasts for the highway links stated above are marginally over the 30 two-way vehicle threshold, for the consideration of undertaking junction capacity assessments, with the exception of the A52 at the A16 junction in the northwest of Boston, which is 54 for the Weston Marsh Onshore ECC option north of the A52.

Given the robust assessment parameters and since ETG members have not specifically identified any sensitive junctions, SLR does not consider these potential vehicle movements would have a material impact at the junctions on these routes. LCC has agreed that, based on these peak hour vehicle forecasts, junction capacity assessments would not need to be undertaken (ETG on the 29th March 2023).

There are no highway links with greater than 30 two-way vehicle movements for the Lincolnshire Node Onshore ECC option, as set out in **Table 3-25**.

Annex 01

Trip generation calculations – Weston Marsh south of the A52 ECC option

Weston Marsh (south of the A52)

HGVs (2 way)

ECC route segment	Month																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WM1	64	70	60	62	62	65	60	54	51	50	45	27	29	39	47	52	68	74	54	54	54	54	54	54
WM2	64	70	60	62	62	65	60	54	51	50	45	27	29	39	47	52	68	74	54	54	54	54	54	54
WM3	52	50	68	58	60	61	64	58	53	49	44	26	28	38	46	51	66	72	52	52	52	52	52	
WM4/ WM5	67	64	87	75	77	78	82	75	68	64	63	56	33	36	48	59	65	85	93	67	67	67	67	67
WM6	75	75	72	97	83	86	86	91	83	75	71	70	63	37	40	54	65	72	94	103	75	75	75	75
WM7	112	112	107	145	125	129	130	136	124	113	106	104	94	55	59	80	98	109	141	155	112	112	112	112
WM8	104	104	104	100	136	117	120	121	127	116	105	99	97	88	52	55	75	92	101	132	144	104	104	104
WM9	45	45	45	43	58	50	51	52	55	50	45	42	42	38	22	24	32	39	43	57	62	45	45	45
WM10	48	48	48	48	46	62	53	55	55	58	53	48	45	45	40	24	25	34	42	46	60	66	48	48
WM11	67	67	67	67	64	87	75	77	78	82	75	68	64	63	56	33	36	48	59	65	85	93	67	67
WM12	67	67	67	67	67	64	87	75	77	78	82	75	68	64	63	56	33	36	48	59	65	85	93	67
WM13 or WM14	45	45	45	45	45	43	58	50	51	52	55	50	45	42	42	38	22	24	32	39	43	57	62	45
Substation	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94
Total	904	910	923	962	979	1000	1020	992	966	930	886	803	727	665	648	667	732	847	929	978	968	957	926	883

Workforce Vehicles (2-Way)

ECC route segment	Month																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WM1	16	22	23	28	37	40	41	40	41	36	36	30	32	28	26	18	19	19	30	30	30	30	30	30
WM2	16	22	23	28	37	40	41	40	41	36	36	30	32	28	26	18	19	19	30	30	30	30	30	30
WM3	23	12	18	22	29	31	32	31	32	28	28	24	25	22	20	14	15	15	15	23	23	23	23	23
WM4/ WM5	30	16	22	23	28	37	40	41	40	41	36	36	30	32	28	26	18	19	19	30	30	30	30	30
WM6	33	33	17	24	26	31	41	45	46	45	46	40	40	34	35	32	29	20	21	21	33	33	33	33
WM7	49	49	26	37	39	47	62	67	69	67	69	60	50	53	47	43	30	31	31	49	49	49	49	49
WM8	46	46	46	24	34	36	43	58	62	64	63	65	56	56	47	49	44	28	29	29	46	46	46	46
WM9	20	20	20	10	15	15	19	25	27	27	27	28	24	24	20	21	19	17	12	13	13	20	20	20
WM10	21	21	21	21	11	16	16	20	26	29	29	29	30	26	26	22	22	20	19	13	13	13	21	21
WM11	30	30	30	30	16	22	23	28	37	40	41	40	41	36	36	30	32	28	26	18	19	19	30	30
WM12	30	30	30	30	16	22	23	28	37	40	41	40	41	36	36	30	32	28	26	18	19	19	30	30
WM13 or WM14	20	20	20	20	10	15	15	19	25	27	27	27	28	24	24	20	21	19	17	12	13	13	20	20
Substation	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Total	362	350	325	326	350	371	425	463	499	506	509	481	467	436	408	368	340	310	307	310	328	353	372	390

Total Vehicles (2-Way)

(there may be some rounding errors with the total traffic flows)

ECC route segment	Month																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WM1	80	92	83	90	99	106	101	95	92	86	81	57	60	67	73	70	87	93	84	84	84	84	84	84
WM2	80	92	83	90	99	106	101	95	92	86	81	57	60	67	73	70	87	93	84	84	84	84	84	84
WM3	75	62	86	80	89	92	96	89	85	78	77	67	50	58	60	65	81	87	75	75	75	75	75	75
WM4/ WM5	97	80	109	98	105	115	122	116	108	105	99	93	64	67	77	85	83	104	112	97	97	97	97	97
WM6	107	107	89	121	109	117	128	135	129	120	117	110	103	71	75	85	94	93	115	124	107	107	107	107
WM7	161	161	133	182	164	175	191	203	193	180	175	165	154	106	112	128	142	139	173	186	161	161	161	161
WM8	150	150	150	124	170	153	163	179	190	180	168	163	154	144	99	105	119	132	130	161	174	150	150	150
WM9	64	64	64	53	73	65	70	77	81	77	72	70	66	62	42	45	51	57	56	69	74	64	64	64
WM10	69	69	69	69	57	78	70	75	82	87	82	77	75	70	66	45	48	55	60	59	74	69	69	69
WM11	97	97	97	97	80	109	98	105	115	122	116	108	105	99	93	64	67	77	85	83	104	112	97	97
WM12	97	97	97	97	80	109	98	105	115	122	116	108	105	99	93	64	67	77	85	83	104	112	97	97
WM13 or WM14	64	64	64	64	53	73	65	70	77	81	77	72	70	66	62	42	45	51	57	56	69	74	64	64
Substation	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
Total	1265	1259	1249	1289	1329	1371	1445	1455	1465	1436	1395	1283	1195	1101	1056	1035	1073	1157	1236	1288	1296	1310	1298	1273

Annex 02

Trip generation calculations – Weston Marsh north of the A52 ECC option

Weston Marsh (north of the A52)

HGVs (2 way)

ECC route segment	Month																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WM1	64	70	60	62	62	65	60	54	51	50	45	27	29	39	47	52	68	74	54	54	54	54	54	54
WM2	64	70	60	62	62	65	60	54	51	50	45	27	29	39	47	52	68	74	54	54	54	54	54	54
WM3	52	50	68	58	60	61	64	58	53	49	49	44	26	28	38	46	51	66	72	52	52	52	52	52
WM4/ A1	112	107	145	125	129	130	136	124	113	106	104	94	55	59	80	98	109	141	155	112	112	112	112	112
A2	45	45	43	58	50	51	52	55	50	45	42	42	38	22	24	32	39	43	57	62	45	45	45	45
A3	82	82	79	107	92	94	95	100	91	83	78	76	69	41	44	59	72	80	104	113	82	82	82	82
A4	82	82	82	79	107	92	94	95	100	91	83	78	76	69	41	44	59	72	80	104	113	82	82	82
A5	104	104	104	100	136	117	120	121	127	116	105	99	97	88	52	55	75	92	101	132	144	104	104	104
WM10	48	48	48	48	46	62	53	55	55	58	53	48	45	45	40	24	25	34	42	46	60	66	48	48
WM11	67	67	67	67	64	87	75	77	78	82	75	68	64	63	56	33	36	48	59	65	85	93	67	67
WM12	67	67	67	67	67	64	87	75	77	78	82	75	68	64	63	56	33	36	48	59	65	85	93	67
WM13 or WM14	45	45	45	45	45	43	58	50	51	52	55	50	45	42	42	38	22	24	32	39	43	57	62	45
Substation	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94
Total	926	930	961	971	1013	1025	1048	1012	991	954	909	820	734	691	667	683	750	878	952	987	1005	980	949	906

Workforce Vehicles (2-Way)

ECC route segment	Month																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WM1	16	22	23	28	37	40	41	40	41	36	36	30	32	28	26	18	19	19	30	30	30	30	30	30
WM2	16	22	23	28	37	40	41	40	41	36	36	30	32	28	26	18	19	19	30	30	30	30	30	30
WM3	23	12	18	22	29	31	32	31	32	28	24	25	22	20	14	15	15	15	23	23	23	23	23	23
WM4/ A1	49	26	37	39	47	62	67	69	67	69	60	50	53	47	43	30	31	31	49	49	49	49	49	49
A2	20	20	10	15	15	19	25	27	27	27	28	24	24	20	21	19	17	12	13	13	20	20	20	20
A3	36	36	19	27	28	34	45	49	50	49	51	44	44	37	39	35	32	22	23	23	36	36	36	36
A4	36	36	36	19	27	28	34	45	49	50	49	51	44	44	37	39	35	32	22	23	23	36	36	36
A5	46	46	46	24	34	36	43	58	62	64	63	65	56	56	47	49	44	41	28	29	29	46	46	46
WM10	21	21	21	21	11	16	16	20	26	29	29	30	26	26	22	22	20	19	13	13	13	21	21	21
WM11	30	30	30	30	16	22	23	28	37	40	41	40	41	36	36	30	32	28	26	18	19	19	30	30
WM12	30	30	30	30	16	22	23	28	37	40	41	40	41	36	36	30	32	28	26	18	19	19	30	30
WM13 or WM14	20	20	20	20	10	15	15	19	25	27	27	27	28	24	24	20	21	19	17	12	13	13	20	20
Substation	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Total	372	350	343	331	360	384	435	476	511	521	519	496	476	450	416	377	345	321	313	324	332	363	382	400

Total Vehicles (2-Way)

ECC route segment	Month																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WM1	80	92	83	90	99	106	101	95	92	86	81	57	60	67	73	70	87	93	84	84	84	84	84	84
WM2	80	92	83	90	99	106	101	95	92	86	81	57	60	67	73	70	87	93	84	84	84	84	84	84
WM3	75	62	86	80	89	92	96	89	85	78	77	67	50	58	60	65	81	87	75	75	75	75	75	75
WM4/ A1	161	133	182	164	175	191	203	193	180	175	165	154	106	112	128	142	139	173	186	161	161	161	161	161
A2	64	64	53	73	65	70	77	81	77	72	70	66	62	42	45	51	57	69	74	64	64	64	64	64
A3	118	118	98	133	120	128	140	149	141	132	128	121	113	78	82	94	104	102	127	136	118	118	118	118
A4	118	118	118	98	133	120	128	140	149	141	132	128	121	113	78	82	94	104	102	127	136	118	118	118
A5	150	150	150	124	170	153	163	179	190	180	168	163	154	144	99	105	119	132	130	161	174	150	150	150
WM10	69	69	69	69	57	78	70	75	82	87	82	77	75	70	66	45	48	55	60	59	74	69	69	69
WM11	97	97	97	97	80	109	98	105	115	122	116	108	105	99	93	64	67	77	85	83	104	112	97	97
WM12	97	97	97	97	80	109	98	105	115	122	116	108	105	99	93	64	67	77	85	83	104	112	97	97
WM13 or WM14	64	64	64	64	64	53	73	65	70	77	81	77	72	70	66	62	42	45	51	57	56	69	74	64
Substation	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
Total	1298	1280	1304	1302	1373	1409	1483	1487	1502	1474	1428	1316	1210	1141	1082	1060	1095	1199	1265	1310	1336	1343	1330	1306

Annex 03

Trip generation calculations – Lincolnshire Node

Annex 04

Construction workforce gravity model

Lincolnshire Node

Workforce link trip generation

	Population	Distance	Weighted Distribution	Access A		Access B	
				A52 west of Hothorpe		B1149 east of Thurlby	
Boston	58,124	14	297	33.0%	A16 (S), A1104, B1449, A52	A16 (S), A1104, B1449	
A52 west of Hogsthorpe					33.0%		33.0%
B1449					33.0%		33.0%
A1104					33.0%		33.0%
A52 between Hogsthorpe and Marsh Lane							
A52 between Marsh Lane and Skegness							
Marsh Lane between ECC and A52							
Marsh Lane between ECC and A1158							
A158 east of ECC							
A158 west of ECC							
A52 between ECC and Skegness (ECC Route Section 4)							
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)							
A52 ECC Route Section 5							
A52 ECC Route Section 6							
A52 ECC Route Section 7							
A52 ECC Route Section 8							
A52 ECC Route Section 9							
A16 south of Boston (ECC Route Section 10)							
A16 ECC Route Section 11							
A17 south of River Welland							
A17 north of River Welland							
A17 between A16 and A1121							
A17 west of A1121							
A16 south of A17							
A1121 between Boston and A17							
A16 between A52 (Boston) and A158					33.0%		33.0%
A16 between A158 and A1028					33.0%		33.0%
A16 north of A1028 / A1104							
A1028 between A158 and A16							
A158 between A1028 and A16							
A158 west of A16							
A1104 north of B1149							
A16 Boston							
Grantham	44,000	44	23	2.5%	A158, A1104, B1449, A52	A158, A1104, B1449, A52	
A52 west of Hogsthorpe					2.5%		2.5%
B1449					2.5%		2.5%
A1104					2.5%		2.5%
A52 between Hogsthorpe and Marsh Lane							
A52 between Marsh Lane and Skegness							
Marsh Lane between ECC and A52							
Marsh Lane between ECC and A1158							
A158 east of ECC							
A158 west of ECC							
A52 between ECC and Skegness (ECC Route Section 4)							
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)							
A52 ECC Route Section 5							
A52 ECC Route Section 6							
A52 ECC Route Section 7							
A52 ECC Route Section 8							
A52 ECC Route Section 9							
A16 south of Boston (ECC Route Section 10)							
A16 ECC Route Section 11							
A17 south of River Welland							
A17 north of River Welland							
A17 between A16 and A1121							
A17 west of A1121							
A16 south of A17							
A1121 between Boston and A17							
A16 between A52 (Boston) and A158							
A16 between A158 and A1028					2.5%		
A16 north of A1028 / A1104							
A1028 between A158 and A16							
A158 between A1028 and A16							
A158 west of A16							
A1104 north of B1149					2.5%		
A16 Boston							
Grimsby	88,243	42	50	5.6%	A16 (N), A1104, B1449, A52	A16 (N), A1104, B1449, A52	
A52 west of Hogsthorpe					5.6%		5.6%
B1449					5.6%		5.6%
A1104					5.6%		5.6%
A52 between Hogsthorpe and Marsh Lane							
A52 between Marsh Lane and Skegness							
Marsh Lane between ECC and A52							
Marsh Lane between ECC and A1158							
A158 east of ECC							
A158 west of ECC							
A52 between ECC and Skegness (ECC Route Section 4)							
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)							
A52 ECC Route Section 5							
A52 ECC Route Section 6							
A52 ECC Route Section 7							
A52 ECC Route Section 8							
A52 ECC Route Section 9							
A16 south of Boston (ECC Route Section 10)							
A16 ECC Route Section 11							

A17 south of River Welland						
A17 north of River Welland						
A17 between A16 and A1121						
A17 west of A1121						
A16 south of A17						
A1121 between Boston and A17						
A16 between A52 (Boston) and A158						
A16 between A158 and A1028						
A16 north of A1028 / A1104					5.6%	5.6%
A1028 between A158 and A16						
A158 between A1028 and A16						
A158 west of A16						
A1104 north of B1149						
A16 Boston						
Horncastle	6,651	22	14	1.5%	A158, A1104, B1449, A52	A158, A1104, B1449, A52
A52 west of Hogsthorpe					1.5%	1.5%
B1449					1.5%	1.5%
A1104					1.5%	1.5%
A52 between Hogsthorpe and Marsh Lane						
A52 between Marsh Lane and Skegness						
Marsh Lane between ECC and A52						
Marsh Lane between ECC and A1158						
A158 east of ECC						
A158 west of ECC						
A52 between ECC and Skegness (ECC Route Section 4)						
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)						
A52 ECC Route Section 5						
A52 ECC Route Section 6						
A52 ECC Route Section 7						
A52 ECC Route Section 8						
A52 ECC Route Section 9						
A16 south of Boston (ECC Route Section 10)						
A16 ECC Route Section 11						
A17 south of River Welland						
A17 north of River Welland						
A17 between A16 and A1121						
A17 west of A1121						
A16 south of A17						
A1121 between Boston and A17						
A16 between A52 (Boston) and A158						
A16 between A158 and A1028						
A16 north of A1028 / A1104						
A1028 between A158 and A16						
A158 between A1028 and A16						
A158 west of A16					1.5%	1.5%
A1104 north of B1149						
A16 Boston						
Kings Lynn	42,800	47	19	2.2%	A17 (S), A16, A1104, B1449, A52	A17 (S), A16, A1104, B1449, A52
A52 west of Hogsthorpe					2.2%	2.2%
B1449					2.2%	2.2%
A1104					2.2%	2.2%
A52 between Hogsthorpe and Marsh Lane						
A52 between Marsh Lane and Skegness						
Marsh Lane between ECC and A52						
Marsh Lane between ECC and A1158						
A158 east of ECC						
A158 west of ECC						
A52 between ECC and Skegness (ECC Route Section 4)						
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)						
A52 ECC Route Section 5						
A52 ECC Route Section 6						
A52 ECC Route Section 7						
A52 ECC Route Section 8						
A52 ECC Route Section 9						
A16 south of Boston (ECC Route Section 10)					2.2%	2.2%
A16 ECC Route Section 11					2.2%	2.2%
A17 south of River Welland					2.2%	2.2%
A17 north of River Welland					2.2%	2.2%
A17 between A16 and A1121						
A17 west of A1121						
A16 south of A17						
A1121 between Boston and A17						
A16 between A52 (Boston) and A158					2.2%	2.2%
A16 between A158 and A1028					2.2%	2.2%
A16 north of A1028 / A1104						
A1028 between A158 and A16						
A158 between A1028 and A16						
A158 west of A16						
A1104 north of B1149						
A16 Boston					2.2%	2.2%
Lincoln	130,200	40	81	9.1%	A158, A1104, B1449, A52	A158, A1104, B1449, A52
A52 west of Hogsthorpe					9.1%	9.1%
B1449					9.1%	9.1%
A1104					9.1%	9.1%
A52 between Hogsthorpe and Marsh Lane						
A52 between Marsh Lane and Skegness						
Marsh Lane between ECC and A52						
Marsh Lane between ECC and A1158						
A158 east of ECC						
A158 west of ECC						
A52 between ECC and Skegness (ECC Route Section 4)						
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)						
A52 ECC Route Section 5						

A52 ECC Route Section 6							
A52 ECC Route Section 7							
A52 ECC Route Section 8							
A52 ECC Route Section 9							
A16 south of Boston (ECC Route Section 10)							
A16 ECC Route Section 11							
A17 south of River Welland							
A17 north of River Welland							
A17 between A16 and A1121							
A17 west of A1121							
A16 south of A17							
A1121 between Boston and A17							
A16 between A52 (Boston) and A158							
A16 between A158 and A1028					9.1%		9.1%
A16 north of A1028 / A1104							
A1028 between A158 and A16							
A158 between A1028 and A16							
A158 west of A16					9.1%		9.1%
A1104 north of B1149							
A16 Boston							
Louth	16,419	27	23	2.5%	A16 (S), A1104, B1449, A52	A16 (S), A1104, B1449, A52	
A52 west of Hogsthorpe					2.5%		2.5%
B1449					2.5%		2.5%
A1104					2.5%		2.5%
A52 between Hogsthorpe and Marsh Lane							
A52 between Marsh Lane and Skegness							
Marsh Lane between ECC and A52							
Marsh Lane between ECC and A1158							
A158 east of ECC							
A158 west of ECC							
A52 between ECC and Skegness (ECC Route Section 4)							
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)							
A52 ECC Route Section 5							
A52 ECC Route Section 6							
A52 ECC Route Section 7							
A52 ECC Route Section 8							
A52 ECC Route Section 9							
A16 south of Boston (ECC Route Section 10)							
A16 ECC Route Section 11							
A17 south of River Welland							
A17 north of River Welland							
A17 between A16 and A1121							
A17 west of A1121							
A16 south of A17							
A1121 between Boston and A17							
A16 between A52 (Boston) and A158							
A16 between A158 and A1028							
A16 north of A1028 / A1104					2.5%		2.5%
A1028 between A158 and A16							
A158 between A1028 and A16							
A158 west of A16							
A1104 north of B1149							
A16 Boston							
Mablethorpe	12,531	22	26	2.9%	A52 west of Hosthorpe	A52 west of Hosthorpe	
A52 west of Hogsthorpe					2.9%		2.9%
B1449					2.9%		2.9%
A1104							
A52 between Hogsthorpe and Marsh Lane							
A52 between Marsh Lane and Skegness							
Marsh Lane between ECC and A52							
Marsh Lane between ECC and A1158							
A158 east of ECC							
A158 west of ECC							
A52 between ECC and Skegness (ECC Route Section 4)							
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)							
A52 ECC Route Section 5							
A52 ECC Route Section 6							
A52 ECC Route Section 7							
A52 ECC Route Section 8							
A52 ECC Route Section 9							
A16 south of Boston (ECC Route Section 10)							
A16 ECC Route Section 11							
A17 south of River Welland							
A17 north of River Welland							
A17 between A16 and A1121							
A17 west of A1121							
A16 south of A17							
A1121 between Boston and A17							
A16 between A52 (Boston) and A158							
A16 between A158 and A1028							
A16 north of A1028 / A1104							
A1028 between A158 and A16							
A158 between A1028 and A16							
A158 west of A16							
A1104 north of B1149					2.9%		2.9%
A16 Boston							
Newark	37,084	50	15	1.7%	A158, A1104, B1449, A52	A158, A1104, B1449, A52	
A52 west of Hogsthorpe					1.7%		1.7%
B1449					1.7%		1.7%
A1104					1.7%		1.7%
A52 between Hogsthorpe and Marsh Lane							
A52 between Marsh Lane and Skegness							
Marsh Lane between ECC and A52							

Marsh Lane between ECC and A1158						
A158 east of ECC						
A158 west of ECC						
A52 between ECC and Skegness (ECC Route Section 4)						
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)						
A52 ECC Route Section 5						
A52 ECC Route Section 6						
A52 ECC Route Section 7						
A52 ECC Route Section 8						
A52 ECC Route Section 9						
A16 south of Boston (ECC Route Section 10)						
A16 ECC Route Section 11						
A17 south of River Welland						
A17 north of River Welland						
A17 between A16 and A1121						
A17 west of A1121						
A16 south of A17						
A1121 between Boston and A17						
A16 between A52 (Boston) and A158						
A16 between A158 and A1028					1.7%	1.7%
A16 north of A1028 / A1104					1.7%	1.7%
A1028 between A158 and A16						
A158 between A1028 and A16						
A158 west of A16					1.7%	1.7%
A1104 north of B1149						
A16 Boston						
Peterborough	186,400	48	81	9.0%	A16 (S), A1104, B1449, A52	A16 (S), A1104, B1449, A52
A52 west of Hogsthorpe					9.0%	9.0%
B1449					9.0%	9.0%
A1104					9.0%	9.0%
A52 between Hogsthorpe and Marsh Lane						
A52 between Marsh Lane and Skegness						
Marsh Lane between ECC and A52						
Marsh Lane between ECC and A1158						
A158 east of ECC						
A158 west of ECC						
A52 between ECC and Skegness (ECC Route Section 4)						
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)						
A52 ECC Route Section 5						
A52 ECC Route Section 6						
A52 ECC Route Section 7						
A52 ECC Route Section 8						
A52 ECC Route Section 9						
A16 south of Boston (ECC Route Section 10)					9.0%	9.0%
A16 ECC Route Section 11					9.0%	9.0%
A17 south of River Welland						
A17 north of River Welland						
A17 between A16 and A1121						
A17 west of A1121						
A16 south of A17					9.0%	9.0%
A1121 between Boston and A17						
A16 between A52 (Boston) and A158					9.0%	9.0%
A16 between A158 and A1028					9.0%	9.0%
A16 north of A1028 / A1104						
A1028 between A158 and A16						
A158 between A1028 and A16						
A158 west of A16						
A1104 north of B1149						
A16 Boston					9.0%	9.0%
Skegness	24,876	12	173	19.2%	A52	A52
A52 west of Hogsthorpe					19.2%	19.2%
B1449						
A1104						
A52 between Hogsthorpe and Marsh Lane					19.2%	19.2%
A52 between Marsh Lane and Skegness					19.2%	19.2%
Marsh Lane between ECC and A52						
Marsh Lane between ECC and A1158						
A158 east of ECC						
A158 west of ECC						
A52 between ECC and Skegness (ECC Route Section 4)						
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)						
A52 ECC Route Section 5						
A52 ECC Route Section 6						
A52 ECC Route Section 7						
A52 ECC Route Section 8						
A52 ECC Route Section 9						
A16 south of Boston (ECC Route Section 10)						
A16 ECC Route Section 11						
A17 south of River Welland						
A17 north of River Welland						
A17 between A16 and A1121						
A17 west of A1121						
A16 south of A17						
A1121 between Boston and A17						
A16 between A52 (Boston) and A158						
A16 between A158 and A1028						
A16 north of A1028 / A1104						
A1028 between A158 and A16						
A158 between A1028 and A16						
A158 west of A16						
A1104 north of B1149						
A16 Boston						
Sleaford	17,359	32	17	1.9%	A158, A1104, B1449, A52	A158, A1104, B1449, A52

A52 west of Hogsthorpe						1.9%	1.9%
B1449						1.9%	1.9%
A1104						1.9%	1.9%
A52 between Hogsthorpe and Marsh Lane							
A52 between Marsh Lane and Skegness							
Marsh Lane between ECC and A52							
Marsh Lane between ECC and A1158							
A158 east of ECC							
A158 west of ECC							
A52 between ECC and Skegness (ECC Route Section 4)							
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)							
A52 ECC Route Section 5							
A52 ECC Route Section 6							
A52 ECC Route Section 7							
A52 ECC Route Section 8							
A52 ECC Route Section 9							
A16 south of Boston (ECC Route Section 10)							
A16 ECC Route Section 11							
A17 south of River Welland							
A17 north of River Welland							
A17 between A16 and A1121							
A17 west of A1121							
A16 south of A17							
A1121 between Boston and A17							
A16 between A52 (Boston) and A158							
A16 between A158 and A1028						1.9%	1.9%
A16 north of A1028 / A1104							
A1028 between A158 and A16							
A158 between A1028 and A16							
A158 west of A16						1.9%	1.9%
A1104 north of B1149							
A16 Boston							
Spalding	28,722	27	39	4.4%	A16 (north of A158) A1104, B1449, A52	A16 (north of A158) A1104, B1449, A52	
A52 west of Hogsthorpe						4.4%	4.4%
B1449						4.4%	4.4%
A1104						4.4%	4.4%
A52 between Hogsthorpe and Marsh Lane							
A52 between Marsh Lane and Skegness							
Marsh Lane between ECC and A52							
Marsh Lane between ECC and A1158							
A158 east of ECC							
A158 west of ECC							
A52 between ECC and Skegness (ECC Route Section 4)							
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)							
A52 ECC Route Section 5							
A52 ECC Route Section 6							
A52 ECC Route Section 7							
A52 ECC Route Section 8							
A52 ECC Route Section 9							
A16 south of Boston (ECC Route Section 10)						4.4%	4.4%
A16 ECC Route Section 11						4.4%	4.4%
A17 south of River Welland							
A17 north of River Welland							
A17 between A16 and A1121							
A17 west of A1121							
A16 south of A17						4.4%	4.4%
A1121 between Boston and A17							
A16 between A52 (Boston) and A158						4.4%	4.4%
A16 between A158 and A1028						4.4%	4.4%
A16 north of A1028 / A1104							
A1028 between A158 and A16							
A158 between A1028 and A16							
A158 west of A16							
A1104 north of B1149							
A16 Boston						4.4%	4.4%
Spilsby	3,440	12	24	2.7%	A16 (S), A1104, B1449, A52	A16 (S), A1104, B1449, A52	
A52 west of Hogsthorpe						2.7%	2.7%
B1449						2.7%	2.7%
A1104						2.7%	2.7%
A52 between Hogsthorpe and Marsh Lane							
A52 between Marsh Lane and Skegness							
Marsh Lane between ECC and A52							
Marsh Lane between ECC and A1158							
A158 east of ECC							
A158 west of ECC							
A52 between ECC and Skegness (ECC Route Section 4)							
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)							
A52 ECC Route Section 5							
A52 ECC Route Section 6							
A52 ECC Route Section 7							
A52 ECC Route Section 8							
A52 ECC Route Section 9							
A16 south of Boston (ECC Route Section 10)							
A16 ECC Route Section 11							
A17 south of River Welland							
A17 north of River Welland							
A17 between A16 and A1121							
A17 west of A1121							
A16 south of A17							
A1121 between Boston and A17							
A16 between A52 (Boston) and A158							
A16 between A158 and A1028						2.7%	2.7%
A16 north of A1028 / A1104							

A1028 between A158 and A16						
A158 between A1028 and A16						
A158 west of A16						
A1104 north of B1149						
A16 Boston						
Wisbech	31,573	42	18	2.0%	A16 (S), A1104, B1449, A52	A16 (S), A1104, B1449, A52
A52 west of Hogsthorpe					2.0%	2.0%
B1449					2.0%	2.0%
A1104					2.0%	2.0%
A52 between Hogsthorpe and Marsh Lane						
A52 between Marsh Lane and Skegness						
Marsh Lane between ECC and A52						
Marsh Lane between ECC and A1158						
A158 east of ECC						
A158 west of ECC						
A52 between ECC and Skegness (ECC Route Section 4)						
A52 between ECC and Wainfleet All Saints (ECC Route Section 4)						
A52 ECC Route Section 5						
A52 ECC Route Section 6						
A52 ECC Route Section 7						
A52 ECC Route Section 8						
A52 ECC Route Section 9						
A16 south of Boston (ECC Route Section 10)					2.0%	2.0%
A16 ECC Route Section 11					2.0%	2.0%
A17 south of River Welland						2.0%
A17 north of River Welland						2.0%
A17 between A16 and A1121						
A17 west of A1121						
A16 south of A17					2.0%	
A1121 between Boston and A17						
A16 between A52 (Boston) and A158					2.0%	2.0%
A16 between A158 and A1028					2.0%	2.0%
A16 north of A1028 / A1104						
A1028 between A158 and A16						
A158 between A1028 and A16						
A158 west of A16						
A1104 north of B1149						
A16 Boston					2.0%	2.0%

Annex 05

HGV trip assignment assumptions

Weston Marsh (south of the A52)

HGVs - Link distribution

Location Reference	Location	Access A	Access A	Access B/ C/ D	Access E	Access F	Access H	Access I	Access J	Access K	Access L	Access M / G	Access N	Access O	Access P	Access Q	Access R	Access S	Access T
23	B1449 Thurlby Lane	100%	100%																
24	B1449 Long Lane	100%	100%																
25	A1104	100%	100%																
26	A52 between Hogsthorpe and Marsh Lane																		
27	A52 between Marsh Lane and Skegness																		
28	S Ings Lane			25%															
29	Marsh Lane between ECC and A52																		
30	Marsh Lane between ECC and A1158			50%															
31	A158 east of ECC					100%	100%	100%	50%										
32	A158 west of ECC				100%	100%	100%	100%	50%										
33	A52 between ECC and Skegness (ECC Route Section 4)					100%	100%	100%	50%										
34	A52 between ECC and Wainfleet All Saints (ECC Route Section 4)						100%	100%	50%										
35	A52 ECC Route Section 5							100%	50%										
36	A52 ECC Route Section 6							100%	50%										
37	A52 ECC Route Section 7								50%										
38	A52 ECC Route Section 8								50%	100%									
39	A52 ECC Route Section 9								50%	100%	100%	100%							
60	A16 south of Boston (ECC Route Section 10)												100%						
61	A16 ECC Route Section 11												100%	100%					
62	A17 south of River Welland												25%	25%	25%	25%	25%	25%	25%
63	A17 north of River Welland												25%	25%	75%	75%	75%	75%	25%
64	A17 between A16 and A1121												50%	50%	50%	50%	50%	50%	50%
65	A17 west of A1121								50%	30%	30%	30%	50%	50%	50%	50%	50%	50%	50%
66	A16 south of A17												25%	25%	25%	25%	25%	25%	100%
67	A1121 between Boston and A17								50%	30%	30%	30%							
68	A16 between A52 (Boston) and A155									70%	70%	70%							
69	A16 between A155 and A158									70%	70%	70%							
70	A16 between A158 and A1028	50%	50%	50%	50%	50%	50%	50%	25%	35%	35%	35%							
71	A16 north of A1028 / A1104	50%	50%	50%	50%	50%	50%	50%	25%	35.0%	35.0%	35.0%							
72	A1028 between A158 and A16			50%	50%	50%	50%	50%	25%										
73	A158 between A1028 and A16			50%	50%	50%	50%	50%	50%										
74	A158 west of A16	50%	50%	50%	50%	50%	50%	50%	50%	35.0%	35.0%	35.0%							
75	A1104 north of B1149																		
76	A16 Boston								50.0%	30%	30%	30%							

Lincolnshire Node

HGVs - Link distribution

Cell Number		Access A A52 west of Hosthorpe	Access B / Substation B1149 east of Thurlby
4	B1449 Thurlby Lane	100%	100%
5	B1449 Long Lane	100%	100%
6	A1104	100%	100%
7	A52 between Hogsthorpe and Marsh Lane		
8	A52 between Marsh Lane and Skegness		
9	A52 between ECC and Skegness (ECC Route Section 4)		
10	A52 between ECC and Wainfleet All Saints (ECC Route Section 4)		
11	A52 ECC Route Section 5		
12	A52 ECC Route Section 6		
13	A52 ECC Route Section 7		
14	A52 ECC Route Section 8		
15	A52 ECC Route Section 9		
16	A16 south of Boston (ECC Route Section 10)		
17	A16 ECC Route Section 11		
18	A17 south of River Welland		
19	A17 north of River Welland		
20	A17 between A16 and A1121		
21	A17 west of A1121		
22	A16 south of A17		
23	A1121 between Boston and A17		
24	A16 between A52 (Boston) and A155		
25	A16 between A155 and A158		
26	A16 between A158 and A1028	50%	50%
27	A16 north of A1028 / A1104	50%	50%
28	A1028 between A158 and A16		
29	A158 between A1028 and A16		
30	A158 west of A16	50%	50%
31	A1104 north of B1149		
32	A16 Boston		

EUROPEAN OFFICES

United Kingdom

AYLESBURY

T: +44 (0)1844 337380

BELFAST

belfast@slrconsulting.com

BRADFORD-ON-AVON

T: +44 (0)1225 309400

BRISTOL

T: +44 (0)117 9064280

CARDIFF

T: +44 (0)2920 491010

CHELMSFORD

T: +44 (0)1245 392170

EDINBURGH

T: +44 (0)131 3356830

EXETER

T: +44 (0)1392 490152

GLASGOW

T: +44 (0)141 3535037

GUILDFORD

T: +44 (0)1483 889800

LONDON

T: +44 (0)203 6915810

MAIDSTONE

T: +44 (0)1622 609242

MANCHESTER (Denton)

T: +44 (0)161 5498410

MANCHESTER (Media City)

T: +44 (0)161 8727564

NEWCASTLE UPON TYNE

T: +44 (0)191 2611966

NOTTINGHAM

T: +44 (0)115 9647280

SHEFFIELD

T: +44 (0)114 2455153

SHREWSBURY

T: +44 (0)1743 239250

STIRLING

T: +44 (0)1786 239900

WORCESTER

T: +44 (0)1905 751310

Ireland

DUBLIN

T: +353 (0)1 296 4667

France

GRENOBLE

T: +33 (0)4 76 70 93 41