1. Introduction

Overview

This report summarises the findings from the ferry travel market analysis undertaken as part of the Shetland Inter-Island Transport Study. The analysis aimed to: determine carryings trends by passenger, car, commercial vehicle and other freight, annually, weekly and by time of day; identify any latent demand; establish where and when ferry capacity (vehicle deck) is potentially problematic. The sections below consider each of these topics in turn.

Data received from the operator

The data provided by the operator consisted of sailing by sailing carryings from 2006 to summer 2015, broken down by the vessel which ran the sailing. The time periods considered for the analysis were in line with the changes in timetables as outlined in Table 1. This implies that years are of slightly different lengths because the change in winter or summer timetable does not happen every six months exactly.

It is also worth noting that the operator data for the 2006 calendar year was excluded from the analysis because it was presented in a format that was not consistent with the rest of the data and could not be reconciled. Therefore the 2006/2007 year only contains nine months of data. Moreover, at the time of this report, operator data was not yet available for August and September 2015 for most of the routes so 2014/2015 was omitted from any graphs where data is only part year and is being compared against full year.

The dataset covered the routes listed in Table 2 (did not include data for Foula route). This report focuses on the results of the high frequency routes data analysis.

The analysis was carried out by route and by carryings type grouped as follows:

- Passengers;
- Cars, vans, pick-ups and tractors less than 5.5 metres;
- Commercial vehicles including trailers, tankers and plant;
- Commercial vehicles in metres (calculated taking account of the different vehicle length bands); and
- Other including motorbikes, non commercial trailers and bus and coach.

Table 1 Time periods considered for the analysis

From	To	Time Period
01/10/2006	30/04/2007	Winter 2006/2007
01/05/2007	14/10/2007	Summer 2007
15/10/2007	13/04/2008	Winter 2007/2008
14/04/2008	19/10/2008	Summer 2008
20/10/2008	12/04/2009	Winter 2008/2009
13/04/2009	19/09/2009	Summer 2009
20/09/2009	11/04/2010	Winter 2009/2010
12/04/2010	18/09/2010	Summer 2010
19/09/2010	10/04/2011	Winter 2010/2011
11/04/2011	17/09/2011	Summer 2011
18/09/2011	08/04/2012	Winter 2011/2012
09/04/2012	15/09/2012	Summer 2012
16/09/2012	07/04/2013	Winter 2012/2013
08/04/2013	30/09/2013	Summer 2013
01/10/2013	13/04/2014	Winter 2013/2014
14/04/2014	14/09/2014	Summer 2014
15/09/2014	12/04/2015	Winter 2014/2015
13/04/2015	13/09/2015	Summer 2015

Table 2 Ferry routes included in the dataset

High frequency routes:		Low frequency routes:	
Bluemull	Gutcher to Belmont	*Fair Isle*	Lerwick to Fair Isle
Bluemull	Gutcher to Hamars Ness	*Fair Isle*	Sumburgh to Fair Isle
Bluemull	Belmont to Hamars Ness	*Fair Isle*	Grutness to Fair Isle
Yell	Toft to Ulsta	*Skerries*	Vidlin to Skerries
Bressay	Lerwick to Bressay	*Skerries*	Symbister to Skerries
Whalsay	Symbister to Laxo/Vidlin	*Skerries*	Lerwick to Skerries

2. Carryings Analysis

Overview of carryings analysis

This section of the report considers each of the following topics in turn for each route:

- *What is the overall trend?* - This topic looks at how annual carryings by type vary from one year to another between 2007/2008 and 2014/2015. The absolute figures by route are included in Appendix A and the yearly figures for average car intensity (passengers to cars ratio) and average freight intensity (passengers to commercial vehicles ratio) are presented in Appendix B.
- *How do carrying vary across the year?* - This topic is concerned with the progress of total weekly passengers, cars and commercial vehicles for the last three years of data. Two weekly averages were calculated— an average daily total (total daily carryings of a certain type averaged over the year) and an average per sailing (total daily carryings of a certain type averaged over the total number of sailings during that day) . The three years for which averages are computed are defined as follows:
  - Year 1: 19th September 2011 to 16 September 2012;
  - Year2: 17 September 2012 to 15th September 2013; and
  - Year 3: 16th September 2013 to 14th September 2014.
- *How do carryings vary by day of week?* — As part of this topic, we aimed to determine the variation in carryings by day of week and plotted the average passengers, cars and commercial vehicles carryings by day of week and by year for the last three complete years of data (2011/2012, 2012/2013 and 2013/2014).
- *How do carryings vary across the day?* — This topic is concerned with the variation of carryings across the day and includes plots of the average winter and summer timetable weekday and average winter and summer timetable weekend by direction for the last three years of data (2011/2012, 2012/2013 and 2013/2014). Averages per sailing were calculated and plotted based on 2-hourly time slices rather than individual travel times. It should be noted that per sailing averages may be distorted by the lower number of sailings on Mondays (for drill and maintenance) and on Saturdays and Sundays (single ship service).
- *How often are the ships full or nearly full?* - Another aspect of the analysis was vessel utilisation as we aimed to identify the extent to which the supply side (i.e. the ferry capacities) is able to cater for the demand using data for each year from 2006/2007 to 2014/2015. Utilisation was estimated for each sailing using ferry capacities provided by the ferry operator expressed in maximum number of passengers and PCUs that can be carried on that sailing as outlined in Table 3. Thus capacities may vary on the same route because different ferries may operate on the same route. Because the data contained number of vehicles rather than PCUs we used vehicle to PCUs conversion factors (1 car = 1PCU and 1 lane meter of commercial vehicle, non-commercial trailer, bus and coach = 0.35 PCU) to estimate the number of PCUs on each sailing.
- *When are the busiest sailings?* - Using data from summer 2014 to summer 2015, we identified the high utilisation sailings by season, day of week and sailing time i.e. sailings with a load factor higher than 80%. We have used this figure as an indicator of a sailing nearing capacity and hence with limited scope for growth.

Table 3 Vessel Capacities

Vessel	Passenger Capacity	PCUs Capacity
Bigga	96	14
Dagalien	144	31
Daggri	144	31
Filla	30	8
Fivla	95	10
Geira	96	10
Good Shepherd	12	1
Hendra	95	12
Leirna	124	19
Linga	95	18
Snolda	12	6
Thora	93	10

2. Carryings Analysis

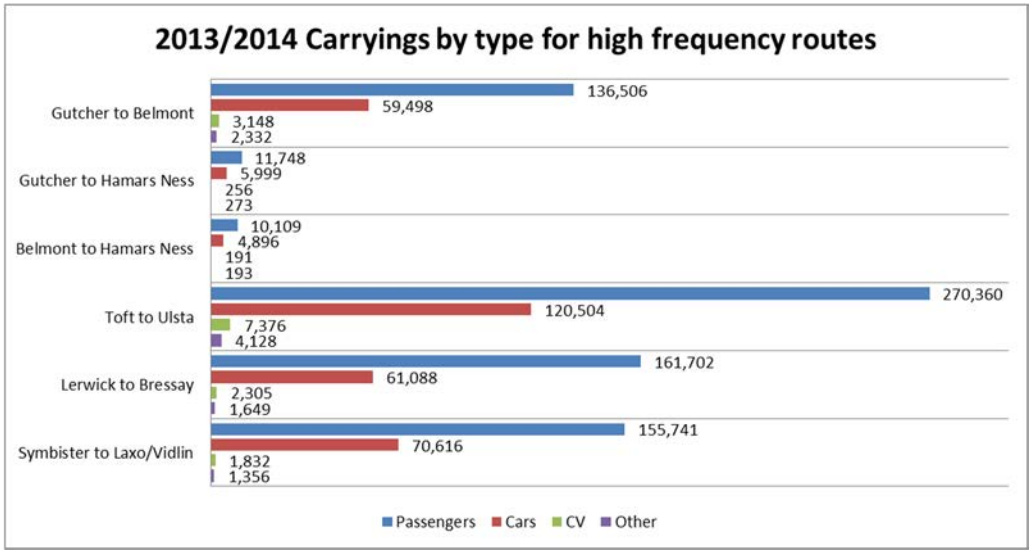
2013/2014 Carryings Summary

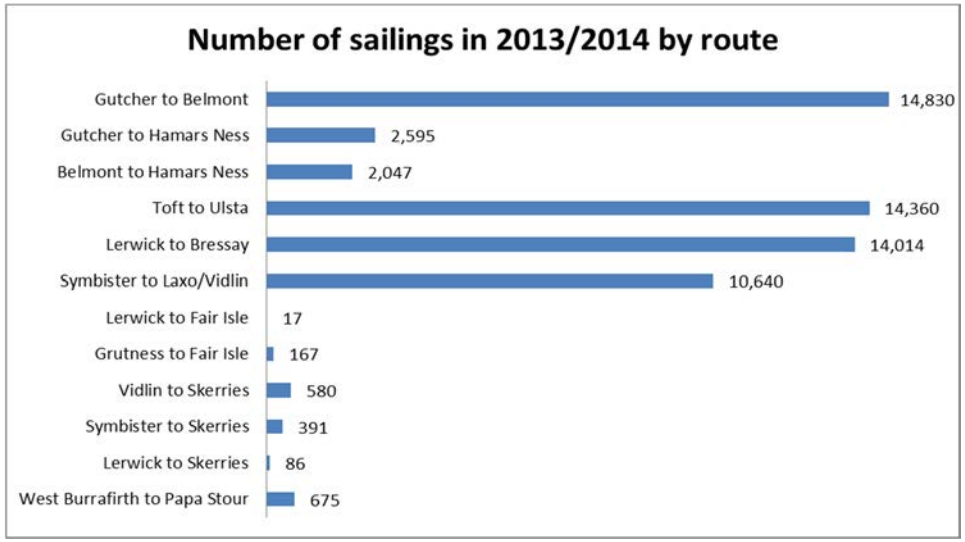
Figure 1 shows carryings by type for the high frequency and low frequency routes and total number of sailings by route for the most recent full year of data (2013/2014). Following a review of Shetland Islands Council Ferry Service, the number of sailings in 2013/2014 was reduced from around 71,500 in 2012/2013 to approximately 60,400 sailings (including sailings that travelled without any carryings on board).

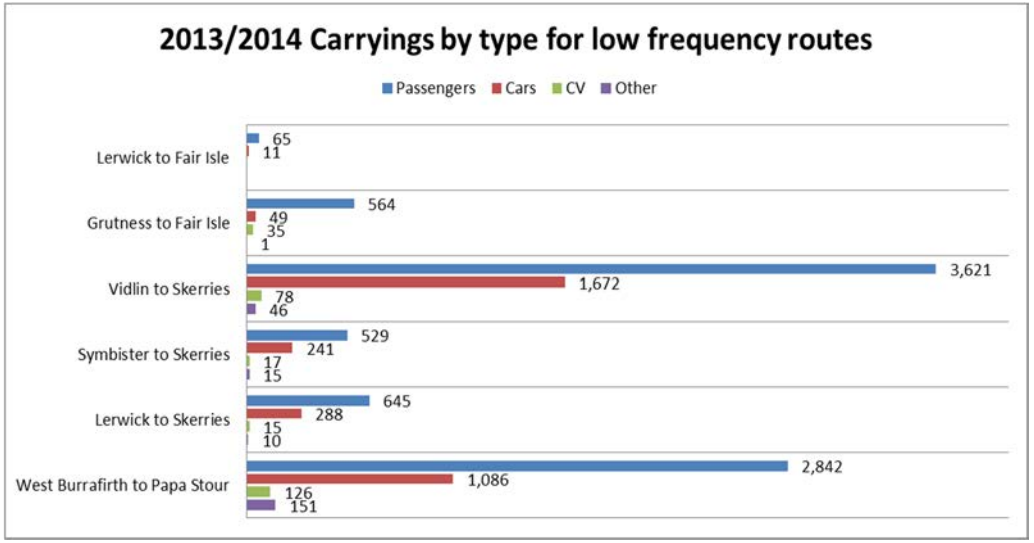
The following can be observed:

- The busiest route for all carrying types was Toft to Ulsta which transported over 270 thousand passengers and 120 thousand cars;
- The busiest low frequency route was Vidlin—Skerries for passengers and cars. The route carried 3,621 passengers and 1,672 cars in 2013/14;
- 3 routes had over 14 thousand sailings in 2013/2014 (Gutcher to Belmont, Toft to Ulsta and Lerwick to Bressay) and two routes has under 100 sailings (Lerwick to Skerries and Lerwick to Fair Isle).

Figure 1. 2013/2014 Total number of sailings (including empty sailings) and carryings type by route (combined direction)







2. Carryings Analysis

Bluemull — Gutcher to Belmont

Overall trend

Figure 1 shows indexed growth from 2007/2008. The key points in terms of yearly carryings for this route are:

- The drop in all carryings types in 2008/2009 is followed by a period of growth until 2011/2012;
- The number of commercial vehicles (total and lane metres) peaks in 2011/2012, only to drop in the next year;
- From Appendix B, it can be observed that the average car intensity for this route varies between 1.9 and 2.4 passengers to one car while the freight intensity varies between 8.1 and 10.7 passengers to one commercial vehicle.

Carryings across the year

Figure 2 shows the total weekly passengers, cars and commercial vehicles for the last three full years of data together with a three year average figure. The main points to note are:

- Passengers and cars follow very similar patterns and both are greatest during the summer months;

Figure 1 Yearly carryings by type (Combined direction—2007/2008=100%)

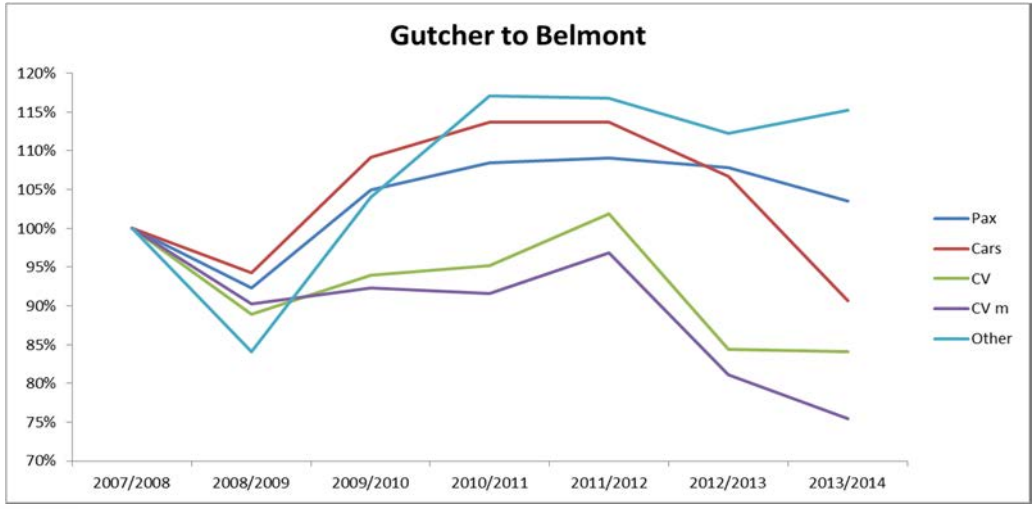
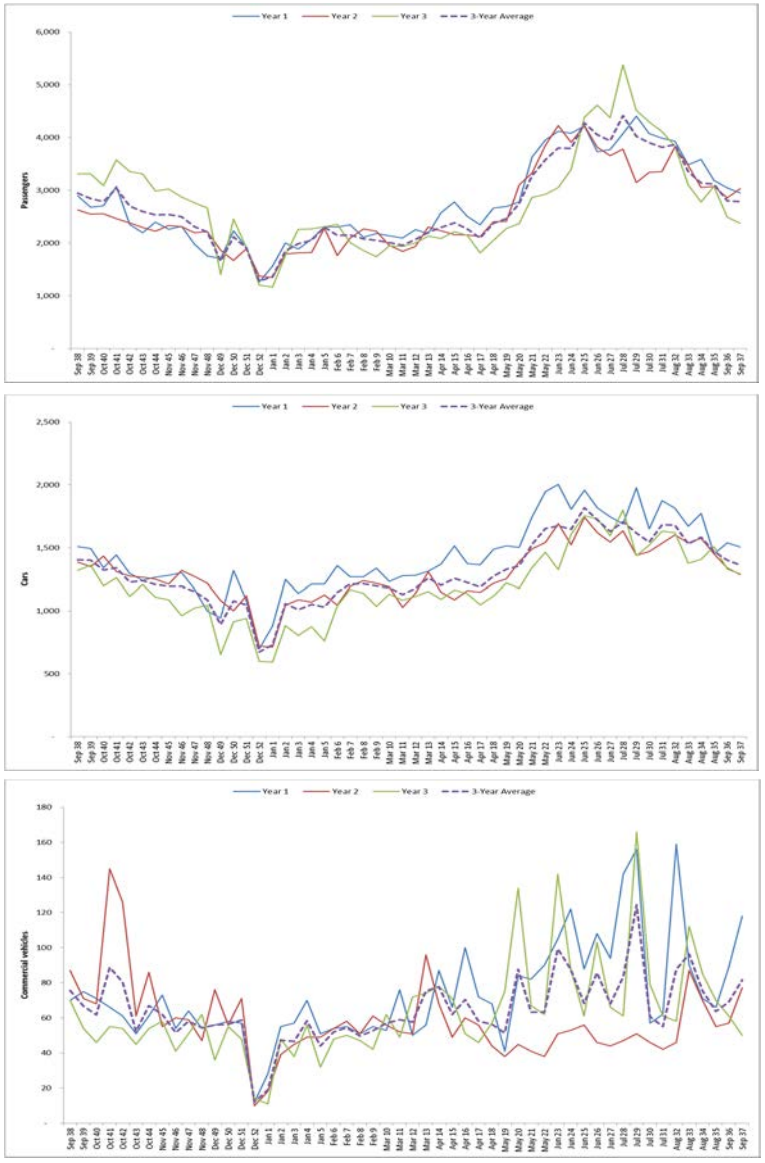


Figure 2. Carryings by week: Gutcher to Belmont (Combined direction)



2. Carryings Analysis

- Carryings drop around the Christmas holidays, with the sharpest decrease for commercial vehicles;
- There is a lot more variation throughout the year for commercial vehicles;
- Commercial vehicle carryings are considerably higher than average in October of Year 2 and below average in the second half of Year 2;

Carryings by day of week

Analysis has also been undertaken to determine how Gutcher to Belmont carryings vary throughout the week. Figure 3 shows an average per sailing on the left hand Y axis (line graph) and an average daily total on the right hand Y axis (bar chart). In terms of the average carryings by sailing, the following stand out::

- During the working week, Monday is peak day for passenger and car movements in 2011/2012 and 2012/2013 and Thursday is peak day in Year 2013/2014;
- Average daily carryings in 2012/2013 are below the three year average and average daily passenger carryings are above the three year average in 2013/2014;
- CV carryings are much reduced at the weekend while passengers and cars carryings tend to increase on Saturdays;

Carryings across the day

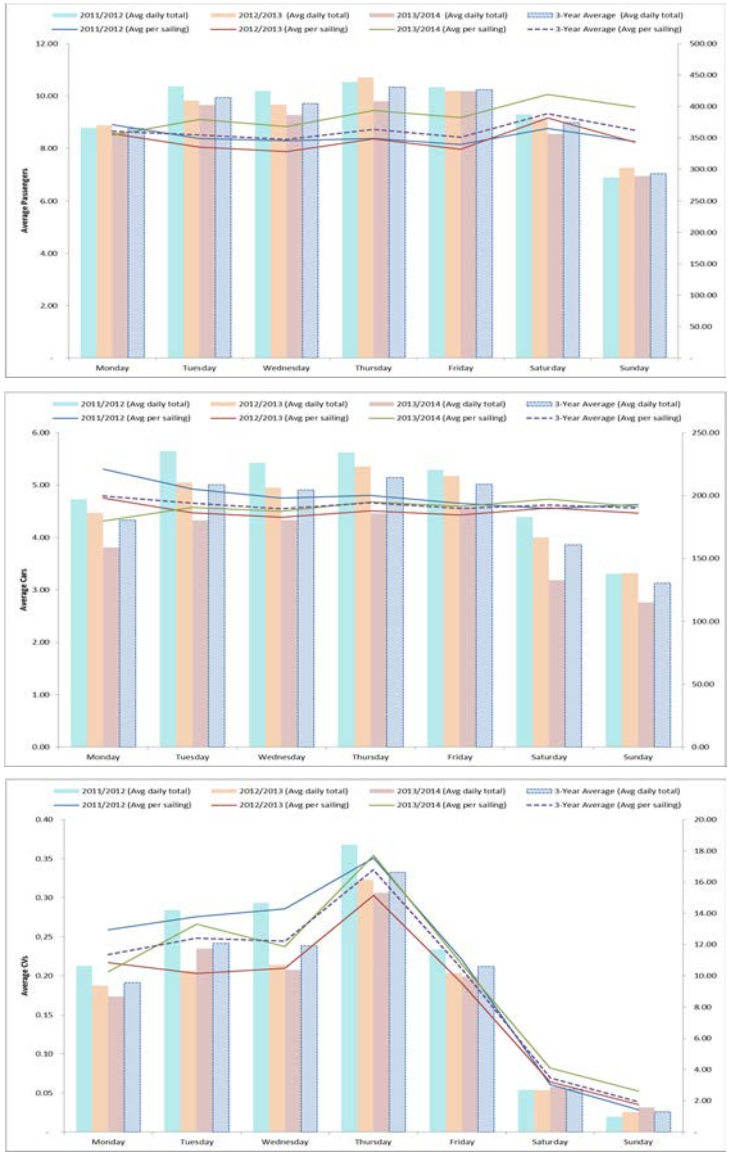
The following can be observed from Figures 4 to 11:

- From Belmont to Gutcher, the busiest sailings during the week are between 6:00 and 8:00 for passengers, both in summer and winter;
- From Gutcher to Belmont, the busiest sailings during the week for passengers are between 10:00 and 12:00 in the summer and between 16:00 and 18:00 in the winter;

Utilisation analysis

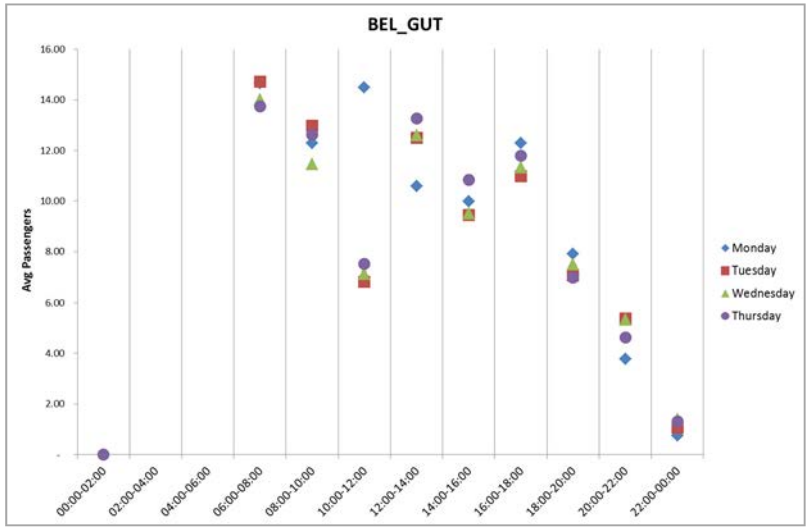
Figure 12 shows the percentage of sailings which sailed at different utilisation levels for each year since 2006/2007. It is immediately noticeable from comparing the figure for passenger utilisation with that for PCUs utilisation that the key limiting factor on ferry capacity for the Gutcher to Belmont route is the capacity of the vehicle deck rather than the passenger capacity:

Figure 3. Carryings by day of week: Gutcher to Belmont (Combined direction)



2. Carryings Analysis

Figure 4. Average Summer Carryings by Scheduled Departure Time — Belmont to Gutcher (Single direction), Passengers



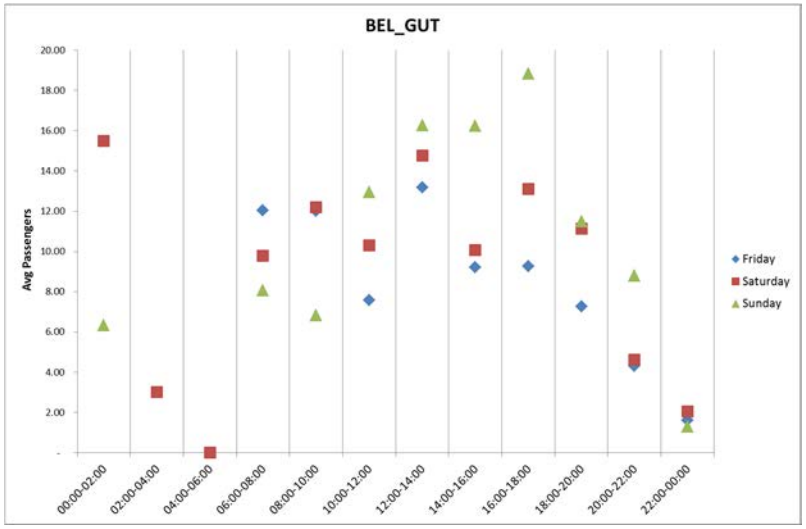
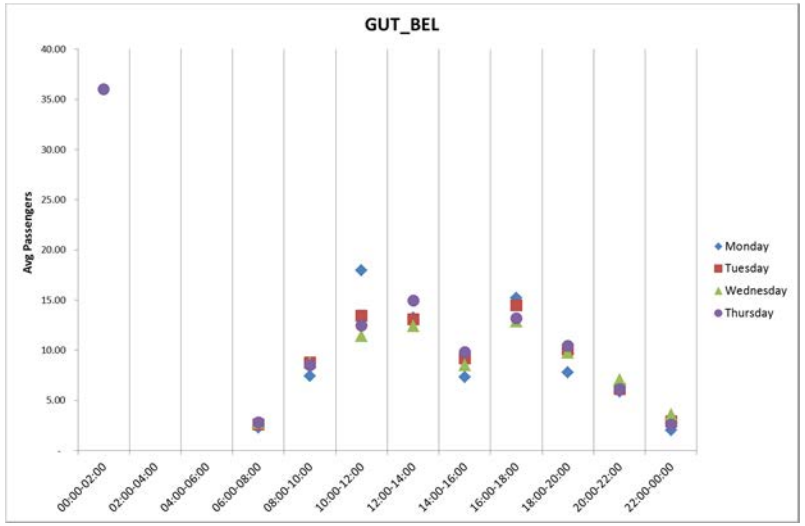
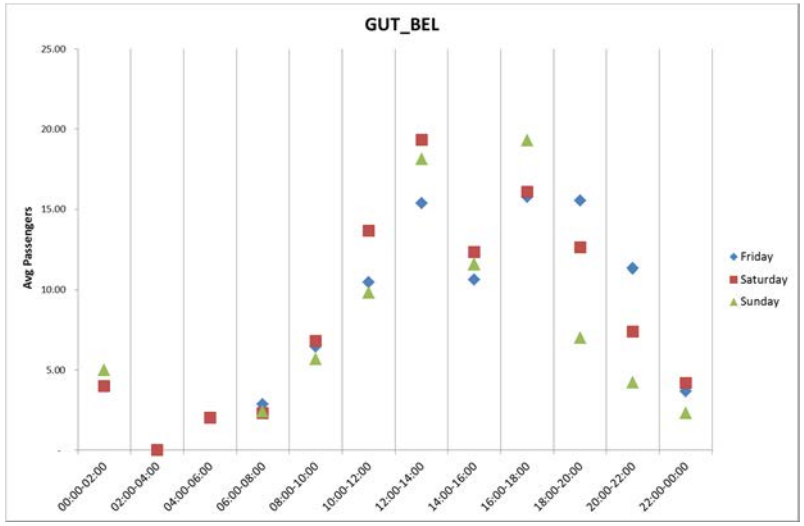


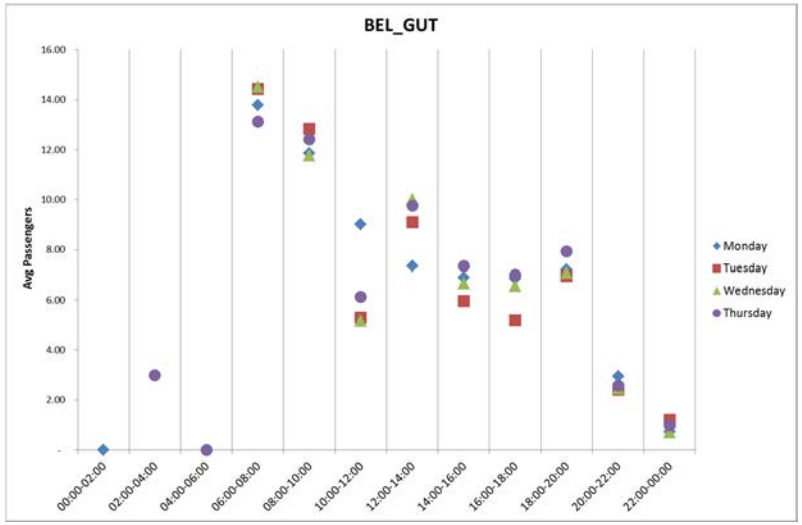
Figure 5. Average Summer Carryings by Scheduled Departure Time — Gutcher to Belmont (Single direction), Passengers





2. Carryings Analysis

Figure 6. Average Winter Carryings by Scheduled Departure Time — Belmont to Gutcher (Single direction), Passengers



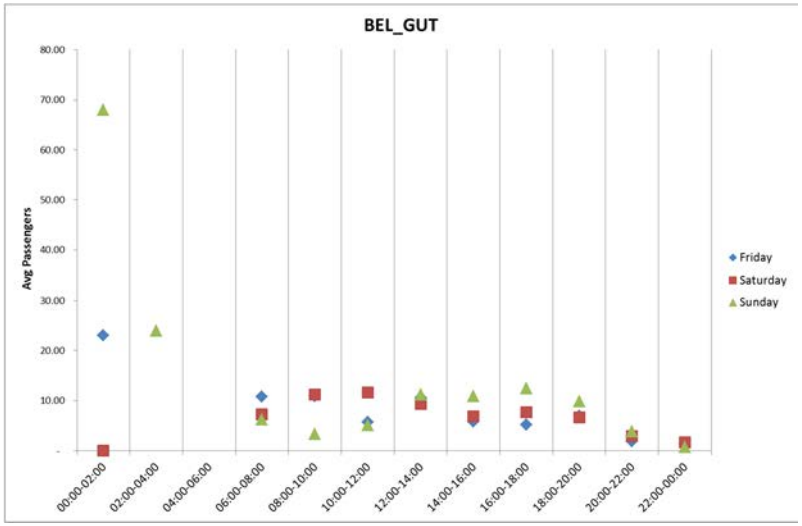
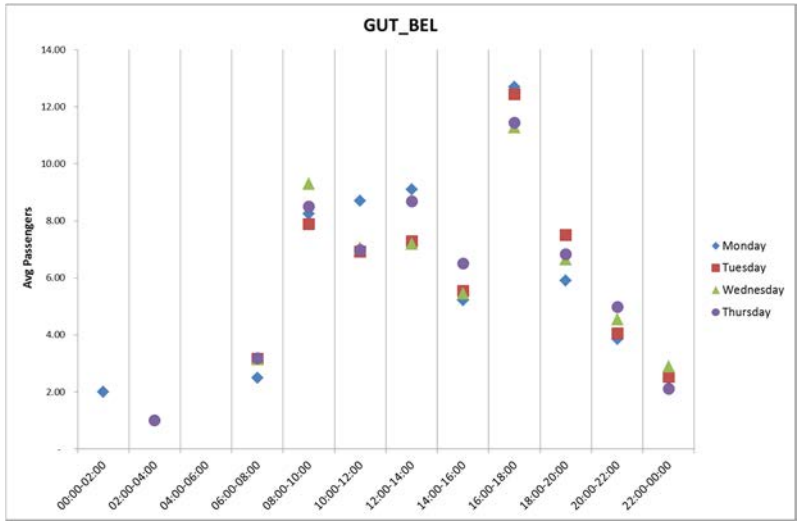
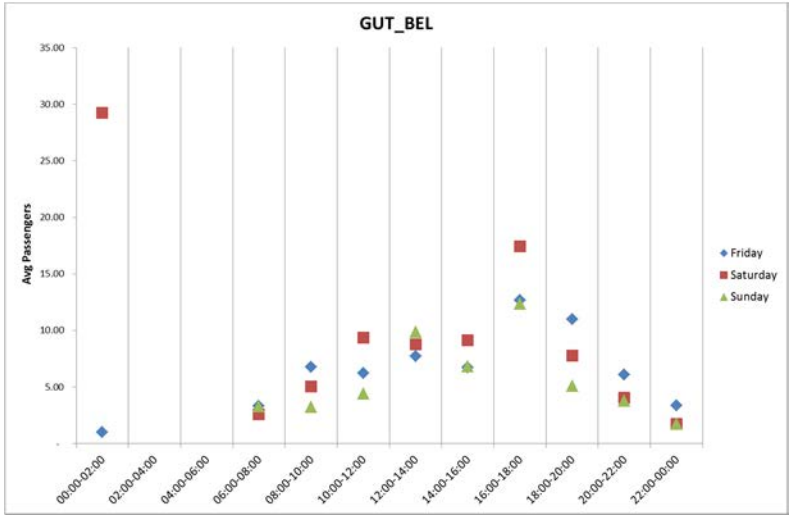


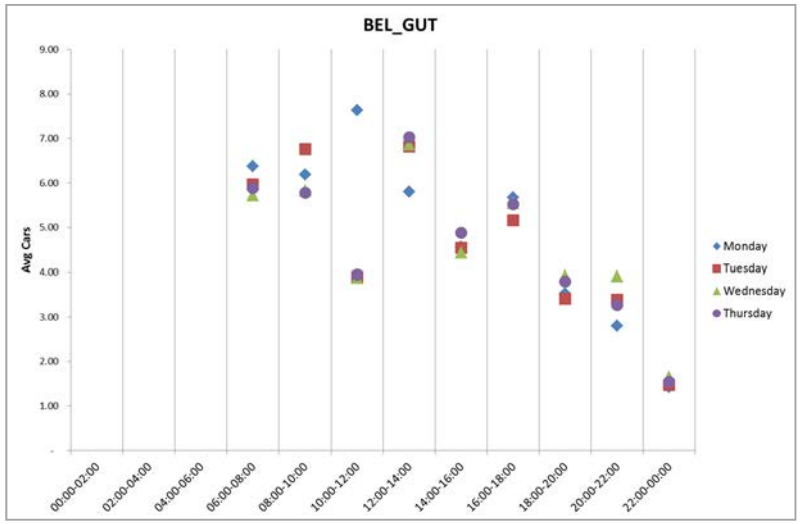
Figure 7. Average Winter Carryings by Scheduled Departure Time — Gutcher to Belmont (Single direction), Passengers





2. Carryings Analysis

Figure 8. Average Summer Carryings by Scheduled Departure Time — Belmont to Gutcher (Single direction), Cars



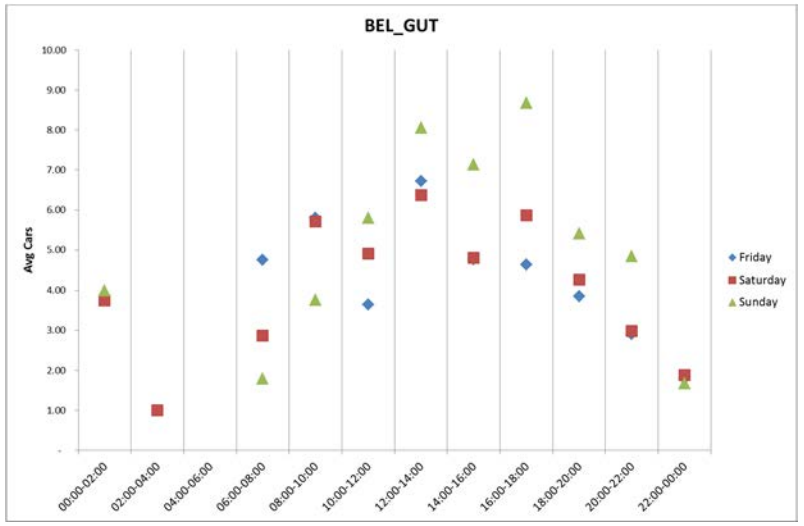
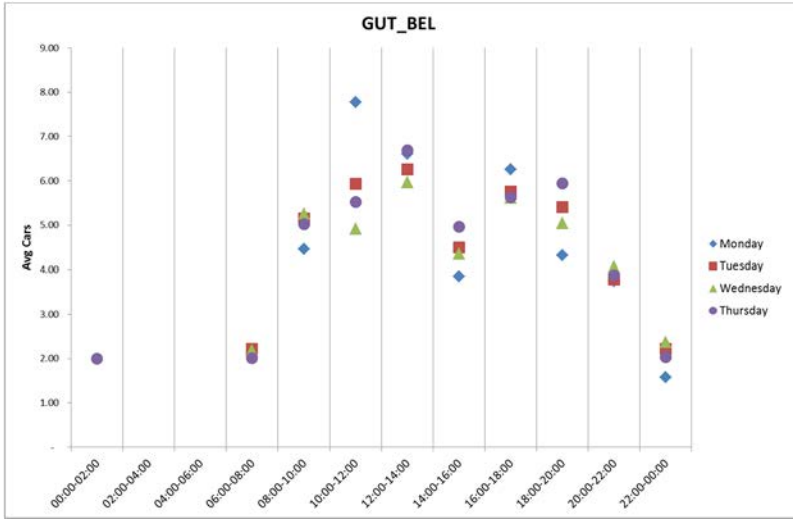
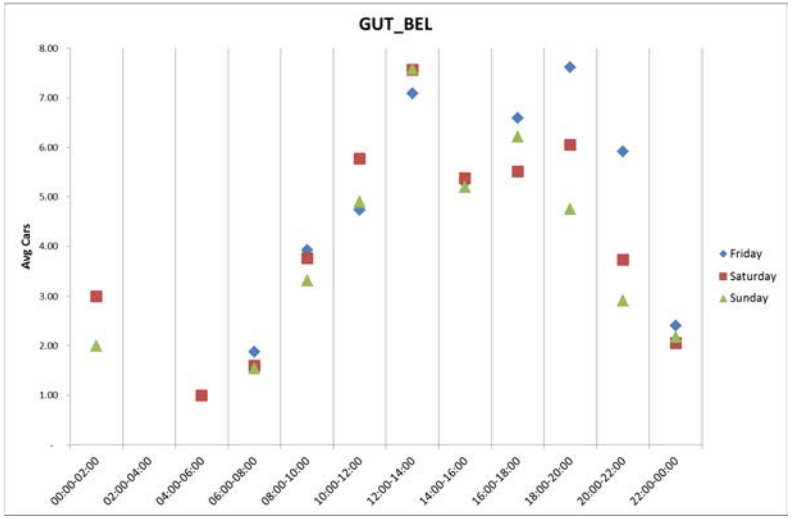


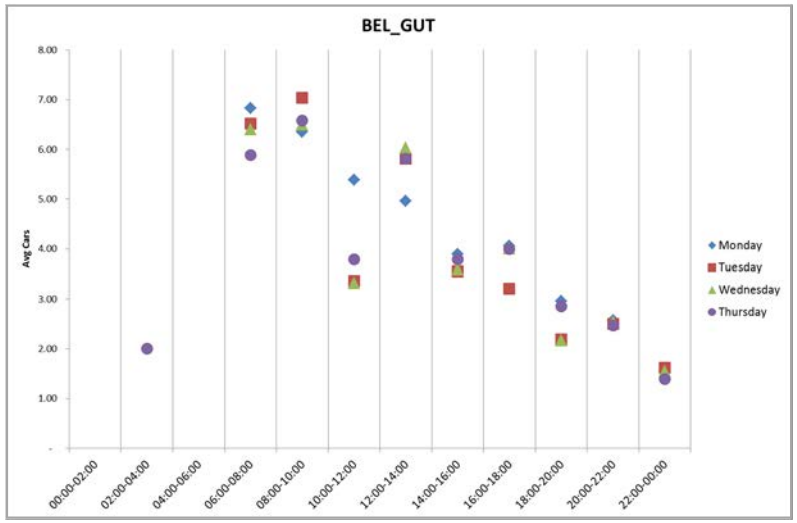
Figure 9. Average Summer Carryings by Scheduled Departure Time — Gutcher to Belmont (Single direction), Cars





2. Carryings Analysis

Figure 10. Average Winter Carryings by Scheduled Departure Time — Belmont to Gutcher (Single direction), Cars



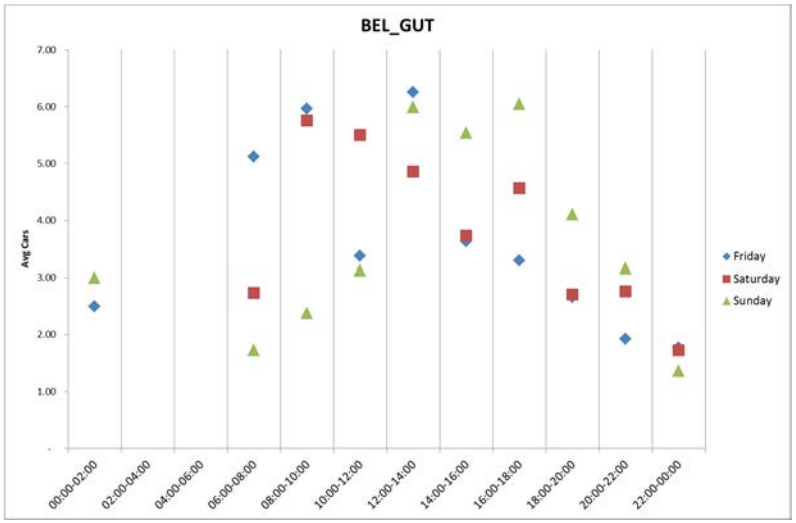
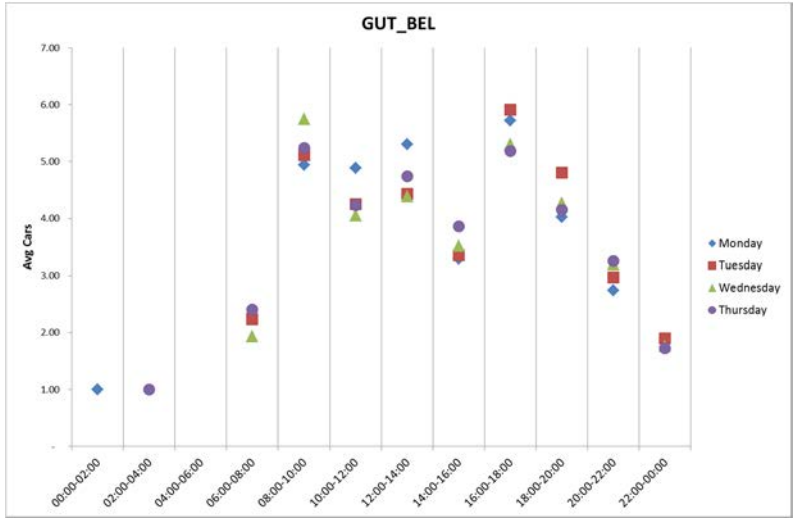
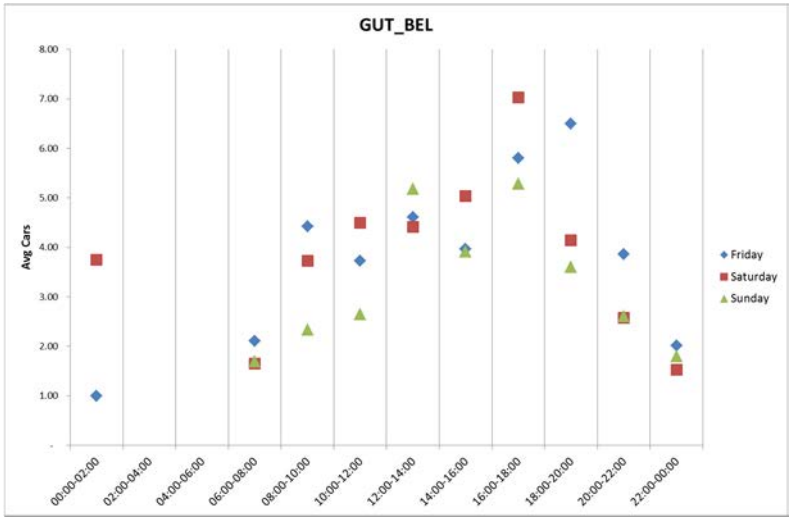


Figure 11. Average Winter Carryings by Scheduled Departure Time — Gutcher to Belmont (Single direction), Cars





2. Carryings Analysis

- Over 90% of Gutcher to Belmont sailings had a passenger load factor of less than 20% for all years considered;
- Around 0.2% (2% in 2013/2014) of Gutcher-Belmont crossings sailed at >50% passenger load factor while the equivalent figure for vehicle deck was between 33% and 39% through-out the years since 2006/2007;
- Between 5 and 9% of Gutcher to Belmont sailings had a PCU utilisation higher than 100% as estimated from our calculations.

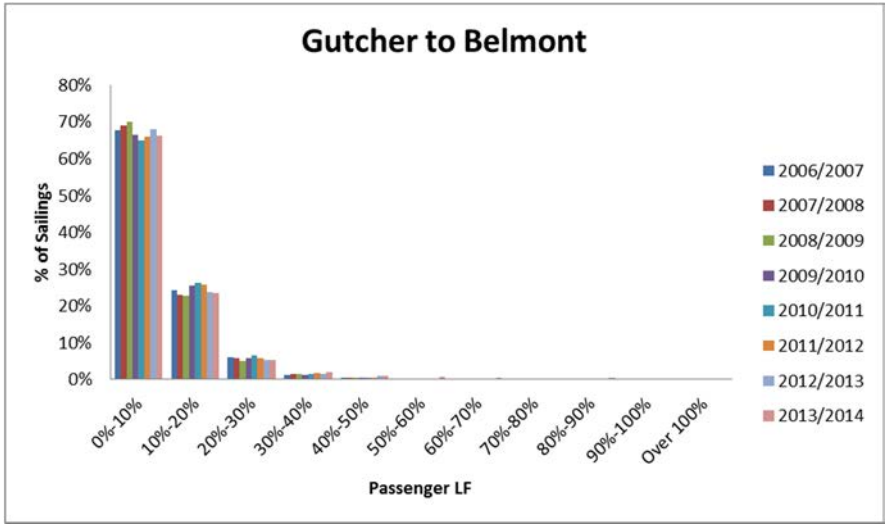
To further explore this aspect and identify the busiest sailings between Gutcher and Belmont, we looked at the number of times sailings had a load factor higher than 80% between summer 2014 and summer 2015. Table 4 displays the following information by direction of travel, season, day and time of day:

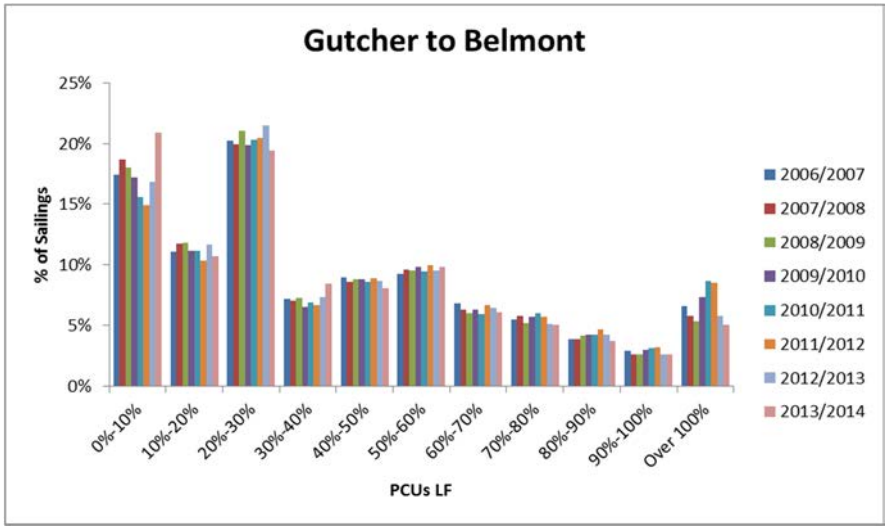
- The maximum number of times a sailing was more than 80% utilised—e.g. on a 2013/2014 summer Monday the 06:30 sailing to Gutcher and the 17:40 sailing to Belmont each had a passenger load factor higher than 80% four times;
- The total number of sailings with a utilisation higher than 80% - e.g. during a summer Wednesday there were 9 sailings in total on this route with a passenger utilisation factor higher than 80%;
- The percentage of total sailings—e.g. the 9 sailings with a passenger utilisation factor over 80% represent approximately 0.9% of total summer Monday sailings on this route during the period considered.

The key points from Table 4 are as follows:

- During the summer the 06:30 sailings from Belmont to Gutcher and the 17:40 sailings from Gutcher to Belmont are the most frequently busy throughout the week for passengers; some of these sailings were used by the Petrofac workers being bussed from accommoda-tion in Unst to the new gas plant at Sullom Voe. For these sailings the crew was increased to 5 and the passenger capacity to 95. These movements have now ceased.
- All winter sailings from this period have a passenger load factor below 80%;
- The most frequently busy sailing (utilisation >80%) for vehicles during the working week is the 08:25 from Belmont to Gutcher for both the summer and winter season.

Figure 12 Percentage of sailings by load factor (Combined direction)





2. Carryings Analysis

Table 4 Busiest sailings by season and time of day (Gutcher to Belmont, 14 April 2014—12 April 2015)

Season	Day	Sailing with max no of times >80% utilised	Time	Max number of times >80% utilised	Total number of sailings >80% utilised on that day	Percentage of total sailings on that day
Passengers					**62**	
Summer 2013/2014	Monday	GUT_BEL / BEL_GUT	17:40 / 06:30	4	9	0.89%
Summer 2013/2014	Tuesday	GUT_BEL / BEL_GUT	17:40 / 06:30	5	10	0.92%
Summer 2013/2014	Wednesday	BEL_GUT	06:30	5	9	0.82%
Summer 2013/2014	Thursday	BEL_GUT	06:30	5	9	0.82%
Summer 2013/2014	Friday	GUT_BEL / BEL_GUT	17:40 / 06:30	5	10	0.90%
Summer 2013/2014	Saturday	GUT_BEL / BEL_GUT	17:40 / 06:30	4	9	1.11%
Summer 2013/2014	Sunday	GUT_BEL / BEL_GUT	17:40 / 06:30	3	6	0.84%
PCUs					**2,125**	
Summer 2013/2014	Monday	BEL_GUT	08:25	13	141	13.9%
Summer 2013/2014	Tuesday	BEL_GUT	08:25	15	164	15.1%
Summer 2013/2014	Wednesday	BEL_GUT	08:25	18	136	12.3%
Summer 2013/2014	Thursday	GUT_BEL / GUT_BEL / BEL_GUT	14:00 / 10:00 / 08:25	14	205	18.6%
Summer 2013/2014	Friday	GUT_BEL	14:00	13	158	14.2%
Summer 2013/2014	Saturday	GUT_BEL	15:50	15	125	15.4%
Summer 2013/2014	Sunday	BEL_GUT	16:30	13	99	13.8%
Winter 2014/2015	Monday	BEL_GUT	08:25	16	175	13.9%
Winter 2014/2015	Tuesday	BEL_GUT	06:30	18	198	14.8%
Winter 2014/2015	Wednesday	GUT_BEL / BEL_GUT	10:05 / 13:45	16	168	13.2%
Winter 2014/2015	Thursday	BEL_GUT	08:25	22	267	20.8%
Winter 2014/2015	Friday	BEL_GUT	13:45 / 08:25	14	161	12.4%
Winter 2014/2015	Saturday	GUT_BEL	15:50	9	69	6.5%
Winter 2014/2015	Sunday	BEL_GUT	12:05	11	59	6.6%

2. Carryings Analysis

Bluemull — Gutcher to Hamars Ness

Overall trend

Figure 13 shows indexed growth from 2007/2008. The key points in terms of yearly carryings for this route are:

- Passengers and cars follow almost identical patterns;
- Growth in commercial vehicles was significant between 2009/2010 and 2011/2012;
- All carryings types follow a downward trend since 2011/2012.
- From Appendix B, it can be observed that the average car intensity for this route is just below 2 passengers to one car while the freight intensity varies between 5 and 8 passengers to one commercial vehicle.

Carryings across the year

Figure 14 shows the total weekly passengers, cars and commercial vehicles for the last three full years of data together with a three year average figure. The main points to note are:

- Year 1 passengers and cars carryings are mostly above the three year average;
- Carryings are lowest in December and highest during the summer months;

Figure 13 Yearly carryings by type (Combined direction- 2007/2008=100%)

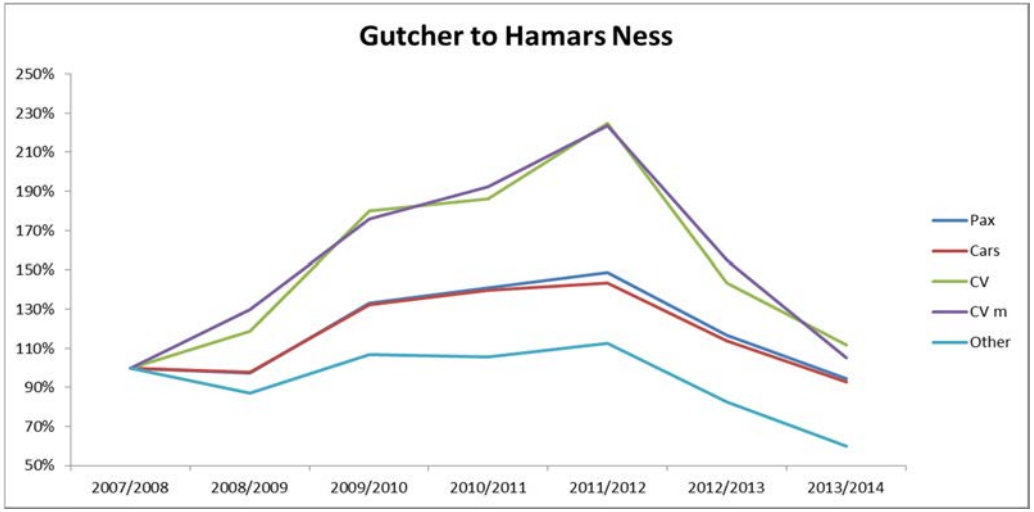
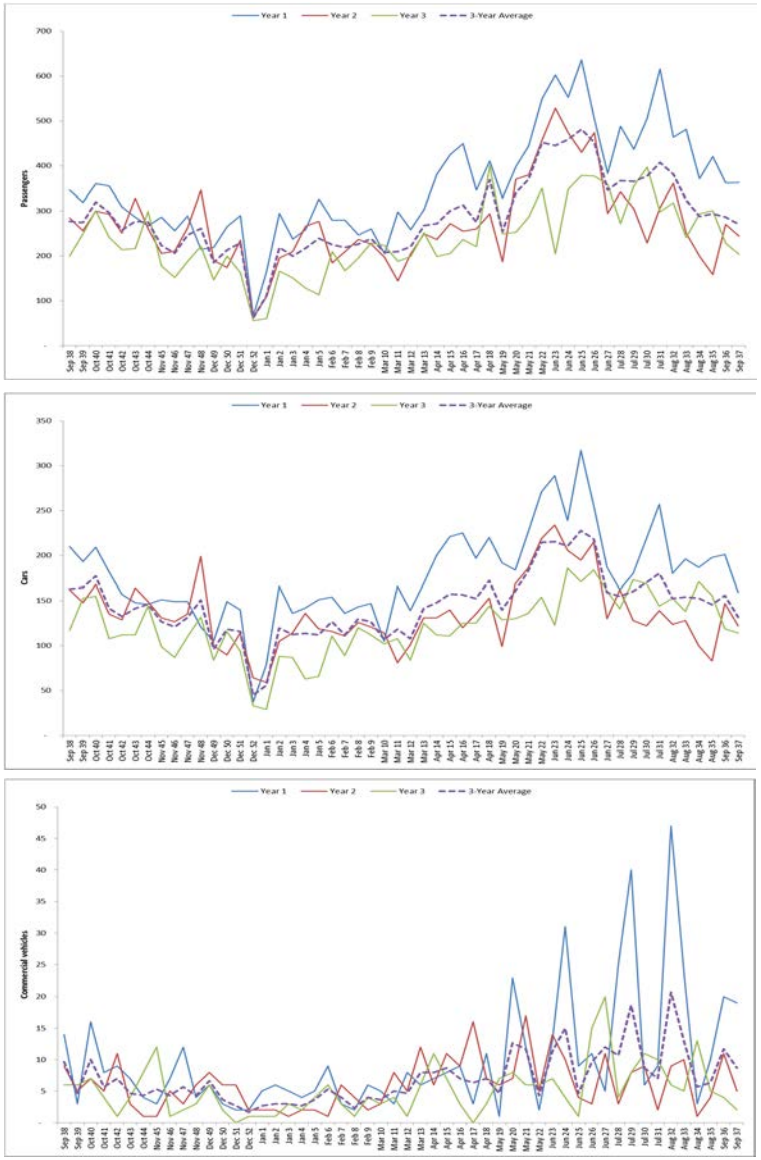


Figure 14. Carryings by week: Gutcher to Hamars Ness (Combined direction)



2. Carryings Analysis

- CV carryings have a flatter profile in the first half of each year followed by a lot of fluctuation between May and August.

Carryings by day of week

Analysis has also been undertaken to determine how Gutcher to Hamars Ness carryings vary throughout the week. Figure 15 shows an average per sailing on the left hand Y axis (line graph) and an average daily total on the right hand Y axis (bar chart). In terms of the average carryings by sailing, the following stand out:

- Monday to Friday 2011/2012 carryings are above the three year average and present little day to day variation;
- In 2012/2013, Thursdays have the highest per sailing passenger and car carryings while in 2013/2014, Saturdays have the highest per sailing passenger and car carryings;
- For commercial vehicles, the pattern is quite different from one year to another and the only similarity are declining carryings on Sundays

Carryings across the day

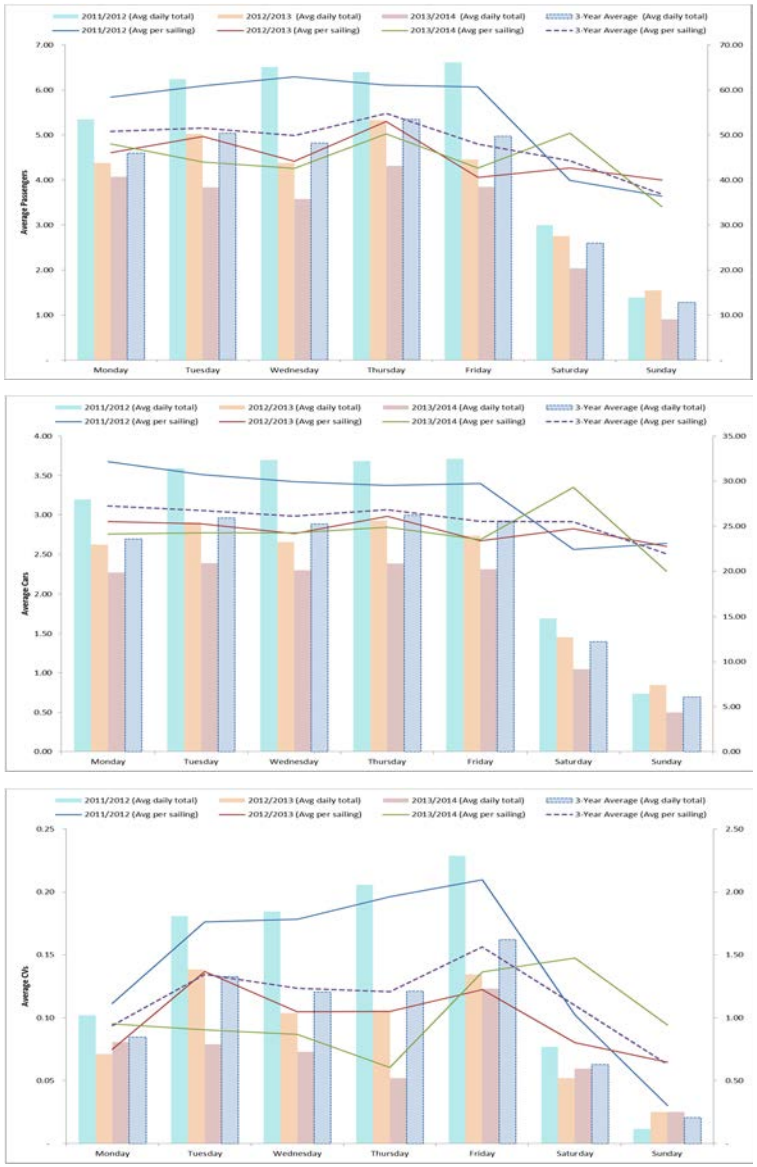
The following can be observed from Figures 16 to 23:

- During the week, the summer and winter 16:00 to 18:00 sailings from Hamars Ness to Gutcher are the busiest for both passengers and cars;
- There is a less even distribution of demand during the winter working days from Gutcher to Hamars Ness and Mondays tend to have the busiest sailings;
- Each of the three weekend days have their own distinct weekend pattern with a lot more variation across the day than what is seen on weekdays.

Utilisation analysis

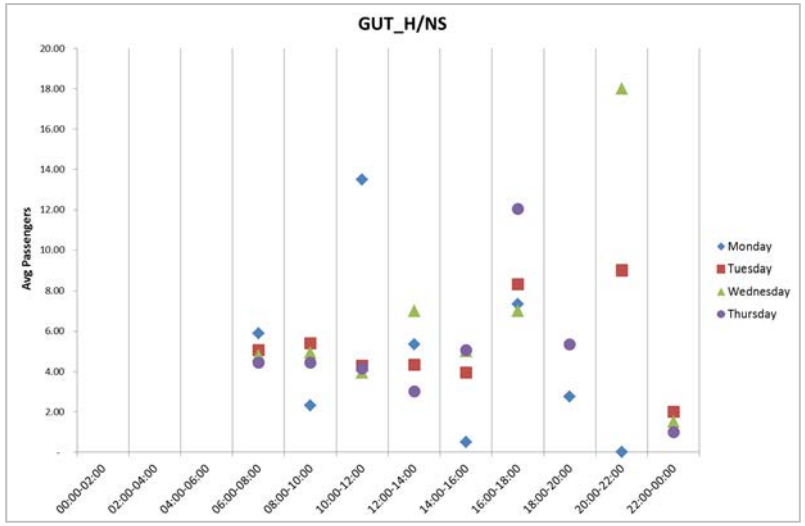
Figure 24 shows the percentage of sailings which sailed at different utilisation levels for each year since 2006/2007. It is immediately noticeable from comparing the figure for passenger utilisation with that for PCUs utilisation that the key limiting factor on ferry capacity for the Gutcher to Hamars Ness route is the capacity of the vehicle deck rather than the passenger capacity:

Figure 15. Carryings by day of week: Gutcher to Hamars Ness (Combined direction)



2. Carryings Analysis

Figure 16. Average Summer Carryings by Scheduled Departure Time — Gutcher to Hamars Ness (Single direction), Passengers



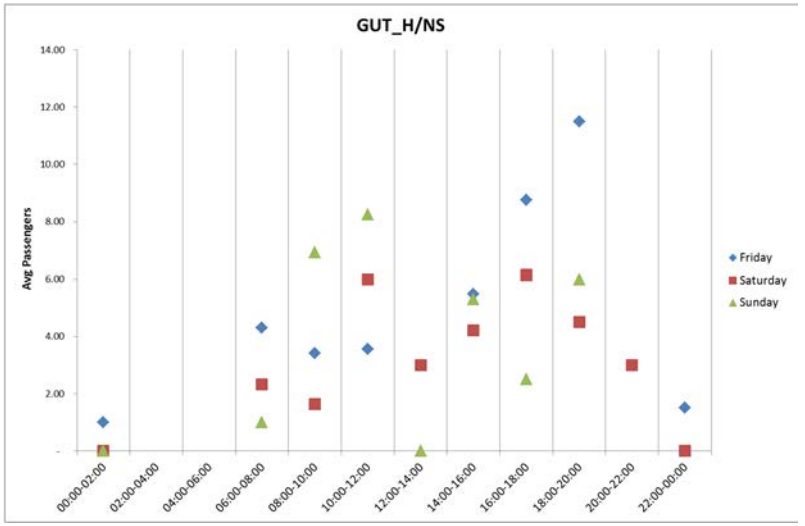
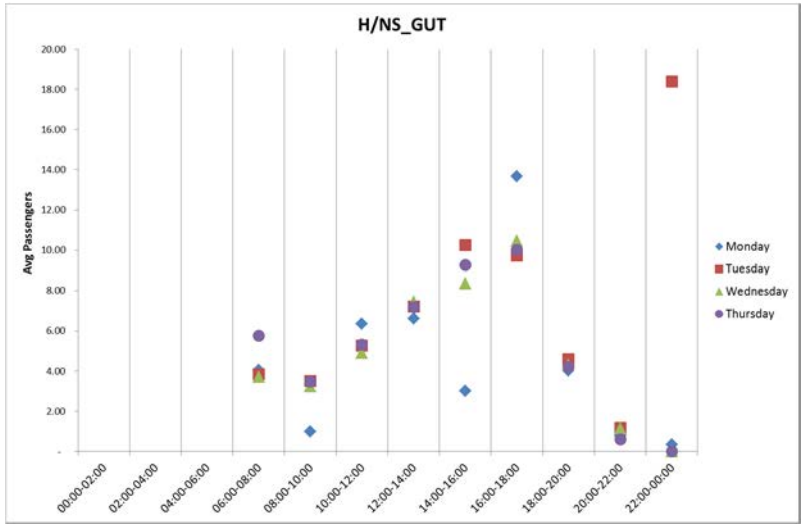
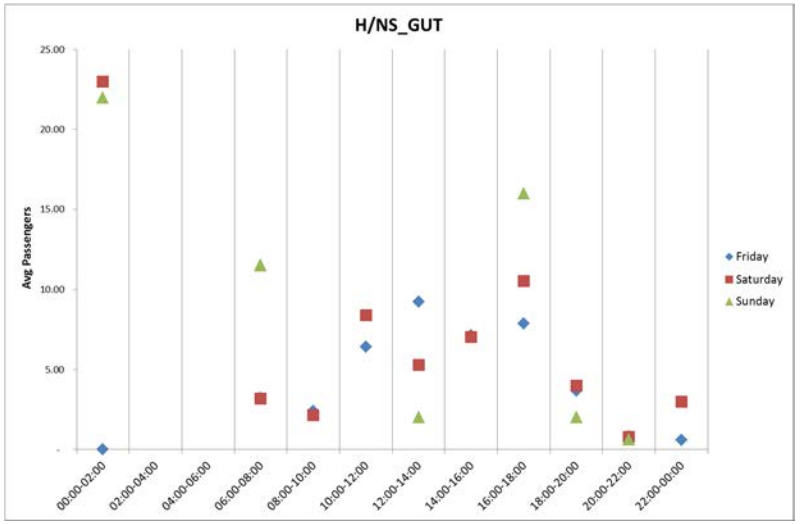


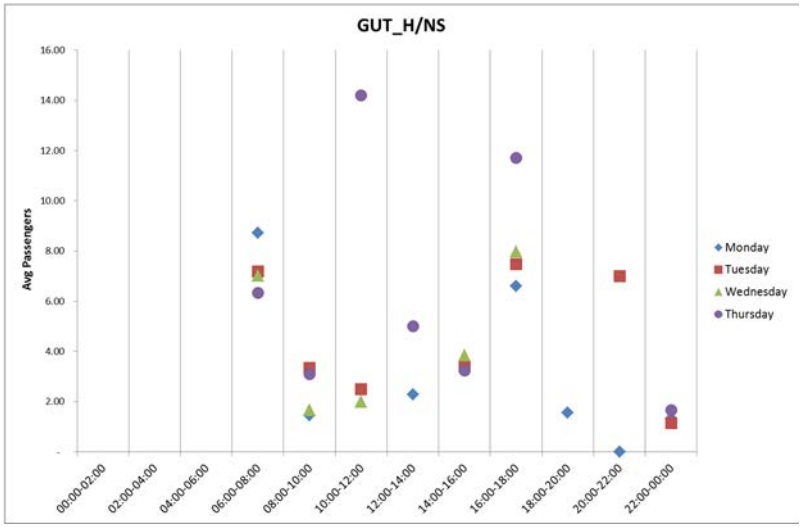
Figure 17. Average Summer Carryings by Scheduled Departure Time — Hamars Ness to Gutcher (Single direction), Passengers





2. Carryings Analysis

Figure 18. Average Winter Carryings by Scheduled Departure Time — Gutcher to Hamars Ness (Single direction), Passengers



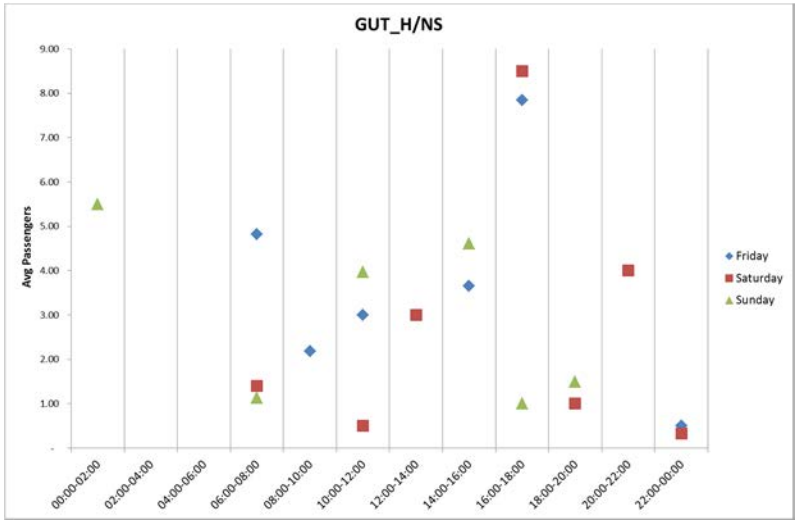
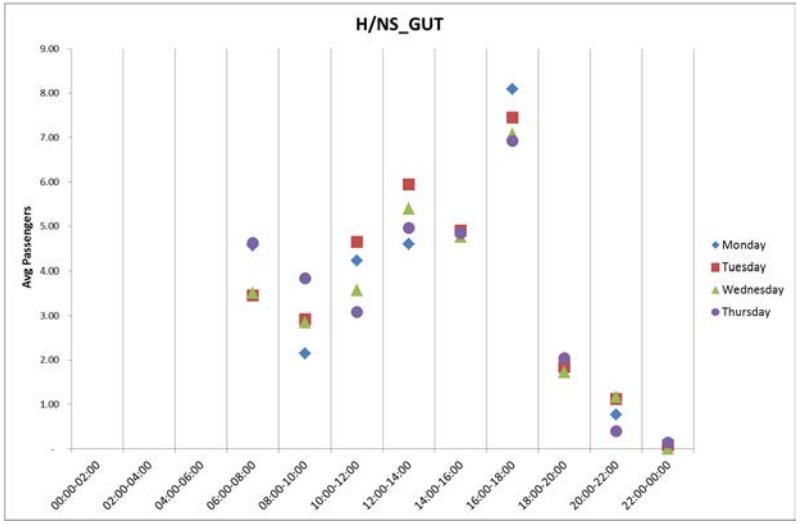
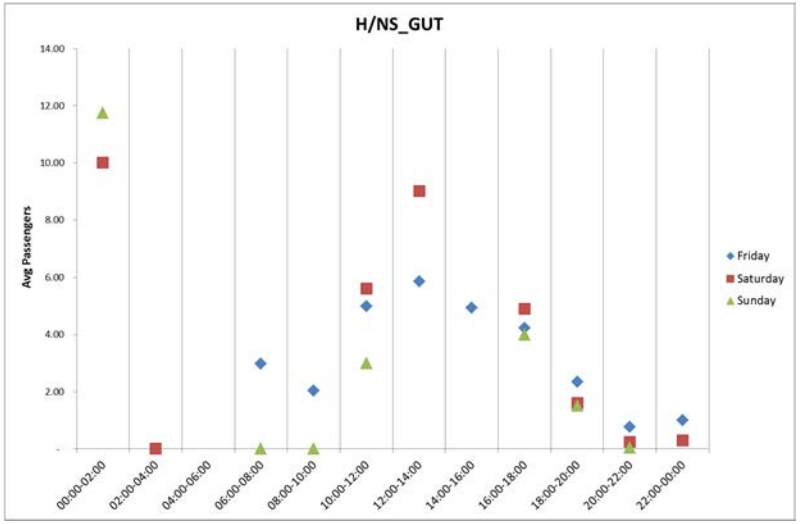


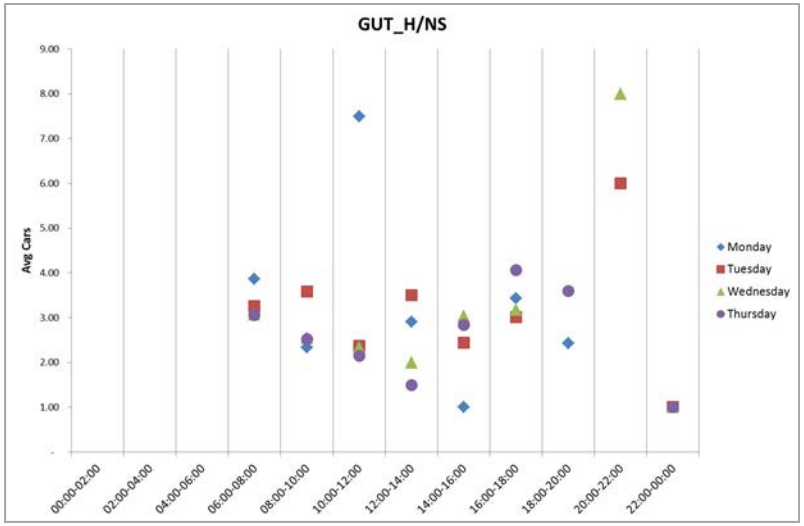
Figure 19. Average Winter Carryings by Scheduled Departure Time — Hamars Ness to Gutcher (Single direction), Passengers





2. Carryings Analysis

Figure 20. Average Summer Carryings by Scheduled Departure Time — Gutcher to Hamars Ness (Single direction), Cars



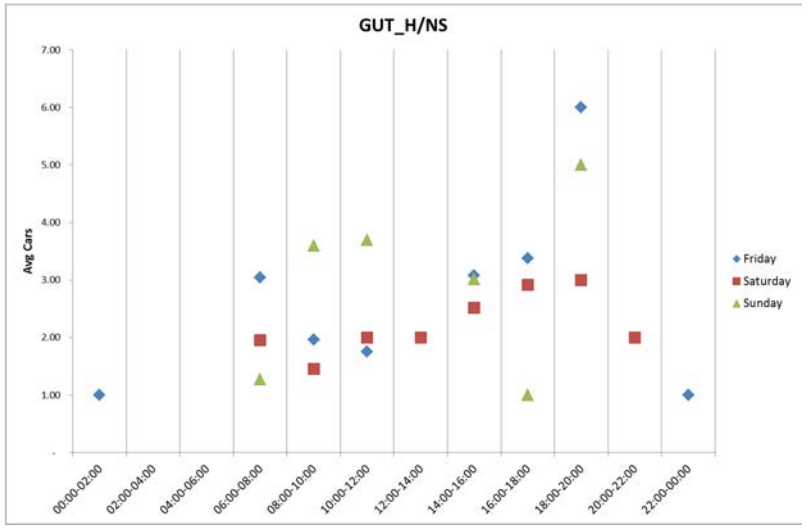
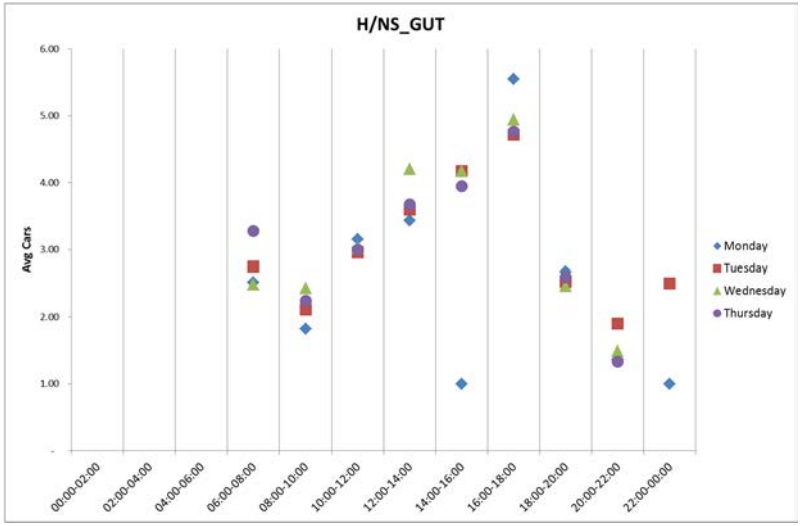
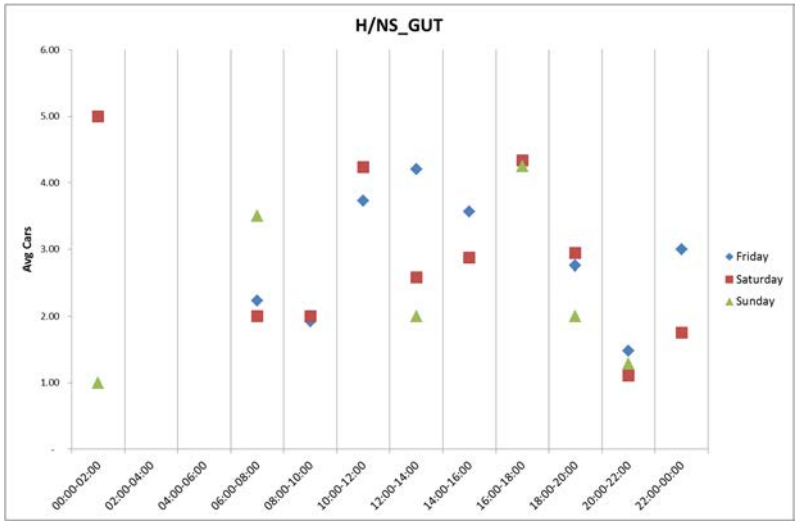


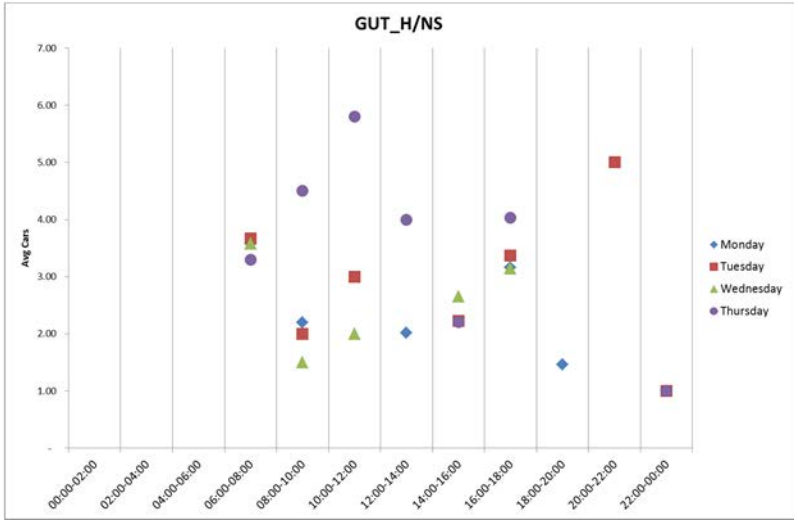
Figure 21. Average Summer Carryings by Scheduled Departure Time — Hamars Ness to Gutcher (Single direction), Cars





2. Carryings Analysis

Figure 22. Average Winter Carryings by Scheduled Departure Time — Gutcher to Hamars Ness (Single direction), Cars



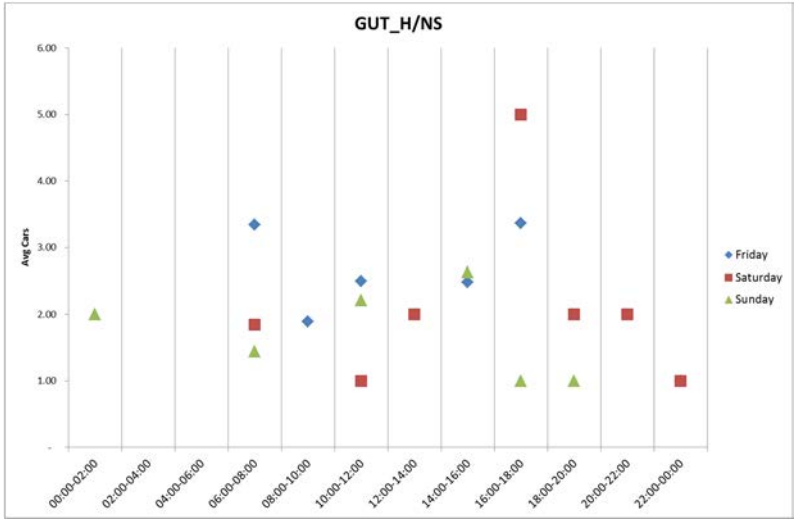
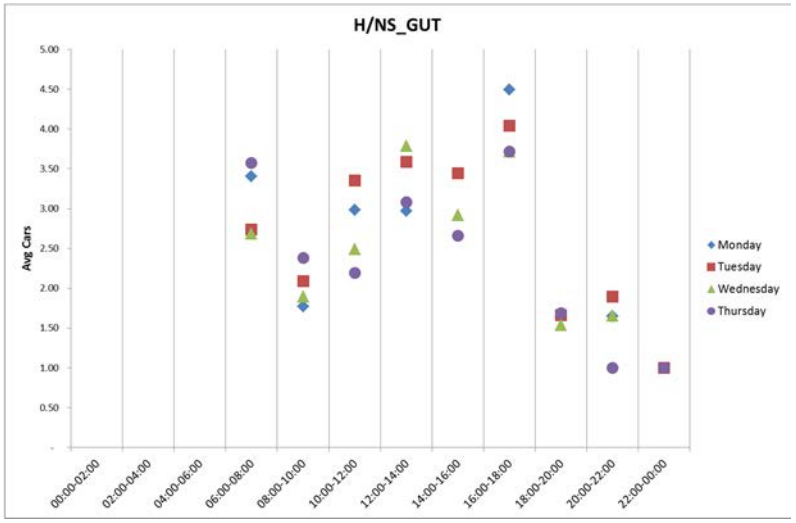
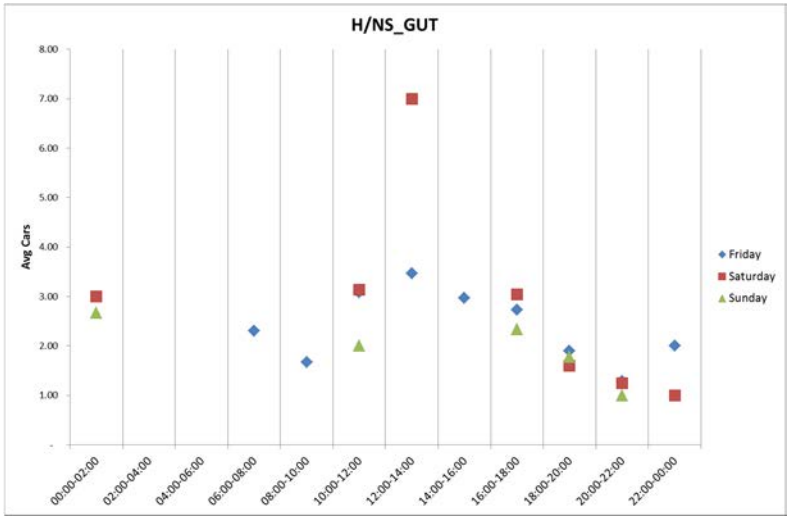


Figure 23. Average Winter Carryings by Scheduled Departure Time — Hamars Ness to Gutcher (Single direction), Cars





2. Carryings Analysis

- Over 97% of Gutcher to Hamars Ness sailings had a passenger load factor of less than 20% for all years considered;
- A very small percentage (less than 0.1%) of Gutcher-Hamars Ness crossings sailed at >50% passenger load factor while the equivalent figure for vehicle deck was between 12% and 26% throughout the years since 2006/2007;
- Between 1 and 4% of Gutcher to Hamars Ness sailings had a PCU utilisation higher than 100% as estimated from our calculations.

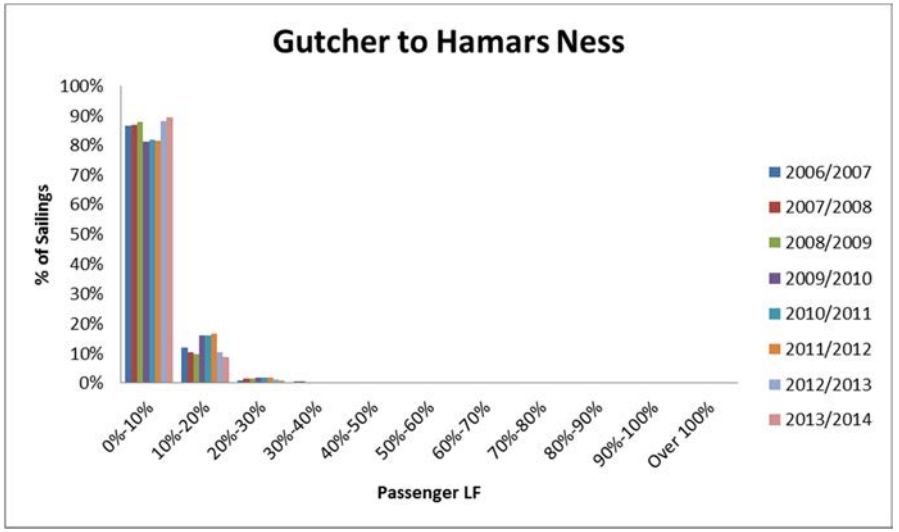
To further explore this aspect and identify the busiest sailings between Gutcher and Hamars Ness, we looked at the number of times sailings had a load factor higher than 80% between summer 2014 and summer 2015. Table 5 displays the following information by direction of travel, season, day and time of day:

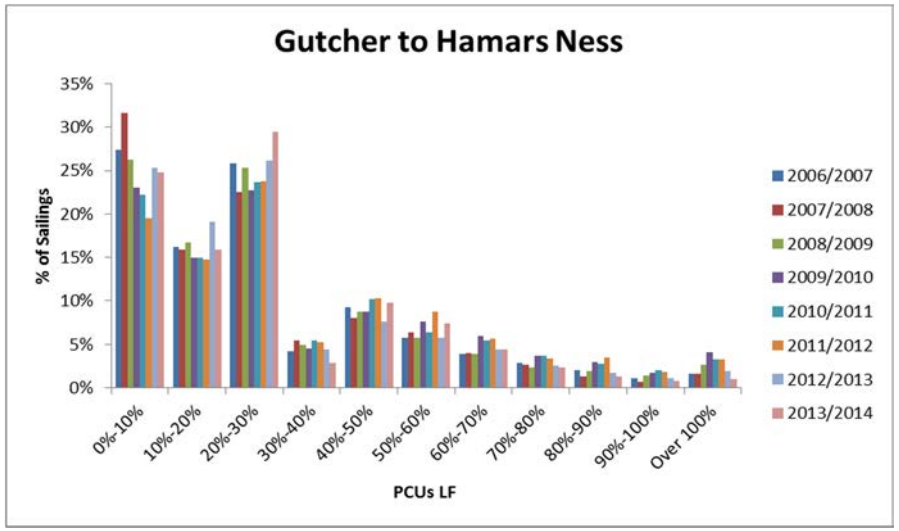
- The maximum number of times a sailing was more than 80% utilised—e.g. during a summer Monday the 16:40 sailing to Gutcher had a PCU load factor higher than 80% on four occasions;
- The total number of sailings with a utilisation higher than 80% - e.g. during a summer Monday there were 9 sailings in total on this route with a PCU utilisation factor higher than 80%;
- The percentage of total sailings—e.g. the 9 sailings with a PCU utilisation factor over 80% represent approximately 4.5% of total summer Monday sailings on this route during the period considered.

The key points from Table 5 are as follows:

- All sailings from this period have a passenger load factor below 80%;
- During the summer the 14:30 sailing from Hamars Ness to Gutcher is the most frequently busy throughout the week for vehicles; this sailing does not operate on a Monday and during the rest of the week it is the first sailing from Fetlar for 4 hours;
- During the winter the 10:50 sailing from Hamars Ness to Gutcher is the busiest for vehicles.

Figure 24 Percentage of sailings by load factor (Combined direction)





2. Carryings Analysis

Table 5 Busiest sailings by season and time of day (Gutcher to Hamars Ness, 14 April 2014—12 April 2015)

Season	Day	Sailing with max no of times >80% utilised	Time	Max number of times >80% utilised	Total number of sailings >80% utilised on that day	Percentage of total sailings on that day
PCUs					68	
Summer 2013/2014	Monday	H/NS_GUT	16:40	4	9	4.5%
Summer 2013/2014	Tuesday	H/NS_GUT	14:30	3	6	2.6%
Summer 2013/2014	Wednesday	H/NS_GUT / H/NS_GUT / GUT_H/NS / GUT_H/NS	16:40 / 14:30 / 15:00 / 07:25	1	4	1.7%
Summer 2013/2014	Thursday	H/NS_GUT	14:30	4	5	2.0%
Summer 2013/2014	Friday	H/NS_GUT / H/NS_GUT / GUT_H/NS / GUT_H/NS / GUT_H/NS	14:30 / 10:55 / 17:45 / 15:00 / 07:25	1	5	1.9%
Summer 2013/2014	Saturday	H/NS_GUT / H/NS_GUT / H/NS_GUT / H/NS_GUT / GUT_H/NS	19:45 / 16:30 / 10:55 / 10:50 / 07:25	1	5	4.3%
Summer 2013/2014	Sunday	H/NS_GUT	16:00	1	1	1.3%
Winter 2014/2015	Monday	H/NS_GUT / H/NS_GUT / GUT_H/NS	16:40 / 16:30 / 16:15	1	3	1.5%
Winter 2014/2015	Tuesday	H/NS_GUT / H/NS_GUT / GUT_H/NS	14:30 / 10:50 / 15:00	1	3	1.2%
Winter 2014/2015	Wednesday	H/NS_GUT	10:50	4	7	3.0%
Winter 2014/2015	Thursday	GUT_H/NS	15:00	3	7	2.8%
Winter 2014/2015	Friday	H/NS_GUT	10:50	5	11	4.4%
Winter 2014/2015	Saturday	H/NS_GUT	07:55	1	1	0.7%
Winter 2014/2015	Sunday	H/NS_GUT	07:55	1	1	1.1%

2. Carryings Analysis

Bluemull — Belmont to Hamars Ness

Overall trend

Figure 25 shows indexed growth from 2007/2008. The key points in terms of yearly carryings for this route are:

- Passengers and cars follow almost identical patterns;
- Growth in commercial vehicles was significant between 2008/2009 and 2010/2011;
- As mentioned in the previous section of this report, the 2014/2015 year only includes 9 or 10 months of data which explains the drop observed in the graph below;
- From Appendix B, it can be observed that the average car intensity for this route is approximately 2 passengers to one car while the freight intensity varies between 6 and 9 passengers to one commercial vehicle.

Carryings across the year

Figure 26 shows the total weekly passengers, cars and commercial vehicles for the last three full years of data together with a three year average figure. The main points to note are:

- Passengers and cars follow very similar patterns;

Figure 25 Yearly carryings by type (Combined direction—2007/2008=100%)

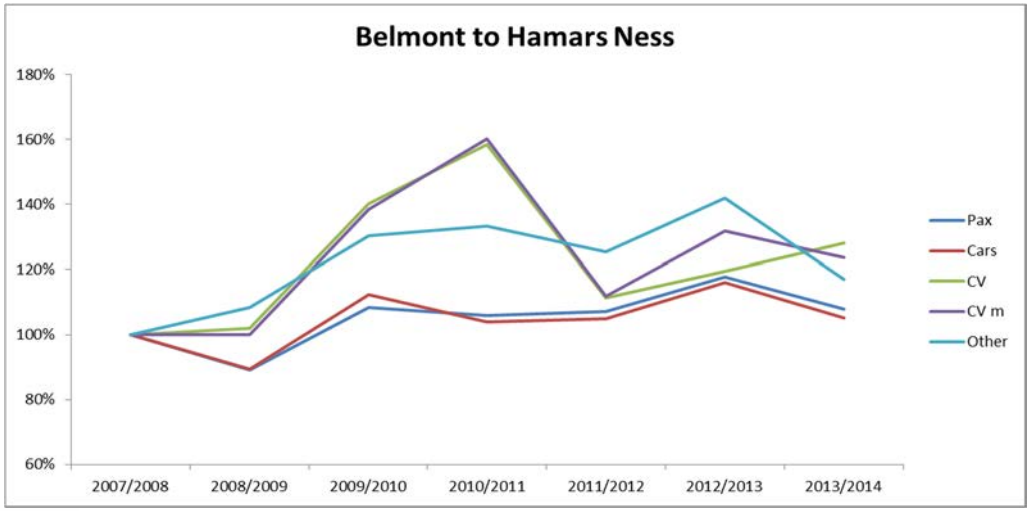
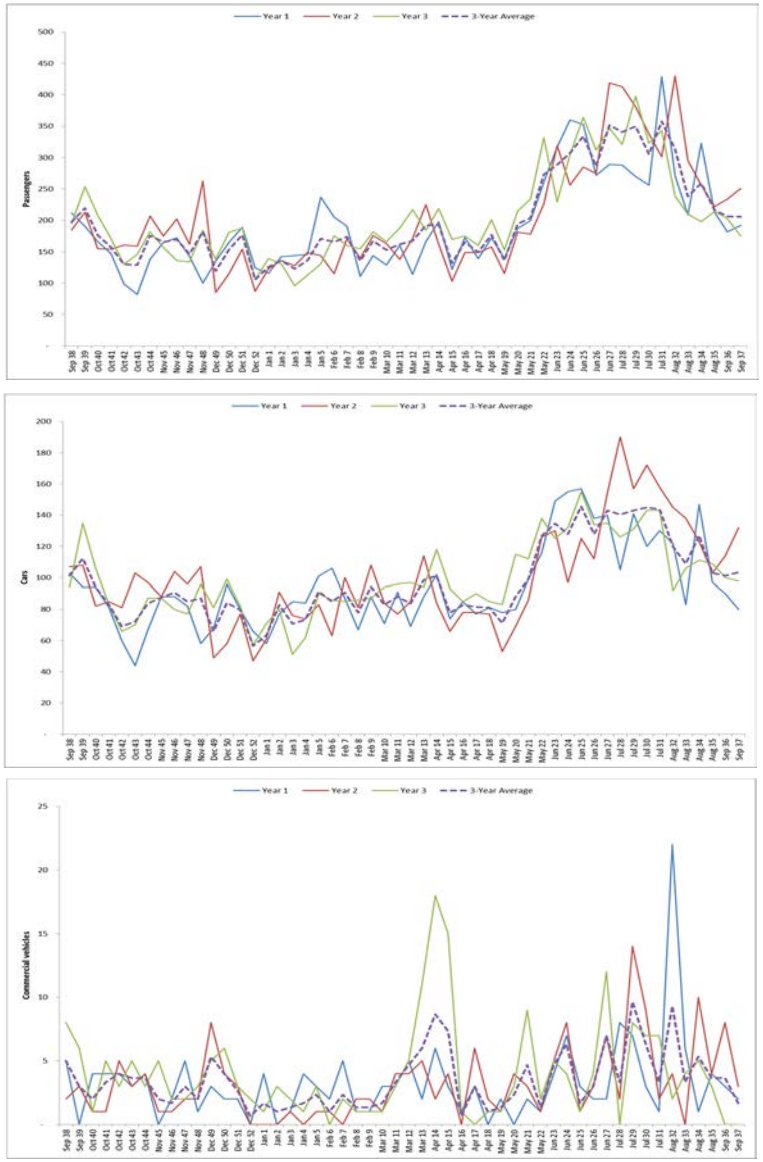


Figure 26. Carryings by week: Belmont to Hamars Ness (Combined direction)



2. Carryings Analysis

- Passenger and cars carryings start to increase in May and are highest during the summer months;
- There is a lot more variation throughout the year for commercial vehicles;
- Commercial vehicle carryings are considerably higher than average in March-April of Year 3 and July-August of Year 1.

Carryings by day of week

Analysis has also been undertaken to determine how Belmont to Hamars Ness carryings vary throughout the week. Figure 27 shows an average per sailing on the left hand Y axis (line graph) and an average daily total on the right hand Y axis (bar chart). In terms of the average carryings by sailing, the following stand out:

- During the working week, Wednesday is peak day for all carryings in 2011/2012;
- Average daily passenger and car carryings in 2013/2014 are below the three year average during the week and increase significantly on Saturdays;
- CV carryings in all three years considered and passenger and car carryings in 2011/2012 are reduced at the weekend;

Carryings across the day

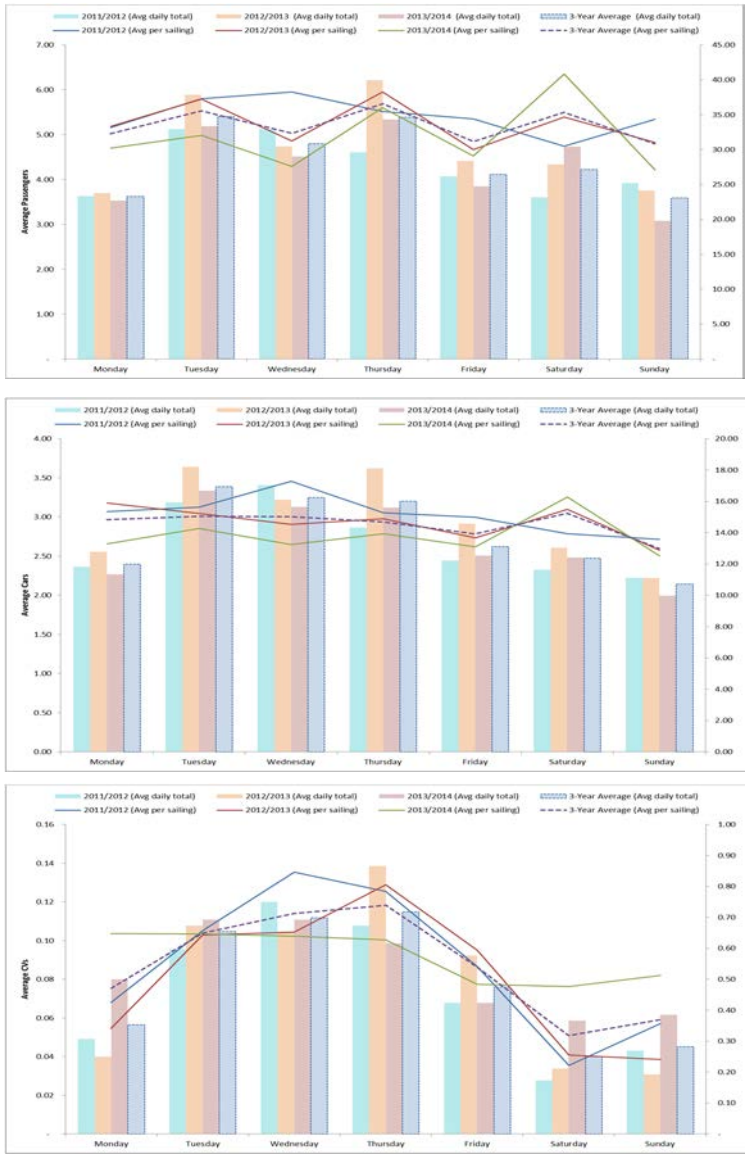
The following can be observed from Figures 28 to 35:

- From Belmont to Hamars Ness, the busiest sailings during the week are between 10:00 and 12:00 for passengers and cars, both in summer and winter;
- Each of the three weekend days have their own distinct weekend pattern with a lot more variation across the day than what is seen on weekdays.

Utilisation analysis

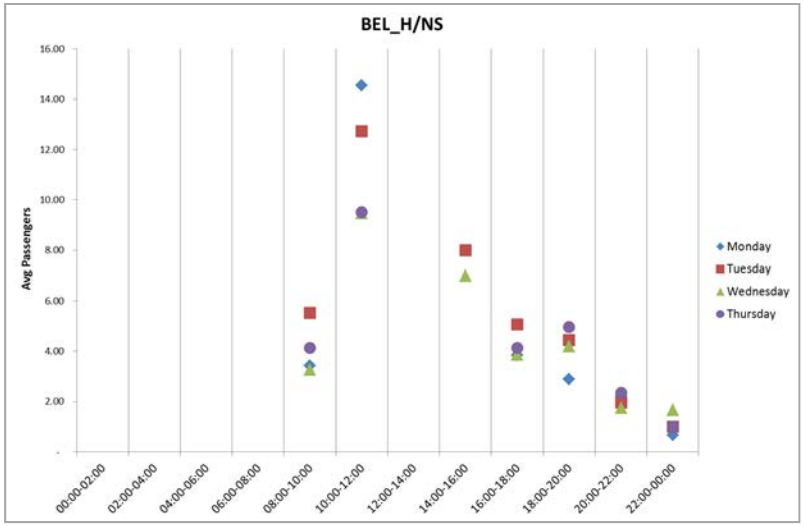
Figure 36 shows the percentage of sailings which sailed at different utilisation levels for each year since 2006/2007. It is immediately noticeable from comparing the figure for passenger utilisation with that for PCUs utilisation that the key limiting factor on ferry capacity for the Belmont to Hamars Ness route is the capacity of the vehicle deck rather than the passenger capacity:

Figure 27. Carryings by day of week: Belmont to Hamars Ness (Combined direction)



2. Carryings Analysis

Figure 28. Average Summer Carryings by Scheduled Departure Time — Belmont to Hamars Ness (Single direction), Passengers



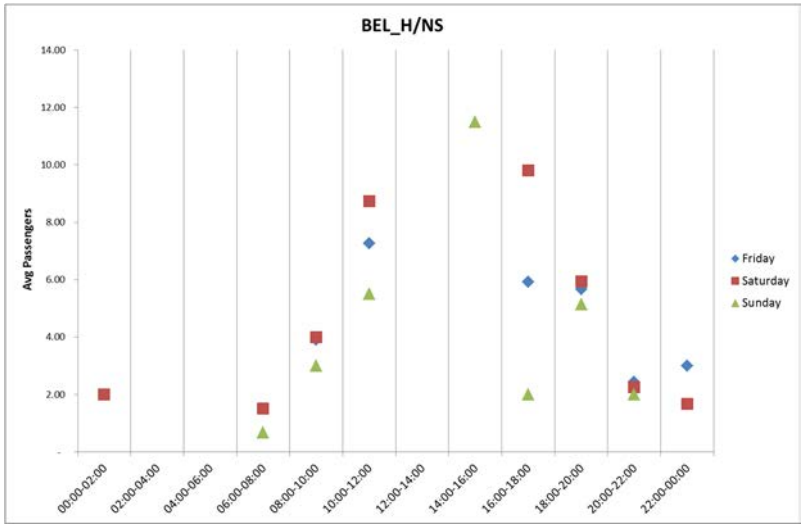
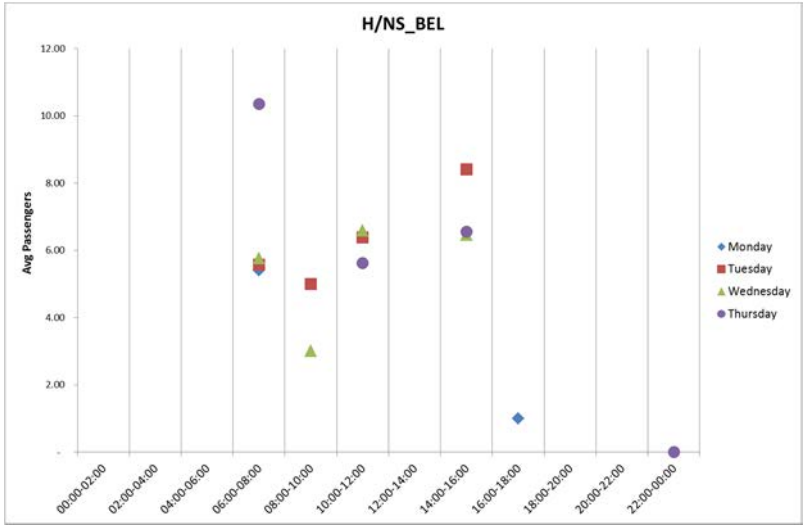
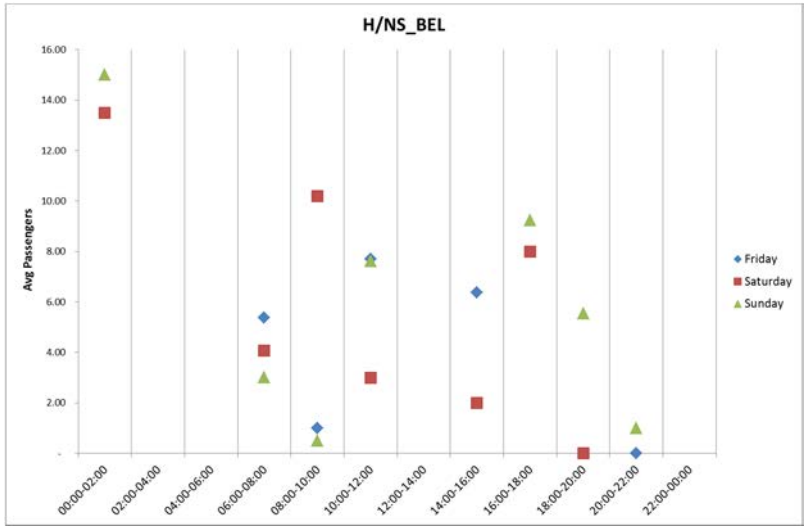


Figure 29. Average Summer Carryings by Scheduled Departure Time — Hamars Ness to Belmont (Single direction), Passengers





2. Carryings Analysis

Figure 30. Average Winter Carryings by Scheduled Departure Time — Belmont to Hamars Ness (Single direction), Passengers

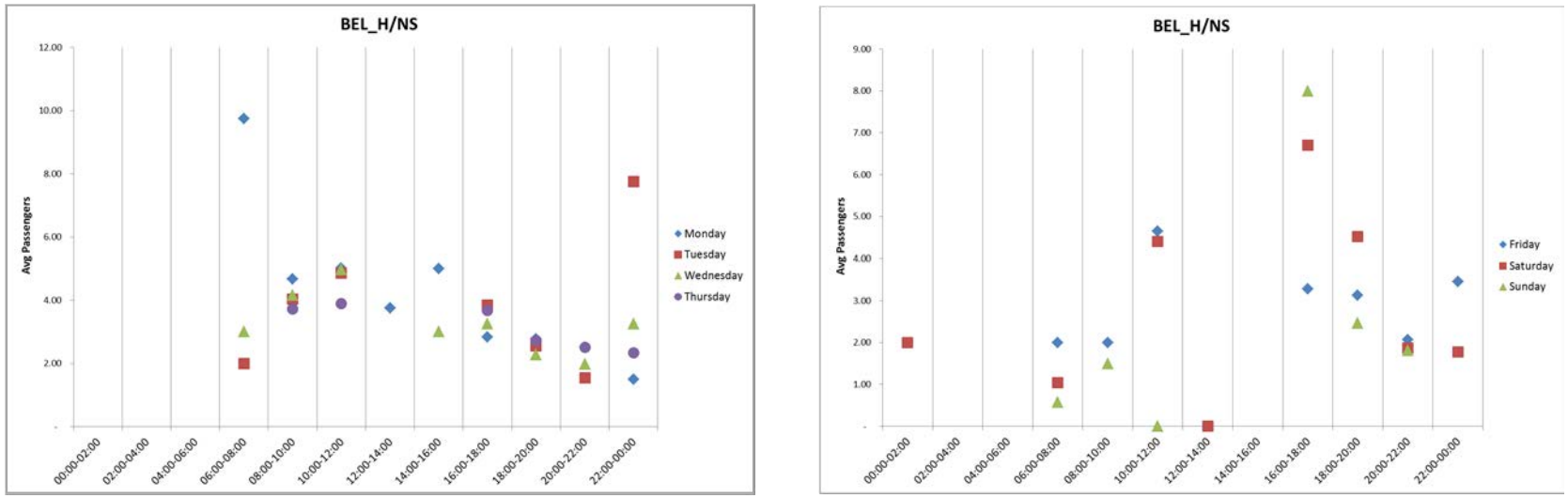
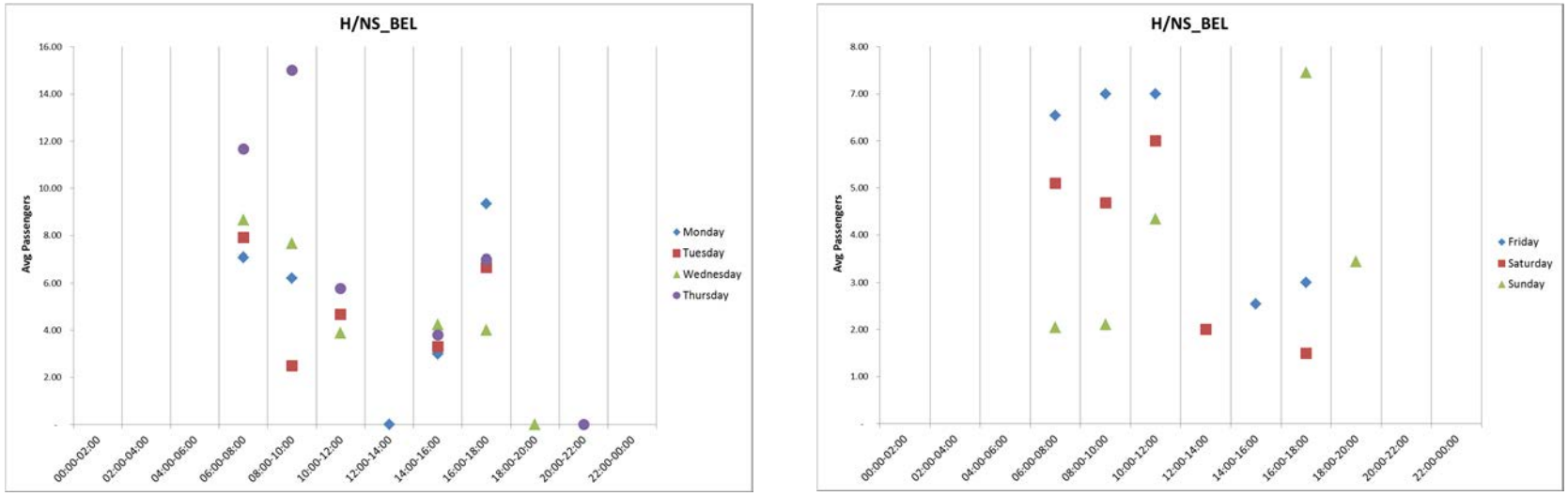
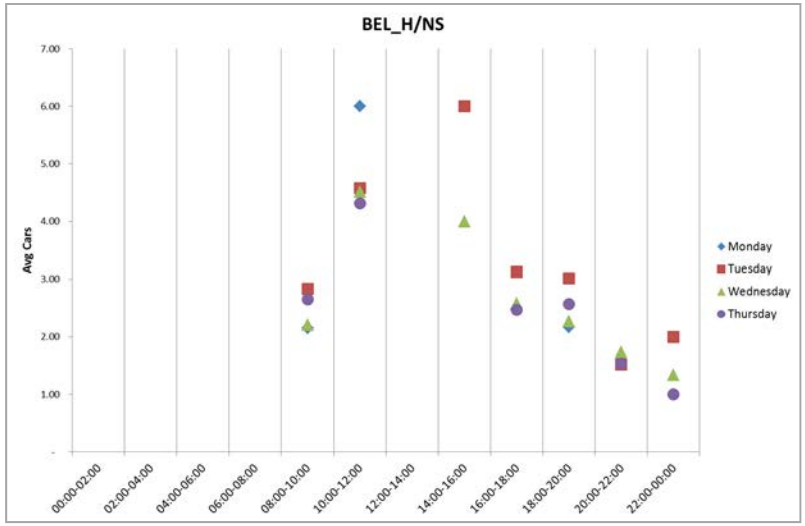


Figure 31. Average Winter Carryings by Scheduled Departure Time — Hamars Ness to Belmont (Single direction), Passengers



2. Carryings Analysis

Figure 32. Average Summer Carryings by Scheduled Departure Time — Belmont to Hamars Ness (Single direction), Cars



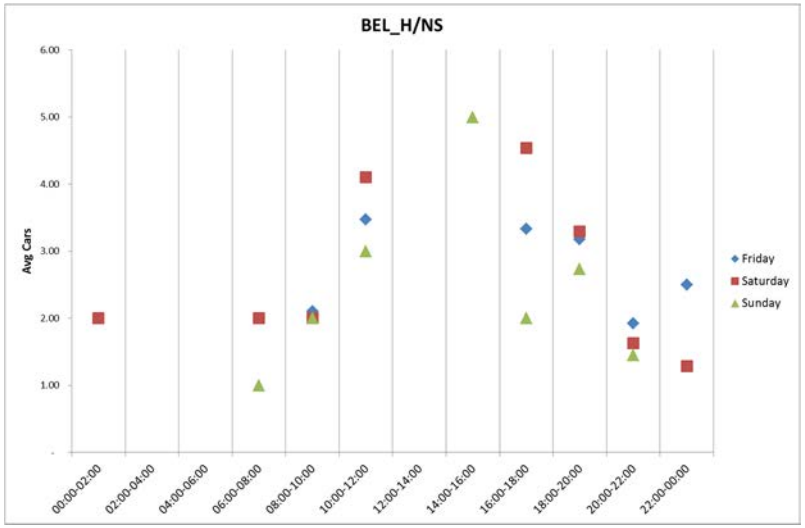
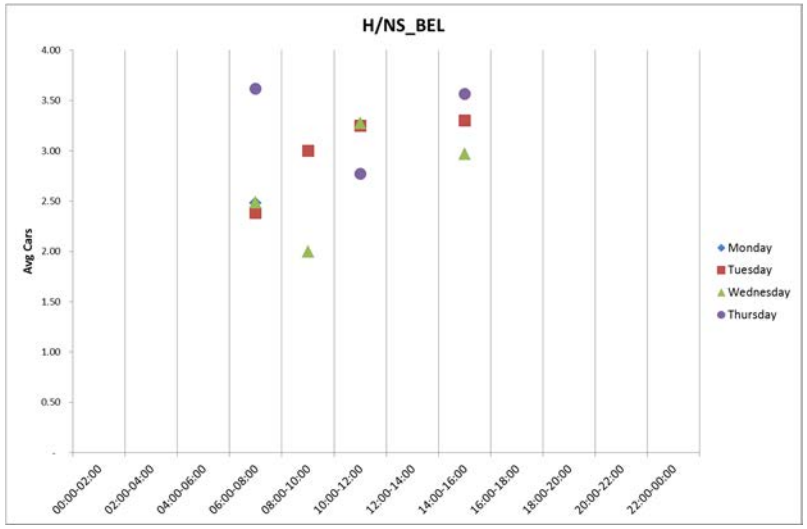
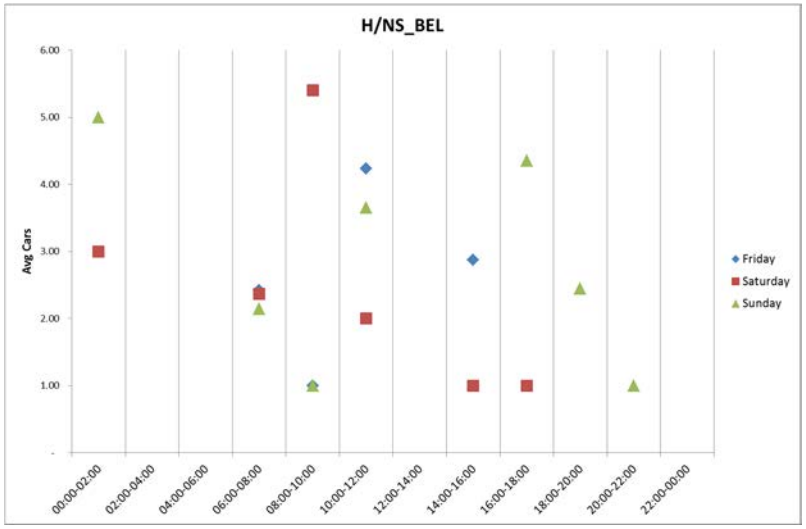


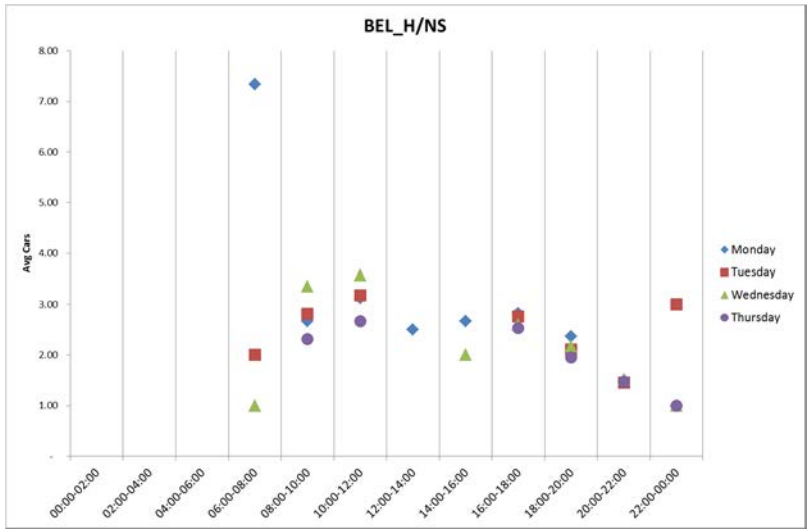
Figure 33. Average Summer Carryings by Scheduled Departure Time — Hamars Ness to Belmont (Single direction), Cars





2. Carryings Analysis

Figure 34. Average Winter Carryings by Scheduled Departure Time — Belmont to Hamars Ness (Single direction), Cars



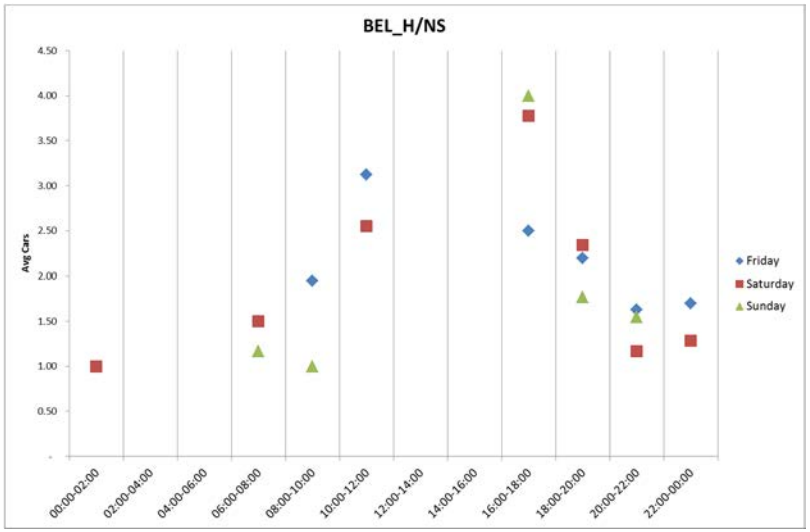
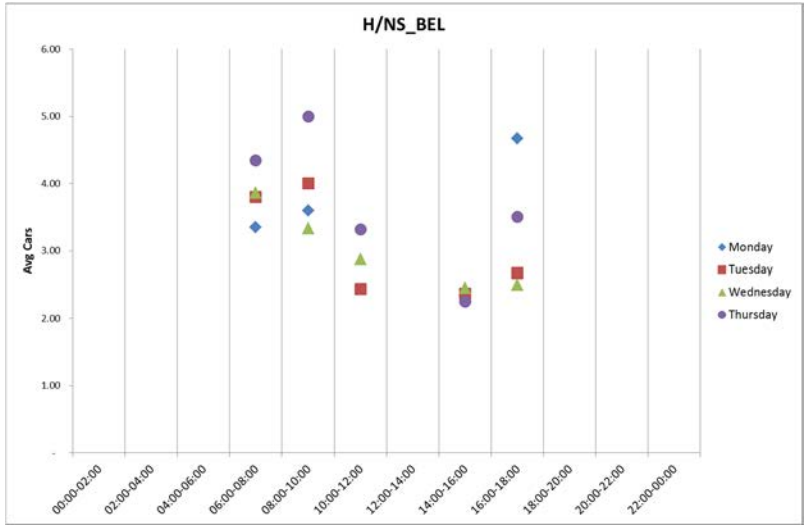
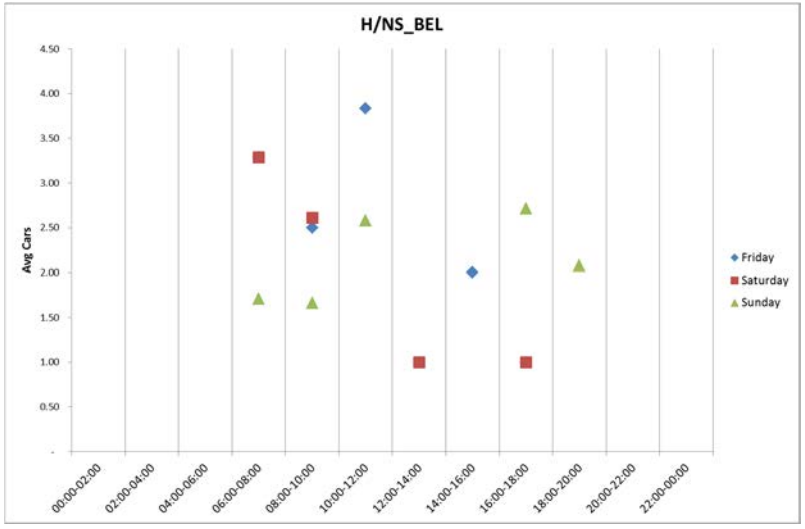


Figure 35. Average Winter Carryings by Scheduled Departure Time — Hamars Ness to Belmont (Single direction), Cars





2. Carryings Analysis

- Over 96% of Belmont to Hamars Ness sailings had a passenger load factor of less than 20% for all years considered;
- Less than 0.4% of Belmont-Hamars Ness crossings sailed at >50% passenger load factor while the equivalent figure for vehicle deck was between 11% and 17% throughout the years since 2006/2007;
- Between 0.8% and 2.4% of Belmont to Hamars Ness sailings had a PCU utilisation higher than 100% as estimated from our calculations.

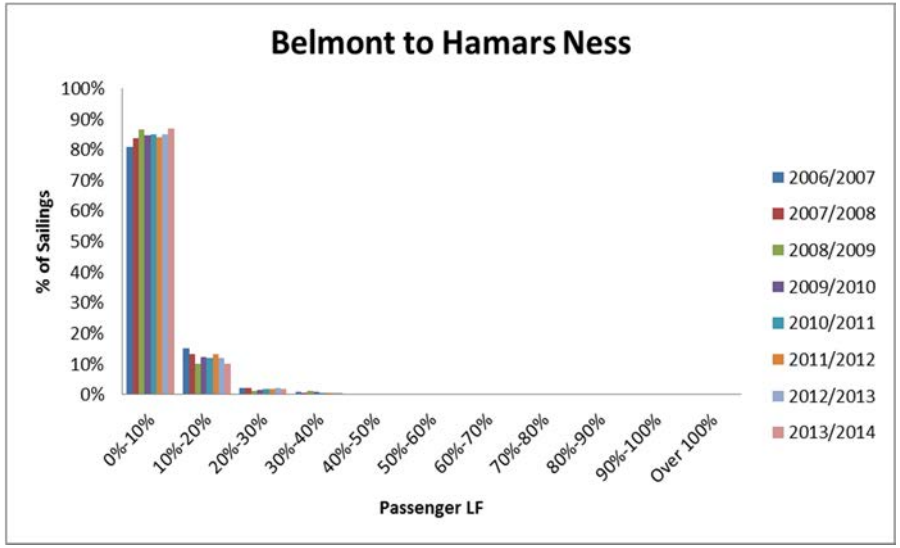
To further explore this aspect and identify the busiest sailings between Belmont and Hamars Ness, we looked at the number of times sailings had a load factor higher than 80% between summer 2014 and summer 2015. Table 5 displays the following information by direction of travel, season, day and time of day:

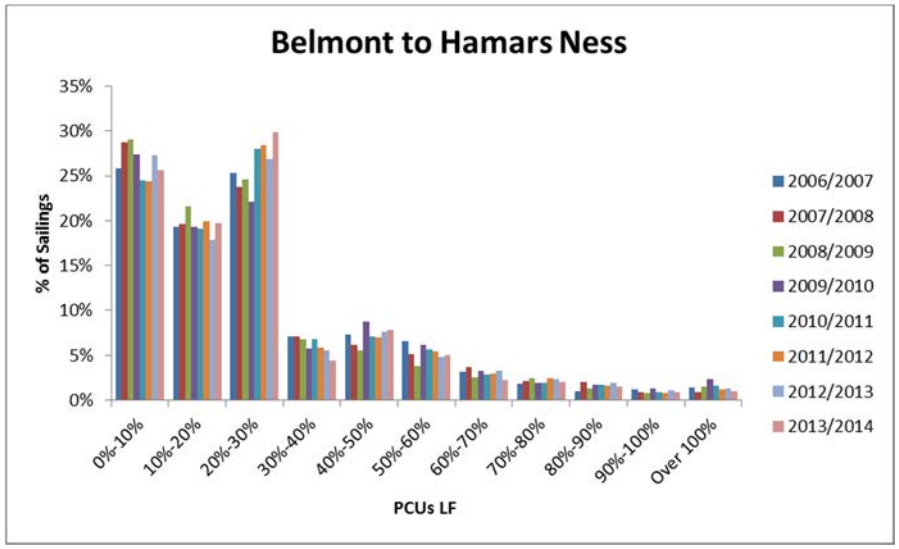
- The maximum number of times a sailing was more than 80% utilised—e.g. during a summer Monday the 10:20 sailing to Hamars Ness had a PCU load factor higher than 80% on three occasions;
- The total number of sailings with a utilisation higher than 80% - e.g. during a summer Monday there were 4 sailings in total on this route with a PCU utilisation factor higher than 80%;
- The percentage of total sailings—e.g. the 4 sailings with a PCU utilisation factor over 80% represent approximately 3.6% of total summer Monday sailings on this route during the period considered.

The key points from Table 6 are as follows:

- All summer and winter sailings from this period have a passenger load factor below 80%;
- The most frequently busy sailings for vehicles is the 10:25 from Belmont to Hamars Ness during the summer and the 10:20 also from Belmont to Hamars Ness during the winter season.

Figure 36 Percentage of sailings by load factor (Combined direction)





2. Carryings Analysis

Table 6 Busiest sailings by season and time of day (Belmont to Hamars Ness, 14 April 2014—12 April 2015)

Season	Day	Sailing with max no of times >80% utilised	Time	Max number of times >80% utilised	Total number of sailings >80% utilised on that day	Percentage of total sailings on that day
PCUs					69	
Summer 2013/2014	Monday	BEL_H/NS	10:20	3	4	3.6%
Summer 2013/2014	Tuesday	BEL_H/NS	10:25	6	11	7.4%
Summer 2013/2014	Wednesday	BEL_H/NS	10:25	3	6	4.0%
Summer 2013/2014	Thursday	BEL_H/NS	10:25	4	7	4.9%
Summer 2013/2014	Friday	BEL_H/NS / BEL_H/NS	19:10 / 10:25	1	2	1.4%
Summer 2013/2014	Saturday	BEL_H/NS	16:00	5	11	10.4%
Summer 2013/2014	Sunday	H/NS_BEL	16:00	2	3	2.6%
Winter 2014/2015	Monday	H/NS_BEL / BEL_H/NS	07:55 / 16:00	1	2	1.3%
Winter 2014/2015	Tuesday	BEL_H/NS	10:20	2	3	1.6%
Winter 2014/2015	Wednesday	BEL_H/NS	10:20	2	3	1.8%
Winter 2014/2015	Thursday	BEL_H/NS	10:20	2	2	1.1%
Winter 2014/2015	Friday	BEL_H/NS	16:00	2	6	3.8%
Winter 2014/2015	Saturday	BEL_H/NS	16:00	2	6	5.0%
Winter 2014/2015	Sunday	BEL_H/NS	19:05	1	1	0.7%

2. Carryings Analysis

Yell—Toft to Ulsta

Overall trend

Figure 37 shows indexed growth from 2007/2008. The key points in terms of yearly carryings for the Yell route are:

- Passengers and cars follow similar patterns and the highest increase in both passenger and vehicle numbers happens between 2008/2009 and 2009/2010;
- The number of commercial vehicles (total and lane metres) mostly follows a downward trend dropping by approximately 28% from 2009/2010 to 2013/2014;
- From Appendix B, it can be observed that the average car intensity for this route is just over 2 passengers to one car while freight intensity varies between 13 and 17.

Carryings across the year

Figure 38 shows the total weekly passengers, cars and commercial vehicles for the last three full years of data together with a three year average figure. The main points to note are:

- Passengers and cars follow very similar patterns and both are greatest during the summer months;
- Carryings drop around the Christmas holidays, with the sharpest decrease for commercial vehicles;

Figure 37 Yearly carryings by type (Combined direction—2007/2008=100%)

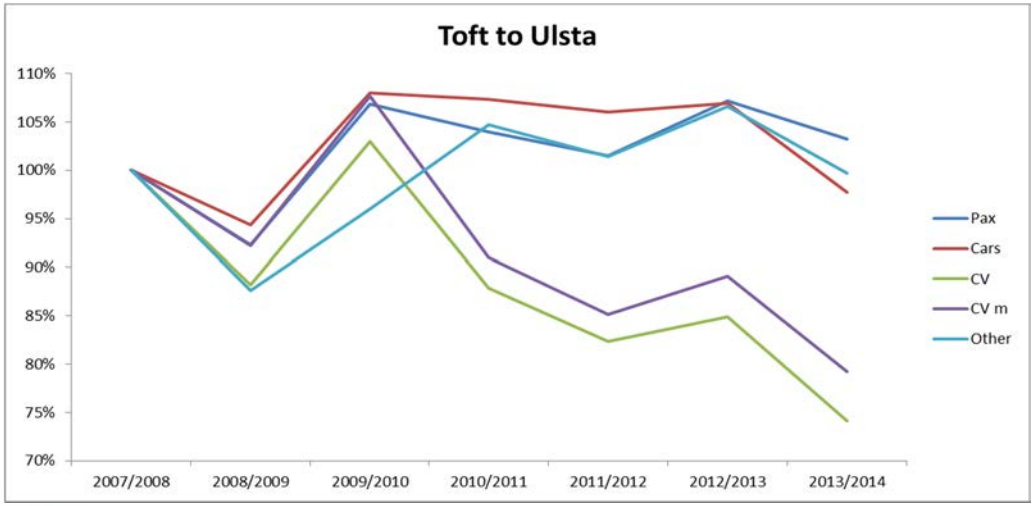
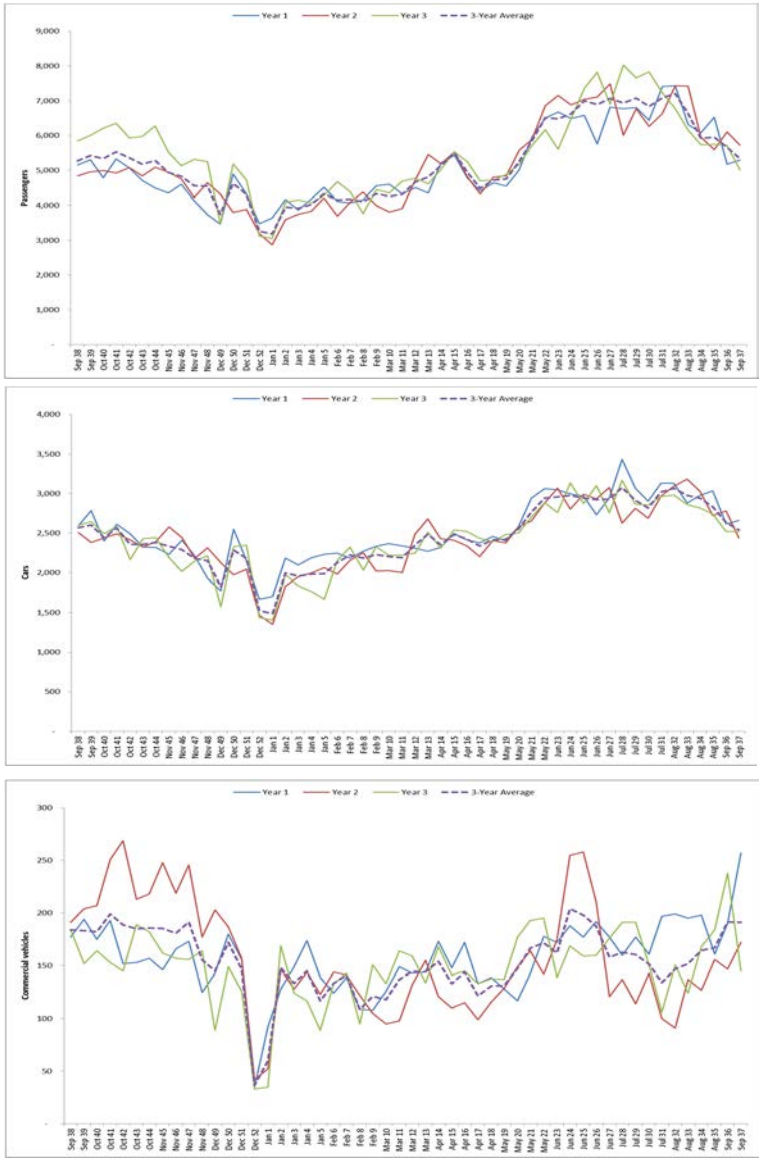


Figure 38. Carryings by week: Toft to Ulsta (Combined direction)



2. Carryings Analysis

- There is a lot more variation throughout the year for commercial vehicles;
- Commercial vehicle carryings are considerably higher than average in June 2013 and between September and November 2013.

Carryings by day of week

Analysis has also been undertaken to determine how Toft to Ulsta carryings vary throughout the week. Figure 39 shows an average per sailing on the left hand Y axis (line graph) and an average daily total on the right hand Y axis (bar chart). In terms of the average carryings by sailing, the following stand out::

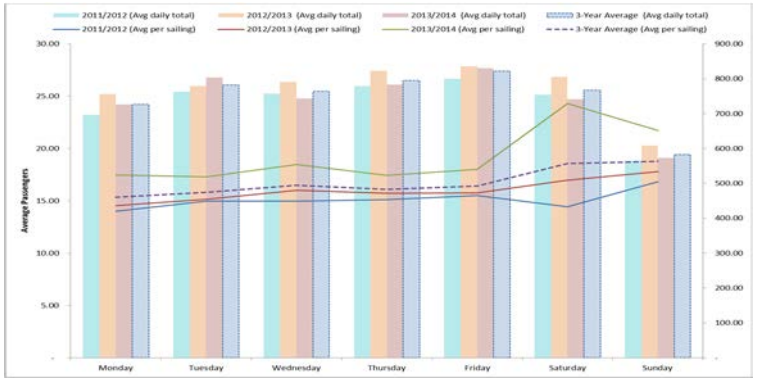
- There is not much variation during the working week, Wednesday is peak day for passenger and car movements and Thursday is peak day for commercial vehicle movements; this could be because Wednesday was a maintenance and drills day for one ferry with reduced sailings until 2014;
- In year 2013/2014, Saturdays had the highest per sailing passenger and car carryings but the lowest in year 2011/2012; this may have been caused by the reduction in service on Saturdays from 2 to 1 vessel in July 2013;
- CV carryings are much reduced at the weekend;
- The daily average passenger and car carryings in year 2013/2014 were higher than the three year average figure.

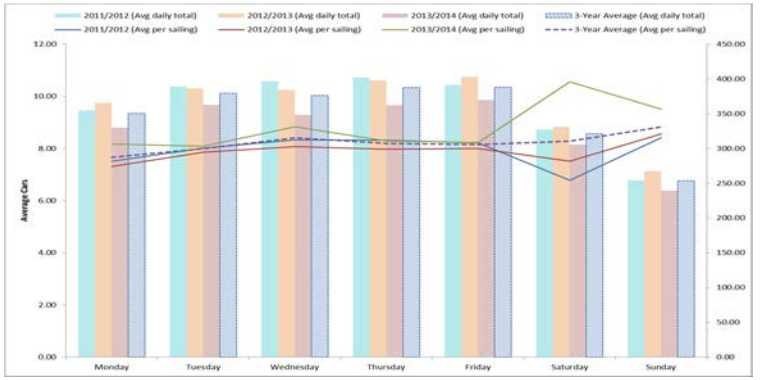
Carryings across the day

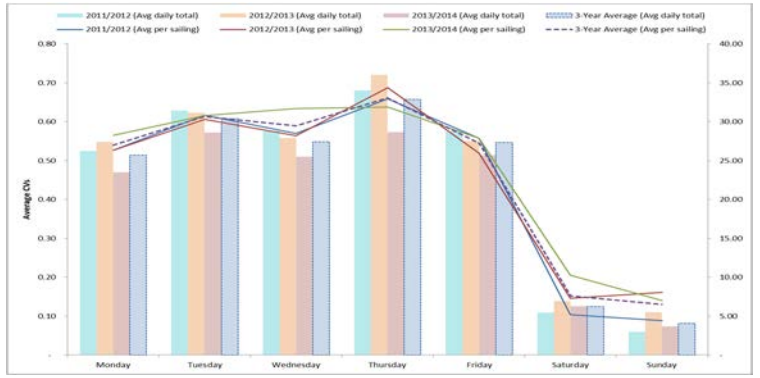
The following can be observed from Figures 40 to 47:

- There is a more variation between the weekend days than between the working week days i.e. each of the three days has its own distinct pattern with a much less even distribution of demand across the day than was seen with weekdays;
- From Toft to Ulsta, the busiest sailings during the week are between 16:00 and 18:00 and 18:00 and 20:00, both in summer and winter;
- From Ulsta to Toft, the busiest sailings during the week are between 06:00 and 08:00, both in summer and winter;
- At the weekend, the busiest sailings are usually in the second half of the day; the highest average carryings from Toft to Ulsta are generally on Friday between 18:00 and 20:00 and from Ulsta to Toft are on Sunday between 16:00 and 18:00.

Figure 39. Carryings by day of week: Toft to Ulsta (Combined direction)

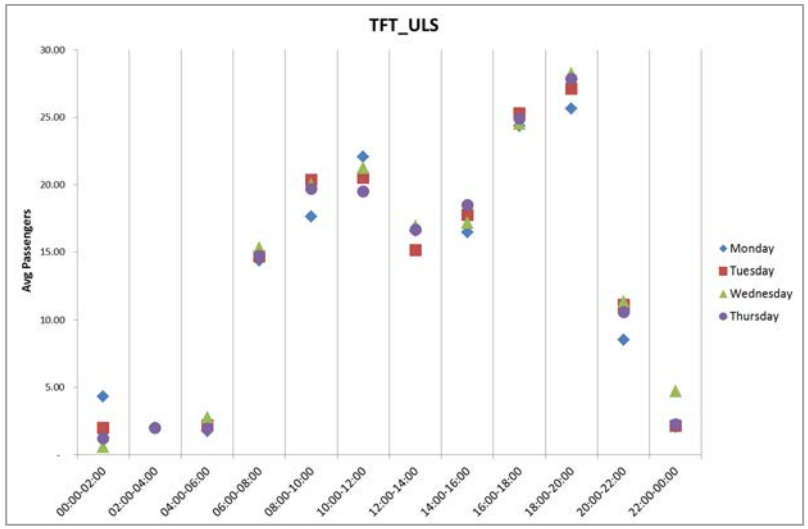






2. Carryings Analysis

Figure 40. Average Summer Carryings by Scheduled Departure Time — Toft to Ulsta (Single direction), Passengers



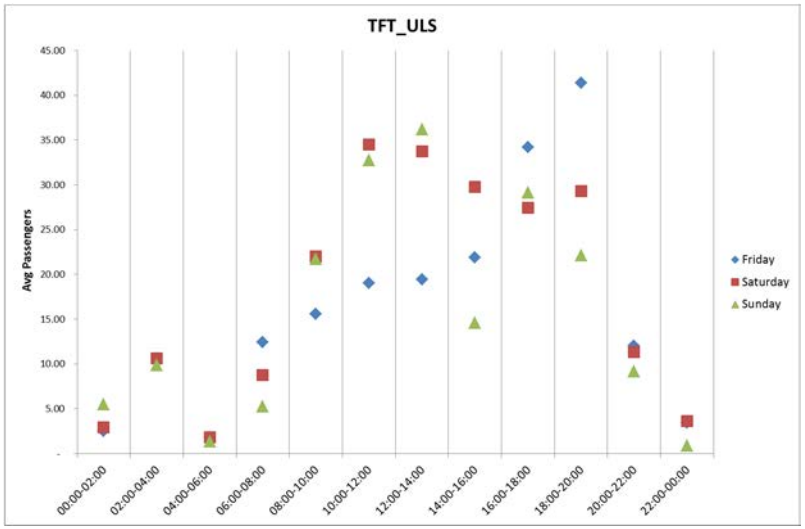
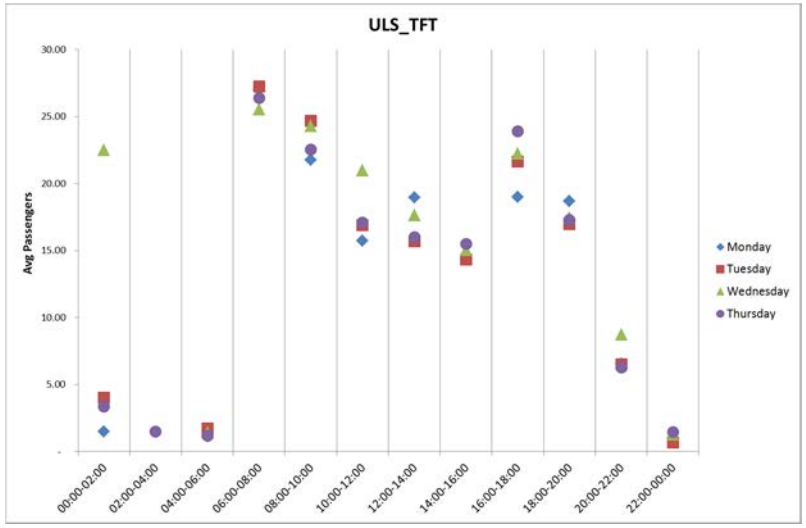
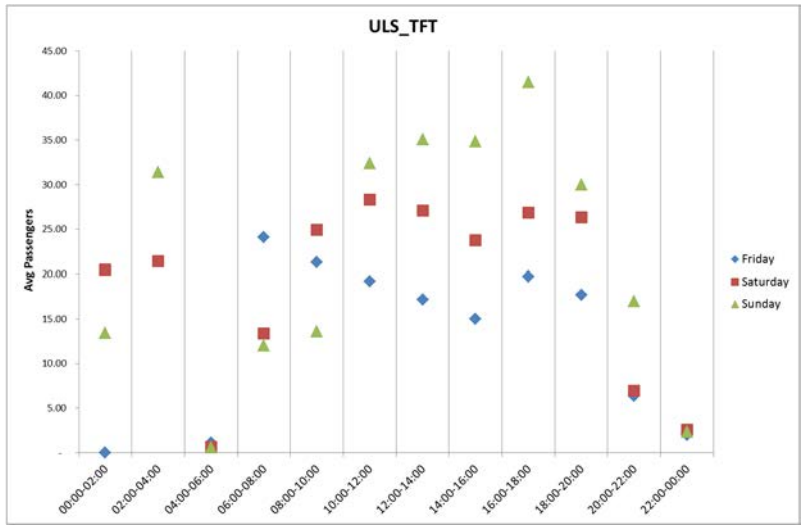


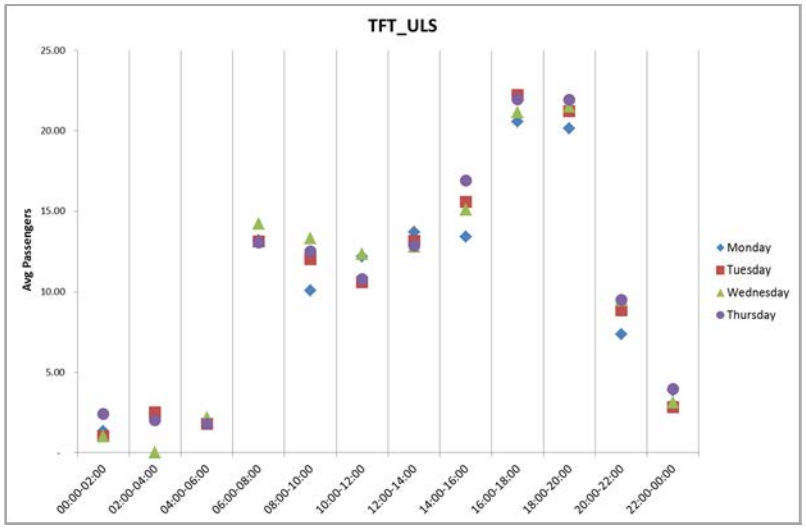
Figure 41. Average Summer Carryings by Scheduled Departure Time — Ulsta to Toft (Single direction), Passengers





2. Carryings Analysis

Figure 42. Average Winter Carryings by Scheduled Departure Time—Toft to Ulsta (Single direction), Passengers



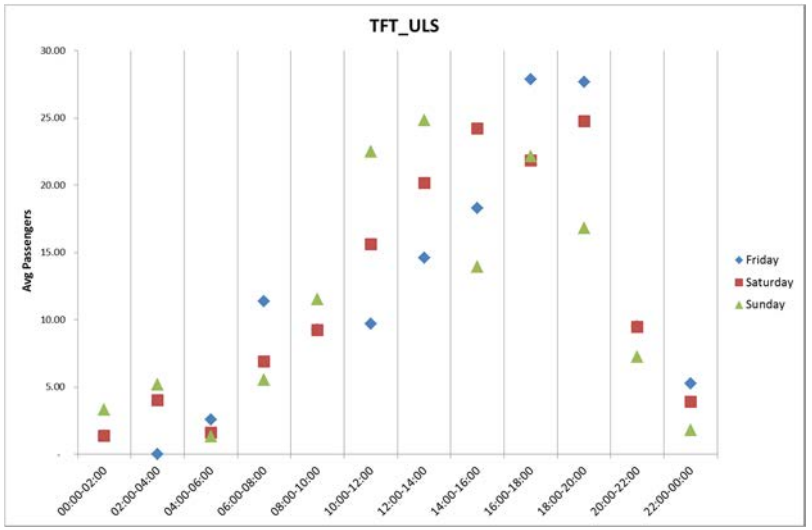
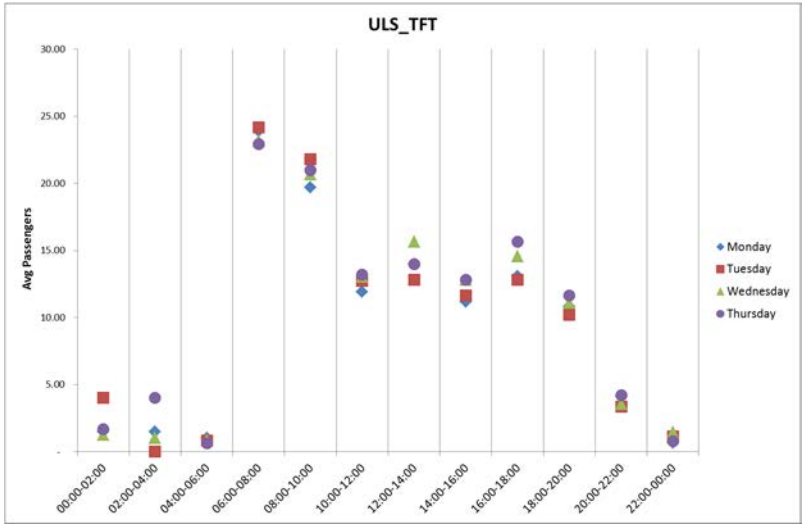
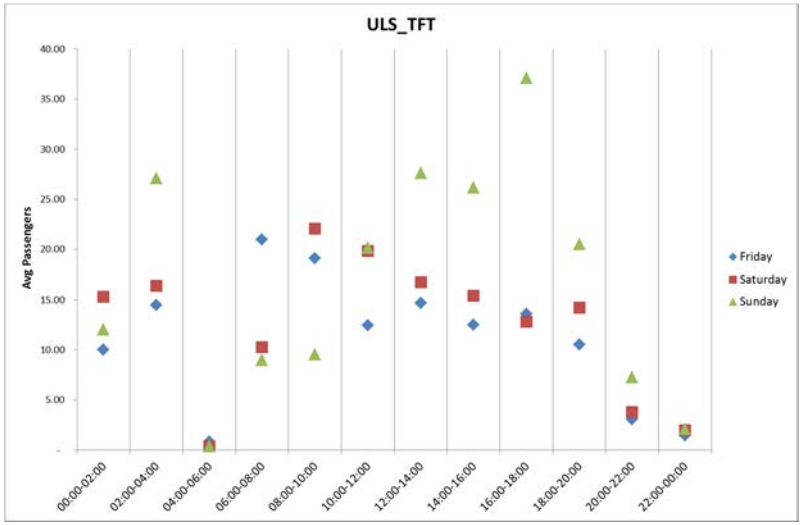


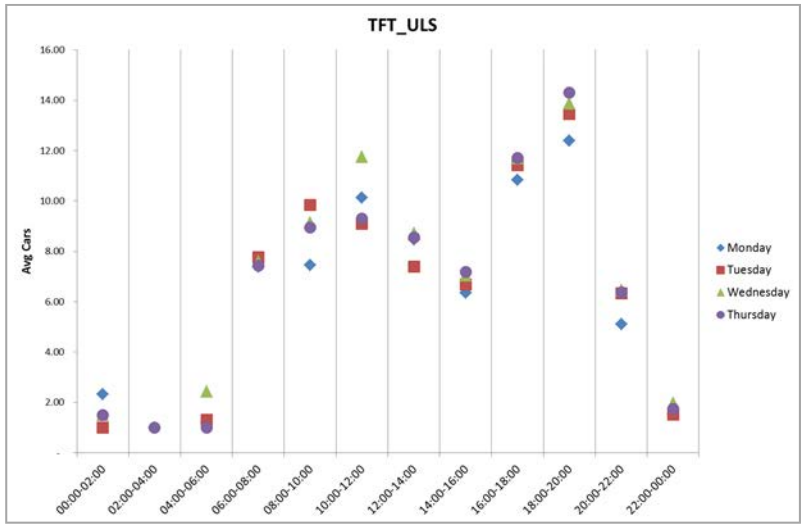
Figure 43. Average Winter Carryings by Scheduled Departure Time—Ulsta to Toft (Single direction), Passengers





2. Carryings Analysis

Figure 44. Average Summer Carryings by Scheduled Departure Time — Toft to Ulsta (Single direction), Cars



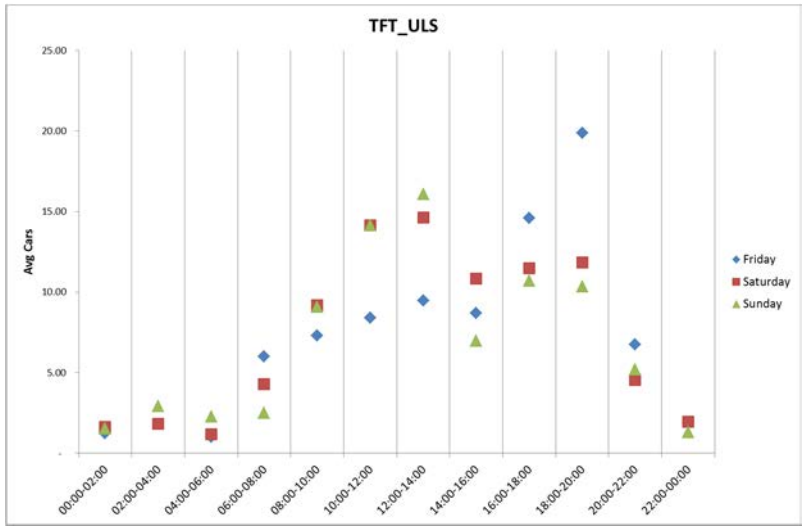
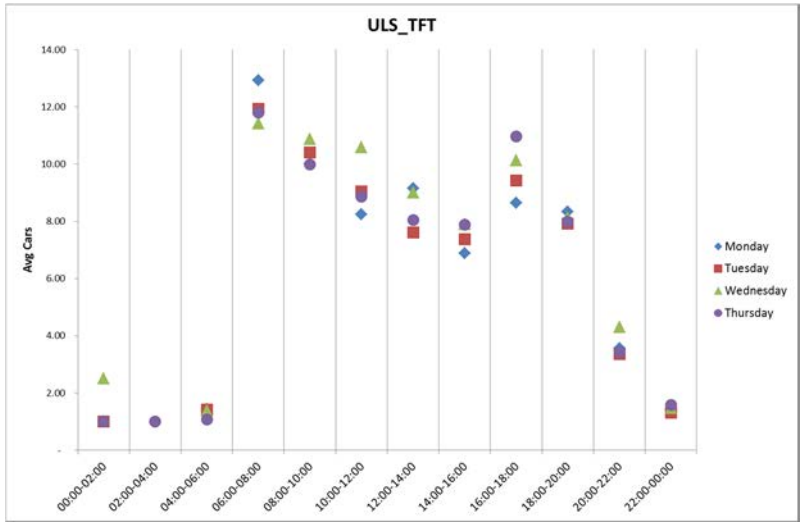
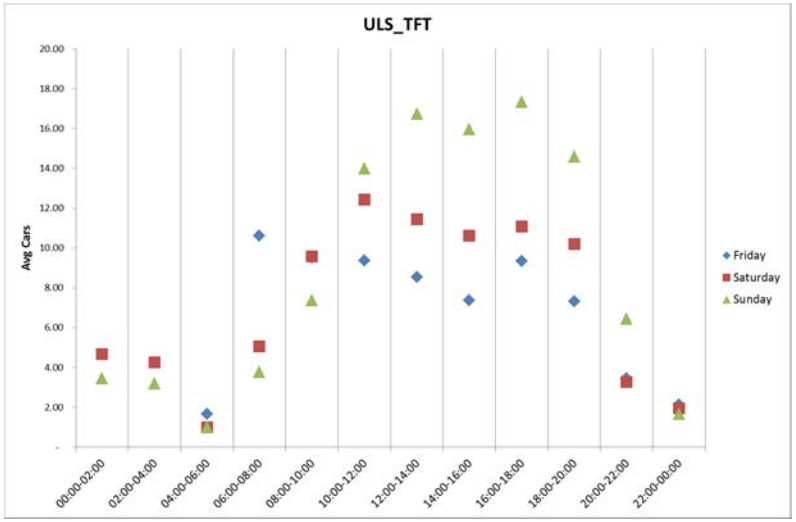


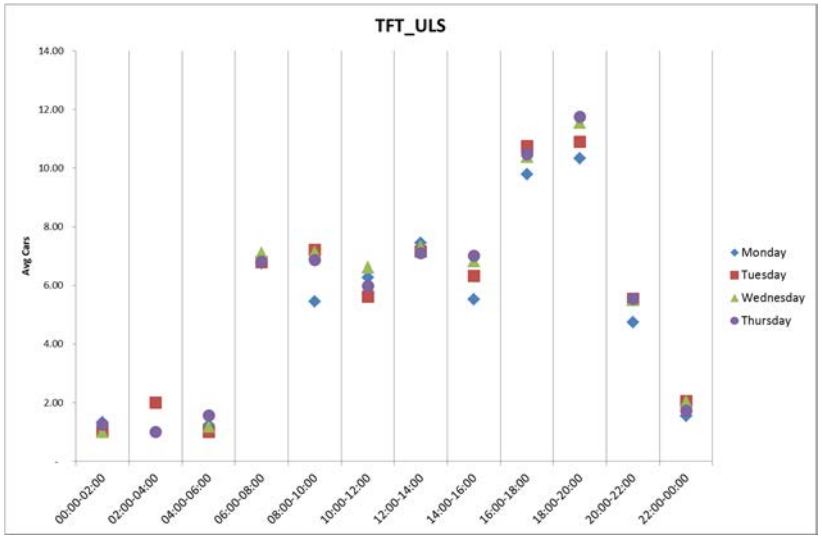
Figure 45. Average Summer Carryings by Scheduled Departure Time — Ulsta to Toft (Single direction), Cars





2. Carryings Analysis

Figure 46. Average Winter Carryings by Scheduled Departure Time—Toft to Ulsta (Single direction), Cars



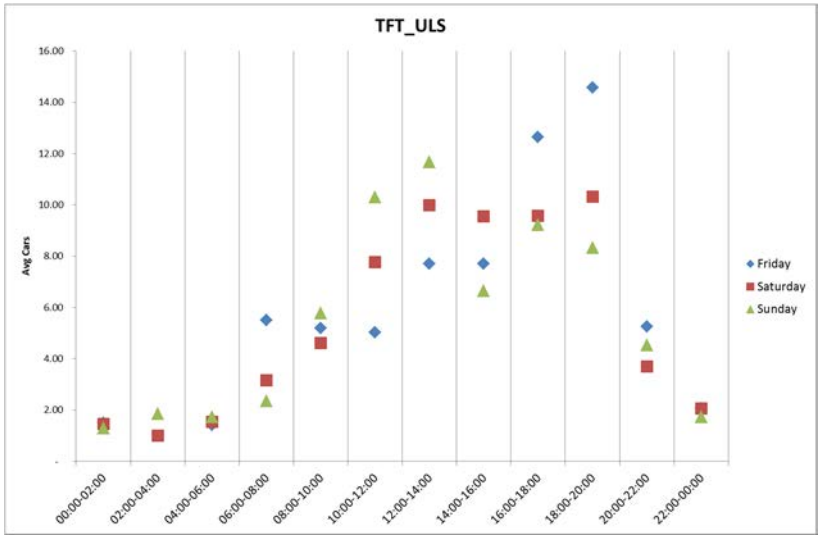
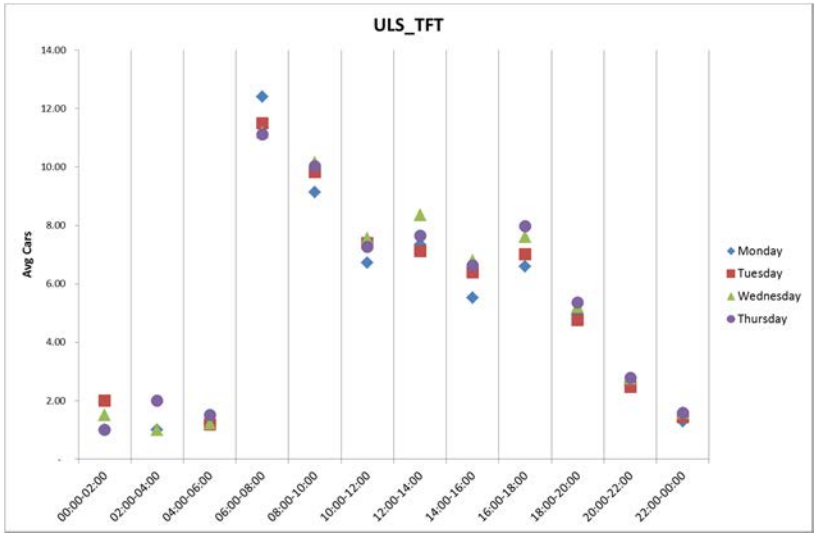
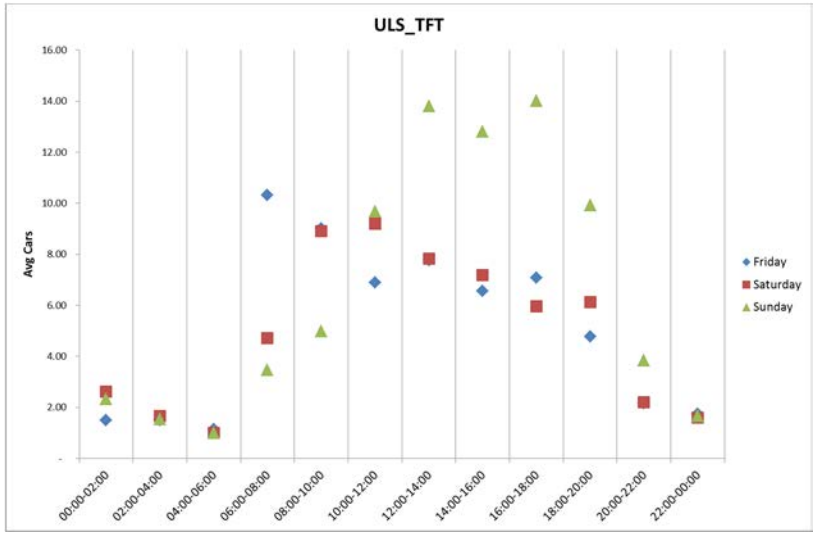


Figure 47. Average Winter Carryings by Scheduled Departure Time—Ulsta to Toft (Single direction), Cars





2. Carryings Analysis

Utilisation analysis

Figure 48 shows the percentage of sailings which sailed at different utilisation levels for each year since 2006/2007. It is immediately noticeable from comparing the figure for passenger utilisation with that for PCUs utilisation that the key limiting factor on ferry capacity for the Toft to Ulsta route is the capacity of the vehicle deck rather than the passenger capacity:

- Over 80% of Toft to Ulsta sailings had a passenger load factor of less than 20% for all years considered;
- Around 0.5% (2% in 2013/2014) of Toft-Ulsta crossings sailed at >50% passenger load factor while the equivalent figure for vehicle deck was between 19% and 28% throughout the years since 2006/2007;
- Between 2 and 3% of Toft to Ulsta sailings had a PCU utilisation higher than 100% as estimated from our calculations.

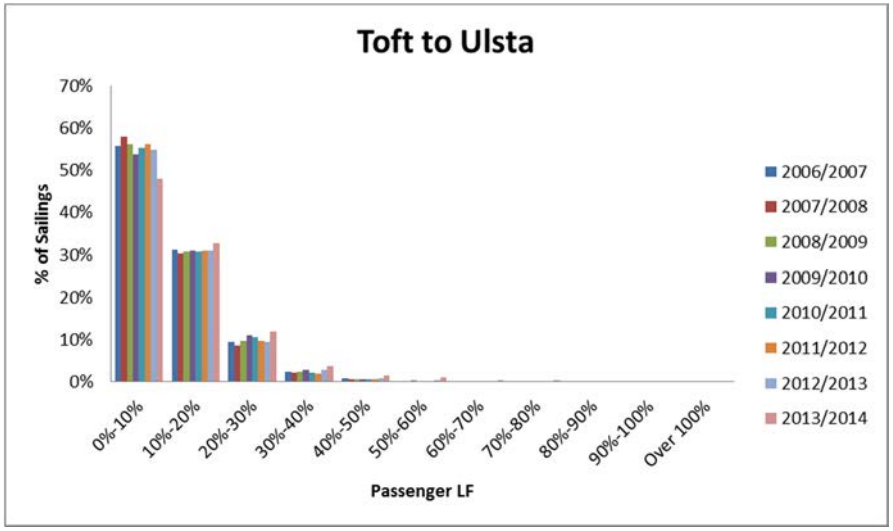
To further explore this aspect and identify the busiest sailings between Toft and Ulsta, we looked at the number of times sailings had a load factor higher than 80% between summer 2014 and summer 2015. Table 7 displays the following information by direction of travel, season, day and time of day:

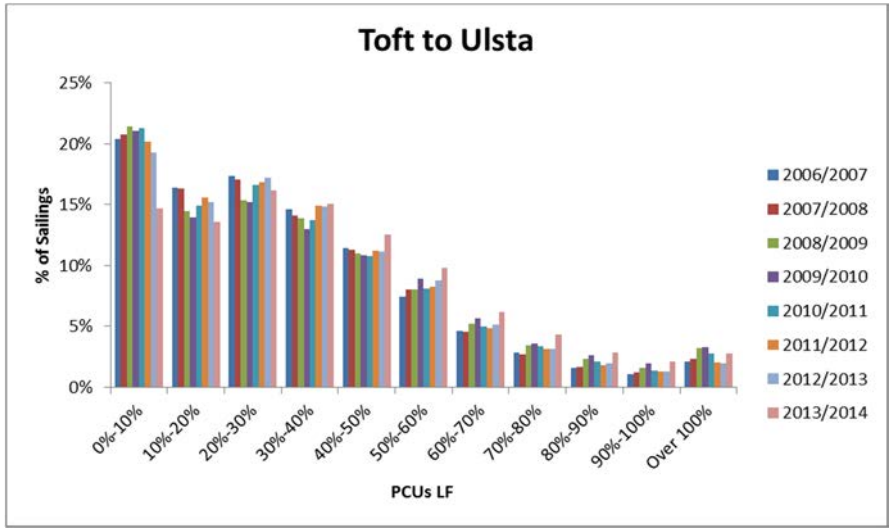
- The maximum number of times a sailing was more than 80% utilised—e.g. during a summer Tuesday the 07:15 sailing to Toft had a passenger load factor higher than 80% two times;
- The total number of sailings with a utilisation higher than 80% - e.g. during a summer Tuesday there were 5 sailings in total on this route with a passenger utilisation factor higher than 80%;
- The percentage of total sailings—e.g. the 5 sailings with a passenger utilisation factor over 80% represent approximately 0.5% of total summer Tuesday sailings on this route during the period considered.

The key points from Table 7 are as follows:

- In the summer, the most frequently busy sailings for passengers are the 07:15 from Ulsta to Toft;
- During the winter season, only one sailing had a passenger utilisation above 80% i.e. the 21:05 Saturday sailing from Toft to Ulsta;
- The 10:45 sailing from Toft to Ulsta was the most frequently busy sailing for PCUs during the summer while the 07:15 sailing in the opposite direction was the busiest during the winter.

Figure 48 Percentage of sailings by load factor (Combined direction)





2. Carryings Analysis

Table 7 Busiest sailings by season and time of day (Toft to Ulsta, 14 April 2014—12 April 2015)

Season	Day	Sailing with max no of times >80% utilised	Time	Max number of times >80% utilised	Total number of sailings >80% utilised on that day	Percentage of total sailings on that day
Passengers					**17**	
Summer 2013/2014	Monday	ULS_TFT	07:15	2	2	0.21%
Summer 2013/2014	Tuesday	ULS_TFT	07:15	2	5	0.47%
Summer 2013/2014	Wednesday	ULS_TFT	07:15	1	1	0.10%
Summer 2013/2014	Thursday	TFT_ULS	16:55	1	1	0.09%
Summer 2013/2014	Friday	ULS_TFT / TFT_ULS	07:15 / 16:55	2	4	0.37%
Summer 2013/2014	Saturday	ULS_TFT / TFT_ULS	17:30 / 16:55	1	2	0.28%
Summer 2013/2014	Sunday	ULS_TFT	17:30	1	1	0.16%
Winter 2014/2015	Saturday	TFT_ULS	21:05	1	1	0.11%
PCUs					**1,067**	
Summer 2013/2014	Monday	TFT_ULS	09:15	8	101	10.4%
Summer 2013/2014	Tuesday	TFT_ULS	10:45	18	140	13.1%
Summer 2013/2014	Wednesday	TFT_ULS	09:15	9	124	12.6%
Summer 2013/2014	Thursday	TFT_ULS	10:45	15	144	13.4%
Summer 2013/2014	Friday	TFT_ULS	18:05	15	145	13.4%
Summer 2013/2014	Saturday	TFT_ULS	13:55	13	104	14.8%
Summer 2013/2014	Sunday	ULS_TFT / ULS_TFT / TFT_ULS	17:30 / 14:30 / 12:00	7	47	7.6%
Winter 2014/2015	Monday	ULS_TFT	14:15	8	50	4.1%
Winter 2014/2015	Tuesday	ULS_TFT	07:15	12	43	3.0%
Winter 2014/2015	Wednesday	ULS_TFT	09:15	7	29	2.2%
Winter 2014/2015	Thursday	ULS_TFT	07:15	11	49	3.5%
Winter 2014/2015	Friday	ULS_TFT / ULS_TFT	12:45 / 07:15	4	30	2.2%
Winter 2014/2015	Saturday	ULS_TFT	09:15	9	57	6.1%
Winter 2014/2015	Sunday	ULS_TFT	17:30	2	4	0.5%

2. Carryings Analysis

Bressay — Lerwick to Bressay

Overall trend

Figure 49 shows indexed growth from 2007/2008. The key points in terms of yearly carryings for the Bressay route are:

- Passengers and cars follow very similar, fairly flat patterns;
- There is a lot more variation in commercial vehicle carryings from one year to the other, with a significant increase in 2009/2010 and 2011/2012;
- From Appendix B, the average car intensity for this route varies between 2.9 and 3.4 passengers to one car while the freight intensity varies between 11.4 and 15.2 passengers to one commercial vehicle.

Carryings across the year

Figure 50 shows the total weekly passengers, cars and commercial vehicles for the last three full years of data together with a three year average figure. The main points to note are:

- Passengers and cars follow very similar patterns;

Figure 49 Yearly carryings by type (Combined direction—2007/2008=100%)

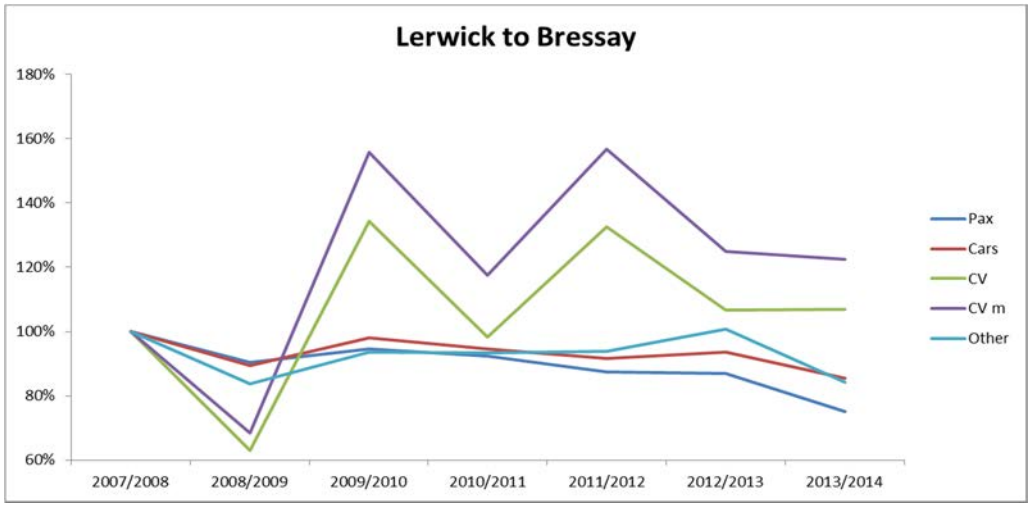
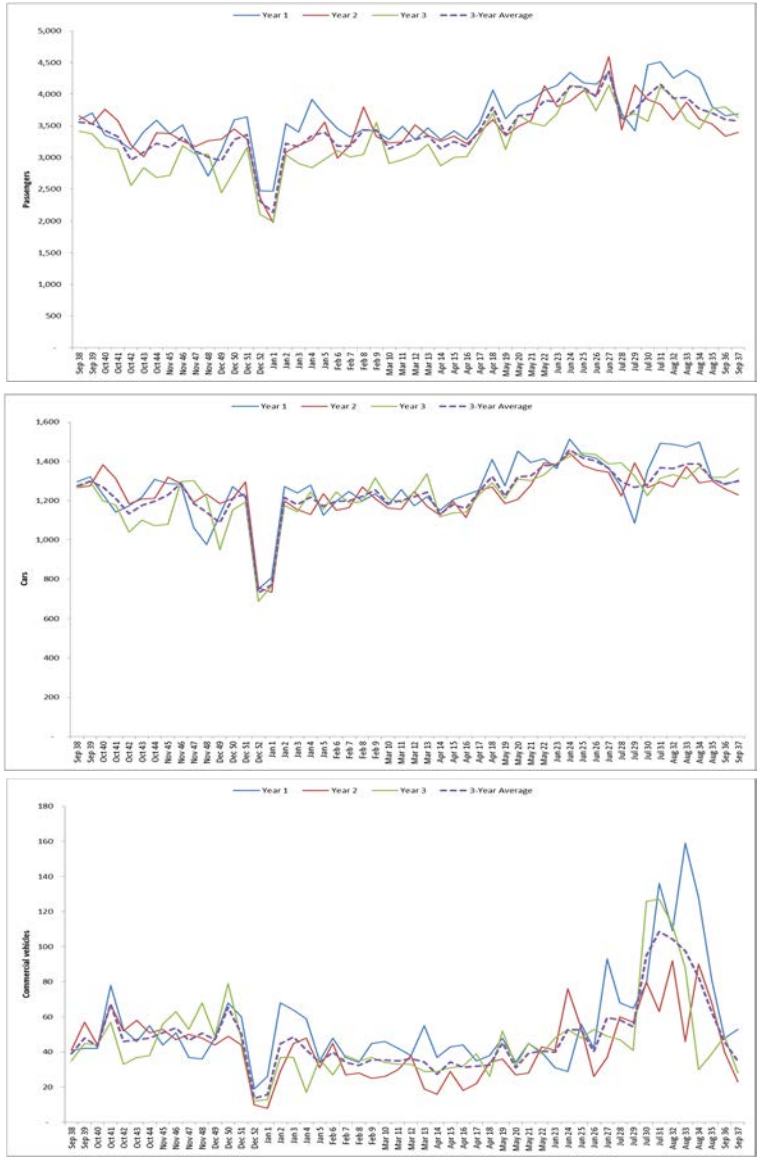


Figure 50. Carryings by week: Lerwick to Bressay (Combined direction)



2. Carryings Analysis

- Carryings drop around the Christmas holidays;
- Passenger and car carryings experience a decline in July as opposed to an increase above average in commercial vehicles.

Carryings by day of week

Analysis has also been undertaken to determine how Lerwick to Bressay carryings vary throughout the week. Figure 51 shows an average per sailing on the left hand Y axis (line graph) and an average daily total on the right hand Y axis (bar chart). In terms of the average carryings by sailing, the following stand out:

- All carryings drop significantly on Saturdays and Sundays;
- Passenger and car carryings are highest on Fridays with reduced variation during the week; this may be because Friday is the only weekday with sailings after 23:00;
- Commercial vehicle carryings have quite different demand profiles between the three years considered;

Carryings across the day

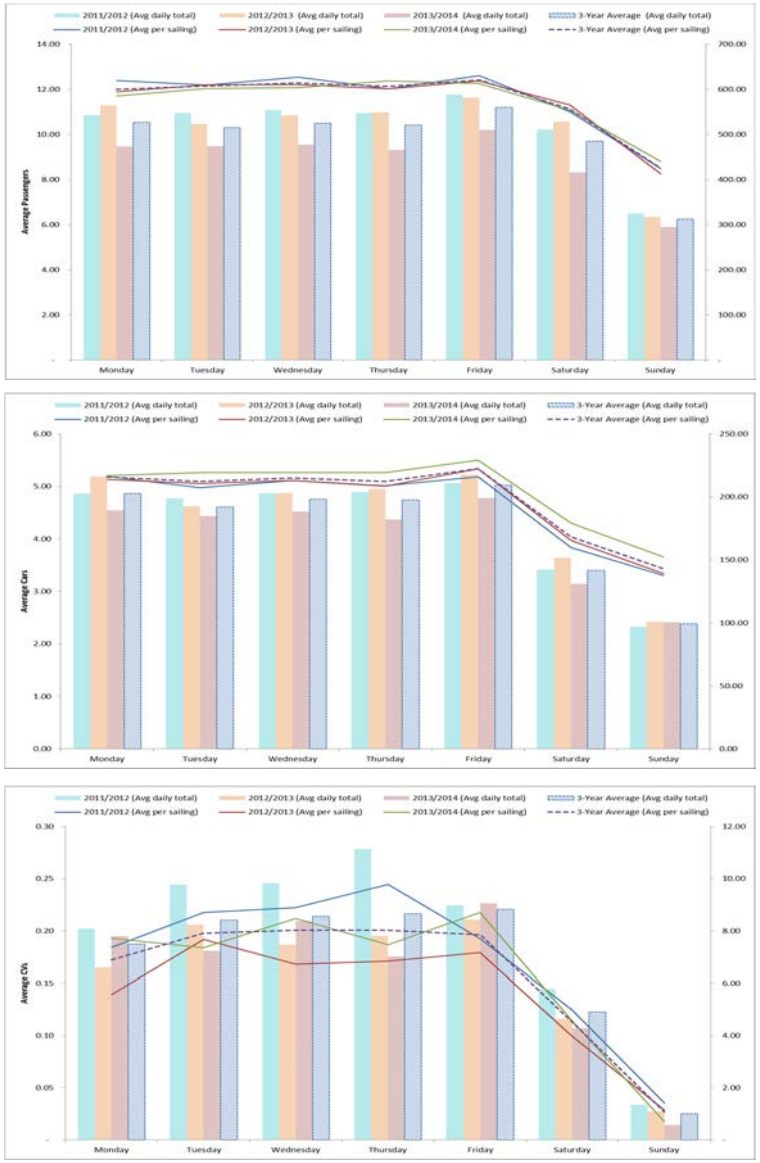
The following can be observed from Figures 52 to 59:

- From Bressay to Lerwick, the busiest sailings during the week are between 08:00 and 10:00 for passengers and cars, both in summer and winter;
- From Lerwick to Bressay, the busiest sailings during the week are between 16:00 and 18:00 for passengers and cars, both in summer and winter;
- Each of the three weekend days have their own distinct weekend pattern with a lot more variation across the day than what is seen on weekdays.

Utilisation analysis

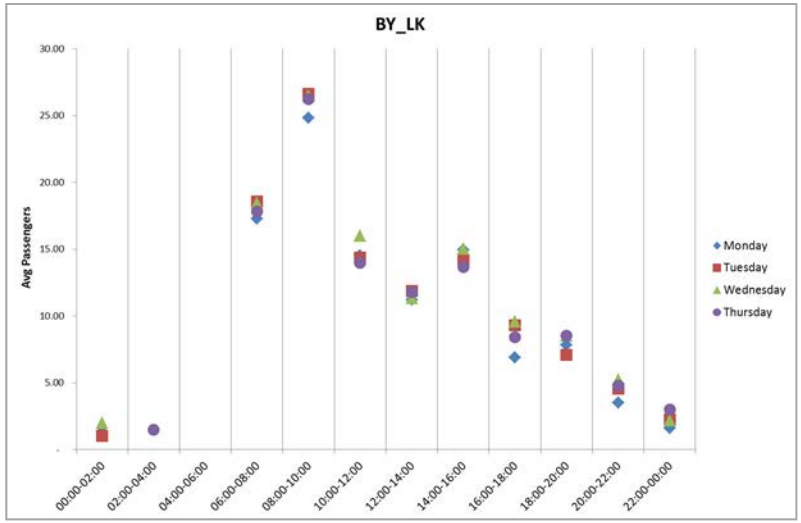
Figure 60 shows the percentage of sailings which sailed at different utilisation levels for each year since 2006/2007. It is immediately noticeable from comparing the figure for passenger utilisation with that for PCUs utilisation that the key limiting factor on ferry capacity for the Lerwick to Bressay route is the capacity of the vehicle deck rather than the passenger capacity:

Figure 51. Carryings by day of week: Lerwick to Bressay (Combined direction)



2. Carryings Analysis

Figure 52. Average Summer Carryings by Scheduled Departure Time — Bressay to Lerwick (Single direction), Passengers



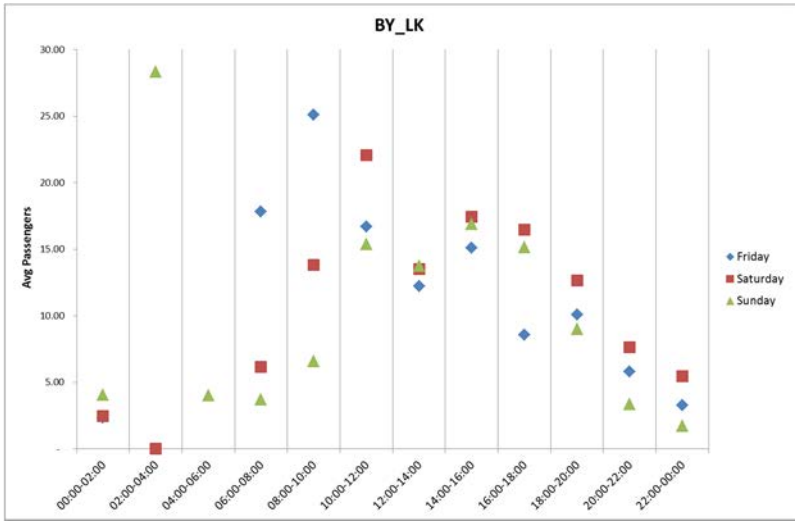
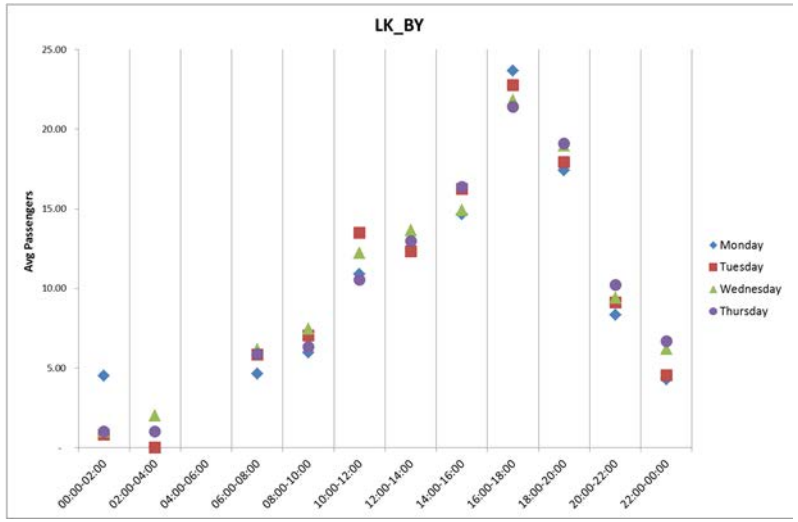
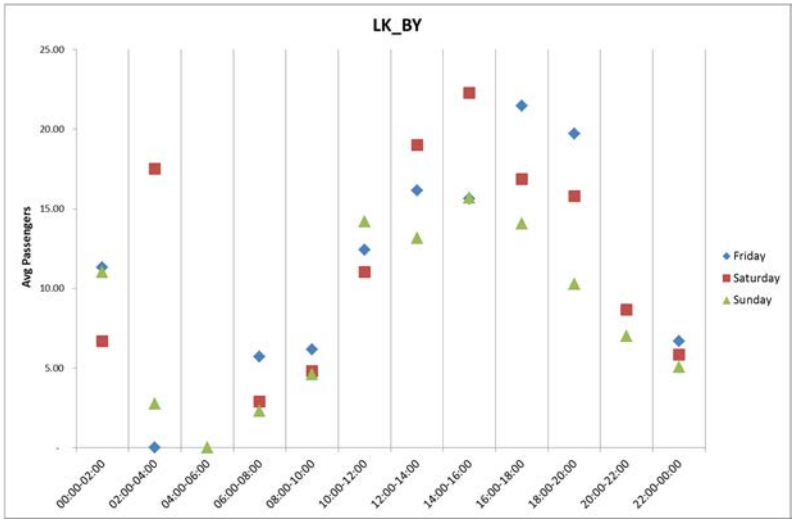


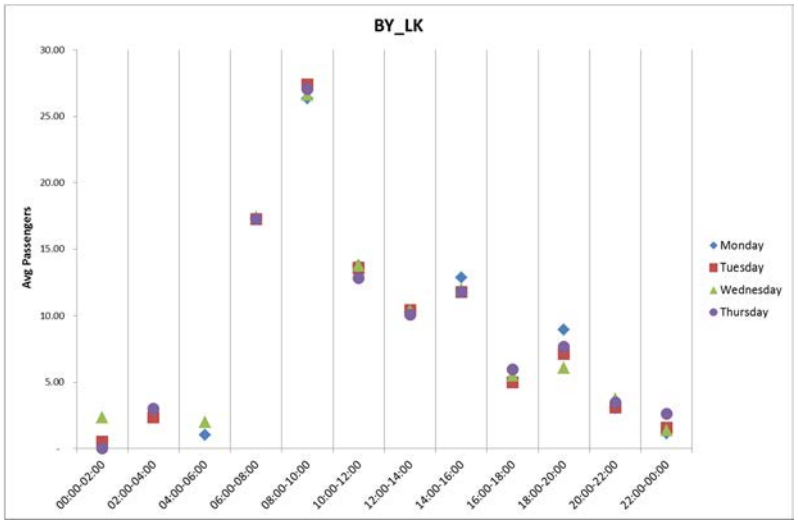
Figure 53. Average Summer Carryings by Scheduled Departure Time — Lerwick to Bressay (Single direction), Passengers





2. Carryings Analysis

Figure 54. Average Winter Carryings by Scheduled Departure Time — Bressay to Lerwick (Single direction), Passengers



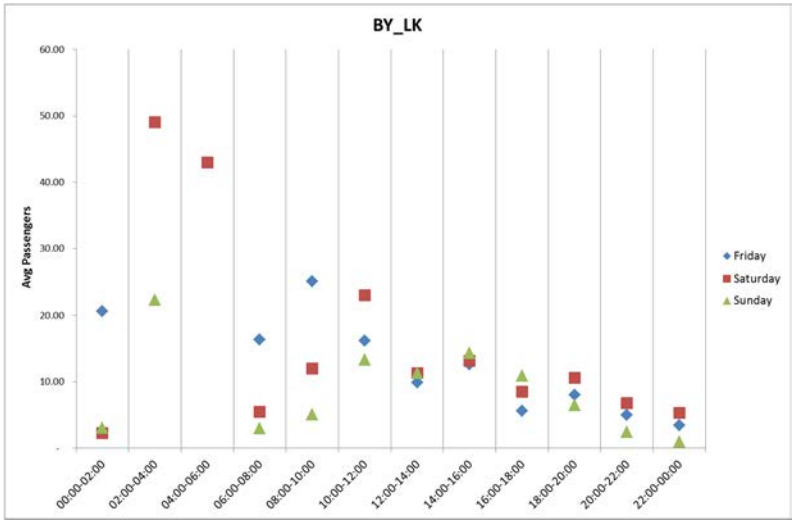
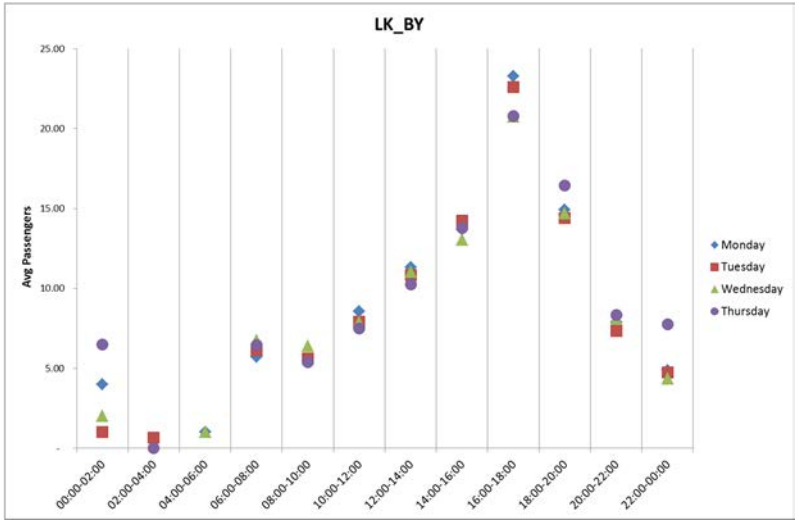
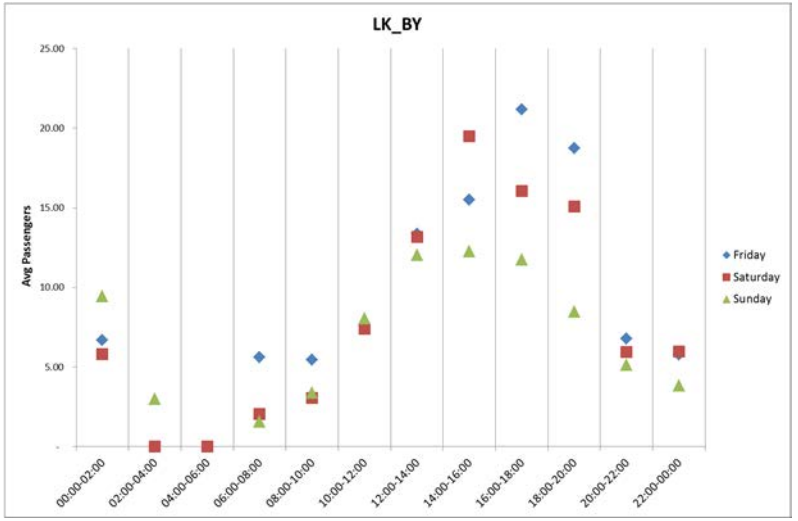


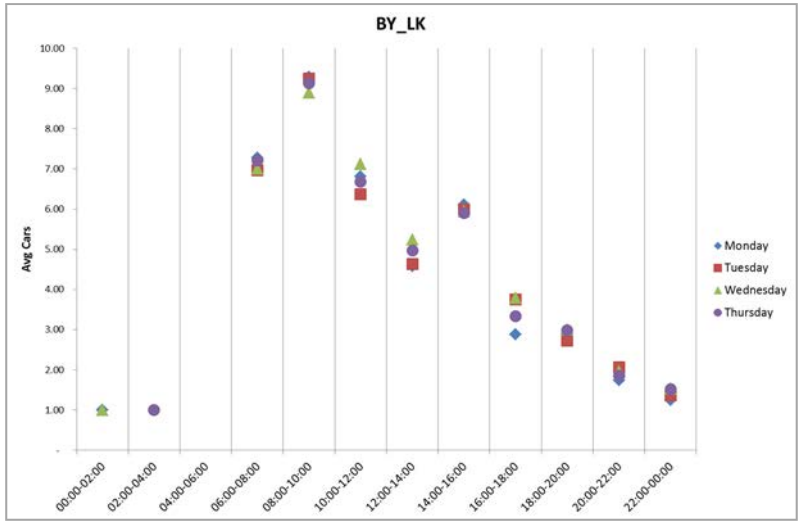
Figure 55. Average Winter Carryings by Scheduled Departure Time — Lerwick to Bressay (Single direction), Passengers





2. Carryings Analysis

Figure 56. Average Summer Carryings by Scheduled Departure Time — Bressay to Lerwick (Single direction), Cars



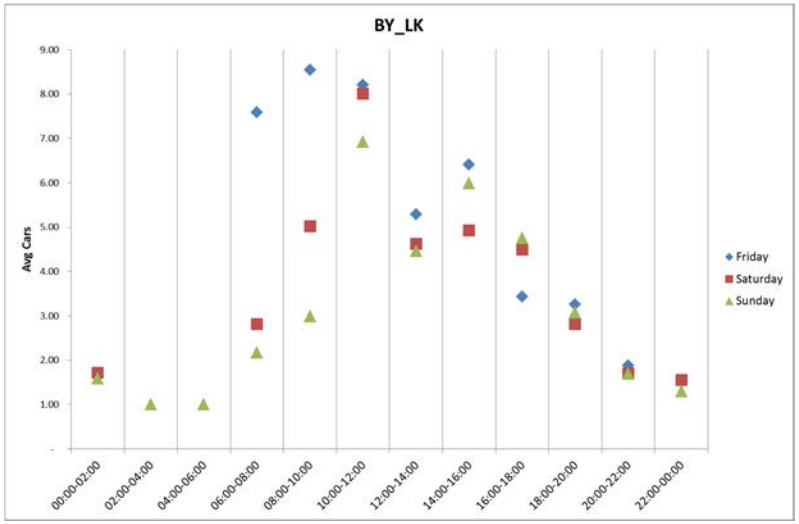
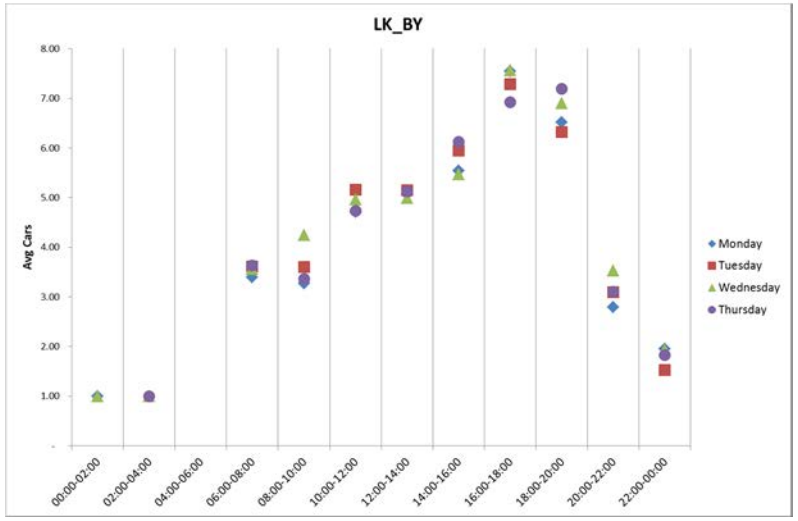
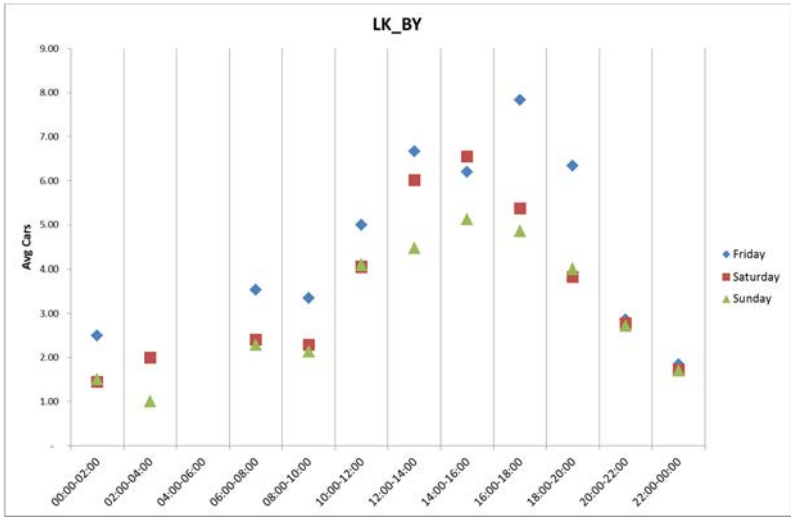


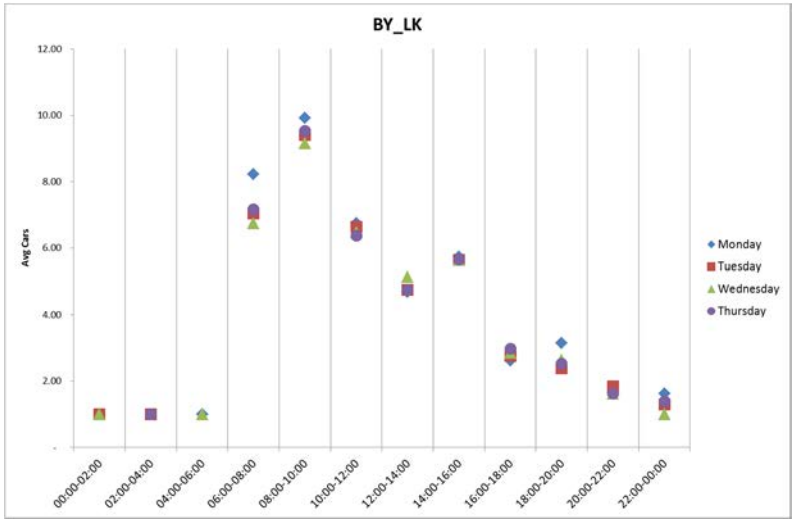
Figure 57. Average Summer Carryings by Scheduled Departure Time — Lerwick to Bressay (Single direction), Cars





2. Carryings Analysis

Figure 58. Average Winter Carryings by Scheduled Departure Time — Bressay to Lerwick (Single direction), Cars



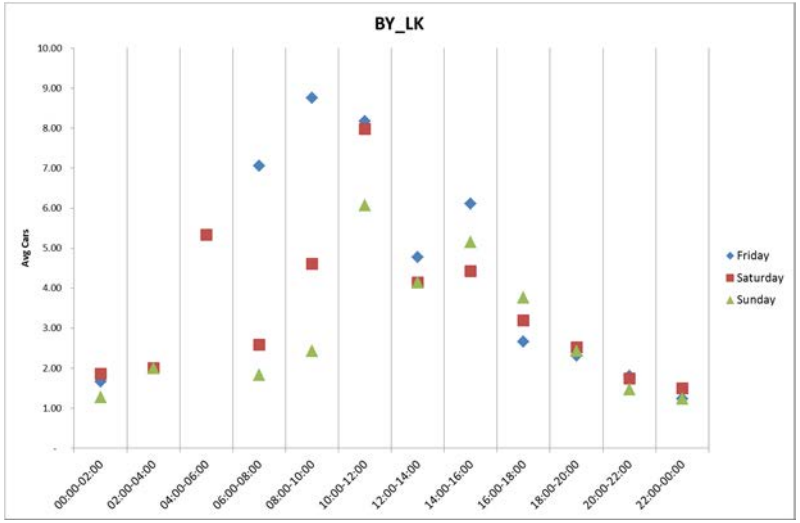
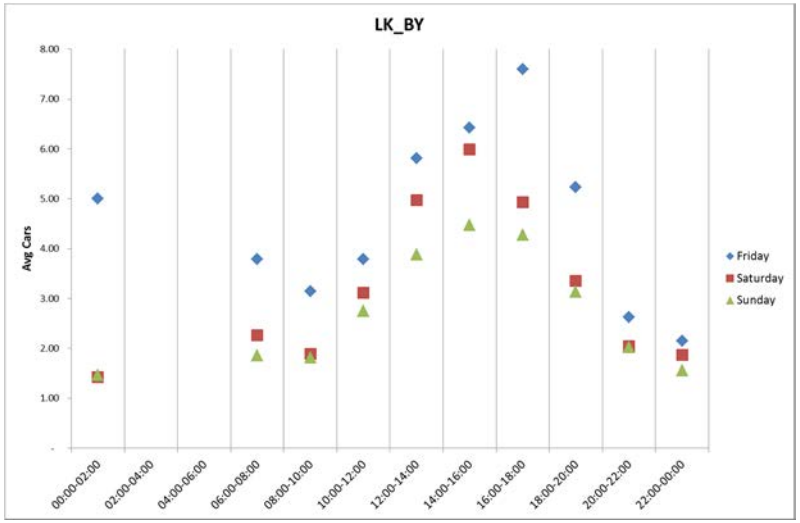
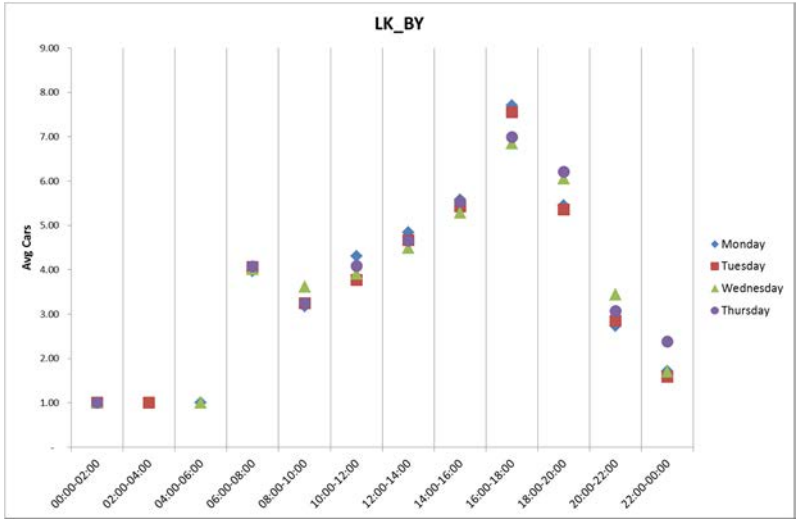


Figure 59. Average Winter Carryings by Scheduled Departure Time — Lerwick to Bressay (Single direction), Cars





2. Carryings Analysis

- Over 84% of Lerwick to Bressay sailings had a passenger load factor of less than 20% for all years considered;
- Less than 1% of Lerwick-Bressay crossings sailed at >50% passenger load factor while the equivalent figure for vehicle deck was between 15% and 23% throughout the years since 2006/2007;
- Between 0.4% and 3% of Lerwick to Bressay sailings had a PCU utilisation higher than 100% as estimated from our calculations.

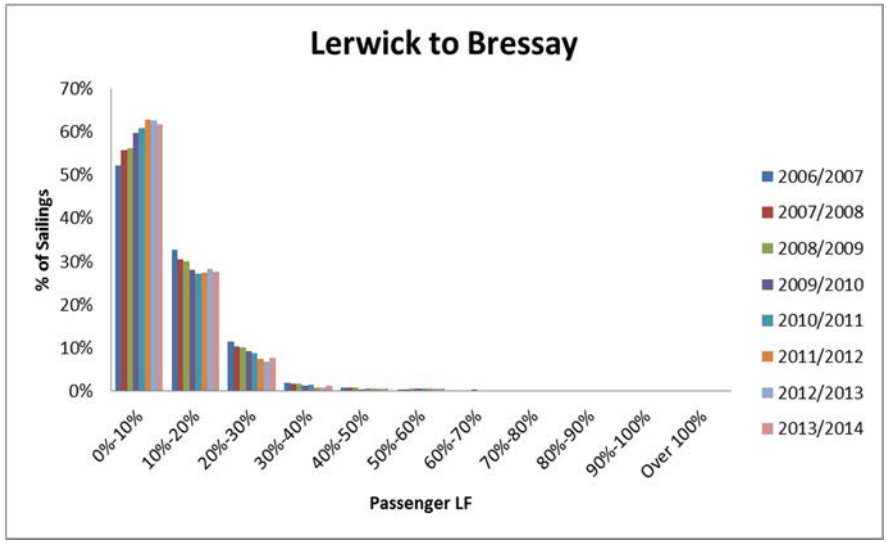
To further explore this aspect and identify the busiest sailings between Lerwick and Bressay, we looked at the number of times sailings had a load factor higher than 80% between summer 2014 and summer 2015. Table 8 displays the following information by direction of travel, season, day and time of day:

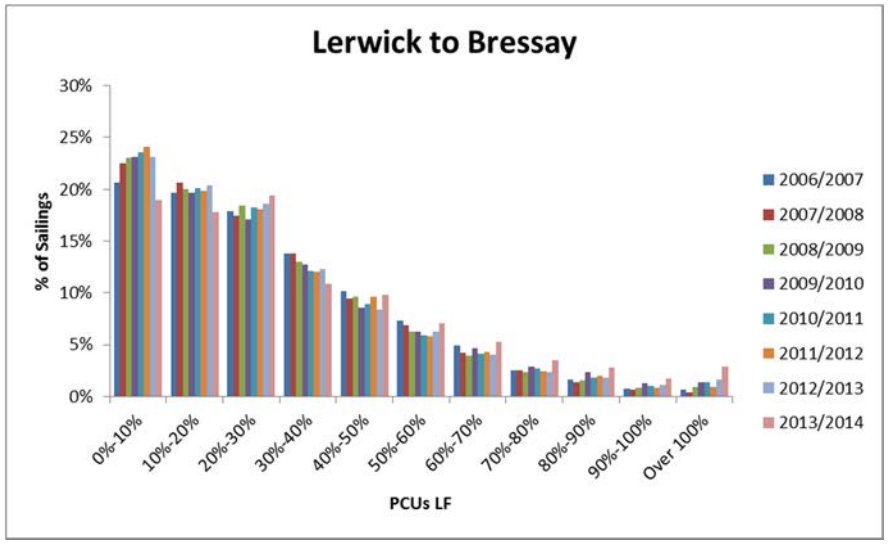
- The maximum number of times a sailing was more than 80% utilised—e.g. during a summer Tuesday the 08:30 sailing to Lerwick had a PCU load factor higher than 80% on 17 occasions;
- The total number of sailings with a utilisation higher than 80% - e.g. during a summer Tuesday there were 64 sailings in total on this route with a PCU utilisation factor higher than 80%;
- The percentage of total sailings—e.g. the 64 sailings with a passenger utilisation factor over 80% represent approximately 7% of total summer Tuesday sailings on this route during the period considered.

The key points from Table 8 are as follows:

- All summer sailings from this period have a passenger load factor below 80% and only one winter sailing has a passenger load factor above 80%;
- The most frequently busy sailing for vehicles during the summer season is the 08:30 sailing from Bressay to Lerwick;
- The most frequently busy sailing for vehicles during the winter season is the 17:15 sailing from Lerwick to Bressay.

Figure 60 Percentage of sailings by load factor (Combined direction)





2. Carryings Analysis

Table 8 Busiest sailings by season and time of day (Lerwick to Bressay, 14 April 2014—12 April 2015)

Season	Day	Sailing with max no of times >80% utilised	Time	Max number of times >80% utilised	Total number of sailings >80% utilised on that day	Percentage of total sailings on that day
Passengers					1	
Winter 2014/2015	Saturday	LK_BY	15:30	1	1	0.08%
PCUs					581	
Summer 2013/2014	Monday	BY_LK	08:30	13	80	8.5%
Summer 2013/2014	Tuesday	BY_LK	08:30	17	64	7.0%
Summer 2013/2014	Wednesday	BY_LK	08:30	15	74	7.9%
Summer 2013/2014	Thursday	BY_LK	08:30	12	50	5.5%
Summer 2013/2014	Friday	BY_LK	08:30	17	101	10.3%
Summer 2013/2014	Saturday	BY_LK	10:30	5	29	3.2%
Summer 2013/2014	Sunday	BY_LK	10:30	3	12	1.5%
Winter 2014/2015	Monday	BY_LK	08:30	11	35	2.9%
Winter 2014/2015	Tuesday	LK_BY / BY_LK	17:15 / 08:30	8	34	2.7%
Winter 2014/2015	Wednesday	LK_BY	17:15	11	28	2.2%
Winter 2014/2015	Thursday	BY_LK	10:30	4	13	1.1%
Winter 2014/2015	Friday	LK_BY	17:15	12	35	2.8%
Winter 2014/2015	Saturday	BY_LK	09:30	2	8	0.7%
Winter 2014/2015	Sunday	LK_BY	14:30	3	18	1.5%

2. Carryings Analysis

Whalsay — Symbister to Laxo / Vidlin

Overall trend

Figure 61 shows indexed growth from 2007/2008. The key points in terms of yearly carryings for this route are:

- Passengers and cars follow very similar patterns and both peak in 2012/2013, only to drop below 2007/2008 levels in the next year;
- Commercial vehicle carryings are mostly declining with the exception of 2011/2012 when they increase by approximately 31%;
- From Appendix B, the average car intensity for this route is around 2.4 passengers to one car while the freight intensity varies between 12 and 13 passengers to one commercial vehicle.

Carryings across the year

Figure 62 shows the total weekly passengers, cars and commercial vehicles for the last three full years of data together with a three year average figure. The main points to note are:

- Passengers and cars follow very similar patterns;

Figure 61 Yearly carryings by type (Combined direction—2007/2008=100%)

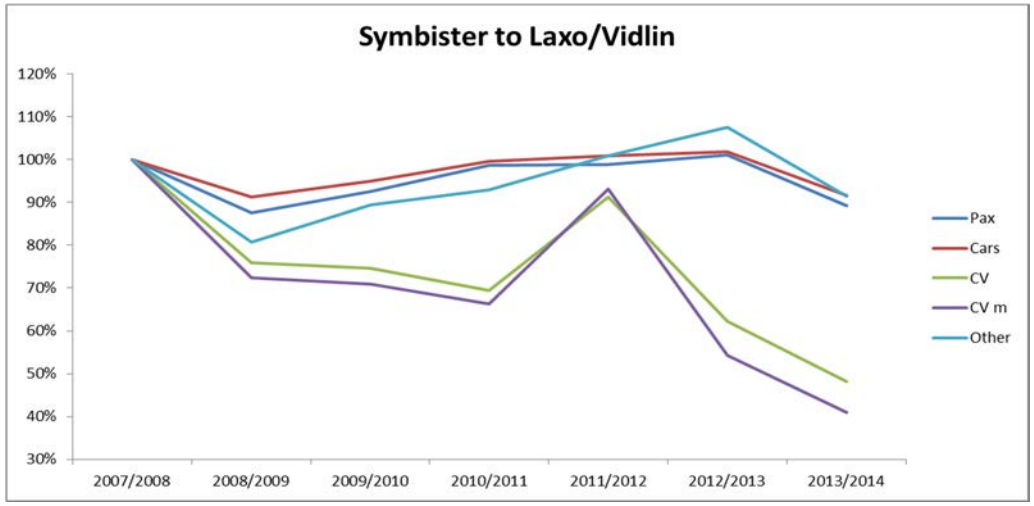
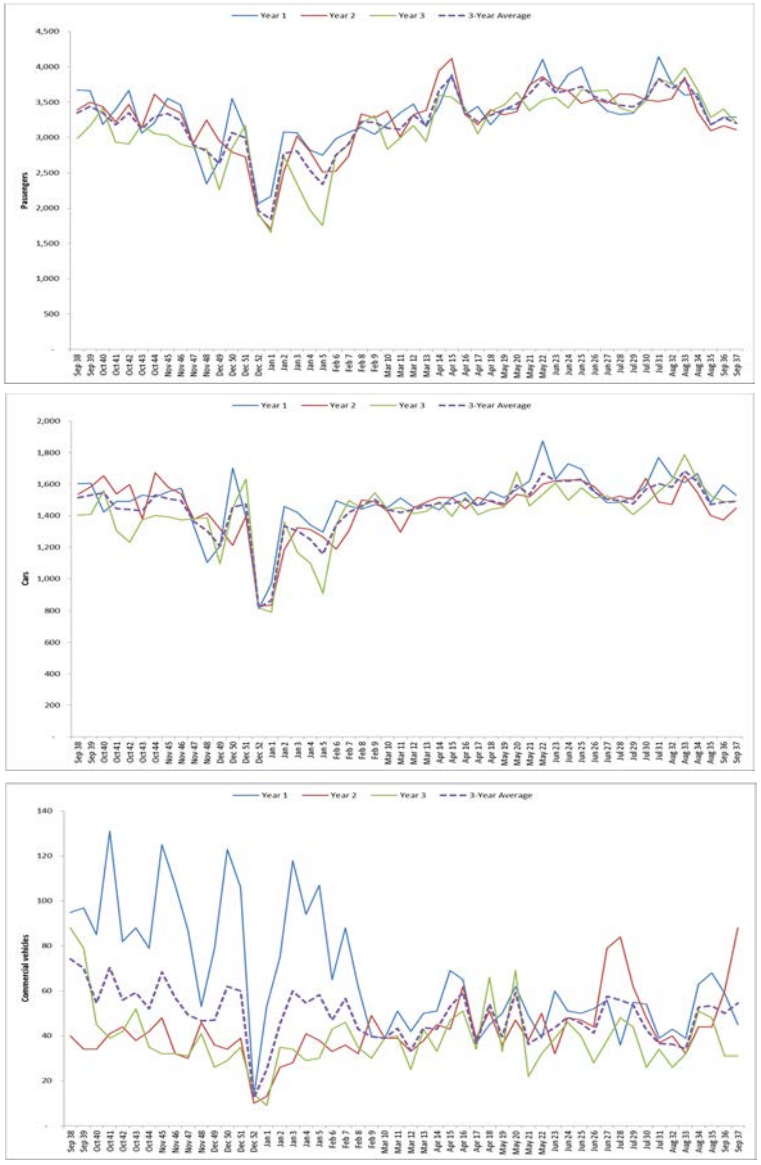


Figure 62. Carryings by week: Symbister to Laxo / Vidlin (Combined direction)



2. Carryings Analysis

- Passenger and car carryings are lowest in the last of week of December and the first week of January in all three years;
- Commercial vehicle carryings are above average in the first half of Year 1.

Carryings by day of week

Analysis has also been undertaken to determine how Symbister to Laxo / Vidlin carryings vary throughout the week. Figure 63 shows an average per sailing on the left hand Y axis (line graph) and an average daily total on the right hand Y axis (bar chart). In terms of the average carryings by sailing, the following stand out:

- Saturdays have significantly higher per sailing passenger and car carryings in 2013/2014;
- There is little day to day variation in average passenger and car carryings per sailing during the working week;
- Tuesday and Thursdays are peak weekdays for commercial vehicle carryings which are much reduced at the weekend.

Carryings across the day

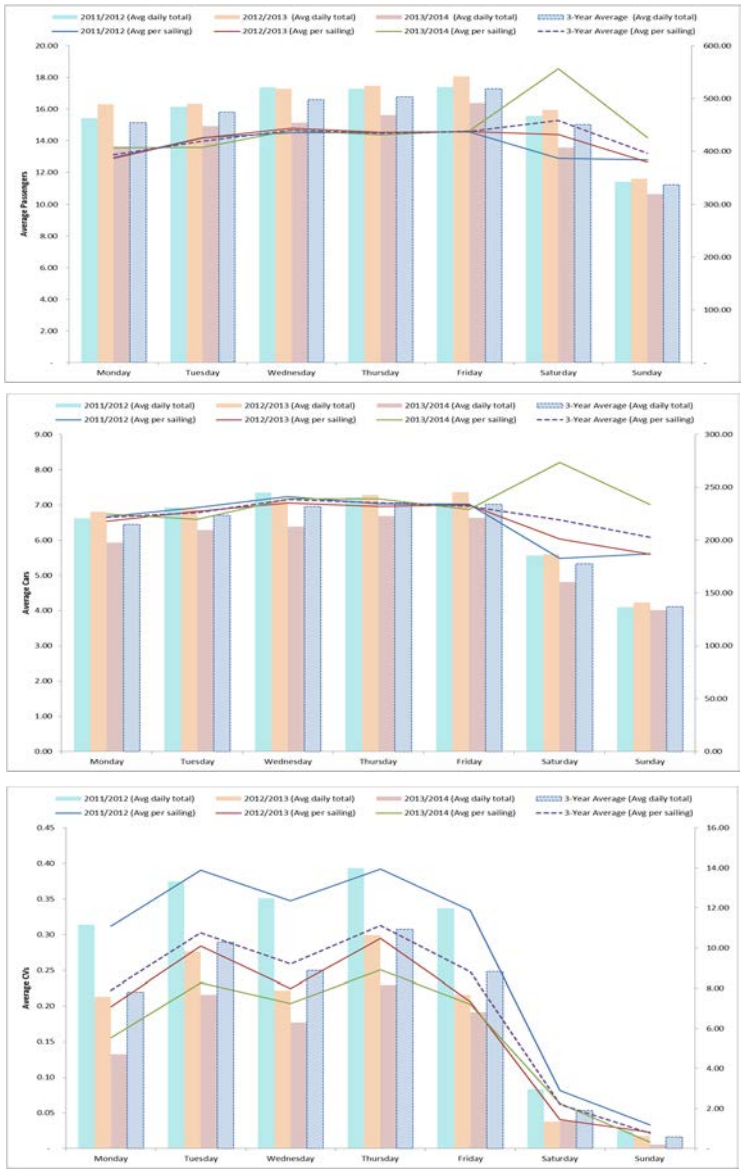
The following can be observed from Figures 52 to 59:

- From Laxo / Vidlin to Symbister, the busiest sailings during the week are between 16:00 and 18:00 for passengers and cars, both in summer and winter;
- From Symbister to Laxo / Vidlin, the busiest sailings during the week are between 06:00 and 08:00 for passengers and 08:00 and 10:00 for cars, both in summer and winter;
- Each of the three weekend days have their own distinct weekend pattern with a lot more variation across the day than what is seen on weekdays.

Utilisation analysis

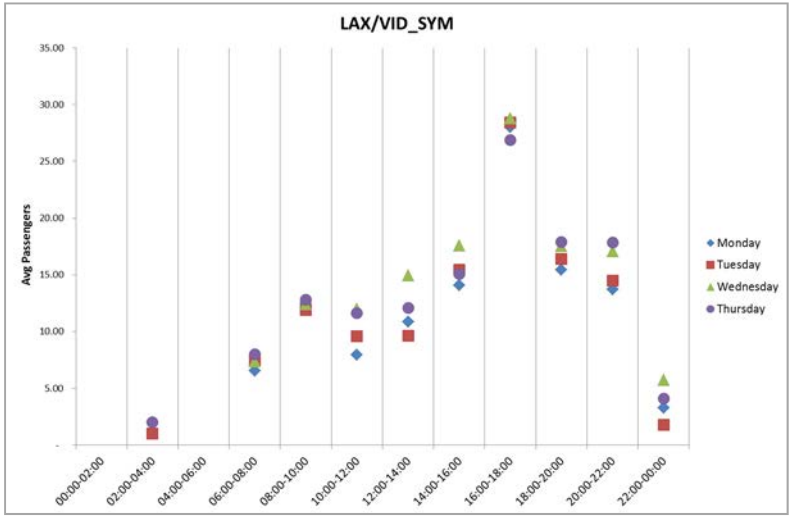
Figure 72 shows the percentage of sailings which sailed at different utilisation levels for each year since 2006/2007. It is immediately noticeable from comparing the figure for passenger utilisation with that for PCUs utilisation that the key limiting factor on ferry capacity for the Symbister to Laxo / Vidlin route is the capacity of the vehicle deck rather than the passenger capacity:

Figure 63. Carryings by day of week: Symbister to Laxo / Vidlin (Combined direction)



2. Carryings Analysis

Figure 64. Average Summer Carryings by Scheduled Departure Time — Laxo / Vidlin to Symbister (Single direction), Passengers



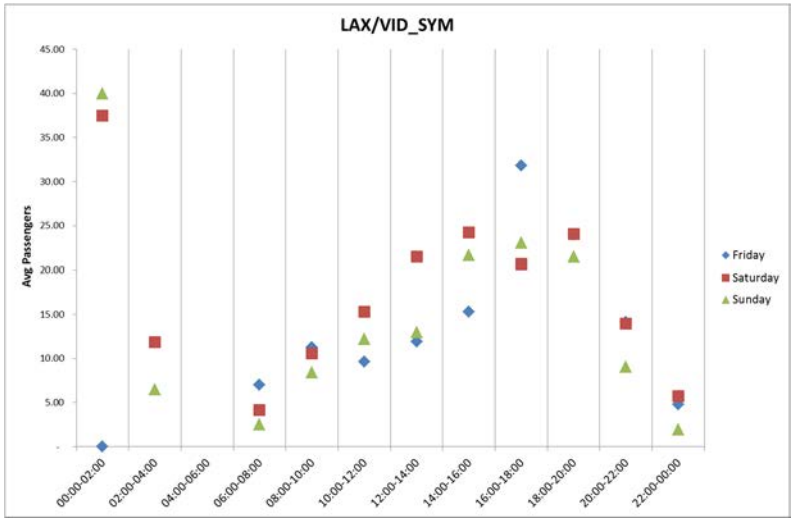
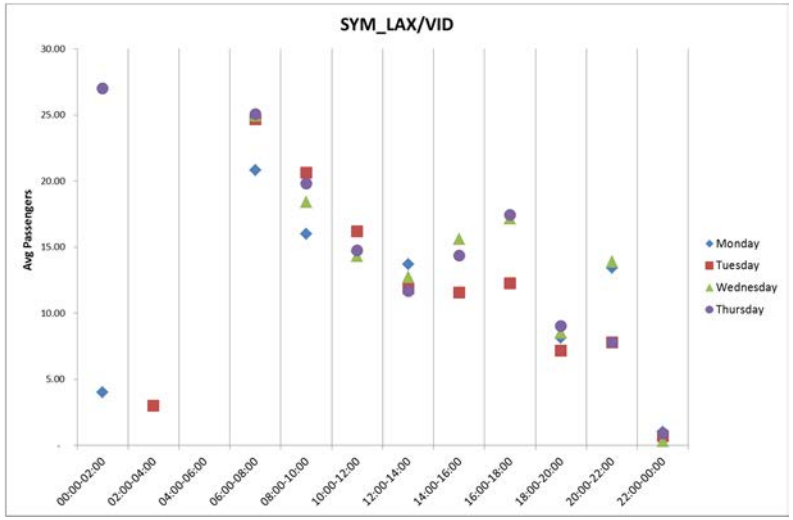
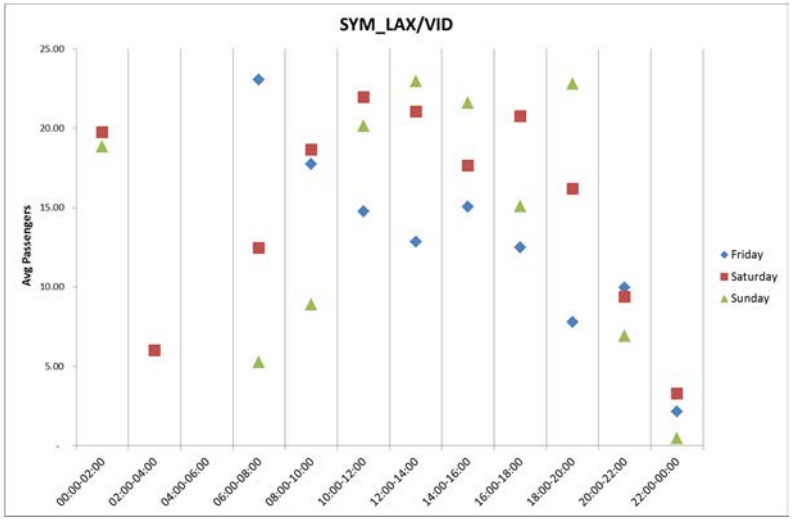


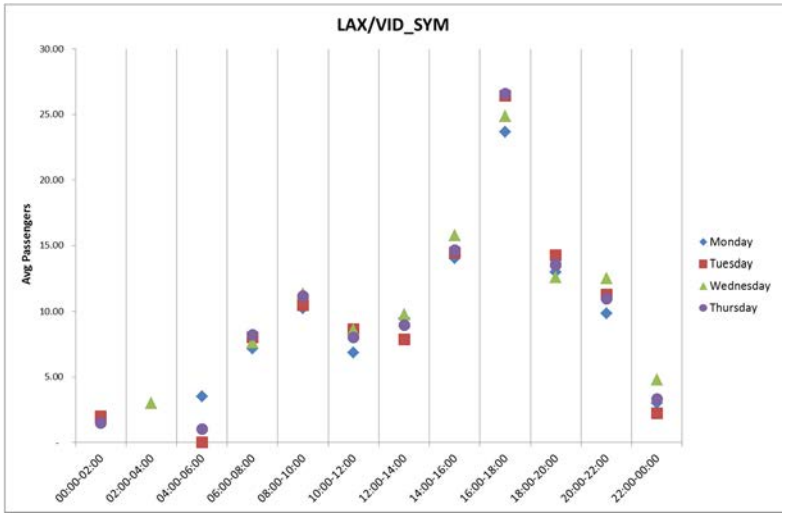
Figure 65. Average Summer Carryings by Scheduled Departure Time — Symbister to Laxo / Vidlin (Single direction), Passengers





2. Carryings Analysis

Figure 66. Average Winter Carryings by Scheduled Departure Time — Laxo / Vidlin to Symbister (Single direction), Passengers



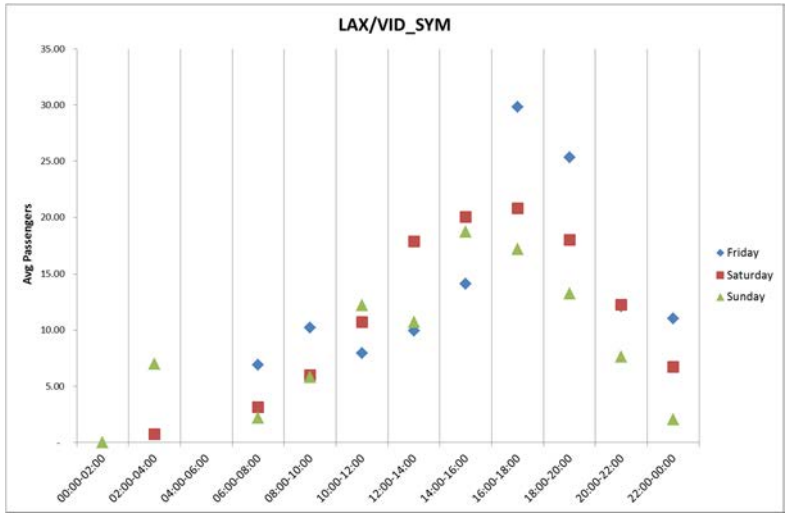
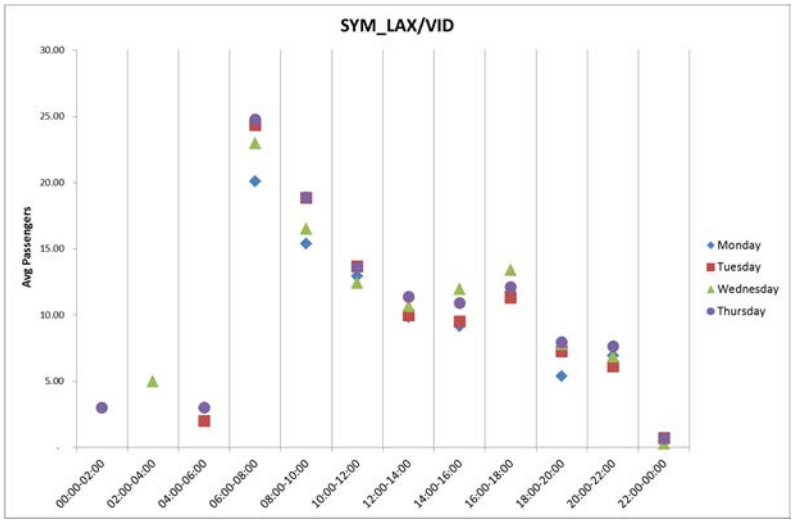
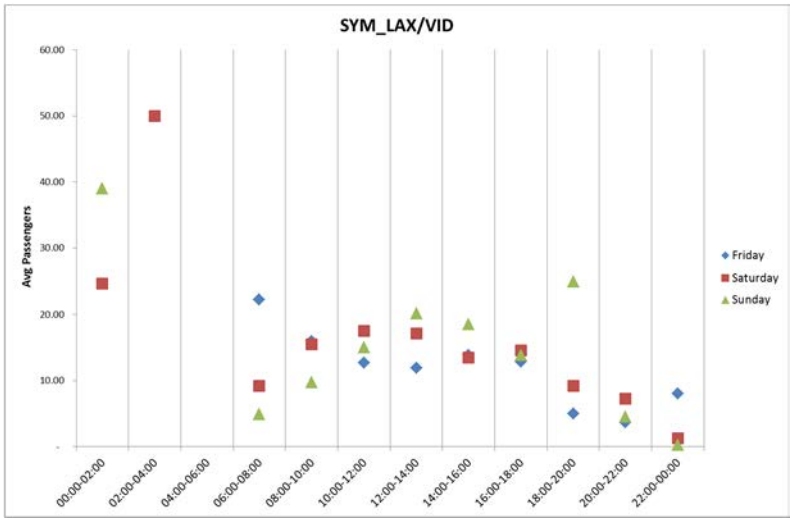


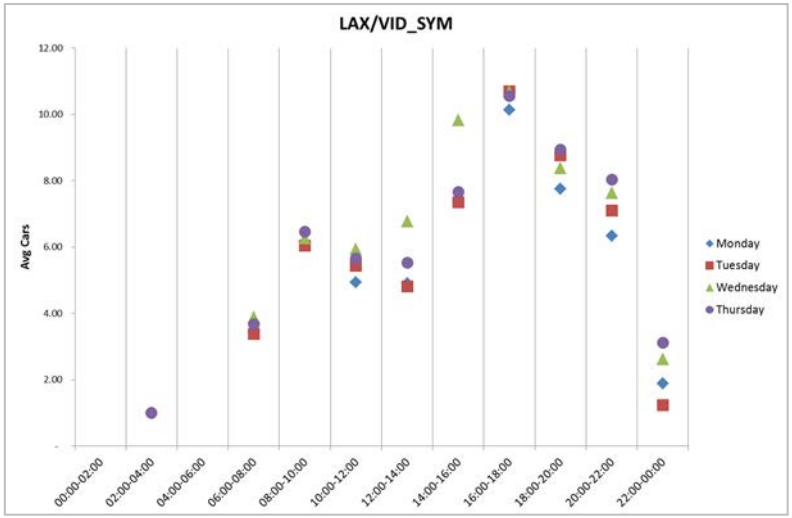
Figure 67. Average Winter Carryings by Scheduled Departure Time — Symbister to Laxo / Vidlin (Single direction), Passengers





2. Carryings Analysis

Figure 68. Average Summer Carryings by Scheduled Departure Time — Laxo / Vidlin to Symbister (Single direction), Cars



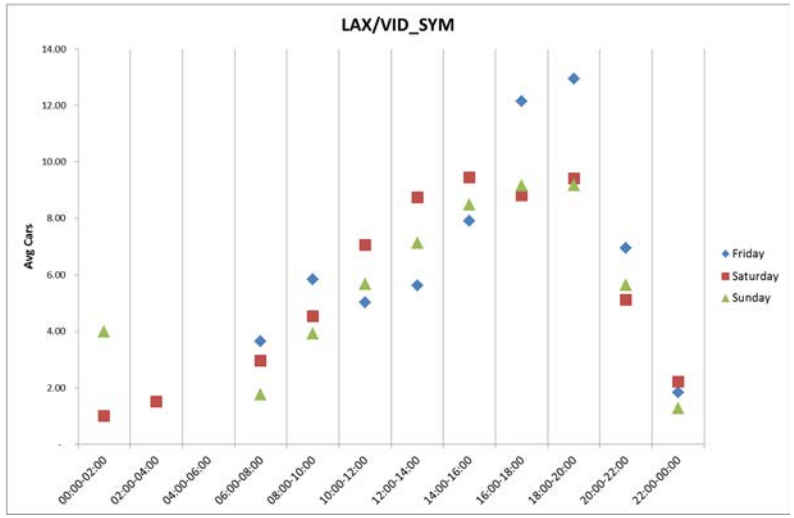
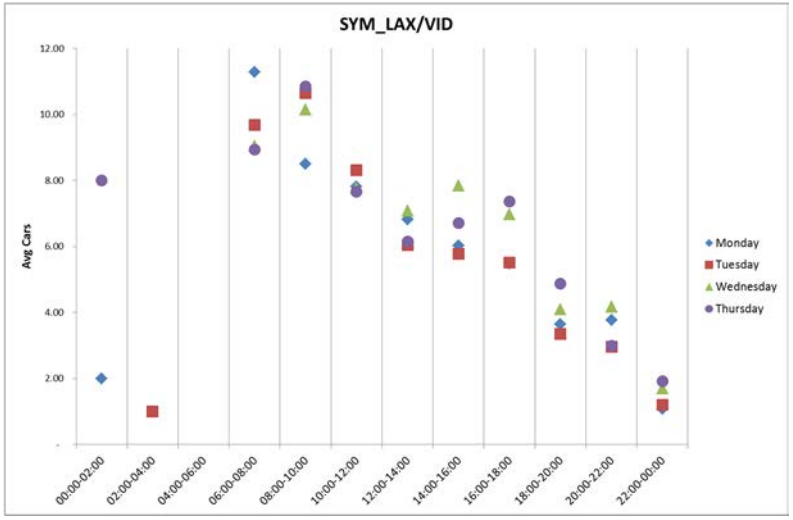
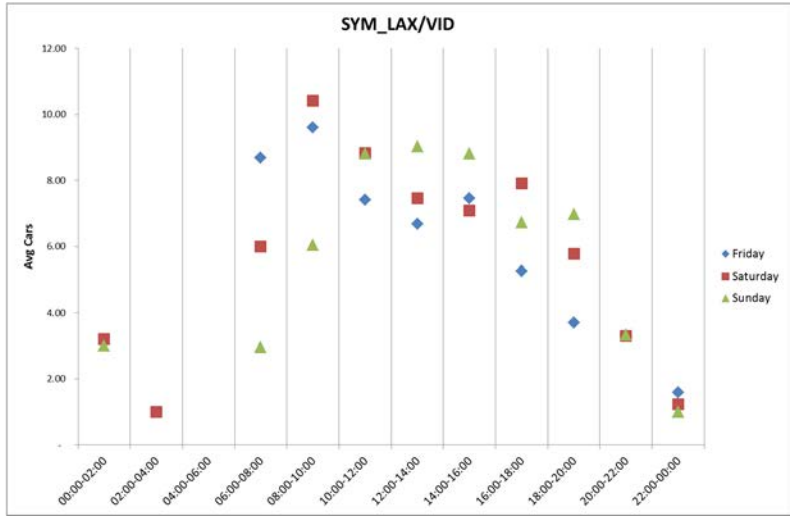


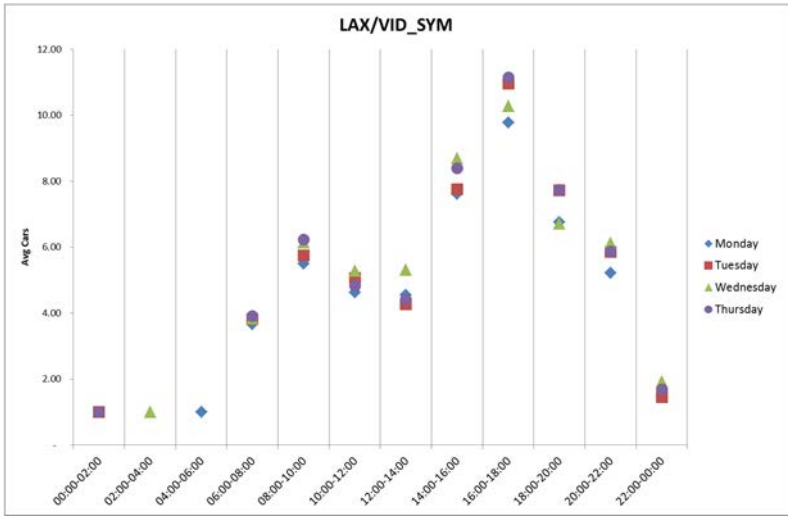
Figure 69. Average Summer Carryings by Scheduled Departure Time — Symbister to Laxo / Vidlin (Single direction), Cars





2. Carryings Analysis

Figure 70. Average Winter Carryings by Scheduled Departure Time — Laxo / Vidlin to Symbister (Single direction), Cars



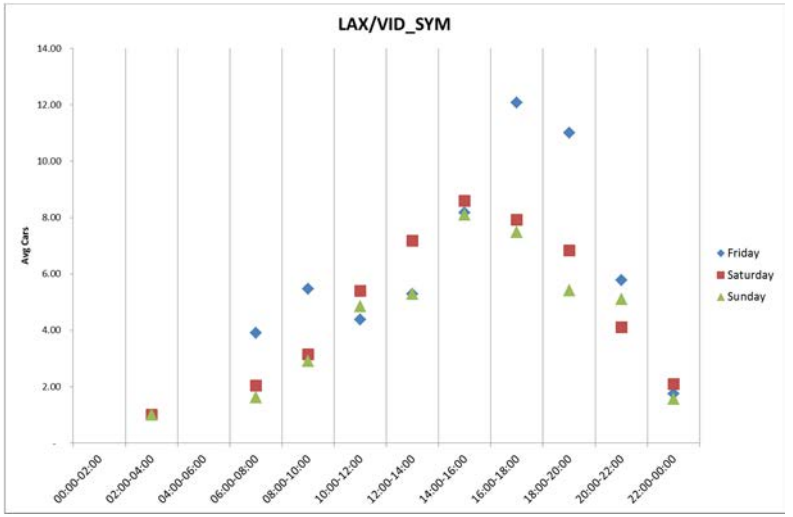
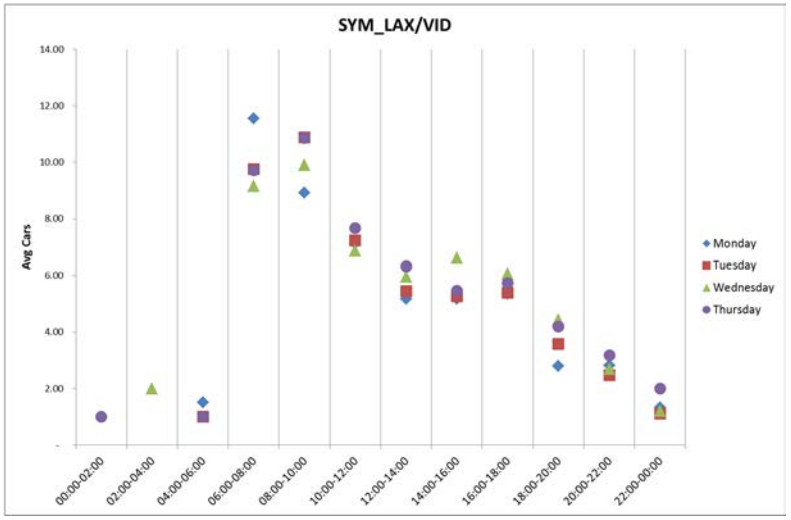
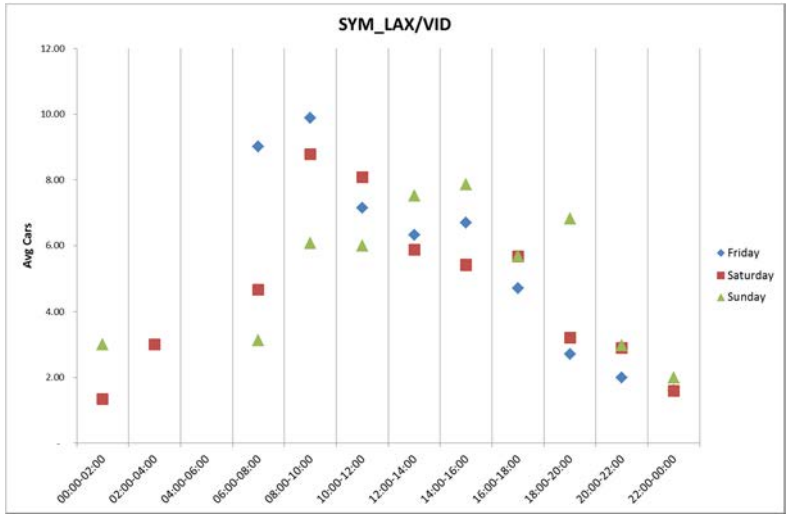


Figure 71. Average Winter Carryings by Scheduled Departure Time — Symbister to Laxo / Vidlin (Single direction), Cars





2. Carryings Analysis

- Over 70% of Symbister to Laxo / Vidlin sailings had a passenger load factor of less than 20% for all years considered;
- Less than 1.4% of Symbister to Laxo / Vidlin crossings sailed at >50% passenger load factor while the equivalent figure for vehicle deck was between 47% and 51% throughout the years since 2006/2007;
- Between 8 and 12% of Symbister to Laxo / Vidlin sailings had a PCU utilisation higher than 100% as estimated from our calculations.

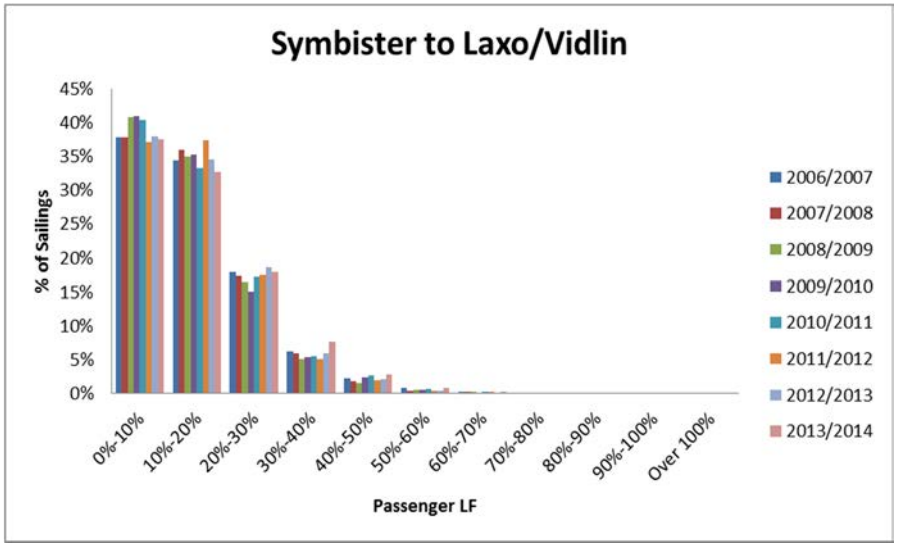
To further explore this aspect and identify the busiest sailings between Symbister to Laxo / Vidlin, we looked at the number of times sailings had a load factor higher than 80% between summer 2014 and summer 2015. Table 9 displays the following information by direction of travel, season, day and time of day:

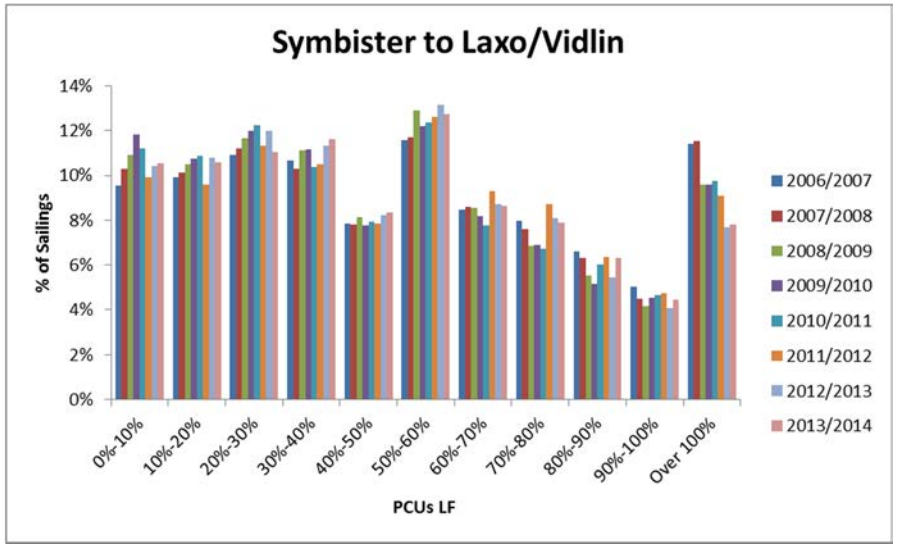
- The maximum number of times a sailing was more than 80% utilised—e.g. during a summer Saturday the 14:00 sailing from Laxo to Symbister had a passenger load factor higher than 80% on two occasions;
- The total number of sailings with a utilisation higher than 80% - e.g. during a summer Saturday there were 6 sailings in total on this route with a passenger utilisation factor higher than 80%;
- The percentage of total sailings—e.g. the 6 sailings with a passenger utilisation factor over 80% represent approximately 1.2% of total summer Saturday sailings on this route during the period considered.

The key points from Table 9 are as follows:

- During the winter weekend days the 16:15 sailing from Symbister to Laxo is the most frequently busy for passengers;
- During the summer season the 09:15 sailing from Symbister to Laxo is the most frequently busy for vehicles while the 17:55 sailing from Laxo to Symbister is the most frequently busy during the winter;
- There is a high number of summer and winter sailings at different times of the day that have a PCU utilisation higher than the threshold considered.

Figure 72 Percentage of sailings by load factor (Combined direction)





2. Carryings Analysis

Table 9 Busiest sailings by season and time of day (Symbister to Laxo/Vidlin, 14 April 2014—12 April 2015)

Season	Day	Sailing with max no of times >80% utilised	Time	Max number of times >80% utilised	Total number of sailings >80% utilised on that day	Percentage of total sailings on that day
Passengers					**17**	
Summer 2013/2014	Monday	LAX_SYM	17:55	1	1	0.14%
Summer 2013/2014	Tuesday	LAX_SYM	17:50	1	1	0.13%
Summer 2013/2014	Saturday	LAX_SYM	14:00	2	6	1.16%
Winter 2014/2015	Monday	SYM_VID / LAX_SYM	07:40 / 18:30	1	2	0.21%
Winter 2014/2015	Thursday	SYM_LAX / LAX_SYM	10:30 / 17:55	1	2	0.20%
Winter 2014/2015	Friday	LAX_SYM	14:45	1	1	0.10%
Winter 2014/2015	Saturday	SYM_LAX	16:15	2	3	0.45%
Winter 2014/2015	Sunday	SYM_LAX	16:15	1	1	0.14%
PCUs					**2,104**	
Summer 2013/2014	Monday	SYM_LAX	07:50	15	103	14.5%
Summer 2013/2014	Tuesday	SYM_LAX / SYM_LAX	09:15 / 07:50	16	134	17.4%
Summer 2013/2014	Wednesday	SYM_LAX / LAX_SYM	14:00 / 14:45	17	170	23.1%
Summer 2013/2014	Thursday	LAX_SYM	09:35	16	169	21.8%
Summer 2013/2014	Friday	LAX_SYM	17:55	16	155	19.7%
Summer 2013/2014	Saturday	SYM_LAX	09:15	16	104	20.1%
Summer 2013/2014	Sunday	SYM_LAX / LAX_SYM	11:15 / 17:00	13	64	12.2%
Winter 2014/2015	Monday	SYM_LAX	06:30	22	186	19.5%
Winter 2014/2015	Tuesday	SYM_LAX	07:50	15	165	15.9%
Winter 2014/2015	Wednesday	LAX_SYM	14:45	17	189	20.3%
Winter 2014/2015	Thursday	LAX_SYM	17:55	24	238	23.7%
Winter 2014/2015	Friday	LAX_SYM	17:55	23	226	22.6%
Winter 2014/2015	Saturday	SYM_LAX	09:15	18	139	20.6%
Winter 2014/2015	Sunday	SYM_LAX	11:15	9	62	8.8%

APPENDIX A Yearly Carryings by Type

Island	Route	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Passengers										
Bluemull	Gutcher to Belmont	103,247	131,918	121,777	138,397	143,105	143,862	142,192	136,506	103,275
Bluemull	Gutcher to Hamars Ness	9,991	12,424	12,114	16,544	17,495	18,464	14,500	11,748	8,680
Bluemull	Belmont to Hamars Ness	7,925	9,380	8,357	10,170	9,929	10,054	11,049	10,109	7,366
Yell	Toft to Ulsta	203,772	261,997	241,877	279,869	272,348	265,938	280,710	270,360	239,364
Bressay	Lerwick to Bressay	175,486	215,287	194,675	203,750	199,064	188,052	187,376	161,702	149,673
Whalsay	Symbister to Laxo/Vidlin	142,559	174,395	152,811	161,508	171,952	172,528	176,222	155,741	157,396
Fair Isle	Lerwick to Fair Isle	75	115	56	101	135	30	77	65	19
Fair Isle	Sumburgh to Fair Isle	170	77	2	-	-	-	-	-	-
Fair Isle	Grutness to Fair Isle	508	541	446	570	590	576	700	564	280
Skerries	Vidlin to Skerries	4,040	4,779	4,647	4,740	5,527	4,767	5,058	3,621	3,430
Skerries	Symbister to Skerries	126	167	322	225	213	284	336	529	666
Skerries	Lerwick to Skerries	977	1,264	1,110	1,297	1,340	1,201	1,194	645	607
Papa Stour	West Burrafirth to Papa Stour	2,818	3,547	3,769	3,787	3,209	2,479	2,440	2,842	2,782
Cars, Vans, Pick-ups & Tractors Less than 5.5m										
Bluemull	Gutcher to Belmont	50,281	65,612	61,887	71,661	74,577	74,584	70,034	59,498	53,210
Bluemull	Gutcher to Hamars Ness	4,990	6,451	6,295	8,546	9,006	9,243	7,348	5,999	4,900
Bluemull	Belmont to Hamars Ness	3,730	4,658	4,159	5,232	4,843	4,890	5,401	4,896	3,819
Yell	Toft to Ulsta	94,031	123,293	116,278	133,168	132,371	130,772	131,875	120,504	113,830
Bressay	Lerwick to Bressay	58,783	71,558	64,015	70,220	67,604	65,473	66,986	61,088	55,076
Whalsay	Symbister to Laxo/Vidlin	61,305	77,079	70,277	73,245	76,749	77,709	78,501	70,616	71,857
Fair Isle	Lerwick to Fair Isle	7	13	8	12	16	10	9	11	4
Fair Isle	Sumburgh to Fair Isle	10	1	-	-	-	-	-	-	-
Fair Isle	Grutness to Fair Isle	58	47	53	63	59	56	54	49	42
Skerries	Vidlin to Skerries	1,638	2,064	1,824	2,114	2,302	2,129	2,276	1,672	1,484
Skerries	Symbister to Skerries	57	102	142	119	109	139	175	241	331
Skerries	Lerwick to Skerries	460	650	539	660	695	621	679	288	283
Papa Stour	West Burrafirth to Papa Stour	897	1,183	1,319	1,326	1,151	1,011	960	1,086	1,139

APPENDIX A Yearly Carryings by Type

Island	Route	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Commercial Vehicles										
Bluemull	Gutcher to Belmont	2,883	3,741	3,325	3,517	3,561	3,810	3,156	3,148	2,874
Bluemull	Gutcher to Hamars Ness	234	229	272	412	426	515	328	256	206
Bluemull	Belmont to Hamars Ness	111	149	152	209	236	166	178	191	98
Yell	Toft to Ulsta	6,503	9,949	8,777	10,248	8,740	8,194	8,446	7,376	9,314
Bressay	Lerwick to Bressay	1,525	2,156	1,359	2,895	2,117	2,856	2,302	2,305	1,752
Whalsay	Symbister to Laxo/Vidlin	2,939	3,806	2,889	2,837	2,641	3,472	2,369	1,832	1,732
Fair Isle	Lerwick to Fair Isle	-	4	2	2	5	-	1	-	1
Fair Isle	Grutness to Fair Isle	-	3	17	22	30	26	38	35	61
Skerries	Vidlin to Skerries	27	43	72	30	18	41	60	78	48
Skerries	Symbister to Skerries	-	1	-	1	-	3	2	17	13
Skerries	Lerwick to Skerries	4	13	2	1	12	1	19	15	6
Papa Stour	West Burrafirth to Papa Stour	54	48	109	126	20	19	23	126	14
Commercial Vehicles (metres)										
Bluemull	Gutcher to Belmont	28,232	36,827	33,257	33,989	33,751	35,663	29,891	27,806	26,045
Bluemull	Gutcher to Hamars Ness	1,976	2,042	2,655	3,594	3,928	4,567	3,163	2,146	1,790
Bluemull	Belmont to Hamars Ness	982	1,350	1,350	1,869	2,161	1,509	1,778	1,671	873
Yell	Toft to Ulsta	65,819	103,641	95,576	111,611	94,315	88,208	92,333	82,147	96,039
Bressay	Lerwick to Bressay	14,852	20,607	14,116	32,083	24,198	32,294	25,760	25,233	18,516
Whalsay	Symbister to Laxo/Vidlin	27,588	37,361	27,055	26,501	24,750	34,813	20,289	15,272	15,414
Fair Isle	Lerwick to Fair Isle	-	28	14	12	30	-	6	-	9
Fair Isle	Grutness to Fair Isle	-	21	122	147	194	156	235	211	384
Skerries	Vidlin to Skerries	208	337	608	236	162	334	454	541	325
Skerries	Symbister to Skerries	-	7	-	6	-	18	17	132	84
Skerries	Lerwick to Skerries	34	94	13	6	80	7	116	91	40
Papa Stour	West Burrafirth to Papa Stour	383	378	1,061	1,340	143	140	199	1,556	96

APPENDIX A Yearly Carryings by Type

Island	Route	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Other										
Bluemull	Gutcher to Belmont	1,766	2,023	1,701	2,104	2,369	2,362	2,272	2,332	1,836
Bluemull	Gutcher to Hamars Ness	233	457	397	489	483	514	377	273	296
Bluemull	Belmont to Hamars Ness	115	165	179	215	220	207	234	193	147
Yell	Toft to Ulsta	3,245	4,141	3,628	3,974	4,337	4,200	4,416	4,128	3,565
Bressay	Lerwick to Bressay	1,487	1,957	1,639	1,830	1,829	1,834	1,972	1,649	1,382
Whalsay	Symbister to Laxo/Vidlin	1,313	1,484	1,199	1,327	1,378	1,496	1,597	1,356	1,632
Fair Isle	Lerwick to Fair Isle	2	-	2	-	-	-	1	-	-
Fair Isle	Grutness to Fair Isle	3	5	3	-	3	2	4	1	-
Skerries	Vidlin to Skerries	107	71	142	93	113	113	69	46	61
Skerries	Symbister to Skerries	4	4	10	3	8	2	4	15	23
Skerries	Lerwick to Skerries	32	42	90	40	25	23	15	10	16
Papa Stour	West Burrafirth to Papa Stour	91	139	115	111	94	113	131	151	121

APPENDIX B Average Car and Freight Intensity

Island	Route	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Car Intensity (passengers to cars)										
Bluemull	Gutcher to Belmont	2.08	2.01	1.96	1.91	1.90	1.90	2.07	2.41	1.91
Bluemull	Gutcher to Hamars Ness	1.94	1.86	1.87	1.93	1.95	2.00	1.96	1.93	1.73
Bluemull	Belmont to Hamars Ness	2.12	1.97	1.87	1.93	2.01	2.02	2.09	2.01	1.83
Yell	Toft to Ulsta	2.22	2.20	2.14	2.15	2.09	2.07	2.19	2.34	2.15
Bressay	Lerwick to Bressay	3.37	3.36	3.38	3.19	3.24	3.16	3.06	2.87	2.94
Whalsay	Symbister to Laxo/Vidlin	2.48	2.43	2.32	2.34	2.34	2.37	2.36	2.28	2.26
Fair Isle	Lerwick to Fair Isle	2.83	3.59	3.33	2.50	5.86	2.11	1.64	4.65	1.17
Fair Isle	Sumburgh to Fair Isle	5.75	1.00	-	-	-	-	-	-	-
Fair Isle	Grutness to Fair Isle	3.11	3.95	3.13	3.47	3.04	2.81	1.83	3.12	2.28
Skerries	Vidlin to Skerries	2.53	2.37	2.60	2.24	2.43	2.30	2.31	2.24	2.29
Skerries	Symbister to Skerries	1.49	1.38	1.82	1.71	1.58	1.84	1.58	1.88	1.80
Skerries	Lerwick to Skerries	2.43	2.20	2.15	2.02	2.14	2.11	1.83	2.58	2.14
Papa Stour	West Burrafirth to Papa Stour	2.98	2.86	2.70	2.76	2.78	2.44	2.46	2.73	2.44
Freight Intensity (passengers to commercial vehicles)										
Bluemull	Gutcher to Belmont	8.85	8.13	8.72	8.99	9.01	9.22	9.49	10.65	9.33
Bluemull	Gutcher to Hamars Ness	6.24	5.93	6.31	8.11	6.83	6.74	5.93	5.54	5.07
Bluemull	Belmont to Hamars Ness	7.48	7.11	7.68	9.01	6.67	6.55	7.66	6.68	6.14
Yell	Toft to Ulsta	14.09	12.94	13.29	14.18	14.47	14.34	14.95	16.73	13.84
Bressay	Lerwick to Bressay	15.17	14.30	14.76	12.70	12.56	13.04	12.46	11.36	11.68
Whalsay	Symbister to Laxo/Vidlin	12.48	11.72	11.77	11.90	12.13	11.84	12.50	13.01	13.06
Fair Isle	Lerwick to Fair Isle	-	0.50	2.00	2.50	6.00	-	5.00	-	1.00
Fair Isle	Grutness to Fair Isle	-	6.00	3.91	3.22	3.62	4.42	2.87	2.61	1.13
Skerries	Vidlin to Skerries	7.00	6.82	5.91	6.68	7.63	6.52	6.05	6.18	6.28
Skerries	Symbister to Skerries	-	2.00	-	7.00	-	0.50	2.00	2.98	2.52
Skerries	Lerwick to Skerries	5.75	7.04	5.50	8.00	4.69	6.00	6.79	9.07	7.17
Papa Stour	West Burrafirth to Papa Stour	3.91	3.30	4.70	3.50	3.45	3.39	3.09	3.36	2.24