

Appendices

- 1 Detailed Results Passenger Traffic
- 2 Detailed Results Freight Traffic
- 3 Tabulation of Ferry Load Figures
- 4 Competition between the Fehmarn Belt and the Great Belt Fixed Links
- 5 Development in Ferry Services after Start of Operation of the Fixed Links across the Great Belt and the Øresund

1 Detailed Results of Passenger Traffic

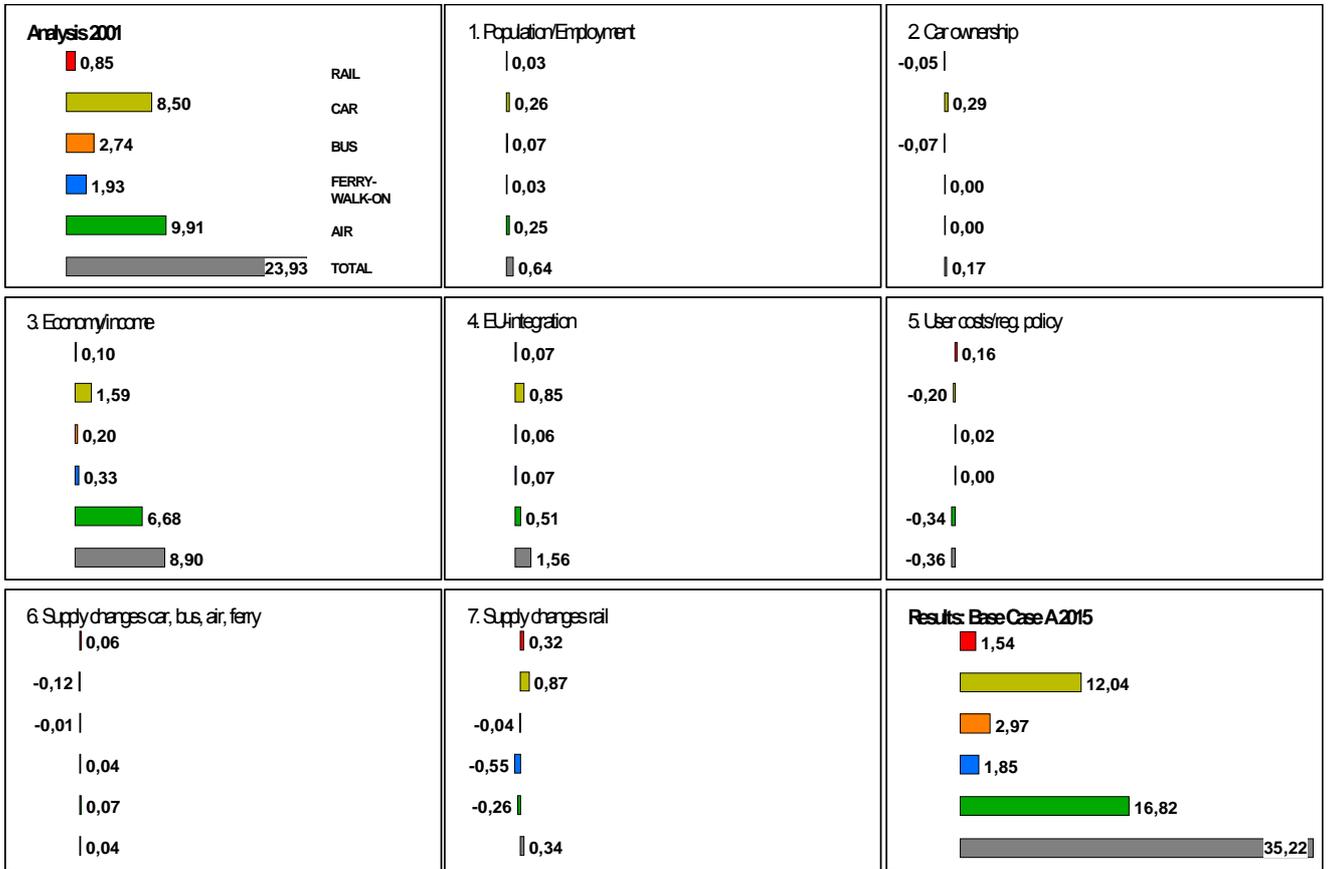
Base Year 2001 and Base Case A, 2015

| Main mode | Traffic in one year | |
|------------------|---------------------------|---------------------------|
| | 1,000 Passengers/ year | Modal split in percent |
| Base year 2001 | | |
| Rail | 854 | 3.6 |
| Car | 8,498 | 35.5 |
| Bus | 2,739 | 11.4 |
| Air | 9,905 | 41.4 |
| Walk-on | 1,929 | 8.1 |
| Total | 23,925 | 100.0 |
| Base Case A 2015 | | |
| Rail | 1,537 | 4.4 |
| Car | 12,042 | 34.2 |
| Bus | 2,973 | 8.4 |
| Air | 16,823 | 47.8 |
| Walk-on | 1,850 | 5.3 |
| Total | 35,225 | 100.0 |

Summary of passenger forecast for Denmark/Scandinavia and the continent the Base Case A 2015

| Trip Purpose | 1000 passengers/year | | | |
|-------------------------|----------------------|---------|-------------|---------|
| | Base year 2001 | | Base Case A | |
| | abs. | percent | abs. | percent |
| commuter work | 16 | 0,1% | 109 | 0,3% |
| shopping | 348 | 1,5% | 347 | 1,0% |
| business | 5.991 | 25,0% | 8.371 | 23,8% |
| holidays (>8 days) | 9.420 | 39,4% | 12.736 | 36,2% |
| day excursion | 780 | 3,3% | 1.472 | 4,2% |
| short holiday (≤8 days) | 3.540 | 14,8% | 5.647 | 16,0% |
| visit friend/relatives | 2.699 | 11,3% | 5.238 | 14,9% |
| weekend commuting | 700 | 2,9% | 966 | 2,7% |
| ferry excursion | 431 | 1,8% | 339 | 1,0% |
| Total | 23.925 | 100,0% | 35.225 | 100,0% |

Purpose distribution for passenger trips, Base Case A, 2015



designer\Kry\Schu\Fehm_neu\2002\Fig1_1.dsf

Contribution of the different model steps for the Base Case A, 2015, in mill. passengers

| 1,000 passenger trips between: | and: | Mode | | | | | Total |
|-----------------------------------|-----------|-------|--------|--------|-------|-------------|--------|
| | | Rail | Car | Air | Bus | Walk- on | |
| Germany | E.Denmark | 747 | 4.512 | 1.207 | 1.363 | 660 | 8.489 |
| Germany | Sweden | 348 | 3.166 | 2.102 | 660 | 755 | 7.031 |
| Germany | Norway | 15 | 1.007 | 1.103 | 151 | 31 | 2.307 |
| Germany | Finland | 4 | 225 | 520 | 28 | 69 | 846 |
| W.Europe ¹ | E.Denmark | 198 | 573 | 3.685 | 151 | 0 | 4.607 |
| W.Europe ¹ | Sweden | 88 | 990 | 4.014 | 271 | 0 | 5.363 |
| W.Europe ¹ | Norway | 5 | 521 | 1.674 | 70 | 0 | 2.270 |
| W.Europe ¹ | Finland | 1 | 99 | 975 | 18 | 0 | 1.093 |
| E.Europe ² | E.Denmark | 48 | 158 | 564 | 54 | 56 | 880 |
| E.Europe ² | Sweden | 75 | 592 | 644 | 152 | 279 | 1.742 |
| E.Europe ² | Norway | 7 | 133 | 189 | 45 | 0 | 374 |
| E.Europe ² | Finland | 1 | 66 | 146 | 10 | 0 | 223 |
| Germany total | | 1,114 | 8.910 | 4.932 | 2.202 | 1.515 | 18.673 |
| W. Europe total | | 292 | 2.183 | 10.348 | 510 | 0 | 13.333 |
| E. Europe total | | 131 | 949 | 1.543 | 261 | 335 | 3.219 |
| East Denmark total | | 993 | 5.243 | 5.456 | 1.568 | 716 | 13.976 |
| Sweden total | | 511 | 4.748 | 6.760 | 1.083 | 1.034 | 14.136 |
| Norway total | | 27 | 1.661 | 2.966 | 266 | 31 | 4.951 |
| Finland total | | 6 | 390 | 1.641 | 56 | 69 | 2.162 |
| Total | | 1.537 | 12.042 | 16.823 | 2.973 | 1.850 | 35.225 |

Table 5.1.5: Aggregated passenger flows, Base Case A, 2015, two way totals

¹ Western Europe: Benelux, France, Spain, Portugal, Switzerland, Austria, Italy, UK and Ireland, Greece, Turkey. ² Eastern Europe: Poland, Baltic countries, CIS, Czech Republic, Slovakian Republic, Hungary, Ex-Yugoslavia, Romania, Bulgaria.

| traffic | | Base Case A | | | | | |
|----------------------------|---------------------------|-------------|-------|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Schleswig-Holstein/Hamburg | East Denmark | 395 | 2.705 | 829 | 25 | 0 | 3.954 |
| Schleswig-Holstein/Hamburg | Skane | 58 | 376 | 31 | 4 | 65 | 534 |
| Schleswig-Holstein/Hamburg | Götaland | 31 | 337 | 34 | 24 | 75 | 501 |
| Schleswig-Holstein/Hamburg | SvealandNorrrland/Finland | 63 | 246 | 46 | 132 | 38 | 525 |
| Schleswig-Holstein/Hamburg | Norway | 4 | 155 | 24 | 108 | 31 | 322 |
| Mecklenburg-Vorpommern | East Denmark | 18 | 402 | 121 | 0 | 660 | 1.201 |
| Mecklenburg-Vorpommern | Skane | 4 | 207 | 69 | 0 | 615 | 895 |
| Mecklenburg-Vorpommern | Götaland | 2 | 230 | 61 | 0 | 0 | 293 |
| Mecklenburg-Vorpommern | SvealandNorrrland/Finland | 3 | 241 | 66 | 12 | 31 | 353 |
| Mecklenburg-Vorpommern | Norway | 1 | 77 | 29 | 8 | 0 | 115 |
| Niedersachsen/Bremen | East Denmark | 54 | 428 | 123 | 142 | 0 | 747 |
| Niedersachsen/Bremen | Skane | 7 | 73 | 12 | 43 | 0 | 135 |
| Niedersachsen/Bremen | Götaland | 3 | 125 | 17 | 70 | 0 | 215 |
| Niedersachsen/Bremen | SvealandNorrrland/Finland | 7 | 114 | 27 | 161 | 0 | 309 |
| Niedersachsen/Bremen | Norway | 1 | 98 | 20 | 137 | 0 | 256 |
| other West Germany | East Denmark | 187 | 593 | 154 | 795 | 0 | 1.729 |
| other West Germany | Skane | 38 | 118 | 24 | 241 | 0 | 421 |
| other West Germany | Götaland | 24 | 286 | 47 | 405 | 0 | 762 |
| other West Germany | SvealandNorrrland/Finland | 48 | 400 | 72 | 1.009 | 0 | 1.529 |
| other West Germany | Norway | 5 | 430 | 34 | 687 | 0 | 1.156 |

Passenger flows per region Base Case A 2015 (in 1000 passengers, two way totals)

| traffic | | Base Case A | | | | | |
|--------------------|--------------------------|-------------|-----|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Berlin/Brandenburg | East Denmark | 83 | 223 | 94 | 207 | 0 | 607 |
| Berlin/Brandenburg | Skane | 16 | 110 | 43 | 40 | 0 | 209 |
| Berlin/Brandenburg | Götaland | 17 | 144 | 39 | 106 | 0 | 306 |
| Berlin/Brandenburg | SvealandNorrland/Finland | 23 | 147 | 44 | 259 | 0 | 473 |
| Berlin/Brandenburg | Norway | 3 | 141 | 30 | 140 | 0 | 314 |
| other East Germany | East Denmark | 10 | 161 | 42 | 38 | 0 | 251 |
| other East Germany | Skane | 1 | 56 | 16 | 9 | 0 | 82 |
| other East Germany | Götaland | 3 | 72 | 15 | 21 | 0 | 111 |
| other East Germany | SvealandNorrland/Finland | 4 | 109 | 25 | 86 | 0 | 224 |
| other East Germany | Norway | 1 | 106 | 14 | 23 | 0 | 144 |
| other West Europe | East Denmark | 198 | 573 | 151 | 3.685 | 0 | 4.607 |
| other West Europe | Skane | 23 | 229 | 52 | 838 | 0 | 1.142 |
| other West Europe | Götaland | 20 | 394 | 93 | 1.315 | 0 | 1.822 |
| other West Europe | SvealandNorrland/Finland | 46 | 466 | 144 | 2.836 | 0 | 3.492 |
| other West Europe | Norway | 5 | 521 | 70 | 1.674 | 0 | 2.270 |
| other East Europe | East Denmark | 48 | 158 | 54 | 564 | 56 | 880 |
| other East Europe | Skane | 12 | 193 | 44 | 106 | 248 | 603 |
| other East Europe | Götaland | 21 | 213 | 43 | 148 | 0 | 425 |
| other East Europe | SvealandNorrland/Finland | 43 | 252 | 75 | 536 | 31 | 937 |
| other East Europe | Norway | 7 | 133 | 45 | 189 | 0 | 374 |

Passenger flows per region Base Case A 2015 (in 1000 passengers, two way totals) (continued)

| traffic | | Base Case A | | | | | |
|----------------------------|--------------------------|-------------|------|-----|-----|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Schleswig-Holstein/Hamburg | East Denmark | 391 | 2470 | 768 | 0 | 0 | 3629 |
| Schleswig-Holstein/Hamburg | Skane | 58 | 246 | 23 | 0 | 0 | 327 |
| Schleswig-Holstein/Hamburg | Götaland | 31 | 176 | 20 | 0 | 0 | 227 |
| Schleswig-Holstein/Hamburg | SvealandNorrland/Finland | 63 | 139 | 30 | 0 | 0 | 232 |
| Schleswig-Holstein/Hamburg | Norway | 4 | 67 | 10 | 0 | 0 | 81 |
| Mecklenburg-Vorpommern | East Denmark | 16 | 64 | 16 | 0 | 0 | 96 |
| Mecklenburg-Vorpommern | Skane | 3 | 4 | 1 | 0 | 0 | 8 |
| Mecklenburg-Vorpommern | Götaland | 1 | 7 | 1 | 0 | 0 | 9 |
| Mecklenburg-Vorpommern | SvealandNorrland/Finland | 2 | 6 | 1 | 0 | 0 | 9 |
| Mecklenburg-Vorpommern | Norway | 1 | 4 | 1 | 0 | 0 | 6 |
| Niedersachsen/Bremen | East Denmark | 54 | 416 | 118 | 0 | 0 | 588 |
| Niedersachsen/Bremen | Skane | 7 | 47 | 8 | 0 | 0 | 62 |
| Niedersachsen/Bremen | Götaland | 3 | 69 | 11 | 0 | 0 | 83 |
| Niedersachsen/Bremen | SvealandNorrland/Finland | 7 | 66 | 19 | 0 | 0 | 92 |
| Niedersachsen/Bremen | Norway | 1 | 45 | 9 | 0 | 0 | 55 |
| other West Germany | East Denmark | 187 | 544 | 141 | 0 | 0 | 872 |
| other West Germany | Skane | 38 | 58 | 14 | 0 | 0 | 110 |
| other West Germany | Götaland | 24 | 149 | 28 | 0 | 0 | 201 |
| other West Germany | SvealandNorrland/Finland | 47 | 179 | 36 | 0 | 0 | 262 |
| other West Germany | Norway | 48 | 206 | 42 | 0 | 0 | 296 |

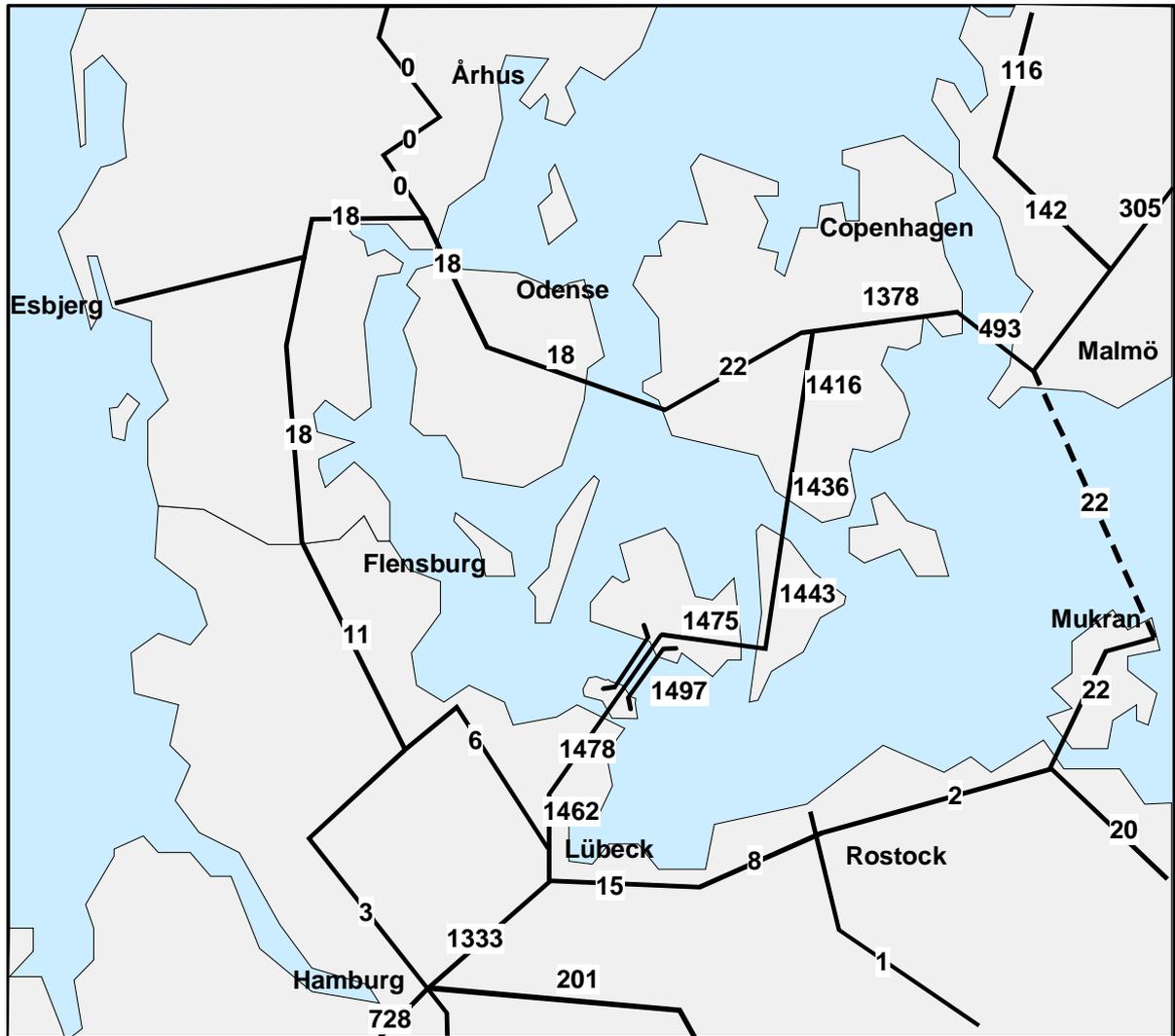
Passenger flows via the Fehmarn Belt per region Base Case A 2015 (in 1000 passengers, two way totals)

| traffic | | Base Case A | | | | | |
|--------------------|--------------------------|-------------|-----|-----|-----|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Berlin/Brandenburg | East Denmark | 81 | 64 | 19 | 0 | 0 | 164 |
| Berlin/Brandenburg | Skane | 11 | 7 | 2 | 0 | 0 | 20 |
| Berlin/Brandenburg | Götaland | 13 | 6 | 1 | 0 | 0 | 20 |
| Berlin/Brandenburg | SvealandNorrland/Finland | 17 | 7 | 1 | 0 | 0 | 25 |
| Berlin/Brandenburg | Norway | 2 | 10 | 2 | 0 | 0 | 14 |
| other East Germany | East Denmark | 10 | 57 | 9 | 0 | 0 | 76 |
| other East Germany | Skane | 1 | 3 | 1 | 0 | 0 | 5 |
| other East Germany | Götaland | 2 | 4 | 0 | 0 | 0 | 6 |
| other East Germany | SvealandNorrland/Finland | 2 | 5 | 1 | 0 | 0 | 8 |
| other East Germany | Norway | 1 | 8 | 1 | 0 | 0 | 10 |
| other West Europe | East Denmark | 198 | 563 | 148 | 0 | 0 | 909 |
| other West Europe | Skane | 23 | 137 | 29 | 0 | 0 | 189 |
| other West Europe | Götaland | 20 | 225 | 49 | 0 | 0 | 294 |
| other West Europe | SvealandNorrland/Finland | 46 | 253 | 80 | 0 | 0 | 379 |
| other West Europe | Norway | 5 | 234 | 33 | 0 | 0 | 272 |
| other East Europe | East Denmark | 46 | 8 | 2 | 0 | 0 | 56 |
| other East Europe | Skane | 10 | 6 | 0 | 0 | 0 | 16 |
| other East Europe | Götaland | 21 | 13 | 1 | 0 | 0 | 35 |
| other East Europe | SvealandNorrland/Finland | 37 | 5 | 0 | 0 | 0 | 42 |
| other East Europe | Norway | 7 | 15 | 4 | 0 | 0 | 26 |

Passenger flows via the Fehmarn Belt per region Base Case A 2015 (in 1000 passengers, two way totals) (continued)

Page 10

Ferry loads Base Case A 2015 – total passengers (in 1000, both ways)



designer\Kry\Schul\Fehm_neu\2002\6dez02\Base_A.dsf

Number of passengers on major links of the railway system, Base Case A, 2015 (in 1000 passengers, both ways)

Base Case B, 2015

| Main mode | Traffic in one year | |
|-------------------------|---------------------------|---------------------------|
| | 1,000 Passengers/ year | Modal split in percent |
| Base Case A 2015 | | |
| Rail | 1,537 | 4.4 |
| Car | 12,042 | 34.2 |
| Bus | 2,973 | 8.4 |
| Air | 16,823 | 47.8 |
| Walk-on | 1,850 | 5.3 |
| Total | 35,225 | 100.0 |
| Base Case B 2015 | | |
| Rail | 1,423 | 4.0 |
| Car | 12,427 | 34.5 |
| Bus | 2,938 | 8.2 |
| Air | 17,361 | 48.2 |
| Walk-on | 1,850 | 5.1 |
| Total | 35,999 | 100.0 |

Summary of passenger forecast for Denmark/Scandinavia and the continent
the Base Case B 2015

| Trip Purpose | 1.000 passengers/year | | | |
|------------------------|-----------------------|---------------|---------------|---------------|
| | Base Case A | | Base Case B | |
| | abs. | percent | abs. | percent |
| commuter work | 109 | 0,3% | 109 | 0,3% |
| shopping | 347 | 1,0% | 353 | 1,0% |
| business | 8.371 | 23,8% | 8.415 | 23,4% |
| holidays (>8 days) | 12.736 | 36,2% | 12.950 | 36,0% |
| day excursion | 1.472 | 4,2% | 1.551 | 4,3% |
| short holiday (8 days) | 5.647 | 16,0% | 5.838 | 16,2% |
| visit friend/relatives | 5.238 | 14,9% | 5.454 | 15,2% |
| weekend commuting | 966 | 2,7% | 990 | 2,8% |
| ferry excursion | 339 | 1,0% | 339 | 0,9% |
| Total | 35.225 | 100,0% | 35.999 | 100,0% |

Purpose distribution for passenger trips, Base Case B 2015

| 1,000 passenger trips between: and: | | Mode | | | | | Total |
|--|-----------|--------------|---------------|---------------|--------------|--------------|---------------|
| | | Rail | Car | Air | Bus | Walk-on | |
| Germany | E.Denmark | 710 | 4.706 | 1.271 | 1.344 | 660 | 8.691 |
| Germany | Sweden | 324 | 3.260 | 2.191 | 653 | 755 | 7.183 |
| Germany | Norway | 9 | 1.023 | 1.144 | 151 | 31 | 2.358 |
| Germany | Finland | 2 | 230 | 540 | 28 | 69 | 869 |
| W.Europe ¹ | E.Denmark | 187 | 582 | 3.777 | 150 | 0 | 4.696 |
| W.Europe ¹ | Sweden | 75 | 1.005 | 4.115 | 269 | 0 | 5.464 |
| W.Europe ¹ | Norway | 0 | 529 | 1.716 | 69 | 0 | 2.314 |
| W.Europe ¹ | Finland | 1 | 100 | 995 | 18 | 0 | 1.112 |
| E.Europe ² | E.Denmark | 44 | 163 | 592 | 53 | 56 | 908 |
| E.Europe ² | Sweden | 68 | 622 | 671 | 149 | 279 | 1.789 |
| E.Europe ² | Norway | 5 | 138 | 197 | 44 | 0 | 384 |
| E.Europe ² | Finland | 0 | 69 | 152 | 10 | 0 | 231 |
| Germany total | | 1,045 | 9.219 | 5.146 | 2.176 | 1.515 | 19.101 |
| W. Europe total | | 261 | 2.216 | 10.603 | 506 | 0 | 13.586 |
| E. Europe total | | 117 | 992 | | 256 | 335 | 3.312 |
| East Denmark total | | 941 | 5.451 | 5.640 | 1.547 | 716 | 14.295 |
| Sweden total | | 467 | 4.887 | 6.977 | 1.071 | 1.034 | 14.436 |
| Norway total | | 14 | 1.690 | 3.057 | 264 | 31 | 5.056 |
| Finland total | | 1 | 399 | 1.687 | 56 | 69 | 2.212 |
| Total | | 1.423 | 12.427 | 17.361 | 2.938 | 1.850 | 35.999 |

Aggregated passenger flows, Base Case B 2015, two way totals, 1.000 trips/year

¹ Western Europe: Benelux, France, Spain, Portugal, Switzerland, Austria, Italy, UK and Ireland, Greece, Turkey. ² Eastern Europe: Poland, Baltic countries, CIS, Czech Republic, Slovakian Republic, Hungary, Ex-Yugoslavia, Romania, Bulgaria.

| traffic | | Base Case B | | | | | |
|----------------------------|--------------------------|-------------|-------|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Schleswig-Holstein/Hamburg | East Denmark | 373 | 2.840 | 816 | 27 | 0 | 4.056 |
| Schleswig-Holstein/Hamburg | Skane | 55 | 395 | 29 | 4 | 65 | 548 |
| Schleswig-Holstein/Hamburg | Götaland | 29 | 347 | 33 | 25 | 75 | 509 |
| Schleswig-Holstein/Hamburg | SvealandNorrland/Finland | 62 | 251 | 46 | 136 | 38 | 533 |
| Schleswig-Holstein/Hamburg | Norway | 3 | 158 | 24 | 111 | 31 | 327 |
| Mecklenburg-Vorpommern | East Denmark | 15 | 422 | 119 | 0 | 660 | 1.216 |
| Mecklenburg-Vorpommern | Skane | 2 | 219 | 68 | 0 | 615 | 904 |
| Mecklenburg-Vorpommern | Götaland | 1 | 239 | 60 | 0 | 0 | 300 |
| Mecklenburg-Vorpommern | SvealandNorrland/Finland | 2 | 248 | 65 | 12 | 31 | 358 |
| Mecklenburg-Vorpommern | Norway | 1 | 79 | 29 | 8 | 0 | 117 |
| Niedersachsen/Bremen | East Denmark | 51 | 445 | 121 | 151 | 0 | 768 |
| Niedersachsen/Bremen | Skane | 6 | 76 | 12 | 46 | 0 | 140 |
| Niedersachsen/Bremen | Götaland | 2 | 128 | 17 | 74 | 0 | 221 |
| Niedersachsen/Bremen | SvealandNorrland/Finland | 6 | 116 | 27 | 168 | 0 | 317 |
| Niedersachsen/Bremen | Norway | 0 | 100 | 20 | 142 | 0 | 262 |
| other West Germany | East Denmark | 182 | 602 | 153 | 835 | 0 | 1.772 |
| other West Germany | Skane | 36 | 120 | 24 | 253 | 0 | 433 |
| other West Germany | Götaland | 22 | 290 | 47 | 421 | 0 | 780 |
| other West Germany | SvealandNorrland/Finland | 43 | 406 | 71 | 1.050 | 0 | 1.570 |
| other West Germany | Norway | 2 | 434 | 34 | 714 | 0 | 1.184 |

Passenger flows per region Base Case B 2015 (in 1000 passengers, two way totals)

| traffic | | Base Case B | | | | | |
|--------------------|--------------------------|-------------|-----|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Berlin/Brandenburg | East Denmark | 80 | 232 | 93 | 219 | 0 | 624 |
| Berlin/Brandenburg | Skane | 15 | 114 | 43 | 42 | 0 | 214 |
| Berlin/Brandenburg | Götaland | 16 | 148 | 39 | 112 | 0 | 315 |
| Berlin/Brandenburg | SvealandNorrland/Finland | 21 | 151 | 44 | 270 | 0 | 486 |
| Berlin/Brandenburg | Norway | 2 | 144 | 30 | 146 | 0 | 322 |
| other East Germany | East Denmark | 9 | 165 | 42 | 39 | 0 | 255 |
| other East Germany | Skane | 1 | 57 | 16 | 9 | 0 | 83 |
| other East Germany | Götaland | 3 | 73 | 15 | 22 | 0 | 113 |
| other East Germany | SvealandNorrland/Finland | 4 | 112 | 25 | 87 | 0 | 228 |
| other East Germany | Norway | 1 | 108 | 14 | 23 | 0 | 146 |
| other West Europe | East Denmark | 187 | 582 | 150 | 3.777 | 0 | 4.696 |
| other West Europe | Skane | 20 | 232 | 52 | 859 | 0 | 1.163 |
| other West Europe | Götaland | 16 | 400 | 92 | 1.348 | 0 | 1.856 |
| other West Europe | SvealandNorrland/Finland | 39 | 473 | 143 | 2.903 | 0 | 3.557 |
| other West Europe | Norway | 0 | 529 | 69 | 1.716 | 0 | 2.314 |
| other East Europe | East Denmark | 44 | 163 | 53 | 592 | 56 | 908 |
| other East Europe | Skane | 10 | 205 | 43 | 111 | 248 | 617 |
| other East Europe | Götaland | 19 | 224 | 42 | 154 | 0 | 439 |
| other East Europe | SvealandNorrland/Finland | 39 | 262 | 74 | 558 | 31 | 964 |
| other East Europe | Norway | 5 | 138 | 44 | 197 | 0 | 384 |

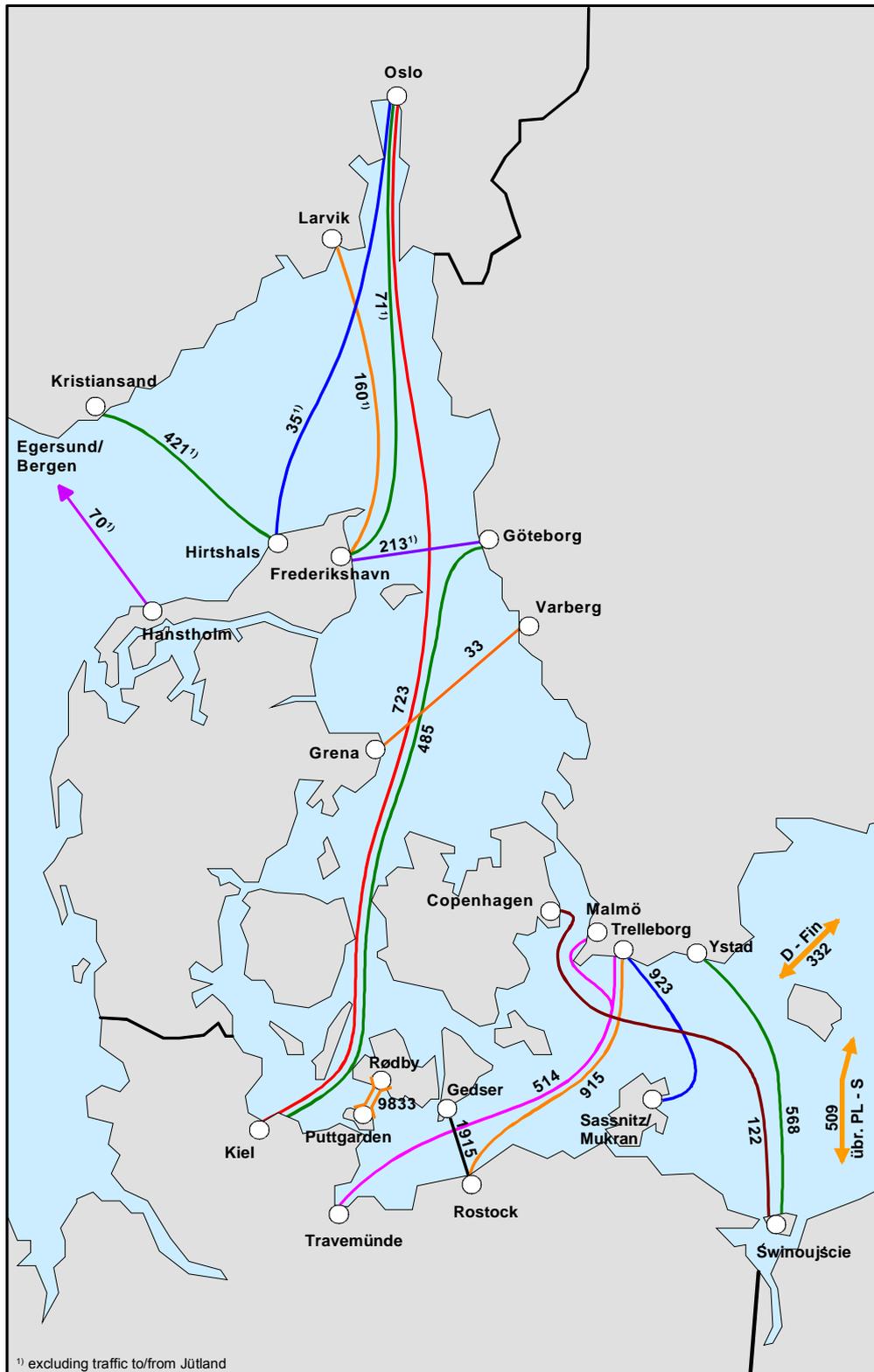
Passenger flows per region Base Case B 2015 (in 1000 passengers, two way totals) (continued)

| traffic | | Base Case B | | | | | |
|----------------------------|--------------------------|-------------|-------|-----|-----|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Schleswig-Holstein/Hamburg | East Denmark | 369 | 2.593 | 756 | 0 | 0 | 3.718 |
| Schleswig-Holstein/Hamburg | Skane | 55 | 259 | 21 | 0 | 0 | 335 |
| Schleswig-Holstein/Hamburg | Götaland | 29 | 182 | 20 | 0 | 0 | 231 |
| Schleswig-Holstein/Hamburg | SvealandNorrland/Finland | 62 | 143 | 30 | 0 | 0 | 235 |
| Schleswig-Holstein/Hamburg | Norway | 3 | 68 | 10 | 0 | 0 | 81 |
| Mecklenburg-Vorpommern | East Denmark | 13 | 68 | 15 | 0 | 0 | 96 |
| Mecklenburg-Vorpommern | Skane | 1 | 4 | 1 | 0 | 0 | 6 |
| Mecklenburg-Vorpommern | Götaland | 1 | 7 | 1 | 0 | 0 | 9 |
| Mecklenburg-Vorpommern | SvealandNorrland/Finland | 1 | 6 | 1 | 0 | 0 | 8 |
| Mecklenburg-Vorpommern | Norway | 1 | 4 | 1 | 0 | 0 | 6 |
| Niedersachsen/Bremen | East Denmark | 51 | 433 | 116 | 0 | 0 | 600 |
| Niedersachsen/Bremen | Skane | 6 | 49 | 8 | 0 | 0 | 63 |
| Niedersachsen/Bremen | Götaland | 2 | 70 | 11 | 0 | 0 | 83 |
| Niedersachsen/Bremen | SvealandNorrland/Finland | 6 | 67 | 19 | 0 | 0 | 92 |
| Niedersachsen/Bremen | Norway | 0 | 46 | 9 | 0 | 0 | 55 |
| other West Germany | East Denmark | 182 | 553 | 140 | 0 | 0 | 875 |
| other West Germany | Skane | 36 | 59 | 14 | 0 | 0 | 109 |
| other West Germany | Götaland | 22 | 151 | 28 | 0 | 0 | 201 |
| other West Germany | SvealandNorrland/Finland | 43 | 209 | 41 | 0 | 0 | 293 |
| other West Germany | Norway | 2 | 187 | 14 | 0 | 0 | 203 |

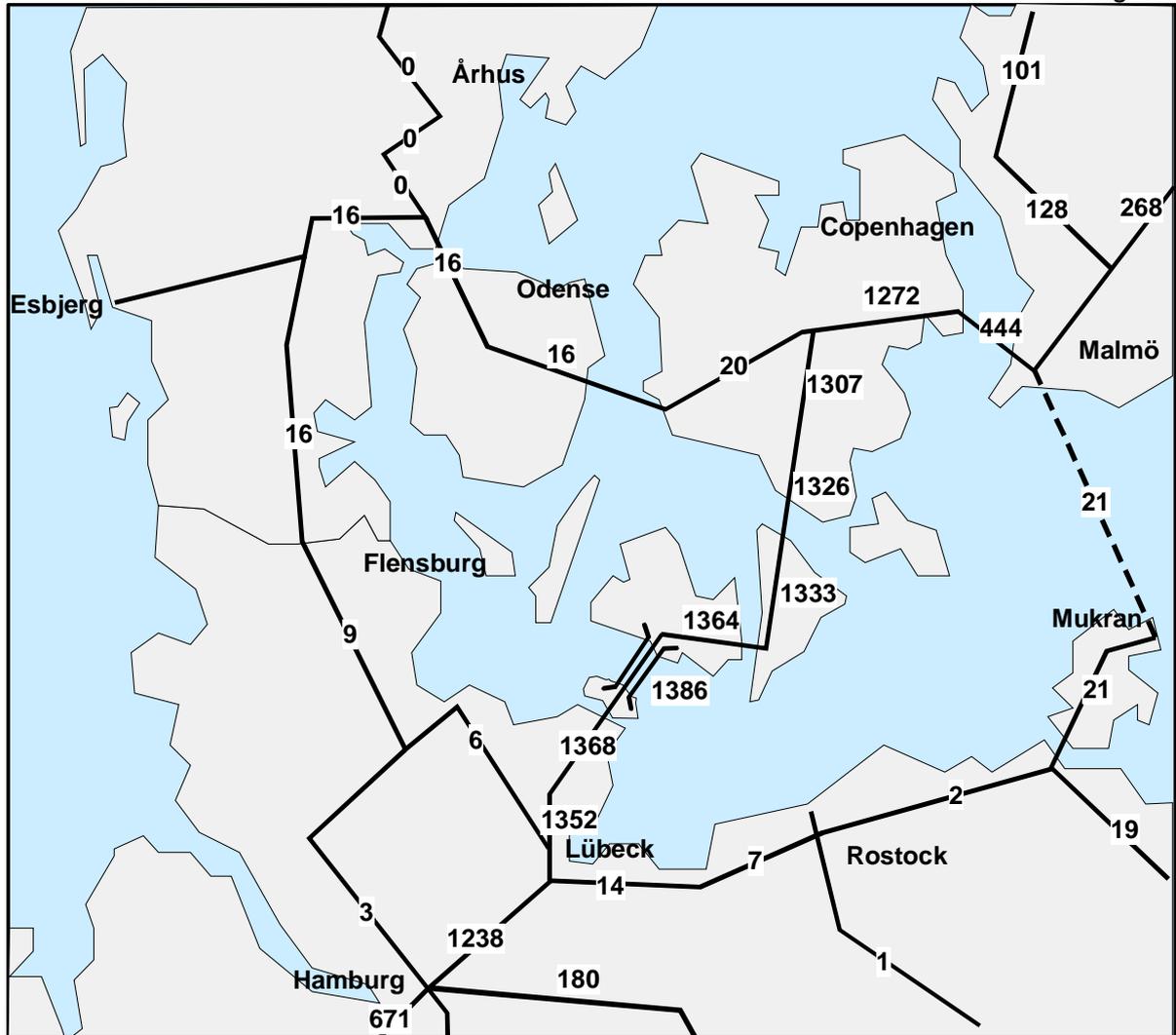
Passenger flows via the Fehmarn Belt per region Base Case B 2015 (in 1000 passengers, two way totals)

| traffic | | Base Case B | | | | | |
|--------------------|--------------------------|-------------|-----|-----|-----|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Berlin/Brandenburg | East Denmark | 76 | 66 | 20 | 0 | 0 | 162 |
| Berlin/Brandenburg | Skane | 11 | 6 | 2 | 0 | 0 | 19 |
| Berlin/Brandenburg | Götaland | 13 | 5 | 1 | 0 | 0 | 19 |
| Berlin/Brandenburg | SvealandNorrland/Finland | 15 | 6 | 1 | 0 | 0 | 22 |
| Berlin/Brandenburg | Norway | 2 | 10 | 2 | 0 | 0 | 14 |
| other East Germany | East Denmark | 8 | 57 | 9 | 0 | 0 | 74 |
| other East Germany | Skane | 1 | 3 | 1 | 0 | 0 | 5 |
| other East Germany | Götaland | 2 | 4 | 0 | 0 | 0 | 6 |
| other East Germany | SvealandNorrland/Finland | 2 | 5 | 1 | 0 | 0 | 8 |
| other East Germany | Norway | 1 | 9 | 1 | 0 | 0 | 11 |
| other West Europe | East Denmark | 187 | 572 | 147 | 0 | 0 | 906 |
| other West Europe | Skane | 20 | 139 | 29 | 0 | 0 | 188 |
| other West Europe | Götaland | 16 | 228 | 49 | 0 | 0 | 293 |
| other West Europe | SvealandNorrland/Finland | 39 | 256 | 80 | 0 | 0 | 375 |
| other West Europe | Norway | 0 | 238 | 32 | 0 | 0 | 270 |
| other East Europe | East Denmark | 41 | 8 | 2 | 0 | 0 | 51 |
| other East Europe | Skane | 9 | 6 | 0 | 0 | 0 | 15 |
| other East Europe | Götaland | 19 | 13 | 1 | 0 | 0 | 33 |
| other East Europe | SvealandNorrland/Finland | 34 | 5 | 0 | 0 | 0 | 39 |
| other East Europe | Norway | 5 | 15 | 4 | 0 | 0 | 24 |

Passenger flows via the Fehmarn Belt per region Base Case B 2015 (in 1000 passengers, two way totals) (continued)



Ferry loads Base Case B 2015 – total passengers (in 1000, both ways)



designer\Kry\Schu\Fehm_neu\2002\6dez02\Base_B.dsf
 Number of passengers on major links of the railway system, Base Case B, 2015 (in 1000 passengers, both ways)

Scenario 1, 2015

| Main mode | Traffic in one year | |
|------------------|---------------------------|---------------------------|
| | 1,000 Passengers/ year | Modal split in percent |
| Base Case A 2015 | | |
| Rail | 1,537 | 4.4 |
| Car | 12,042 | 34.2 |
| Bus | 2,973 | 8.4 |
| Air | 16,823 | 47.8 |
| Walk-on | 1,850 | 5.3 |
| Total | 35,225 | 100.0 |
| Scenario 1 | | |
| Rail | 1,528 | 4.3 |
| Car | 12,066 | 34.2 |
| Bus | 2,973 | 8.4 |
| Air | 16,823 | 47.6 |
| Walk-on | 1,922 | 5.4 |
| Total | 35,312 | 100.0 |

Summary of passenger forecast for Scenario 1, 2015

| Trip Purpose | 1.000 passengers/year | | | |
|-------------------------|-----------------------|---------------|---------------|---------------|
| | Base Case A | | Scenario 1 | |
| | abs. | percent | abs. | percent |
| commuter work | 109 | 0,3% | 109 | 0,3% |
| shopping | 347 | 1,0% | 355 | 1,0% |
| business | 8.371 | 23,8% | 8.375 | 23,7% |
| holidays (>8 days) | 12.736 | 36,2% | 12.746 | 36,1% |
| day excursion | 1.472 | 4,2% | 1.486 | 4,2% |
| short holiday (~8 days) | 5.647 | 16,0% | 5.668 | 16,1% |
| visit friend/relatives | 5.238 | 14,9% | 5.252 | 14,9% |
| weekend commuting | 966 | 2,7% | 971 | 2,7% |
| ferry excursion | 339 | 1,0% | 350 | 1,0% |
| Total | 35.225 | 100,0% | 35.312 | 100,0% |

Purpose distribution for passenger trips, Scenario 1, 2015

| 1.000 passenger trips/year | | Mode | | | | | Total |
|----------------------------|-----------|--------------|---------------|---------------|--------------|--------------|---------------|
| between: | and: | Rail | Car | Air | Bus | Walk-on | |
| Germany | E.Denmark | 741 | 4.529 | 1.207 | 1.363 | 709 | 8.549 |
| Germany | Sweden | 345 | 3.173 | 2.102 | 660 | 777 | 7.057 |
| Germany | Norway | 15 | 1.007 | 1.103 | 151 | 31 | 2.307 |
| Germany | Finland | 4 | 225 | 520 | 28 | 70 | 847 |
| W.Europe ¹ | E.Denmark | 198 | 573 | 3.685 | 151 | 0 | 4.607 |
| W.Europe ¹ | Sweden | 88 | 990 | 4.014 | 271 | 0 | 5.363 |
| W.Europe ¹ | Norway | 5 | 521 | 1.674 | 70 | 0 | 2.270 |
| W.Europe ¹ | Finland | 1 | 99 | 975 | 18 | 0 | 1.093 |
| E.Europe ² | E.Denmark | 48 | 158 | 564 | 54 | 56 | 880 |
| E.Europe ² | Sweden | 75 | 592 | 644 | 152 | 279 | 1.742 |
| E.Europe ² | Norway | 7 | 133 | 189 | 45 | 0 | 374 |
| E.Europe ² | Finland | 1 | 66 | 146 | 10 | 0 | 223 |
| Germany total | | 1.105 | 8.934 | 4.965 | 2.202 | 2.202 | 18.760 |
| W. Europe total | | 292 | 2.183 | 10.348 | 510 | 510 | 13.333 |
| E. Europe total | | 131 | 949 | 1.543 | 261 | 261 | 3.219 |
| East Denmark total | | 987 | 5.260 | 5.456 | 1.568 | 1.568 | 14.036 |
| Sweden total | | 508 | 4.755 | 6.760 | 1.083 | 1.056 | 14.162 |
| Norway total | | 27 | 1.661 | 2.966 | 266 | 31 | 4.951 |
| Finland total | | 6 | 390 | 1.641 | 56 | 70 | 2.163 |
| Total | | 1.528 | 12.066 | 16.823 | 2.973 | 1.922 | 35.312 |

Table 6.2.4: Aggregated passenger flows, Scenario 1, 2015, two way totals, 1.000 passengers/year

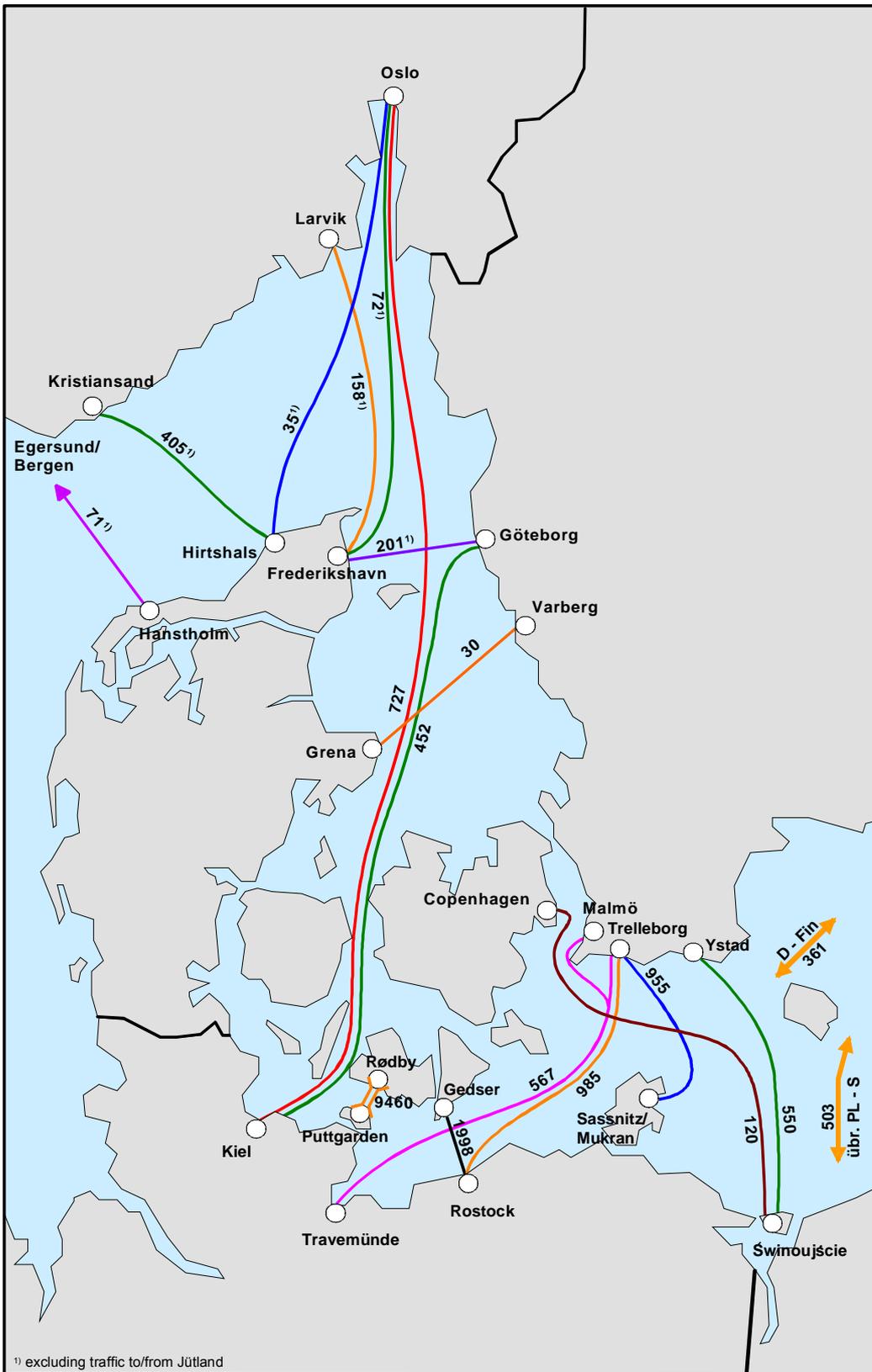
¹ Western Europe: Benelux, France, Spain, Portugal, Switzerland, Austria, Italy, UK and Ireland, Greece, Turkey. ² Eastern Europe: Poland, Baltic countries, CIS, Czech Republic, Slovakian Republic, Hungary, Ex-Yugoslavia, Romania, Bulgaria.

| traffic | | Scenario 1 | | | | | |
|----------------------------|--------------------------|------------|-------|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Schleswig-Holstein/Hamburg | East Denmark | 395 | 2.705 | 829 | 25 | 0 | 3.954 |
| Schleswig-Holstein/Hamburg | Skane | 57 | 379 | 31 | 4 | 73 | 544 |
| Schleswig-Holstein/Hamburg | Götaland | 31 | 337 | 34 | 24 | 75 | 501 |
| Schleswig-Holstein/Hamburg | SvealandNorrland/Finland | 63 | 246 | 46 | 132 | 38 | 525 |
| Schleswig-Holstein/Hamburg | Norway | 4 | 155 | 24 | 108 | 31 | 322 |
| Mecklenburg-Vorpommern | East Denmark | 12 | 419 | 121 | 0 | 709 | 1.261 |
| Mecklenburg-Vorpommern | Skane | 2 | 211 | 69 | 0 | 629 | 911 |
| Mecklenburg-Vorpommern | Götaland | 2 | 230 | 61 | 0 | 0 | 293 |
| Mecklenburg-Vorpommern | SvealandNorrland/Finland | 3 | 241 | 66 | 12 | 32 | 354 |
| Mecklenburg-Vorpommern | Norway | 1 | 77 | 29 | 8 | 0 | 115 |
| Niedersachsen/Bremen | East Denmark | 54 | 428 | 123 | 142 | 0 | 747 |
| Niedersachsen/Bremen | Skane | 7 | 73 | 12 | 43 | 0 | 135 |
| Niedersachsen/Bremen | Götaland | 3 | 125 | 17 | 70 | 0 | 215 |
| Niedersachsen/Bremen | SvealandNorrland/Finland | 7 | 114 | 27 | 161 | 0 | 309 |
| Niedersachsen/Bremen | Norway | 1 | 98 | 20 | 137 | 0 | 256 |
| other West Germany | East Denmark | 187 | 593 | 154 | 795 | 0 | 1.729 |
| other West Germany | Skane | 38 | 118 | 24 | 241 | 0 | 421 |
| other West Germany | Götaland | 24 | 286 | 47 | 405 | 0 | 762 |
| other West Germany | SvealandNorrland/Finland | 48 | 400 | 72 | 1.009 | 0 | 1.529 |
| other West Germany | Norway | 5 | 430 | 34 | 687 | 0 | 1.156 |

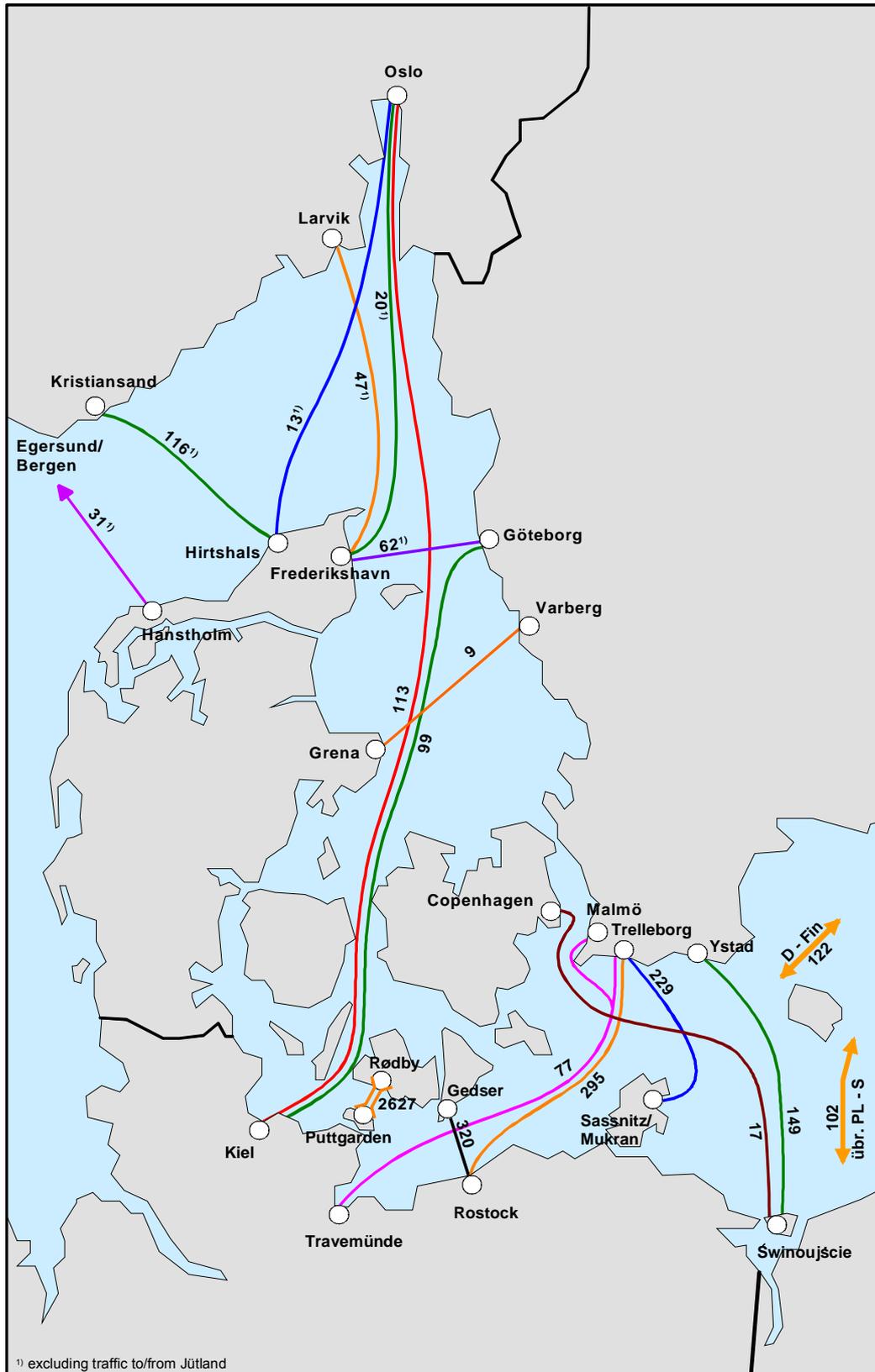
Passenger flows per region Scenario 1, 2015 (in 1000 passengers, two way totals)

| traffic | | Scenario 1 | | | | | |
|--------------------|--------------------------|------------|-----|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Berlin/Brandenburg | East Denmark | 83 | 223 | 94 | 207 | 0 | 607 |
| Berlin/Brandenburg | Skane | 16 | 110 | 43 | 40 | 0 | 209 |
| Berlin/Brandenburg | Götaland | 17 | 144 | 39 | 106 | 0 | 306 |
| Berlin/Brandenburg | SvealandNorrland/Finland | 23 | 147 | 44 | 259 | 0 | 473 |
| Berlin/Brandenburg | Norway | 3 | 141 | 30 | 140 | 0 | 314 |
| other East Germany | East Denmark | 10 | 161 | 42 | 38 | 0 | 251 |
| other East Germany | Skane | 1 | 56 | 16 | 9 | 0 | 82 |
| other East Germany | Götaland | 3 | 72 | 15 | 21 | 0 | 111 |
| other East Germany | SvealandNorrland/Finland | 4 | 109 | 25 | 86 | 0 | 224 |
| other East Germany | Norway | 1 | 106 | 14 | 23 | 0 | 144 |
| other West Europe | East Denmark | 198 | 573 | 151 | 3.685 | 0 | 4.607 |
| other West Europe | Skane | 23 | 229 | 52 | 838 | 0 | 1.142 |
| other West Europe | Götaland | 20 | 394 | 93 | 1.315 | 0 | 1.822 |
| other West Europe | SvealandNorrland/Finland | 46 | 466 | 144 | 2.836 | 0 | 3.492 |
| other West Europe | Norway | 5 | 521 | 70 | 1.674 | 0 | 2.270 |
| other East Europe | East Denmark | 48 | 158 | 54 | 564 | 56 | 880 |
| other East Europe | Skane | 12 | 193 | 44 | 106 | 248 | 603 |
| other East Europe | Götaland | 21 | 213 | 43 | 148 | 0 | 425 |
| other East Europe | SvealandNorrland/Finland | 43 | 252 | 75 | 536 | 31 | 937 |
| other East Europe | Norway | 7 | 133 | 45 | 189 | 0 | 374 |

Passenger flows per region Scenario 1, 2015 (in 1000 passengers, two way totals) (continued)



Ferry loads Scenario 1, 2015 – total passengers (in 1000, both ways)



Ferry loads Scenario 1, 2015 – total cars (in 1000, both ways)

Scenario 2, 2015

| Main mode | 1,000 Passengers/ year | Modal split in percent |
|-------------------|------------------------------|---------------------------|
| Base Case A, 2015 | | |
| Rail | 1.537 | 4,4 |
| Car | 12.042 | 34,2 |
| Bus | 2.973 | 8,4 |
| Air | 16.823 | 47,8 |
| Walk-on | 1.850 | 5,3 |
| Total | 35.225 | 100,0 |
| Scenario 2, 2015 | | |
| Rail | 1.525 | 4,3 |
| Car | 12.102 | 34,2 |
| Bus | 2.971 | 8,4 |
| Air | 16.813 | 47,5 |
| Walk-on | 1.974 | 5,6 |
| Total | 35.385 | 100,0 |

Total number of trips between Denmark/Scandinavia and the continent by mode, Scenario 2, 2015

| Trip Purpose | 1.000 passengers/year | | | |
|-------------------------|-----------------------|---------------|---------------|---------------|
| | Base Case A | | Scenario 2 | |
| | abs. | percent | abs. | percent |
| commuter work | 109 | 0,3% | 109 | 0,3% |
| shopping | 347 | 1,0% | 359 | 1,0% |
| business | 8.371 | 23,8% | 8.375 | 23,7% |
| holidays (>8 days) | 12.736 | 36,2% | 12.750 | 36,0% |
| day excursion | 1.472 | 4,2% | 1.503 | 4,2% |
| short holiday (≤8 days) | 5.647 | 16,0% | 5.680 | 16,1% |
| visit friend/relatives | 5.238 | 14,9% | 5.263 | 14,9% |
| weekend commuting | 966 | 2,7% | 973 | 2,7% |
| ferry excursion | 339 | 1,0% | 373 | 1,1% |
| Total | 35.225 | 100,0% | 35.385 | 100,0% |

Purpose distribution for passenger trips, Scenario 2, 2015, 1.000 passenger trips/year

| 1.000 passenger trips/year | | Mode | | | | | Total |
|----------------------------|-----------|--------------|---------------|---------------|--------------|--------------|---------------|
| between: | and: | Rail | Car | Air | Bus | Walk-on | |
| Germany | E.Denmark | 741 | 4.540 | 1.204 | 1.362 | 734 | 8.581 |
| Germany | Sweden | 342 | 3.198 | 2.095 | 659 | 804 | 7.098 |
| Germany | Norway | 15 | 1.007 | 1.103 | 151 | 31 | 2.307 |
| Germany | Finland | 4 | 225 | 520 | 28 | 70 | 847 |
| W.Europe ¹ | E.Denmark | 198 | 573 | 3.685 | 151 | 0 | 4.607 |
| W.Europe ¹ | Sweden | 88 | 990 | 4.014 | 271 | 0 | 5.363 |
| W.Europe ¹ | Norway | 5 | 521 | 1.674 | 70 | 0 | 2.270 |
| W.Europe ¹ | Finland | 1 | 99 | 975 | 18 | 0 | 1.093 |
| E.Europe ² | E.Denmark | 48 | 158 | 564 | 54 | 56 | 880 |
| E.Europe ² | Sweden | 75 | 592 | 644 | 152 | 279 | 1.742 |
| E.Europe ² | Norway | 7 | 133 | 189 | 45 | 0 | 374 |
| E.Europe ² | Finland | 1 | 66 | 146 | 10 | 0 | 223 |
| Germany total | | 1.102 | 8.970 | 4.922 | 2.200 | 1.639 | 18.833 |
| W. Europe total | | 292 | 2.183 | 10.348 | 510 | 0 | 13.333 |
| E. Europe total | | 131 | 949 | 1.543 | 261 | 335 | 3.219 |
| East Denmark total | | 987 | 5.271 | 5.453 | 1.567 | 790 | 14.068 |
| Sweden total | | 505 | 4.780 | 6.753 | 1.082 | 1.083 | 14.203 |
| Norway total | | 27 | 1.661 | 2.966 | 266 | 31 | 4.951 |
| Finland total | | 6 | 390 | 1.641 | 56 | 70 | 2.163 |
| Total | | 1.525 | 12.102 | 16.813 | 2.971 | 1.974 | 35.385 |

Table 6.3.4: Aggregated passenger flows, Scenario 2, 2015, two way totals, 1.000 trips/year

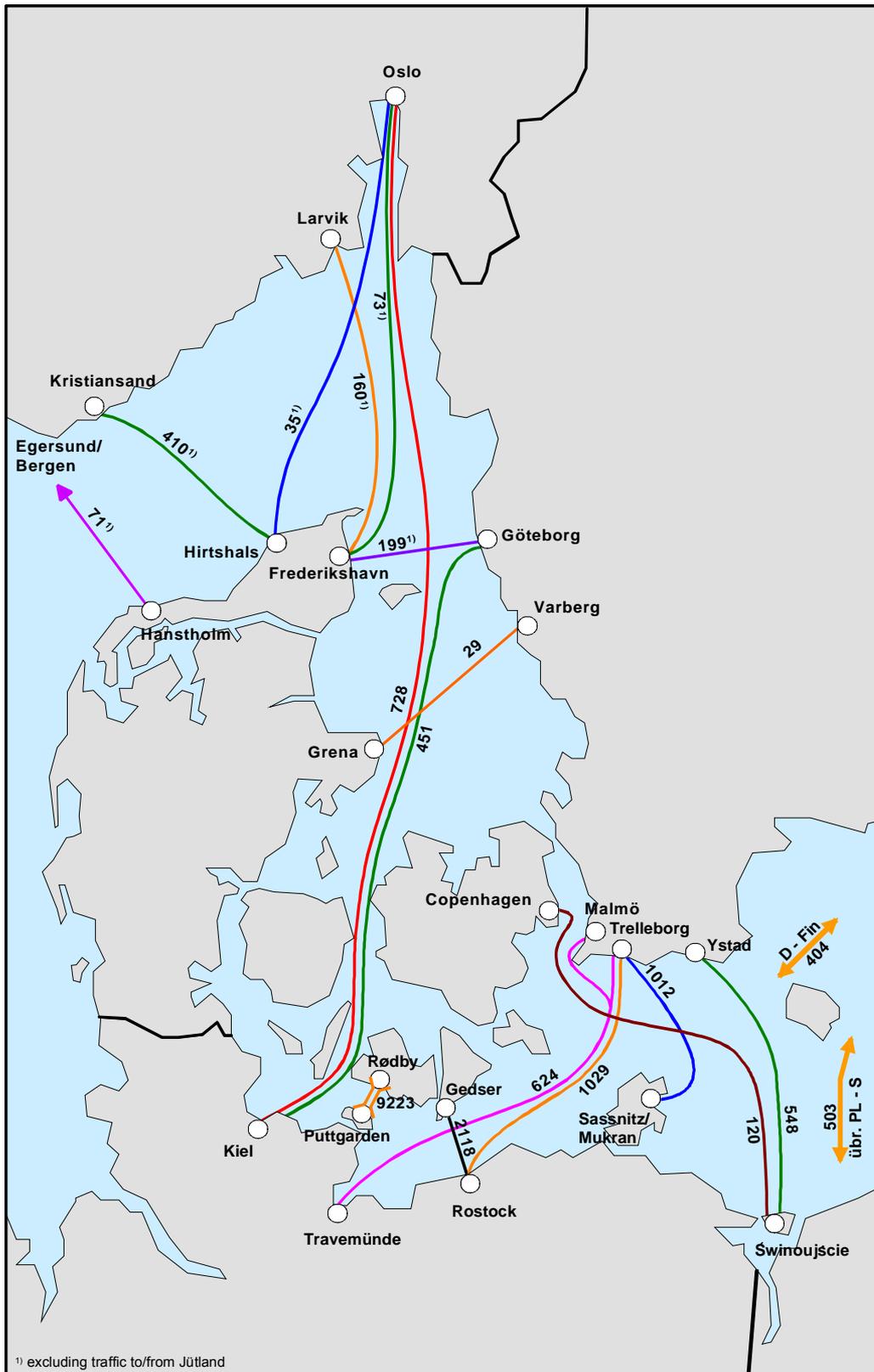
¹ Western Europe: Benelux, France, Spain, Portugal, Switzerland, Austria, Italy, UK and Ireland, Greece, Turkey. ² Eastern Europe: Poland, Baltic countries, CIS, Czech Republic, Slovakian Republic, Hungary, Ex-Yugoslavia, Romania, Bulgaria.

| traffic | | Scenario 2 | | | | | |
|----------------------------|--------------------------|------------|-------|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Schleswig-Holstein/Hamburg | East Denmark | 395 | 2.705 | 829 | 25 | 0 | 3.954 |
| Schleswig-Holstein/Hamburg | Skane | 55 | 387 | 30 | 2 | 83 | 557 |
| Schleswig-Holstein/Hamburg | Götaland | 31 | 339 | 34 | 23 | 75 | 502 |
| Schleswig-Holstein/Hamburg | SvealandNorrland/Finland | 63 | 248 | 46 | 131 | 38 | 526 |
| Schleswig-Holstein/Hamburg | Norway | 4 | 155 | 24 | 108 | 31 | 322 |
| Mecklenburg-Vorpommern | East Denmark | 12 | 426 | 120 | 0 | 734 | 1.292 |
| Mecklenburg-Vorpommern | Skane | 2 | 218 | 69 | 0 | 646 | 935 |
| Mecklenburg-Vorpommern | Götaland | 2 | 230 | 61 | 0 | 0 | 293 |
| Mecklenburg-Vorpommern | SvealandNorrland/Finland | 3 | 241 | 66 | 12 | 32 | 354 |
| Mecklenburg-Vorpommern | Norway | 1 | 77 | 29 | 8 | 0 | 115 |
| Niedersachsen/Bremen | East Denmark | 54 | 428 | 123 | 142 | 0 | 747 |
| Niedersachsen/Bremen | Skane | 7 | 73 | 12 | 43 | 0 | 135 |
| Niedersachsen/Bremen | Götaland | 3 | 125 | 17 | 70 | 0 | 215 |
| Niedersachsen/Bremen | SvealandNorrland/Finland | 7 | 114 | 27 | 161 | 0 | 309 |
| Niedersachsen/Bremen | Norway | 1 | 98 | 20 | 137 | 0 | 256 |
| other West Germany | East Denmark | 187 | 593 | 154 | 795 | 0 | 1.729 |
| other West Germany | Skane | 38 | 118 | 24 | 241 | 0 | 421 |
| other West Germany | Götaland | 24 | 286 | 47 | 405 | 0 | 762 |
| other West Germany | SvealandNorrland/Finland | 48 | 400 | 72 | 1.009 | 0 | 1.529 |
| other West Germany | Norway | 5 | 430 | 34 | 687 | 0 | 1.156 |

Passenger flows per region Scenario 2, 2015 (in 1000 passengers, two way totals)

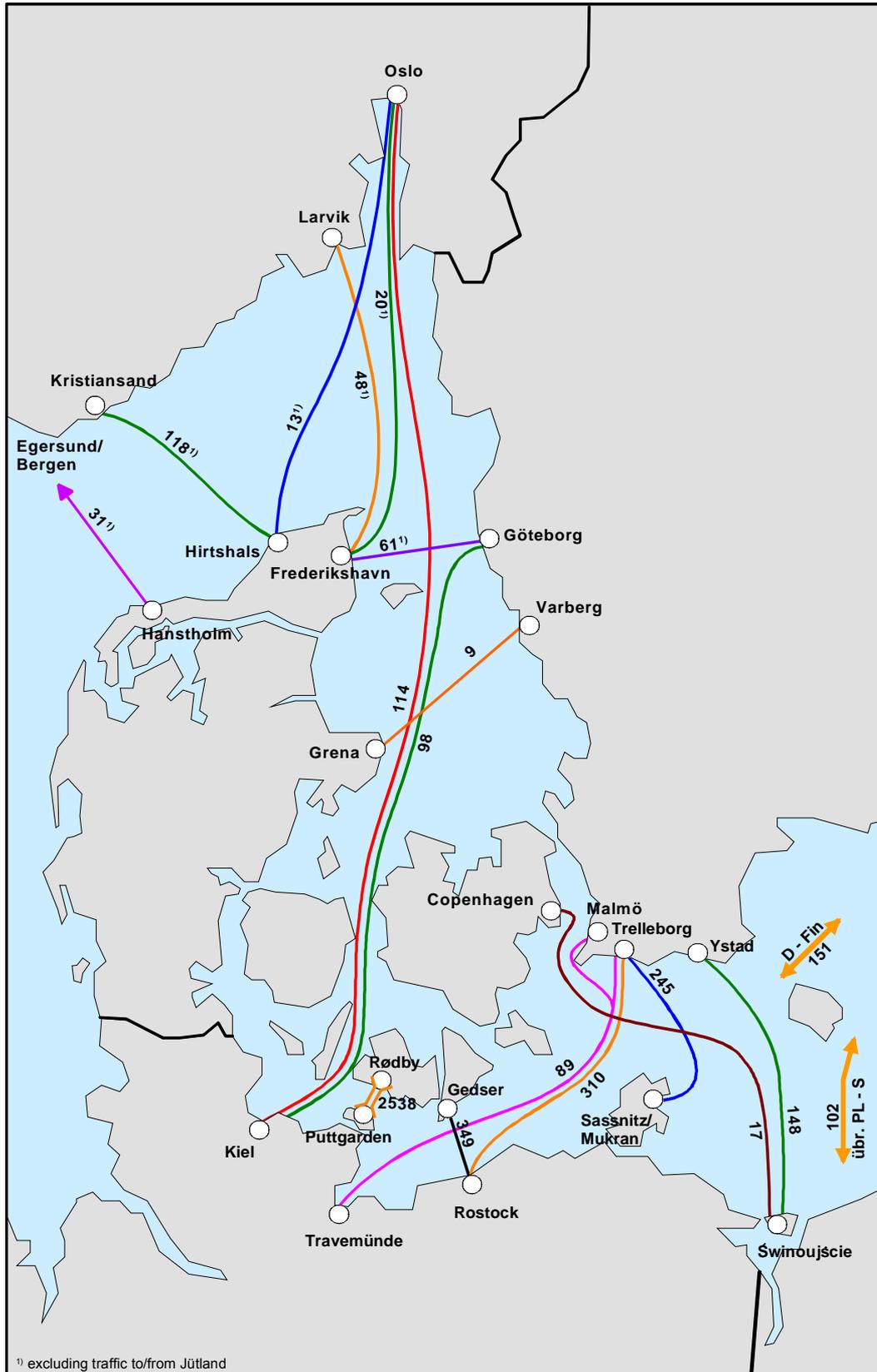
| traffic | | Scenario 2 | | | | | |
|--------------------|--------------------------|------------|-----|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Berlin/Brandenburg | East Denmark | 83 | 227 | 94 | 204 | 0 | 608 |
| Berlin/Brandenburg | Skane | 16 | 114 | 43 | 38 | 0 | 211 |
| Berlin/Brandenburg | Götaland | 16 | 146 | 39 | 105 | 0 | 306 |
| Berlin/Brandenburg | SvealandNorrland/Finland | 23 | 147 | 44 | 259 | 0 | 473 |
| Berlin/Brandenburg | Norway | 3 | 141 | 30 | 140 | 0 | 314 |
| other East Germany | East Denmark | 10 | 161 | 42 | 38 | 0 | 251 |
| other East Germany | Skane | 1 | 56 | 16 | 9 | 0 | 82 |
| other East Germany | Götaland | 3 | 72 | 15 | 21 | 0 | 111 |
| other East Germany | SvealandNorrland/Finland | 4 | 109 | 25 | 86 | 0 | 224 |
| other East Germany | Norway | 1 | 106 | 14 | 23 | 0 | 144 |
| other West Europe | East Denmark | 198 | 573 | 151 | 3.685 | 0 | 4.607 |
| other West Europe | Skane | 23 | 229 | 52 | 838 | 0 | 1.142 |
| other West Europe | Götaland | 20 | 394 | 93 | 1.315 | 0 | 1.822 |
| other West Europe | SvealandNorrland/Finland | 46 | 466 | 144 | 2.836 | 0 | 3.492 |
| other West Europe | Norway | 5 | 521 | 70 | 1.674 | 0 | 2.270 |
| other East Europe | East Denmark | 48 | 158 | 54 | 564 | 56 | 880 |
| other East Europe | Skane | 12 | 193 | 44 | 106 | 248 | 603 |
| other East Europe | Götaland | 21 | 213 | 43 | 148 | 0 | 425 |
| other East Europe | SvealandNorrland/Finland | 43 | 252 | 75 | 536 | 31 | 937 |
| other East Europe | Norway | 7 | 133 | 45 | 189 | 0 | 374 |

Passenger flows per region Scenario 2, 2015 (in 1000 passengers, two way totals) (continued)



designer\Kry\Schu\Fehm_neu\2002\6dez02\Fig1_9.dsf

Ferry loads Scenario 2, 2015 – total passengers (in 1000, both ways)



designer\Kry\Schu\Fehm_neu\2002\16dez02\Fig1_10.dsf

Ferry loads Scenario 2, 2015 – total cars (in 1000, both ways)

Scenario 3, 2015

| Main mode | 1.000 Passengers/ year | Modal split percent |
|-------------------|---------------------------|------------------------|
| Base Case A, 2015 | | |
| Rail | 1.537 | 4,4 |
| Car | 12.042 | 34,2 |
| Bus | 2.973 | 8,4 |
| Air | 16.823 | 47,8 |
| Walk-on | 1.850 | 5,3 |
| Total | 35.225 | 100,0 |
| Scenario 3, 2015 | | |
| Rail | 1.549 | 4,4 |
| Car | 11.984 | 34,2 |
| Bus | 2.975 | 8,5 |
| Air | 16.833 | 48,0 |
| Walk-on | 1.728 | 4,9 |
| Total | 35.069 | 100,0 |

Total number of trips between Denmark/Scandinavia and the continent by mode, Scenario 3, 2015, 1.000 passengers/year

| Trip Purpose | 1.000 passengers/year | | | |
|-------------------------|-----------------------|---------------|---------------|---------------|
| | Base Case A | | Scenario 3 | |
| | abs. | percent | abs. | percent |
| commuter work | 109 | 0,3% | 109 | 0,3% |
| shopping | 347 | 1,0% | 335 | 1,0% |
| business | 8.371 | 23,8% | 8.367 | 23,9% |
| holidays (>8 days) | 12.736 | 36,2% | 12.722 | 36,3% |
| day excursion | 1.472 | 4,2% | 1.442 | 4,1% |
| short holiday (~8 days) | 5.647 | 16,0% | 5.614 | 16,0% |
| visit friend/relatives | 5.238 | 14,9% | 5.214 | 14,9% |
| weekend commuting | 966 | 2,7% | 959 | 2,7% |
| ferry excursion | 339 | 1,0% | 307 | 0,9% |
| Total | 35.225 | 100,0% | 35.069 | 100,0% |

Purpose distribution for passenger trips, Scenario 3, 2015, 1.000 passengers/year

| 1.000 passenger trips/year between: and: | | Mode | | | | | Total |
|---|-----------|--------------|---------------|---------------|--------------|--------------|---------------|
| | | Rail | Car | Air | Bus | Walk-on | |
| Germany | E.Denmark | 753 | 4.485 | 1.210 | 1.364 | 588 | 8.400 |
| Germany | Sweden | 354 | 3.135 | 2.109 | 661 | 706 | 6.965 |
| Germany | Norway | 15 | 1.007 | 1.103 | 151 | 31 | 2.307 |
| Germany | Finland | 4 | 225 | 520 | 28 | 68 | 845 |
| W.Europe ¹ | E.Denmark | 198 | 573 | 3.685 | 151 | 0 | 4.607 |
| W.Europe ¹ | Sweden | 88 | 990 | 4.014 | 271 | 0 | 5.363 |
| W.Europe ¹ | Norway | 5 | 521 | 1.674 | 70 | 0 | 2.270 |
| W.Europe ¹ | Finland | 1 | 99 | 975 | 18 | 0 | 1.093 |
| E.Europe ² | E.Denmark | 48 | 158 | 564 | 54 | 56 | 880 |
| E.Europe ² | Sweden | 75 | 592 | 644 | 152 | 279 | 1.742 |
| E.Europe ² | Norway | 7 | 133 | 189 | 45 | 0 | 374 |
| E.Europe ² | Finland | 1 | 66 | 146 | 10 | 0 | 223 |
| Germany total | | 1.126 | 8.852 | 4.942 | 2.204 | 1.393 | 18.517 |
| W. Europe total | | 292 | 2.183 | 10.348 | 510 | 0 | 13.333 |
| E. Europe total | | 131 | 949 | 1.543 | 261 | 335 | 3.219 |
| East Denmark total | | 999 | 5.216 | 5.459 | 1.569 | 644 | 13.887 |
| Sweden total | | 517 | 4.717 | 6.767 | 1.084 | 985 | 14.070 |
| Norway total | | 27 | 1.661 | 2.966 | 266 | 31 | 4.951 |
| Finland total | | 6 | 390 | 1.641 | 56 | 68 | 2.161 |
| Total | | 1.549 | 11.984 | 16.833 | 2.975 | 1.728 | 35.069 |

Aggregated passenger flows, Scenario 3, 2015, two way totals, 1.000 trips/year

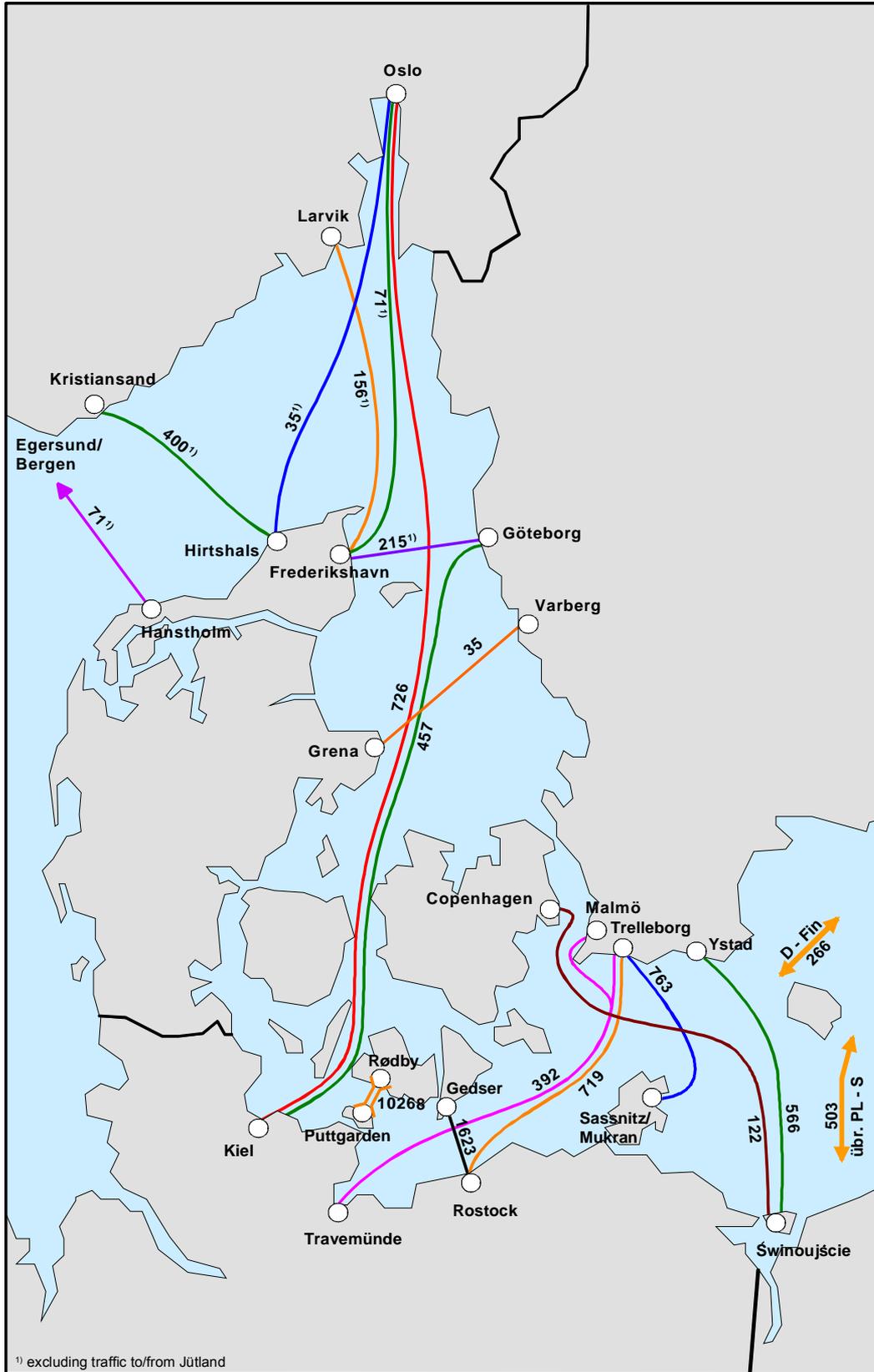
¹ Western Europe: Benelux, France, Spain, Portugal, Switzerland, Austria, Italy, UK and Ireland, Greece, Turkey. ² Eastern Europe: Poland, Baltic countries, CIS, Czech Republic, Slovakian Republic, Hungary, Ex-Yugoslavia, Romania, Bulgaria.

| traffic | | Scenario 3 | | | | | |
|----------------------------|--------------------------|------------|-------|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Schleswig-Holstein/Hamburg | East Denmark | 395 | 2.705 | 829 | 25 | 0 | 3.954 |
| Schleswig-Holstein/Hamburg | Skane | 61 | 365 | 32 | 6 | 47 | 511 |
| Schleswig-Holstein/Hamburg | Götaland | 31 | 335 | 34 | 25 | 75 | 500 |
| Schleswig-Holstein/Hamburg | SvealandNorrland/Finland | 63 | 244 | 46 | 133 | 38 | 524 |
| Schleswig-Holstein/Hamburg | Norway | 4 | 155 | 24 | 108 | 31 | 322 |
| Mecklenburg-Vorpommern | East Denmark | 24 | 379 | 122 | 0 | 588 | 1.113 |
| Mecklenburg-Vorpommern | Skane | 6 | 197 | 69 | 0 | 584 | 856 |
| Mecklenburg-Vorpommern | Götaland | 2 | 230 | 61 | 0 | 0 | 293 |
| Mecklenburg-Vorpommern | SvealandNorrland/Finland | 3 | 241 | 66 | 12 | 30 | 352 |
| Mecklenburg-Vorpommern | Norway | 1 | 77 | 29 | 8 | 0 | 115 |
| Niedersachsen/Bremen | East Denmark | 54 | 428 | 123 | 142 | 0 | 747 |
| Niedersachsen/Bremen | Skane | 7 | 73 | 12 | 43 | 0 | 135 |
| Niedersachsen/Bremen | Götaland | 3 | 125 | 17 | 70 | 0 | 215 |
| Niedersachsen/Bremen | SvealandNorrland/Finland | 7 | 114 | 27 | 161 | 0 | 309 |
| Niedersachsen/Bremen | Norway | 1 | 98 | 20 | 137 | 0 | 256 |
| other West Germany | East Denmark | 187 | 593 | 154 | 795 | 0 | 1.729 |
| other West Germany | Skane | 38 | 118 | 24 | 241 | 0 | 421 |
| other West Germany | Götaland | 24 | 286 | 47 | 405 | 0 | 762 |
| other West Germany | SvealandNorrland/Finland | 48 | 400 | 72 | 1.009 | 0 | 1.529 |
| other West Germany | Norway | 5 | 430 | 34 | 687 | 0 | 1.156 |

Passenger flows per region Scenario 3, 2015 (in 1000 passengers, two way totals)

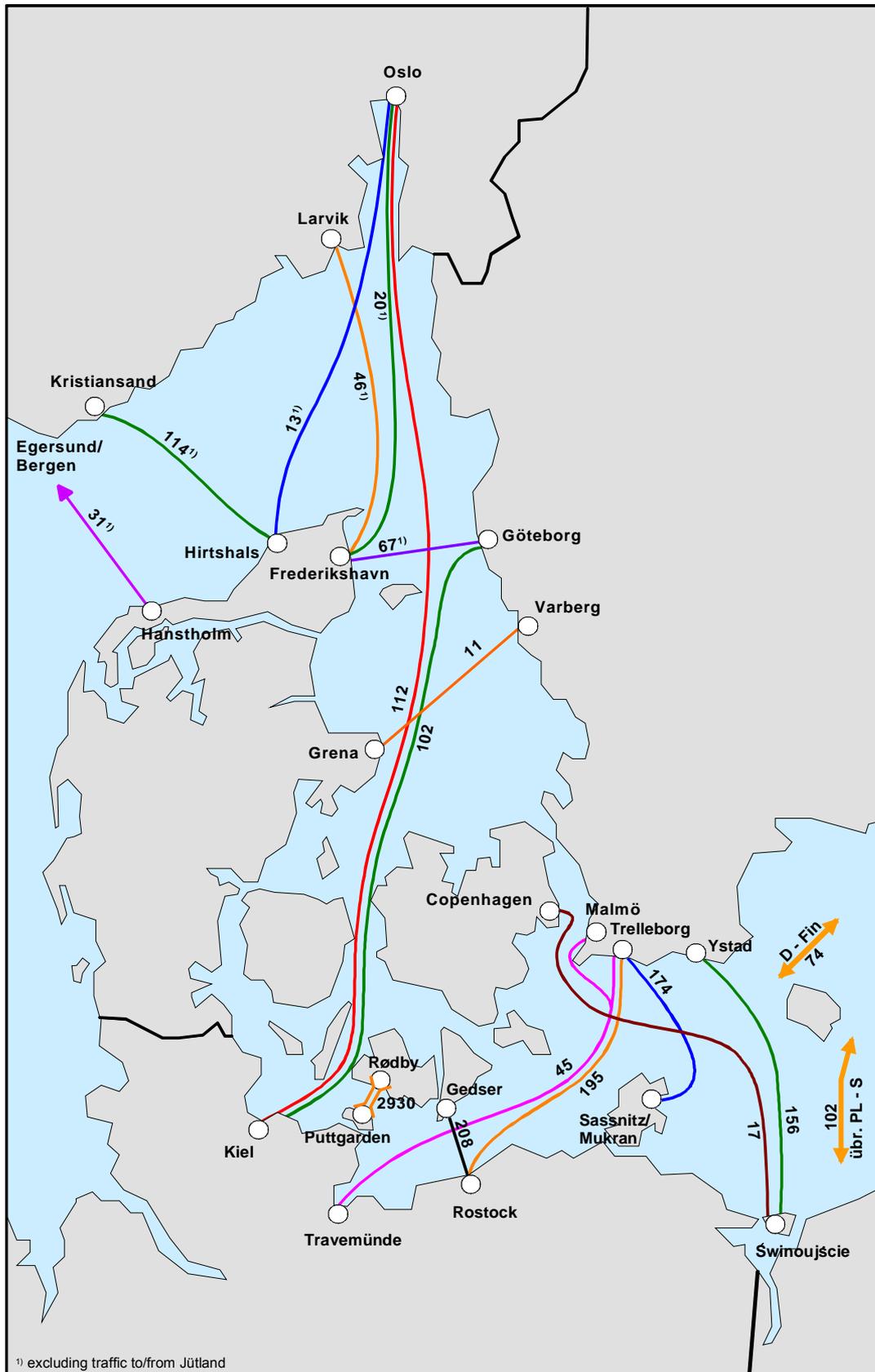
| traffic | | Scenario 3 | | | | | |
|--------------------|--------------------------|------------|-----|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Berlin/Brandenburg | East Denmark | 83 | 219 | 94 | 210 | 0 | 606 |
| Berlin/Brandenburg | Skane | 16 | 106 | 43 | 42 | 0 | 207 |
| Berlin/Brandenburg | Götaland | 18 | 142 | 39 | 107 | 0 | 306 |
| Berlin/Brandenburg | SvealandNorrland/Finland | 23 | 147 | 44 | 259 | 0 | 473 |
| Berlin/Brandenburg | Norway | 3 | 141 | 30 | 140 | 0 | 314 |
| other East Germany | East Denmark | 10 | 161 | 42 | 38 | 0 | 251 |
| other East Germany | Skane | 1 | 56 | 16 | 9 | 0 | 82 |
| other East Germany | Götaland | 3 | 72 | 15 | 21 | 0 | 111 |
| other East Germany | SvealandNorrland/Finland | 4 | 109 | 25 | 86 | 0 | 224 |
| other East Germany | Norway | 1 | 106 | 14 | 23 | 0 | 144 |
| other West Europe | East Denmark | 198 | 573 | 151 | 3.685 | 0 | 4.607 |
| other West Europe | Skane | 23 | 229 | 52 | 838 | 0 | 1.142 |
| other West Europe | Götaland | 20 | 394 | 93 | 1.315 | 0 | 1.822 |
| other West Europe | SvealandNorrland/Finland | 46 | 466 | 144 | 2.836 | 0 | 3.492 |
| other West Europe | Norway | 5 | 521 | 70 | 1.674 | 0 | 2.270 |
| other East Europe | East Denmark | 48 | 158 | 54 | 564 | 56 | 880 |
| other East Europe | Skane | 12 | 193 | 44 | 106 | 248 | 603 |
| other East Europe | Götaland | 21 | 213 | 43 | 148 | 0 | 425 |
| other East Europe | SvealandNorrland/Finland | 43 | 252 | 75 | 536 | 31 | 937 |
| other East Europe | Norway | 7 | 133 | 45 | 189 | 0 | 374 |

Passenger flows per region Scenario 3, 2015 (in 1000 passengers, two way totals) (continued)



designer\Kry\Schu\Fehm_neu\2002\6dez02\Fig1_11.dsf

Ferry loads Scenario 3, 2015 – total passengers (in 1000, both ways)



designer\Kryl\Schu\Fehm_neu\2002\6dez02\Fig1_12.dsf
Ferry loads Scenario 3, 2015 – total cars (in 1000, both ways)

Scenario 4, 2015

| Main mode | 1.000 Passengers/year | Modal split percent |
|------------------|-----------------------|---------------------|
| Base Case A 2015 | | |
| Rail | 1.537 | 4,4% |
| Car | 12.042 | 34,2% |
| Bus | 2.973 | 8,4% |
| Air | 16.823 | 47,8% |
| Walk-on | 1.850 | 5,3% |
| Total | 35.225 | 100,0% |
| Scenario 4 | | |
| Rail | 1.525 | 4,3% |
| Car | 12.112 | 34,1% |
| Bus | 2.974 | 8,4% |
| Air | 16.813 | 47,3% |
| Walk-on | 2.145 | 6,0% |
| Total | 35.569 | 100,0% |

Total number of trips between Denmark/Scandinavia and the continent by mode, Scenario 4, 2015, 1.000 passengers/year

| Trip Purpose | 1.000 passengers/year | | | |
|-------------------------|-----------------------|---------------|---------------|---------------|
| | Base Case A | | Scenario 4 | |
| | abs. | percent | abs. | percent |
| commuter work | 109 | 0,3% | 109 | 0,3% |
| shopping | 347 | 1,0% | 359 | 1,0% |
| business | 8.371 | 23,8% | 8.375 | 23,5% |
| holidays (>8 days) | 12.736 | 36,2% | 12.750 | 35,8% |
| day excursion | 1.472 | 4,2% | 1.531 | 4,3% |
| short holiday (~8 days) | 5.647 | 16,0% | 5.680 | 16,0% |
| visit friend/relatives | 5.238 | 14,9% | 5.265 | 14,8% |
| weekend commuting | 966 | 2,7% | 973 | 2,7% |
| ferry excursion | 339 | 1,0% | 527 | 1,5% |
| Total | 35.225 | 100,0% | 35.569 | 100,0% |

Purpose distribution for passenger trips, Scenario 4, 2015, 1.000 passengers/year

| 1.000 passenger trips/year | | Mode | | | | | Total |
|----------------------------|-----------|--------------|---------------|---------------|--------------|--------------|---------------|
| between: | and: | Rail | Car | Air | Bus | Walk-on | |
| Germany | E.Denmark | 741 | 4.550 | 1.204 | 1,365 | 905 | 8.765 |
| Germany | Sweden | 342 | 3.198 | 2.095 | 659 | 804 | 7.098 |
| Germany | Norway | 15 | 1.007 | 1.103 | 151 | 31 | 2.307 |
| Germany | Finland | 4 | 225 | 520 | 28 | 70 | 847 |
| W.Europe ¹ | E.Denmark | 198 | 573 | 3.685 | 151 | 0 | 4.607 |
| W.Europe ¹ | Sweden | 88 | 990 | 4.014 | 271 | 0 | 5.363 |
| W.Europe ¹ | Norway | 5 | 521 | 1.674 | 70 | 0 | 2.270 |
| W.Europe ¹ | Finland | 1 | 99 | 975 | 18 | 0 | 1.093 |
| E.Europe ² | E.Denmark | 48 | 158 | 564 | 54 | 56 | 880 |
| E.Europe ² | Sweden | 75 | 592 | 644 | 152 | 279 | 1.742 |
| E.Europe ² | Norway | 7 | 133 | 189 | 45 | 0 | 374 |
| E.Europe ² | Finland | 1 | 66 | 146 | 10 | 0 | 223 |
| Germany total | | 1.102 | 8.980 | 4.922 | 2,203 | 1.810 | 19.017 |
| W. Europe total | | 292 | 2.183 | 10.348 | 510 | 0 | 13.333 |
| E. Europe total | | 131 | 949 | 1.543 | 261 | 335 | 3.219 |
| East Denmark total | | 987 | 5.281 | 5.453 | 1,570 | 961 | 14.252 |
| Sweden total | | 505 | 4.780 | 6.753 | 1,082 | 1.083 | 14.203 |
| Norway total | | 27 | 1.661 | 2.966 | 266 | 31 | 4.951 |
| Finland total | | 6 | 390 | 1.641 | 56 | 70 | 2.163 |
| Total | | 1.525 | 12.112 | 16.813 | 2,974 | 2.145 | 35.569 |

Aggregated passenger flows, Scenario 4, 2015, two way totals, 1.000 trips/year

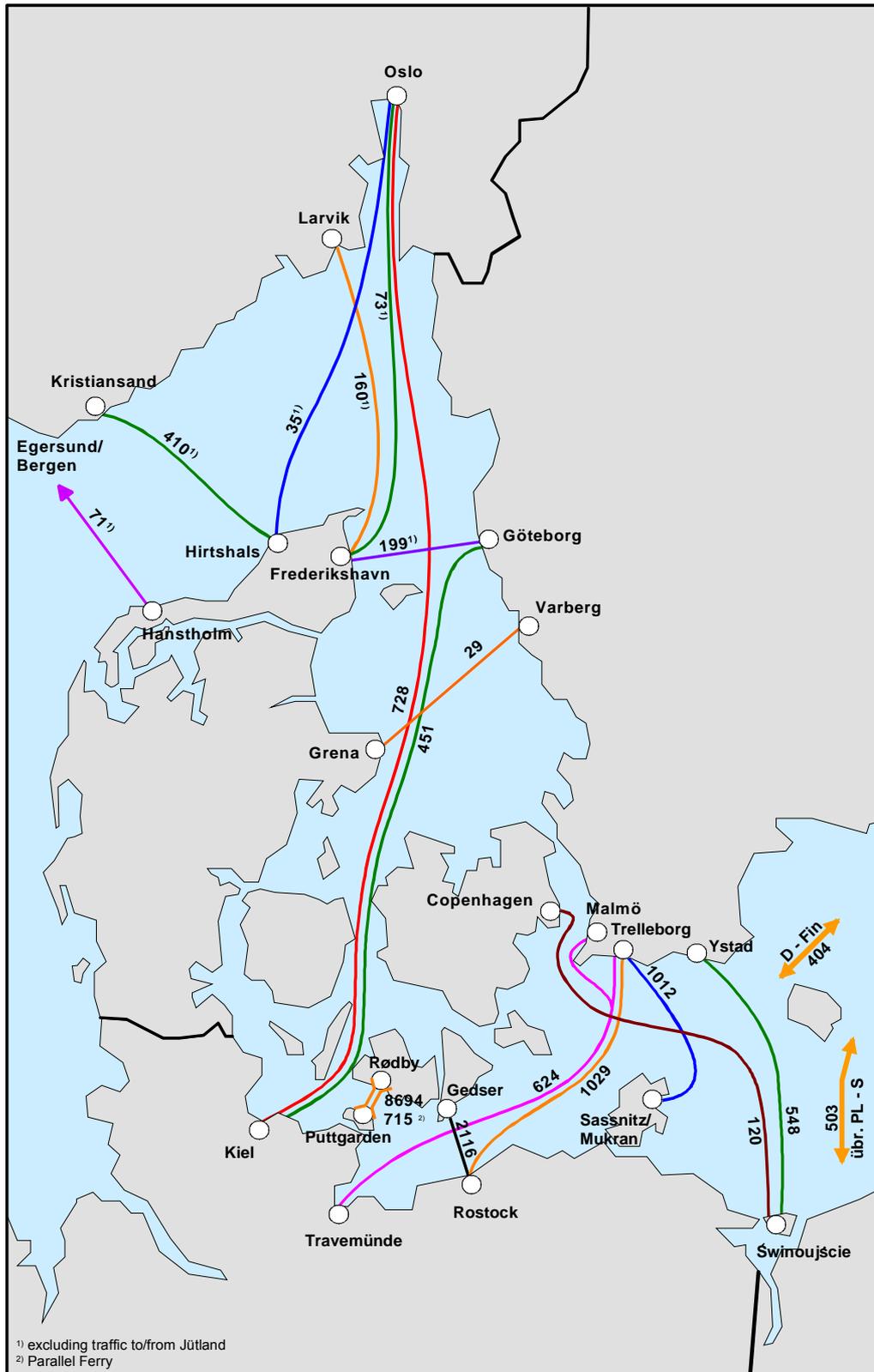
¹ Western Europe: Benelux, France, Spain, Portugal, Switzerland, Austria, Italy, UK and Ireland, Greece, Turkey. ² Eastern Europe: Poland, Baltic countries, CIS, Czech Republic, Slovakian Republic, Hungary, Ex-Yugoslavia, Romania, Bulgaria.

| traffic | | Scenario 4 | | | | | |
|----------------------------|--------------------------|------------|-------|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Schleswig-Holstein/Hamburg | East Denmark | 395 | 2.715 | 832 | 25 | 171 | 4.138 |
| Schleswig-Holstein/Hamburg | Skane | 55 | 387 | 30 | 2 | 83 | 557 |
| Schleswig-Holstein/Hamburg | Götaland | 31 | 339 | 34 | 23 | 75 | 502 |
| Schleswig-Holstein/Hamburg | SvealandNorrland/Finland | 63 | 248 | 46 | 131 | 38 | 526 |
| Schleswig-Holstein/Hamburg | Norway | 4 | 155 | 24 | 108 | 31 | 322 |
| Mecklenburg-Vorpommern | East Denmark | 12 | 426 | 120 | 0 | 734 | 1.292 |
| Mecklenburg-Vorpommern | Skane | 2 | 218 | 69 | 0 | 646 | 935 |
| Mecklenburg-Vorpommern | Götaland | 2 | 230 | 61 | 0 | 0 | 293 |
| Mecklenburg-Vorpommern | SvealandNorrland/Finland | 3 | 241 | 66 | 12 | 32 | 354 |
| Mecklenburg-Vorpommern | Norway | 1 | 77 | 29 | 8 | 0 | 115 |
| Niedersachsen/Bremen | East Denmark | 54 | 428 | 123 | 142 | 0 | 747 |
| Niedersachsen/Bremen | Skane | 7 | 73 | 12 | 43 | 0 | 135 |
| Niedersachsen/Bremen | Götaland | 3 | 125 | 17 | 70 | 0 | 215 |
| Niedersachsen/Bremen | SvealandNorrland/Finland | 7 | 114 | 27 | 161 | 0 | 309 |
| Niedersachsen/Bremen | Norway | 1 | 98 | 20 | 137 | 0 | 256 |
| other West Germany | East Denmark | 187 | 593 | 154 | 795 | 0 | 1.729 |
| other West Germany | Skane | 38 | 118 | 24 | 241 | 0 | 421 |
| other West Germany | Götaland | 24 | 286 | 47 | 405 | 0 | 762 |
| other West Germany | SvealandNorrland/Finland | 48 | 400 | 72 | 1.009 | 0 | 1.529 |
| other West Germany | Norway | 5 | 430 | 34 | 687 | 0 | 1.156 |

Passenger flows per region Scenario 4, 2015 (in 1000 passengers, two way totals)

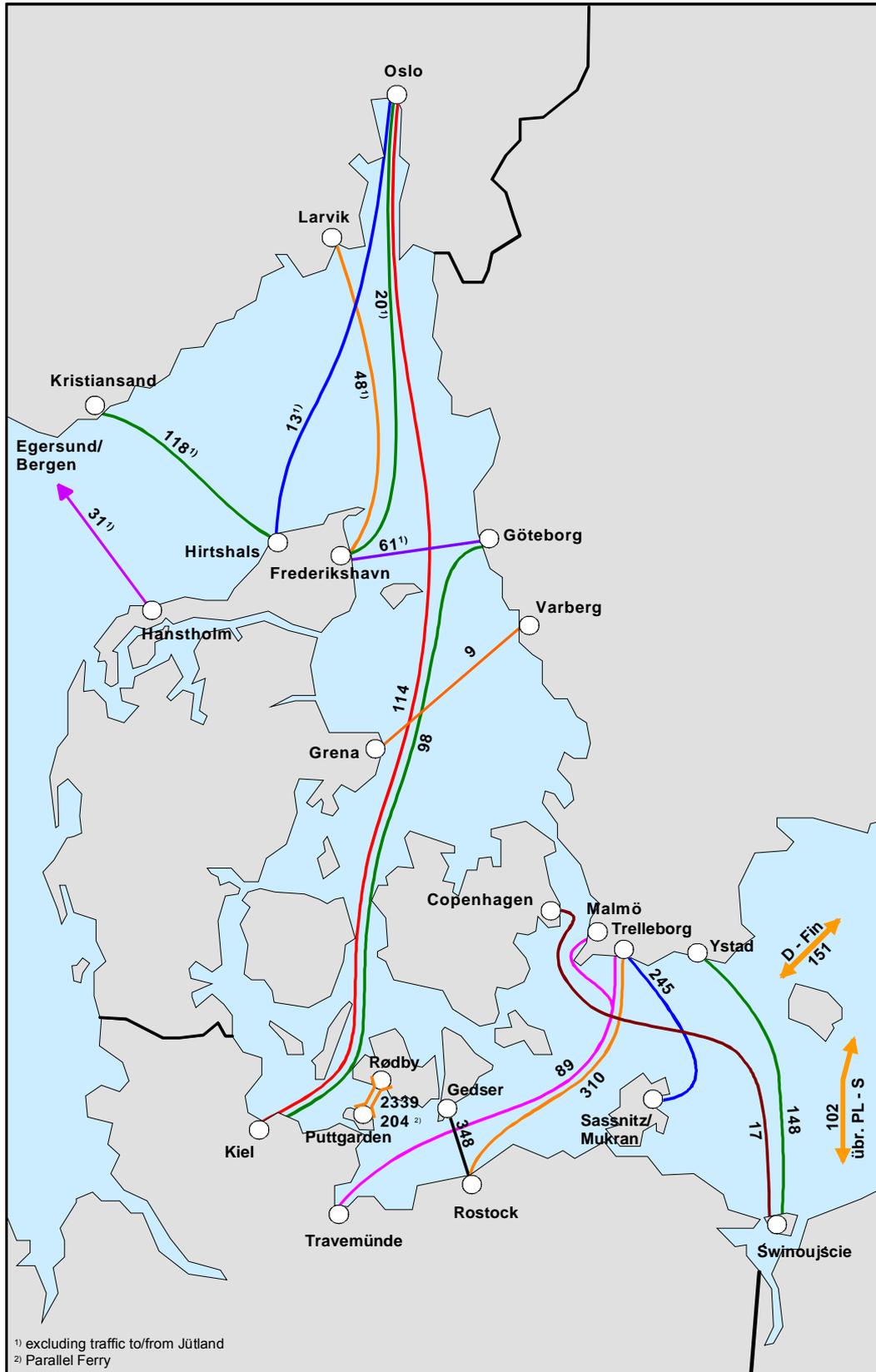
| traffic | | Scenario 4 | | | | | |
|--------------------|---------------------------|------------|-----|-----|-------|---------------|-------|
| between | and | Rail | Car | Bus | Air | Ferry walk-on | total |
| Berlin/Brandenburg | East Denmark | 83 | 227 | 94 | 204 | 0 | 608 |
| Berlin/Brandenburg | Skane | 16 | 114 | 43 | 38 | 0 | 211 |
| Berlin/Brandenburg | Götaland | 16 | 146 | 39 | 105 | 0 | 306 |
| Berlin/Brandenburg | SvealandNorrrland/Finland | 23 | 147 | 44 | 259 | 0 | 473 |
| Berlin/Brandenburg | Norway | 3 | 141 | 30 | 140 | 0 | 314 |
| other East Germany | East Denmark | 10 | 161 | 42 | 38 | 0 | 251 |
| other East Germany | Skane | 1 | 56 | 16 | 9 | 0 | 82 |
| other East Germany | Götaland | 3 | 72 | 15 | 21 | 0 | 111 |
| other East Germany | SvealandNorrrland/Finland | 4 | 109 | 25 | 86 | 0 | 224 |
| other East Germany | Norway | 1 | 106 | 14 | 23 | 0 | 144 |
| other West Europe | East Denmark | 198 | 573 | 151 | 3.685 | 0 | 4.607 |
| other West Europe | Skane | 23 | 229 | 52 | 838 | 0 | 1.142 |
| other West Europe | Götaland | 20 | 394 | 93 | 1.315 | 0 | 1.822 |
| other West Europe | SvealandNorrrland/Finland | 46 | 466 | 144 | 2.836 | 0 | 3.492 |
| other West Europe | Norway | 5 | 521 | 70 | 1.674 | 0 | 2.270 |
| other East Europe | East Denmark | 48 | 158 | 54 | 564 | 56 | 880 |
| other East Europe | Skane | 12 | 193 | 44 | 106 | 248 | 603 |
| other East Europe | Götaland | 21 | 213 | 43 | 148 | 0 | 425 |
| other East Europe | SvealandNorrrland/Finland | 43 | 252 | 75 | 536 | 31 | 937 |
| other East Europe | Norway | 7 | 133 | 45 | 189 | 0 | 374 |

Passenger flows per region Scenario 4, 2015 (in 1000 passengers, two way totals) (continued)



designer\Kry\Schu\Fehm_neu\2002\6dez02\Fig1_13.dsf

Ferry loads Scenario 4 – total passengers (in 1000, both ways)



designer\Kry\Schu\Fehm_neu\2002\6dez02\Fig1_14.dsf

Ferry loads Scenario 4 – total cars (in 1000, both ways)

2. Detailed Results of Freight Traffic

Base Year 2001

| Volumes [1000 t] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 959 | 45 | 0 | 1.004 |
| 1 Foodstuff and animal fodder | 2.170 | 88 | 9 | 2.266 |
| 2 Wood and cork, textiles | 2.128 | 631 | 0 | 2.759 |
| 3 Fuels | 121 | 5 | 0 | 126 |
| 4 Ore, metals | 2.027 | 1.953 | 0 | 3.980 |
| 5 Building materials | 500 | 154 | 0 | 654 |
| 6 Fertilizers, chemicals | 2.872 | 311 | 12 | 3.195 |
| 7 Transport equipment and machinery | 3.229 | 255 | 96 | 3.580 |
| 8 Other manufactured articles | 6.746 | 1.651 | 6 | 8.404 |
| 9 Paper pulp and waste paper | 455 | 305 | 0 | 759 |
| 10 Miscellaneous articles | 1.826 | 182 | 876 | 2.884 |
| Total | 23.034 | 5.579 | 999 | 29.612 |

| Performance [mil tkm] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.442 | 69 | 0 | 1.512 |
| 1 Foodstuff and animal fodder | 2.911 | 122 | 6 | 3.039 |
| 2 Wood and cork, textiles | 3.639 | 875 | 0 | 4.515 |
| 3 Fuels | 123 | 5 | 0 | 128 |
| 4 Ore, metals | 2.730 | 2.999 | 0 | 5.729 |
| 5 Building materials | 646 | 272 | 0 | 918 |
| 6 Fertilizers, chemicals | 3.705 | 431 | 16 | 4.152 |
| 7 Transport equipment and machinery | 4.859 | 346 | 136 | 5.341 |
| 8 Other manufactured articles | 9.373 | 2.378 | 6 | 11.757 |
| 9 Paper pulp and waste paper | 532 | 432 | 0 | 963 |
| 10 Miscellaneous articles | 2.733 | 326 | 1.243 | 4.301 |
| Total | 32.692 | 8.255 | 1.407 | 42.354 |

| Vehicles [1000] | | | | |
|-------------------------------------|--------------|-------------------|-------------------|--------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 47 | 3 | 0 | 50 |
| 1 Foodstuff and animal fodder | 113 | 7 | 0 | 120 |
| 2 Wood and cork, textiles | 108 | 25 | 0 | 133 |
| 3 Fuels | 6 | 0 | 0 | 6 |
| 4 Ore, metals | 114 | 58 | 0 | 172 |
| 5 Building materials | 26 | 8 | 0 | 34 |
| 6 Fertilizers, chemicals | 153 | 13 | 1 | 166 |
| 7 Transport equipment and machinery | 259 | 39 | 17 | 315 |
| 8 Other manufactured articles | 528 | 86 | 0 | 613 |
| 9 Paper pulp and waste paper | 19 | 10 | 0 | 30 |
| 10 Miscellaneous articles | 130 | 28 | 84 | 242 |
| Total | 1.502 | 277 | 102 | 1.881 |

Modal split 2001 by commodity groups

| Aggregated relation | | 2001 | | | |
|---------------------|---------|-------|------------|------------|-------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 1.180 | 368 | 137 | 1.685 |
| Germany West | Sweden | 6.866 | 2.008 | 119 | 8.992 |
| Germany West | Norway | 1.328 | 159 | 59 | 1.547 |
| Germany West | Finland | 1.334 | 5 | 3 | 1.342 |
| Germany East | Denmark | 98 | 74 | 2 | 174 |
| Germany East | Sweden | 939 | 489 | 1 | 1.429 |
| Germany East | Norway | 156 | 10 | 5 | 171 |
| Germany East | Finland | 42 | 0 | 0 | 42 |
| West Europe | Denmark | 2.193 | 135 | 534 | 2.863 |
| West Europe | Sweden | 6.596 | 2.111 | 138 | 8.845 |
| West Europe | Norway | 1.311 | 81 | 0 | 1.393 |
| West Europe | Finland | 206 | 0 | 0 | 206 |
| East Europe | Denmark | 150 | 35 | 0 | 185 |
| East Europe | Sweden | 526 | 89 | 0 | 615 |
| East Europe | Norway | 88 | 12 | 0 | 101 |
| East Europe | Finland | 21 | 0 | 0 | 21 |

Aggregated freight flows 2001

Base Case A, 2015

| Volumes [1000 t] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.149 | 233 | 0 | 1.382 |
| 1 Foodstuff and animal fodder | 2.797 | 254 | 30 | 3.081 |
| 2 Wood and cork, textiles | 2.860 | 1.980 | 0 | 4.840 |
| 3 Fuels | 112 | 9 | 0 | 121 |
| 4 Ore, metals | 2.092 | 2.921 | 0 | 5.013 |
| 5 Building materials | 526 | 209 | 0 | 735 |
| 6 Fertilizers, chemicals | 3.407 | 1.106 | 37 | 4.550 |
| 7 Transport equipment and machinery | 4.635 | 601 | 125 | 5.360 |
| 8 Other manufactured articles | 9.852 | 4.356 | 31 | 14.240 |
| 9 Paper pulp and waste paper | 729 | 614 | 0 | 1.344 |
| 10 Miscellaneous articles | 3.156 | 303 | 1.798 | 5.257 |
| Total | 31.315 | 12.587 | 2.021 | 45.923 |

| Performance [mil tkm] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.583 | 398 | 0 | 1.980 |
| 1 Foodstuff and animal fodder | 3.894 | 385 | 18 | 4.297 |
| 2 Wood and cork, textiles | 4.624 | 3.154 | 0 | 7.778 |
| 3 Fuels | 112 | 12 | 0 | 124 |
| 4 Ore, metals | 2.670 | 4.447 | 0 | 7.116 |
| 5 Building materials | 687 | 345 | 0 | 1.032 |
| 6 Fertilizers, chemicals | 4.453 | 1.503 | 50 | 6.005 |
| 7 Transport equipment and machinery | 7.062 | 858 | 176 | 8.097 |
| 8 Other manufactured articles | 13.602 | 6.488 | 40 | 20.129 |
| 9 Paper pulp and waste paper | 849 | 878 | 0 | 1.727 |
| 10 Miscellaneous articles | 4.847 | 550 | 2.646 | 8.043 |
| Total | 44.384 | 19.017 | 2.929 | 66.329 |

| Vehicles [1000] | | | | |
|-------------------------------------|--------------|-------------------|-------------------|--------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 61 | 17 | 0 | 78 |
| 1 Foodstuff and animal fodder | 144 | 19 | 1 | 165 |
| 2 Wood and cork, textiles | 157 | 82 | 0 | 239 |
| 3 Fuels | 6 | 0 | 0 | 6 |
| 4 Ore, metals | 124 | 88 | 0 | 212 |
| 5 Building materials | 27 | 11 | 0 | 38 |
| 6 Fertilizers, chemicals | 183 | 47 | 2 | 232 |
| 7 Transport equipment and machinery | 372 | 93 | 22 | 486 |
| 8 Other manufactured articles | 821 | 222 | 1 | 1.044 |
| 9 Paper pulp and waste paper | 31 | 22 | 0 | 53 |
| 10 Miscellaneous articles | 228 | 44 | 168 | 441 |
| Total | 2.155 | 645 | 194 | 2.994 |

Modal split 2015 Base Case A by commodity groups

| Aggregated relation | | 2015 | | | |
|---------------------|---------|-------|------------|------------|--------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 1.631 | 682 | 235 | 2.547 |
| Germany West | Sweden | 8.446 | 4.508 | 243 | 13.197 |
| Germany West | Norway | 1.944 | 439 | 130 | 2.513 |
| Germany West | Finland | 2.153 | 17 | 18 | 2.188 |
| Germany East | Denmark | 164 | 163 | 4 | 331 |
| Germany East | Sweden | 1.316 | 1.225 | 4 | 2.545 |
| Germany East | Norway | 280 | 21 | 15 | 316 |
| Germany East | Finland | 53 | 0 | 0 | 53 |
| West Europe | Denmark | 2.786 | 332 | 1.175 | 4.292 |
| West Europe | Sweden | 7.944 | 4.245 | 194 | 12.383 |
| West Europe | Norway | 1.809 | 294 | 2 | 2.105 |
| West Europe | Finland | 334 | 1 | 1 | 336 |
| East Europe | Denmark | 400 | 143 | 1 | 543 |
| East Europe | Sweden | 1.727 | 451 | 1 | 2.179 |
| East Europe | Norway | 274 | 68 | 0 | 342 |
| East Europe | Finland | 53 | 0 | 0 | 53 |

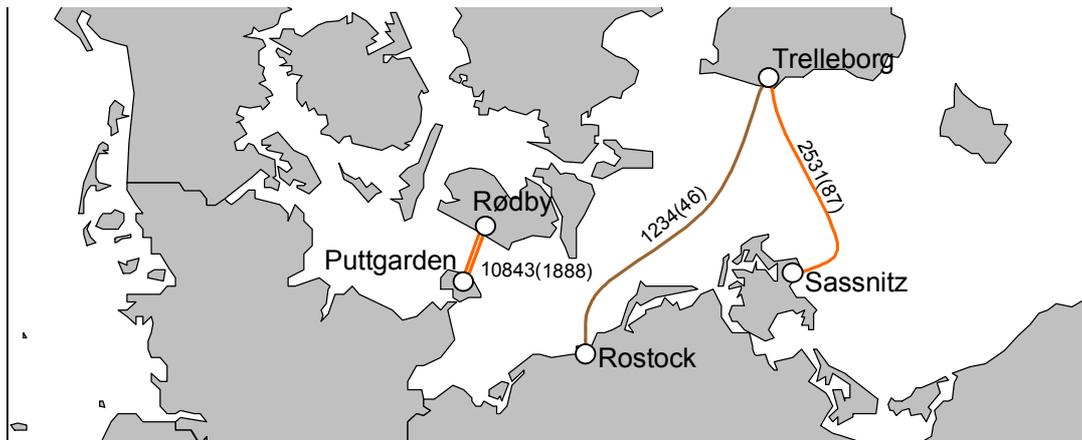
Aggregated freight flows 2015 Base Case A

| Traffic | | 2015 | | | |
|----------------------------|---------------------------|-------|------------|------------|-------|
| Between | and | Road | Rail conv. | Rail comb. | Total |
| Schleswig-Holstein/Hamburg | East Denmark | 590 | 32 | 71 | 694 |
| Schleswig-Holstein/Hamburg | Skåne | 225 | 45 | 5 | 275 |
| Schleswig-Holstein/Hamburg | Götaland | 405 | 278 | 13 | 697 |
| Schleswig-Holstein/Hamburg | Svealand/Norrland/Finland | 485 | 334 | 2 | 821 |
| Schleswig-Holstein/Hamburg | Norway | 287 | 118 | 19 | 424 |
| Mecklenburg-Vorpommern | East Denmark | 29 | 5 | 0 | 34 |
| Mecklenburg-Vorpommern | Skåne | 53 | 15 | 0 | 68 |
| Mecklenburg-Vorpommern | Götaland | 178 | 38 | 0 | 216 |
| Mecklenburg-Vorpommern | Svealand/Norrland/Finland | 193 | 33 | 0 | 226 |
| Mecklenburg-Vorpommern | Norway | 42 | 9 | 0 | 51 |
| Niedersachsen/Bremen | East Denmark | 251 | 113 | 18 | 382 |
| Niedersachsen/Bremen | Skåne | 179 | 53 | 0 | 232 |
| Niedersachsen/Bremen | Götaland | 636 | 245 | 0 | 881 |
| Niedersachsen/Bremen | Svealand/Norrland/Finland | 550 | 351 | 4 | 906 |
| Niedersachsen/Bremen | Norway | 533 | 17 | 0 | 550 |
| Other West Germany | East Denmark | 761 | 531 | 145 | 1.438 |
| Other West Germany | Skåne | 876 | 199 | 36 | 1.111 |
| Other West Germany | Götaland | 2.997 | 1.060 | 107 | 4.163 |
| Other West Germany | Svealand/Norrland/Finland | 3.822 | 1.874 | 94 | 5.789 |
| Other West Germany | Norway | 1.082 | 295 | 111 | 1.488 |
| Berlin/Brandenburg | East Denmark | 43 | 17 | 0 | 61 |
| Berlin/Brandenburg | Skåne | 85 | 36 | 0 | 121 |
| Berlin/Brandenburg | Götaland | 242 | 220 | 0 | 462 |
| Berlin/Brandenburg | Svealand/Norrland/Finland | 217 | 290 | 0 | 506 |
| Berlin/Brandenburg | Norway | 63 | 4 | 0 | 67 |
| Other East Germany | East Denmark | 121 | 145 | 4 | 270 |
| Other East Germany | Skåne | 125 | 85 | 0 | 210 |
| Other East Germany | Götaland | 426 | 228 | 1 | 655 |
| Other East Germany | Svealand/Norrland/Finland | 274 | 367 | 2 | 644 |
| Other East Germany | Norway | 218 | 17 | 15 | 249 |
| Other West Europe | East Denmark | 2.786 | 332 | 1.175 | 4.292 |
| Other West Europe | Skåne | 1.471 | 323 | 17 | 1.812 |
| Other West Europe | Götaland | 3.711 | 1.618 | 104 | 5.432 |
| Other West Europe | Svealand/Norrland/Finland | 3.096 | 2.305 | 74 | 5.475 |
| Other West Europe | Norway | 1.809 | 294 | 2 | 2.105 |
| Other East Europe | East Denmark | 400 | 143 | 1 | 543 |
| Other East Europe | Skåne | 228 | 56 | 0 | 284 |
| Other East Europe | Götaland | 1.032 | 217 | 0 | 1.249 |
| Other East Europe | Svealand/Norrland/Finland | 519 | 179 | 1 | 699 |
| Other East Europe | Norway | 274 | 68 | 0 | 342 |

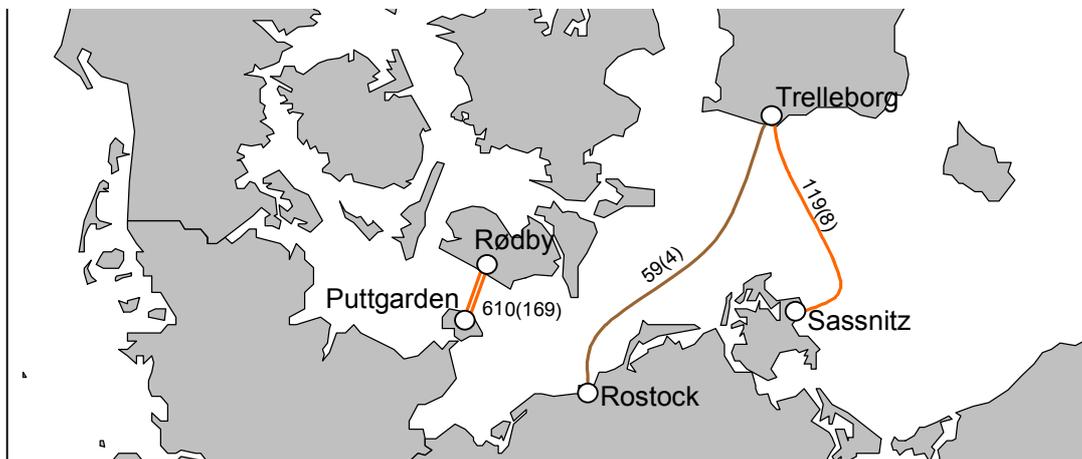
Freight flows per region 2015 Base Case A (in 1000 tons, two way totals)

| Aggregated relation | | Base case A | | | |
|---------------------|---------|-------------|------------|------------|-------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 571 | 682 | 235 | 1.487 |
| Germany West | Sweden | 1.740 | 3.051 | 172 | 4.963 |
| Germany West | Norway | 336 | 439 | 130 | 905 |
| Germany West | Finland | 57 | 17 | 18 | 92 |
| Germany East | Denmark | 50 | 163 | 4 | 217 |
| Germany East | Sweden | 261 | 718 | 2 | 981 |
| Germany East | Norway | 42 | 21 | 15 | 77 |
| Germany East | Finland | 2 | 0 | 0 | 2 |
| West Europe | Denmark | 1.033 | 332 | 1.175 | 2.539 |
| West Europe | Sweden | 1.603 | 2.774 | 135 | 4.511 |
| West Europe | Norway | 283 | 294 | 2 | 579 |
| West Europe | Finland | 7 | 1 | 1 | 10 |
| East Europe | Denmark | 131 | 143 | 1 | 274 |
| East Europe | Sweden | 274 | 254 | 1 | 529 |
| East Europe | Norway | 36 | 68 | 0 | 104 |
| East Europe | Finland | 1 | 0 | 0 | 1 |

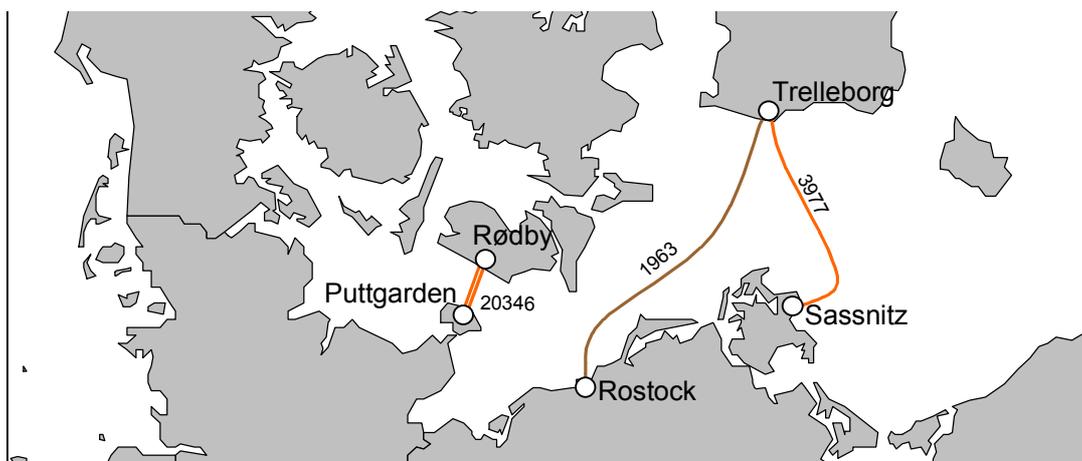
Aggregated freight flows via the Fehmarn Belt, Base Case A, 2015



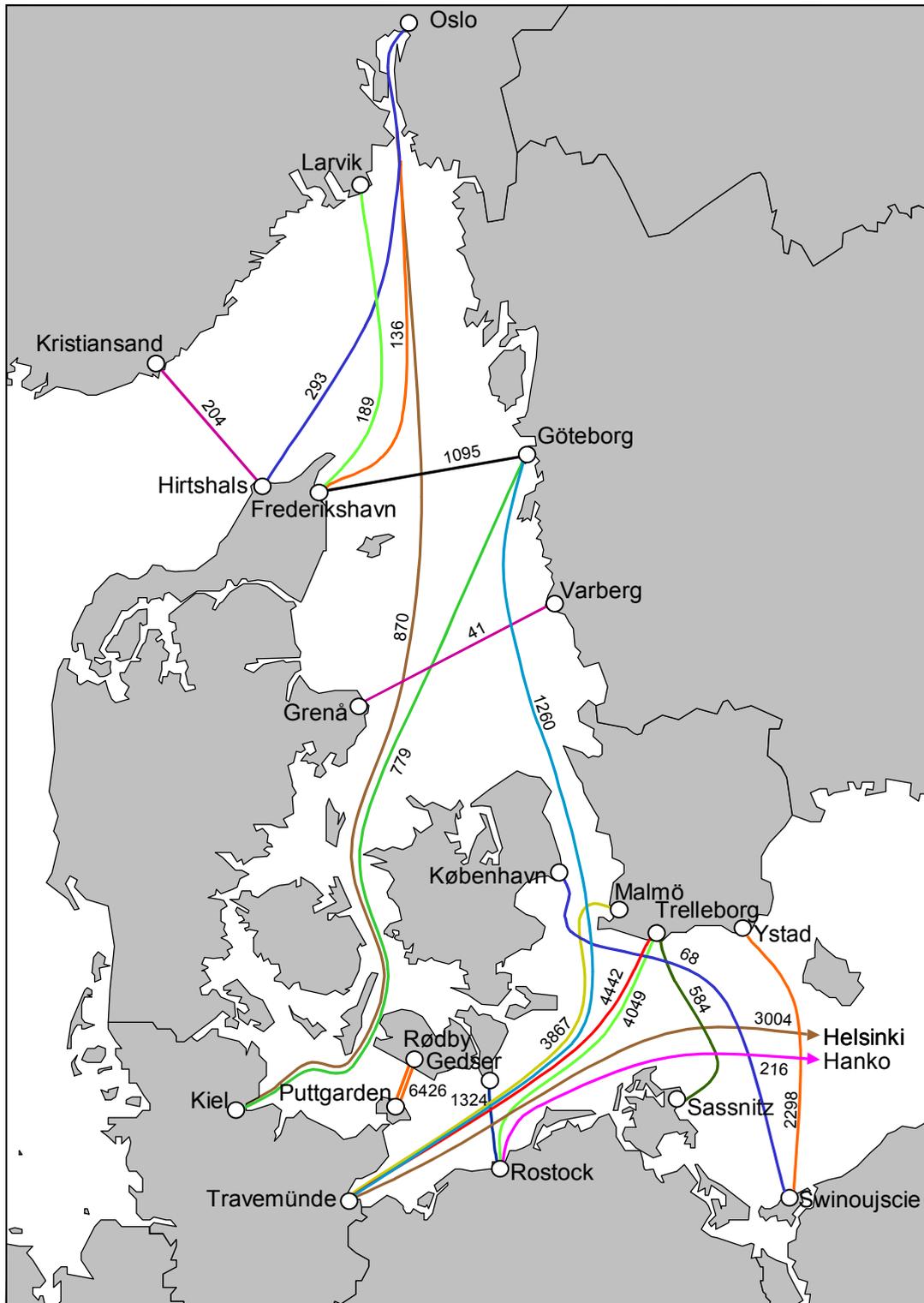
Ferry loads 2015 Base Case A – tons rail (thereof combined)
(in 1000 tons, two way totals)



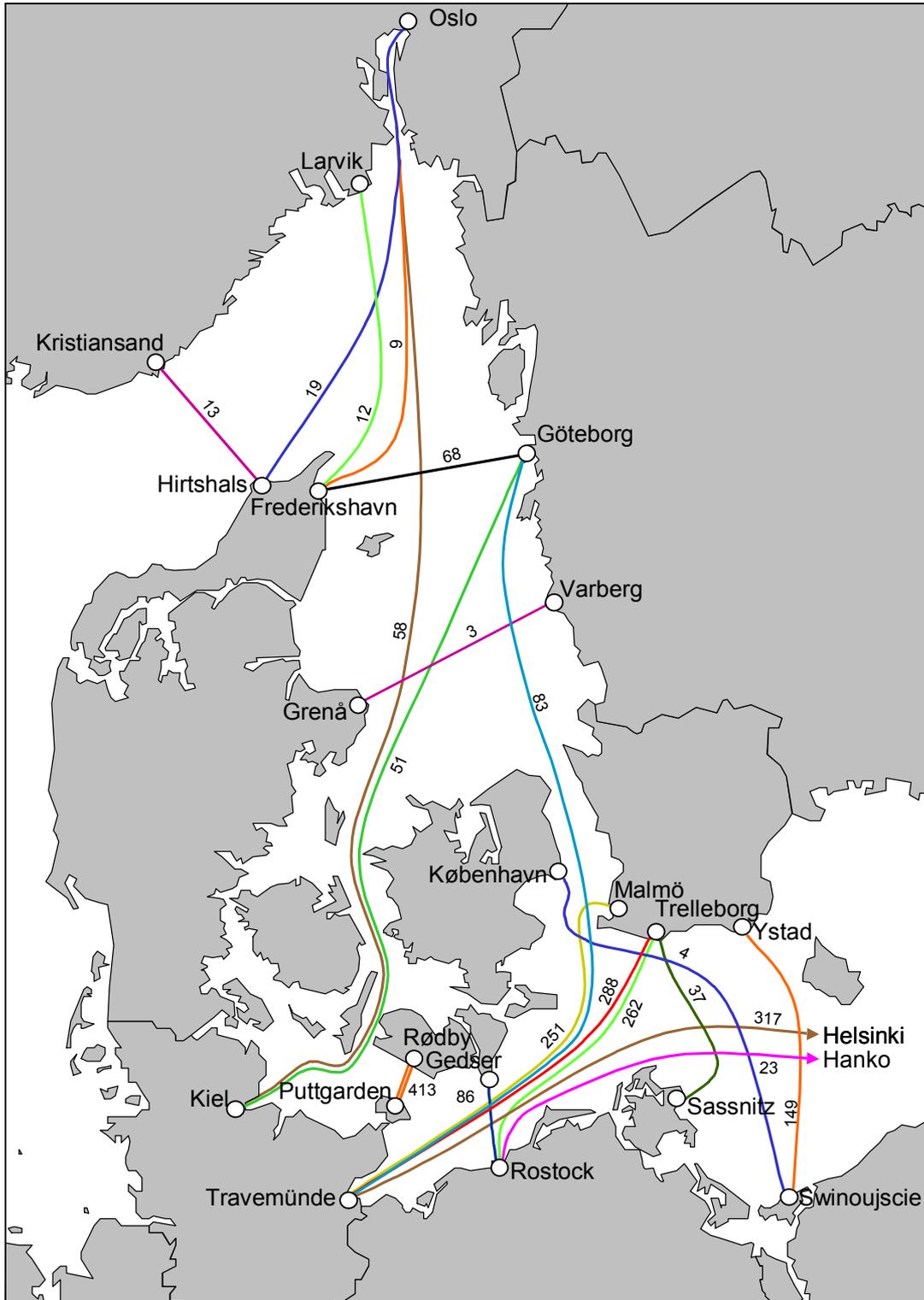
Ferry loads 2015 Base Case A – wagons rail (thereof combined)
(in 1000, two way totals)



Ferry loads 2015 Base Case A – trains
(two way totals)



Ferry loads 2015 Base Forecast A – tons road
in 1000 tons, two way totals)



Ferry loads 2015 Base Forecast A – vehicles road
(in 1000, two way totals)

Base Case B, 2015

| Volumes [1000 t] | | | | |
|-------------------------------------|---------------|--------------|--------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.284 | 98 | 0 | 1.382 |
| 1 Foodstuff and animal fodder | 2.925 | 144 | 12 | 3.081 |
| 2 Wood and cork, textiles | 3.575 | 1.265 | 0 | 4.840 |
| 3 Fuels | 113 | 8 | 0 | 121 |
| 4 Ore, metals | 2.579 | 2.434 | 0 | 5.013 |
| 5 Building materials | 574 | 161 | 0 | 735 |
| 6 Fertilizers, chemicals | 4.050 | 483 | 17 | 4.550 |
| 7 Transport equipment and machinery | 4.794 | 443 | 123 | 5.360 |
| 8 Other manufactured articles | 11.390 | 2.838 | 12 | 14.240 |
| 9 Paper pulp and waste paper | 798 | 545 | 0 | 1.344 |
| 10 Miscellaneous articles | 3.299 | 258 | 1.700 | 5.257 |
| Total | 35.381 | 8.677 | 1.865 | 45.923 |

| Performance [mil tkm] | | | | |
|-------------------------------------|---------------|---------------|--------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.847 | 133 | 0 | 1.980 |
| 1 Foodstuff and animal fodder | 4.076 | 214 | 8 | 4.297 |
| 2 Wood and cork, textiles | 6.103 | 1.676 | 0 | 7.778 |
| 3 Fuels | 113 | 11 | 0 | 124 |
| 4 Ore, metals | 3.419 | 3.698 | 0 | 7.116 |
| 5 Building materials | 769 | 263 | 0 | 1.032 |
| 6 Fertilizers, chemicals | 5.301 | 679 | 24 | 6.005 |
| 7 Transport equipment and machinery | 7.297 | 626 | 173 | 8.097 |
| 8 Other manufactured articles | 16.084 | 4.033 | 12 | 20.129 |
| 9 Paper pulp and waste paper | 962 | 765 | 0 | 1.727 |
| 10 Miscellaneous articles | 5.080 | 457 | 2.506 | 8.043 |
| Total | 51.051 | 12.555 | 2.723 | 66.329 |

| Vehicles [1000] | | | | |
|-------------------------------------|--------------|------------|------------|--------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 66 | 7 | 0 | 73 |
| 1 Foodstuff and animal fodder | 151 | 11 | 1 | 163 |
| 2 Wood and cork, textiles | 182 | 49 | 0 | 232 |
| 3 Fuels | 6 | 0 | 0 | 6 |
| 4 Ore, metals | 143 | 76 | 0 | 219 |
| 5 Building materials | 29 | 8 | 0 | 38 |
| 6 Fertilizers, chemicals | 212 | 21 | 1 | 233 |
| 7 Transport equipment and machinery | 389 | 69 | 21 | 480 |
| 8 Other manufactured articles | 899 | 146 | 0 | 1.045 |
| 9 Paper pulp and waste paper | 34 | 19 | 0 | 53 |
| 10 Miscellaneous articles | 237 | 40 | 160 | 437 |
| Total | 2.348 | 447 | 183 | 2.978 |

Modal split 2015 Base Case B by commodity groups

| Aggregated relation | | 2015 | | | |
|---------------------|---------|--------|------------|------------|--------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 1.734 | 613 | 201 | 2.547 |
| Germany West | Sweden | 10.039 | 2.952 | 206 | 13.197 |
| Germany West | Norway | 2.109 | 297 | 107 | 2.513 |
| Germany West | Finland | 2.174 | 8 | 6 | 2.188 |
| Germany East | Denmark | 169 | 158 | 4 | 331 |
| Germany East | Sweden | 1.629 | 914 | 2 | 2.545 |
| Germany East | Norway | 284 | 19 | 13 | 316 |
| Germany East | Finland | 53 | 0 | 0 | 53 |
| West Europe | Denmark | 2.952 | 196 | 1.144 | 4.292 |
| West Europe | Sweden | 9.286 | 2.915 | 182 | 12.383 |
| West Europe | Norway | 1.954 | 150 | 0 | 2.105 |
| West Europe | Finland | 336 | 0 | 0 | 336 |
| East Europe | Denmark | 431 | 112 | 0 | 543 |
| East Europe | Sweden | 1.889 | 289 | 1 | 2.179 |
| East Europe | Norway | 289 | 53 | 0 | 342 |
| East Europe | Finland | 53 | 0 | 0 | 53 |

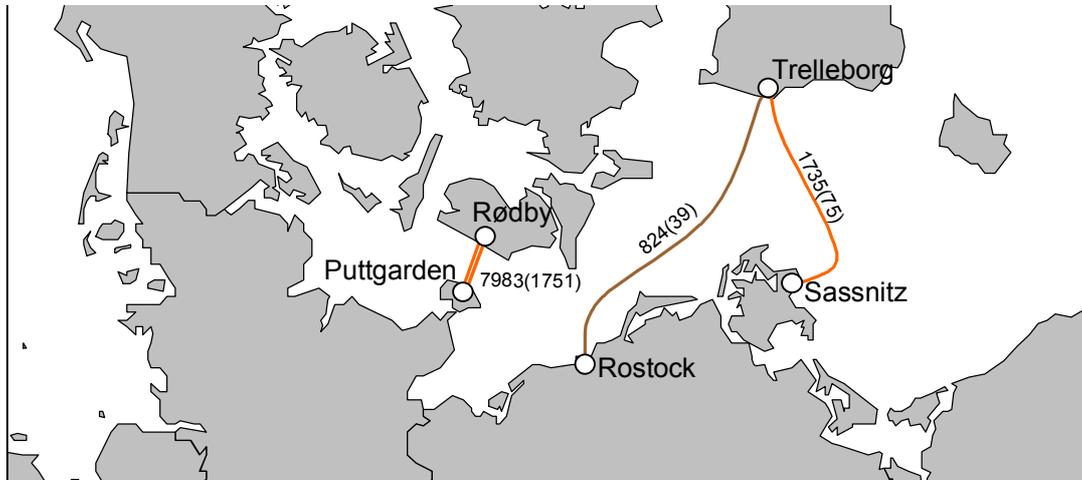
Aggregated freight flows 2015 Base Case B (in 1000 tons, two way totals)

| Aggregated relation | | 2015 | | | |
|---------------------|---------|--------|------------|------------|--------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 1.734 | 613 | 201 | 2.547 |
| Germany West | Sweden | 10.039 | 2.952 | 206 | 13.197 |
| Germany West | Norway | 2.109 | 297 | 107 | 2.513 |
| Germany West | Finland | 2.174 | 8 | 6 | 2.188 |
| Germany East | Denmark | 169 | 158 | 4 | 331 |
| Germany East | Sweden | 1.629 | 914 | 2 | 2.545 |
| Germany East | Norway | 284 | 19 | 13 | 316 |
| Germany East | Finland | 53 | 0 | 0 | 53 |
| West Europe | Denmark | 2.952 | 196 | 1.144 | 4.292 |
| West Europe | Sweden | 9.286 | 2.915 | 182 | 12.383 |
| West Europe | Norway | 1.954 | 150 | 0 | 2.105 |
| West Europe | Finland | 336 | 0 | 0 | 336 |
| East Europe | Denmark | 431 | 112 | 0 | 543 |
| East Europe | Sweden | 1.889 | 289 | 1 | 2.179 |
| East Europe | Norway | 289 | 53 | 0 | 342 |
| East Europe | Finland | 53 | 0 | 0 | 53 |

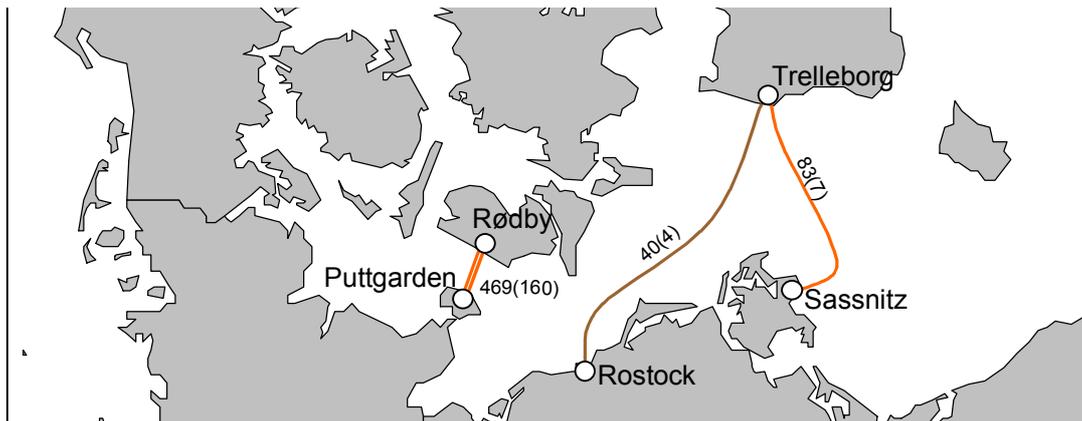
Aggregated freight flows 2015 Base Case B (in 1000 tons, two way totals)

| Aggregated relation | | Base case B | | | |
|---------------------|---------|-------------|------------|------------|-------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 603 | 613 | 201 | 1.417 |
| Germany West | Sweden | 2.037 | 2.022 | 148 | 4.207 |
| Germany West | Norway | 365 | 297 | 107 | 769 |
| Germany West | Finland | 58 | 8 | 6 | 72 |
| Germany East | Denmark | 51 | 158 | 4 | 213 |
| Germany East | Sweden | 314 | 544 | 1 | 859 |
| Germany East | Norway | 42 | 19 | 13 | 74 |
| Germany East | Finland | 2 | 0 | 0 | 2 |
| West Europe | Denmark | 1.085 | 196 | 1.144 | 2.425 |
| West Europe | Sweden | 1.857 | 1.897 | 126 | 3.880 |
| West Europe | Norway | 305 | 150 | 0 | 455 |
| West Europe | Finland | 7 | 0 | 1 | 8 |
| East Europe | Denmark | 140 | 112 | 0 | 253 |
| East Europe | Sweden | 302 | 163 | 0 | 464 |
| East Europe | Norway | 38 | 53 | 0 | 91 |
| East Europe | Finland | 1 | 0 | 0 | 1 |

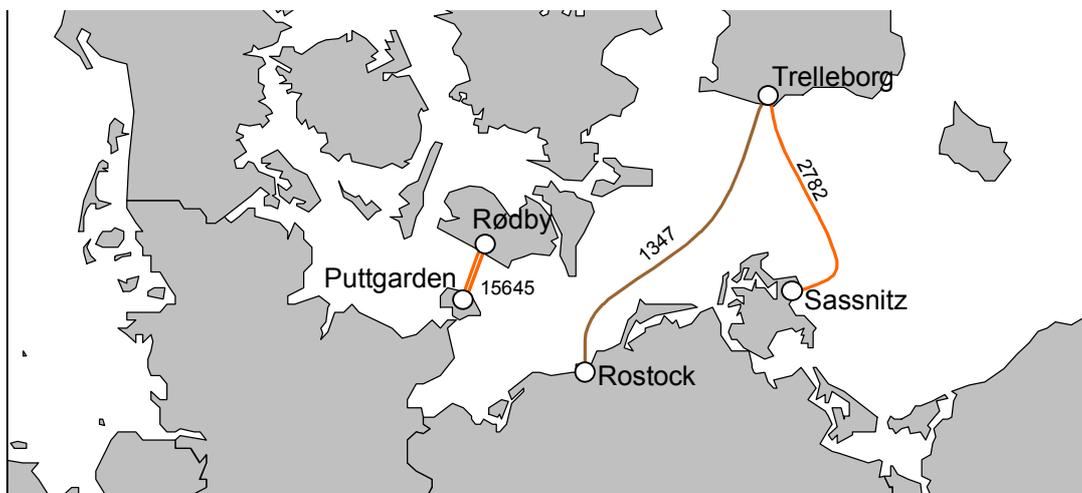
Aggregated freight flows via the Fehmarn Belt, Base Case B, 2015



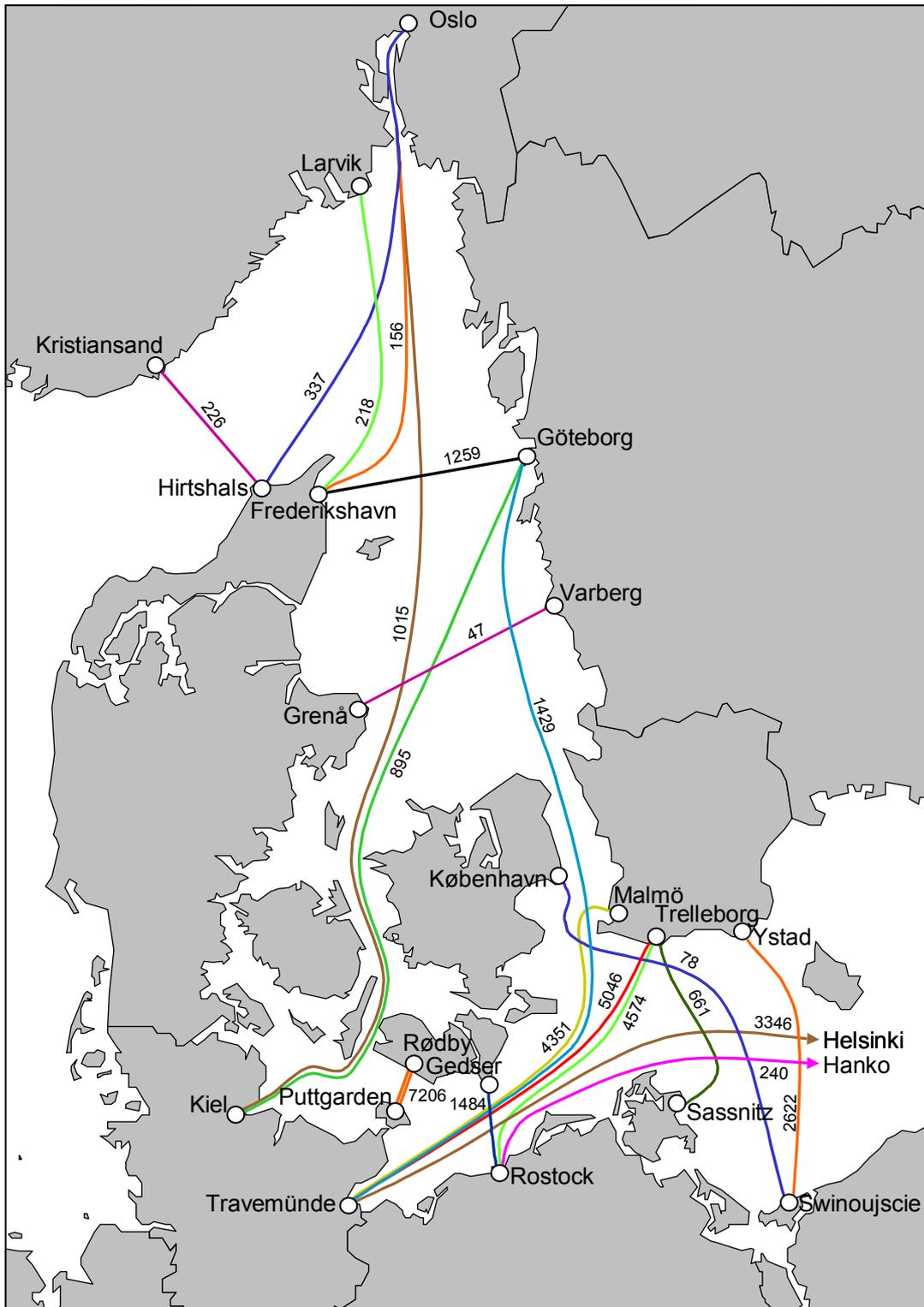
Ferry loads 2015 Base Case B – tons rail (thereof combined)
(in 1000 tons, two way totals)



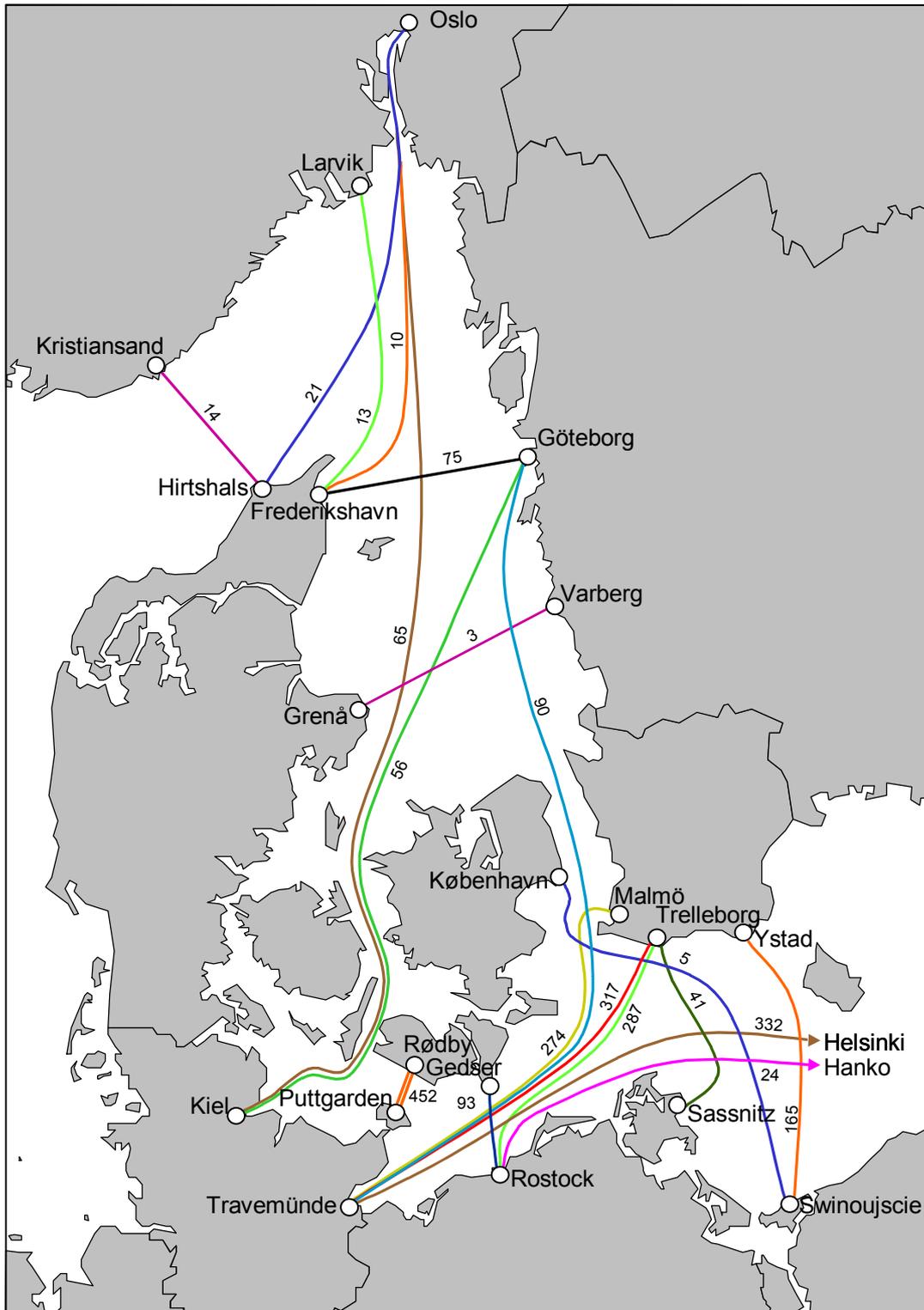
Ferry loads 2015 Base Case B – wagons rail (thereof combined)
(in 1000, two way totals)



Ferry loads 2015 Base Case B – trains
(two way totals)



Ferry loads 2015 Base Forecast B – tons road
in 1000 tons, two way totals)



Ferry loads 2015 Base Case B – vehicles road
 (in 1000, two way totals)

Scenario 1, 2015

| Volumes [1000 t] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.151 | 231 | 0 | 1.382 |
| 1 Foodstuff and animal fodder | 2.800 | 252 | 29 | 3.081 |
| 2 Wood and cork, textiles | 2.864 | 1.976 | 0 | 4.840 |
| 3 Fuels | 112 | 9 | 0 | 121 |
| 4 Ore, metals | 2.101 | 2.912 | 0 | 5.013 |
| 5 Building materials | 527 | 208 | 0 | 735 |
| 6 Fertilizers, chemicals | 3.411 | 1.103 | 37 | 4.550 |
| 7 Transport equipment and machinery | 4.638 | 597 | 125 | 5.360 |
| 8 Other manufactured articles | 9.883 | 4.328 | 30 | 14.240 |
| 9 Paper pulp and waste paper | 730 | 614 | 0 | 1.344 |
| 10 Miscellaneous articles | 3.159 | 303 | 1.795 | 5.257 |
| Total | 31.376 | 12.532 | 2.016 | 45.923 |

| Performance [mil tkm] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.588 | 392 | 0 | 1.980 |
| 1 Foodstuff and animal fodder | 3.898 | 382 | 18 | 4.297 |
| 2 Wood and cork, textiles | 4.633 | 3.145 | 0 | 7.778 |
| 3 Fuels | 112 | 12 | 0 | 124 |
| 4 Ore, metals | 2.682 | 4.434 | 0 | 7.116 |
| 5 Building materials | 688 | 343 | 0 | 1.032 |
| 6 Fertilizers, chemicals | 4.458 | 1.498 | 49 | 6.005 |
| 7 Transport equipment and machinery | 7.067 | 854 | 176 | 8.097 |
| 8 Other manufactured articles | 13.648 | 6.444 | 37 | 20.129 |
| 9 Paper pulp and waste paper | 849 | 878 | 0 | 1.727 |
| 10 Miscellaneous articles | 4.853 | 549 | 2.642 | 8.043 |
| Total | 44.476 | 18.932 | 2.921 | 66.329 |

| Vehicles [1000] | | | | |
|-------------------------------------|--------------|-------------------|-------------------|--------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 61 | 17 | 0 | 77 |
| 1 Foodstuff and animal fodder | 145 | 19 | 1 | 165 |
| 2 Wood and cork, textiles | 157 | 82 | 0 | 239 |
| 3 Fuels | 6 | 0 | 0 | 6 |
| 4 Ore, metals | 124 | 88 | 0 | 212 |
| 5 Building materials | 27 | 11 | 0 | 38 |
| 6 Fertilizers, chemicals | 184 | 47 | 2 | 232 |
| 7 Transport equipment and machinery | 372 | 92 | 22 | 486 |
| 8 Other manufactured articles | 823 | 220 | 1 | 1.045 |
| 9 Paper pulp and waste paper | 31 | 22 | 0 | 53 |
| 10 Miscellaneous articles | 229 | 44 | 168 | 441 |
| Total | 2.158 | 642 | 194 | 2.994 |

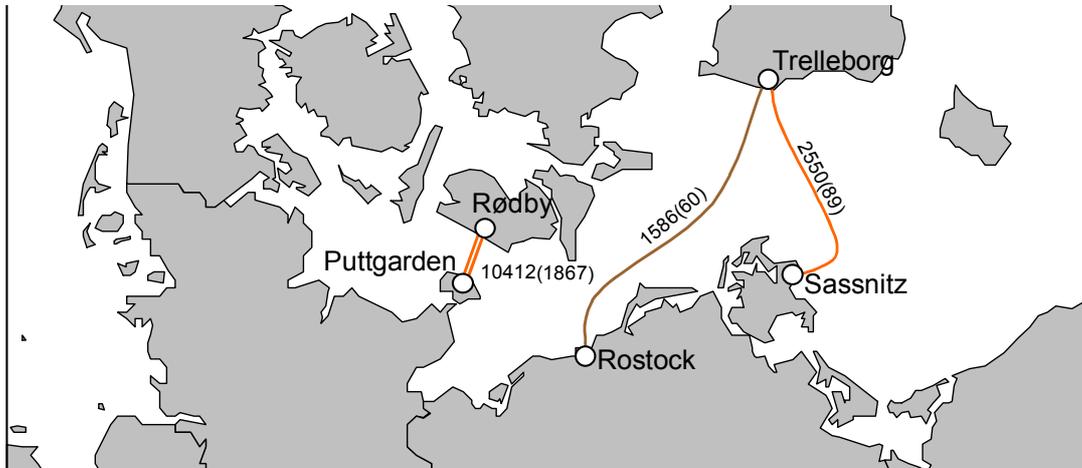
Modal split Scenario 1, 2015 by commodity groups

| Aggregated relation | | 2015 | | | |
|---------------------|---------|-------|------------|------------|--------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 1.633 | 680 | 234 | 2.547 |
| Germany West | Sweden | 8.470 | 4.484 | 242 | 13.197 |
| Germany West | Norway | 1.945 | 438 | 130 | 2.513 |
| Germany West | Finland | 2.156 | 16 | 16 | 2.188 |
| Germany East | Denmark | 164 | 163 | 4 | 331 |
| Germany East | Sweden | 1.319 | 1.222 | 4 | 2.545 |
| Germany East | Norway | 280 | 21 | 14 | 316 |
| Germany East | Finland | 53 | 0 | 0 | 53 |
| West Europe | Denmark | 2.788 | 330 | 1.174 | 4.292 |
| West Europe | Sweden | 7.965 | 4.224 | 194 | 12.383 |
| West Europe | Norway | 1.811 | 293 | 1 | 2.105 |
| West Europe | Finland | 334 | 1 | 1 | 336 |
| East Europe | Denmark | 400 | 142 | 1 | 543 |
| East Europe | Sweden | 1.729 | 449 | 1 | 2.179 |
| East Europe | Norway | 274 | 68 | 0 | 342 |
| East Europe | Finland | 53 | 0 | 0 | 53 |

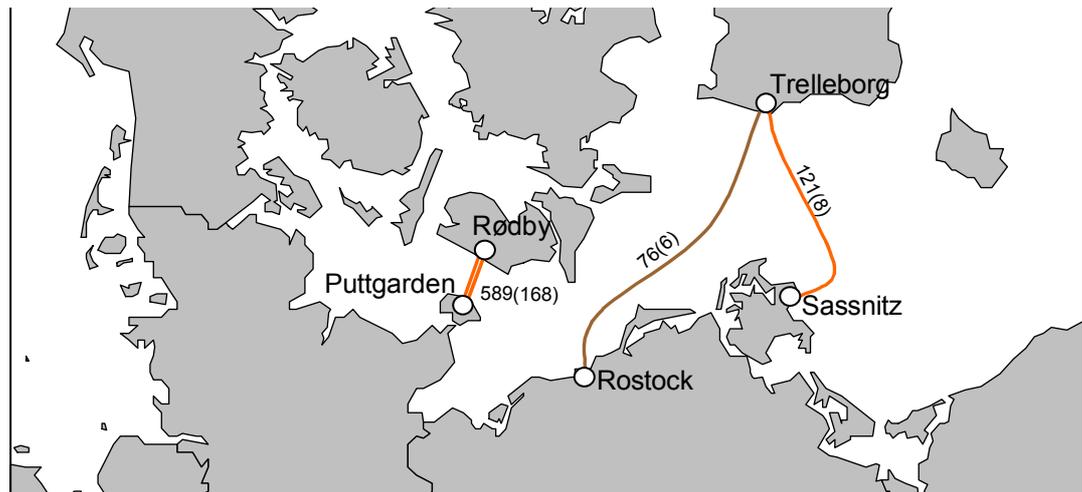
Aggregated freight flows Scenario 1, 2015 (in 1000 tons, two way totals)

| Traffic | | 2015 | | | |
|----------------------------|---------------------------|-------|------------|------------|-------|
| Between | and | Road | Rail conv. | Rail comb. | Total |
| Schleswig-Holstein/Hamburg | East Denmark | 591 | 32 | 71 | 694 |
| Schleswig-Holstein/Hamburg | Skåne | 225 | 44 | 5 | 275 |
| Schleswig-Holstein/Hamburg | Götaland | 407 | 277 | 13 | 697 |
| Schleswig-Holstein/Hamburg | Svealand/Norrland/Finland | 487 | 332 | 2 | 821 |
| Schleswig-Holstein/Hamburg | Norway | 287 | 117 | 19 | 424 |
| Mecklenburg-Vorpommern | East Denmark | 29 | 5 | 0 | 34 |
| Mecklenburg-Vorpommern | Skåne | 53 | 15 | 0 | 68 |
| Mecklenburg-Vorpommern | Götaland | 178 | 38 | 0 | 216 |
| Mecklenburg-Vorpommern | Svealand/Norrland/Finland | 193 | 33 | 0 | 226 |
| Mecklenburg-Vorpommern | Norway | 42 | 9 | 0 | 51 |
| Niedersachsen/Bremen | East Denmark | 251 | 113 | 18 | 382 |
| Niedersachsen/Bremen | Skåne | 179 | 53 | 0 | 232 |
| Niedersachsen/Bremen | Götaland | 637 | 244 | 0 | 881 |
| Niedersachsen/Bremen | Svealand/Norrland/Finland | 552 | 350 | 3 | 906 |
| Niedersachsen/Bremen | Norway | 533 | 17 | 0 | 550 |
| Other West Germany | East Denmark | 762 | 531 | 145 | 1.438 |
| Other West Germany | Skåne | 878 | 197 | 36 | 1.111 |
| Other West Germany | Götaland | 3.004 | 1.053 | 106 | 4.163 |
| Other West Germany | Svealand/Norrland/Finland | 3.832 | 1.865 | 92 | 5.789 |
| Other West Germany | Norway | 1.083 | 294 | 111 | 1.488 |
| Berlin/Brandenburg | East Denmark | 43 | 17 | 0 | 61 |
| Berlin/Brandenburg | Skåne | 85 | 35 | 0 | 121 |
| Berlin/Brandenburg | Götaland | 243 | 219 | 0 | 462 |
| Berlin/Brandenburg | Svealand/Norrland/Finland | 217 | 289 | 0 | 506 |
| Berlin/Brandenburg | Norway | 63 | 4 | 0 | 67 |
| Other East Germany | East Denmark | 121 | 145 | 4 | 270 |
| Other East Germany | Skåne | 125 | 85 | 0 | 210 |
| Other East Germany | Götaland | 426 | 228 | 1 | 655 |
| Other East Germany | Svealand/Norrland/Finland | 275 | 367 | 2 | 644 |
| Other East Germany | Norway | 218 | 17 | 14 | 249 |
| Other West Europe | East Denmark | 2.788 | 330 | 1.174 | 4.292 |
| Other West Europe | Skåne | 1.474 | 321 | 17 | 1.812 |
| Other West Europe | Götaland | 3.721 | 1.608 | 104 | 5.432 |
| Other West Europe | Svealand/Norrland/Finland | 3.105 | 2.297 | 74 | 5.475 |
| Other West Europe | Norway | 1.811 | 293 | 1 | 2.105 |
| Other East Europe | East Denmark | 400 | 142 | 1 | 543 |
| Other East Europe | Skåne | 229 | 55 | 0 | 284 |
| Other East Europe | Götaland | 1.033 | 216 | 0 | 1.249 |
| Other East Europe | Svealand/Norrland/Finland | 520 | 178 | 1 | 699 |
| Other East Europe | Norway | 274 | 68 | 0 | 342 |

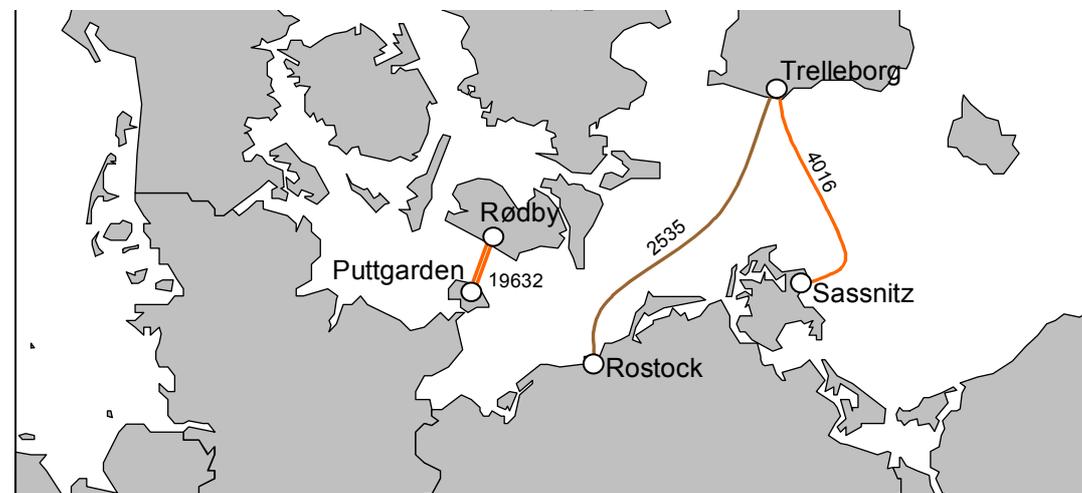
Freight flows per region Scenario 1, 2015 (in 1000 tons, two way totals)



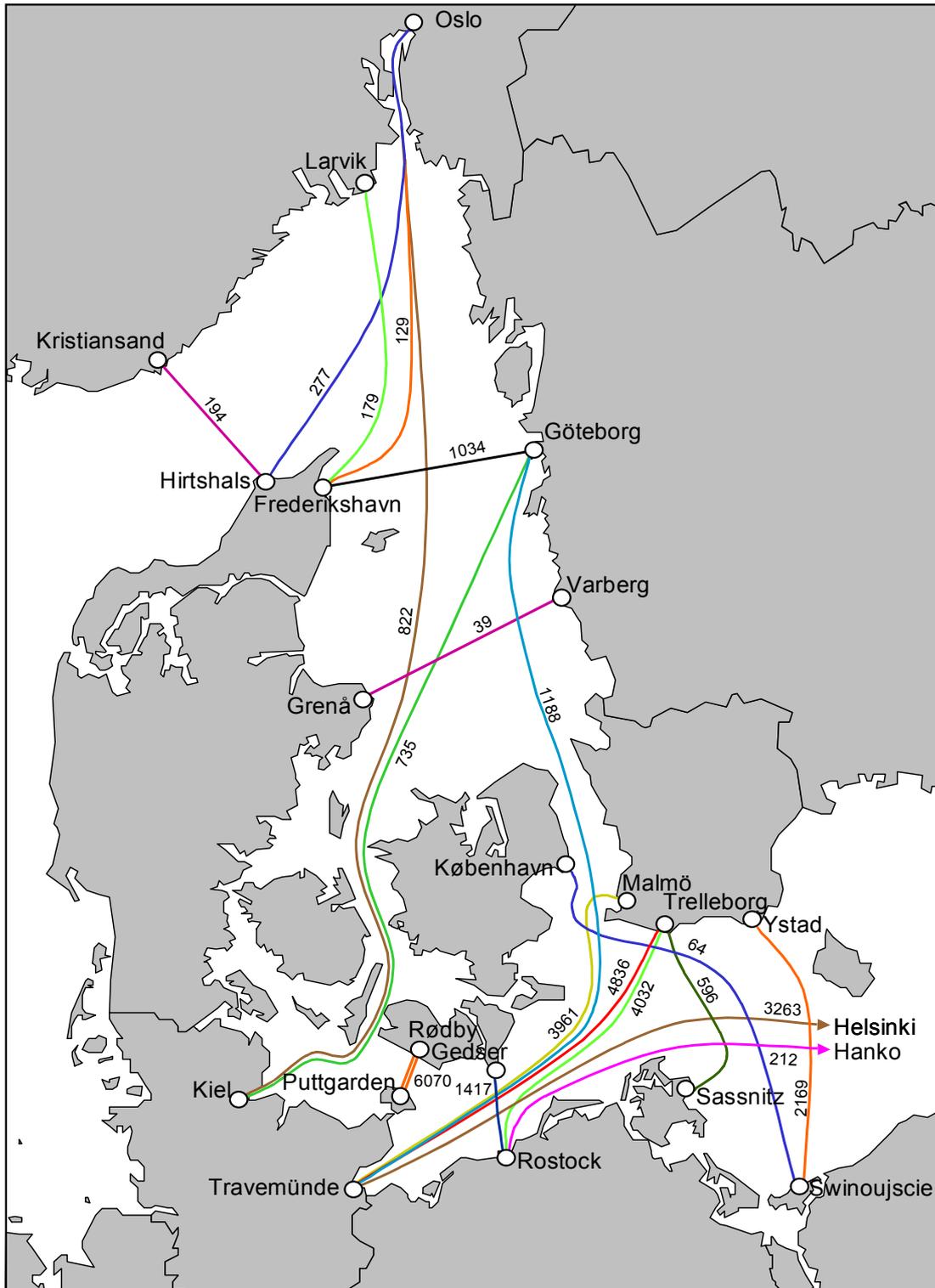
Ferry loads Scenario 1, 2015 – tons rail (thereof combined)
(in 1000 tons, two way totals)



Ferry loads Scenario 1, 2015 – wagons rail (thereof combined)
(in 1000, two way totals)



Ferry loads Scenario 1, 2015 – trains
(two way totals)



Ferry loads Scenario 1, 2015 – tons road
(in 1000 tons, two way totals)

Scenario 2, 2015

| Volumes [1000 t] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.160 | 222 | 0 | 1.382 |
| 1 Foodstuff and animal fodder | 2.807 | 246 | 27 | 3.081 |
| 2 Wood and cork, textiles | 2.877 | 1.963 | 0 | 4.840 |
| 3 Fuels | 112 | 9 | 0 | 121 |
| 4 Ore, metals | 2.126 | 2.886 | 0 | 5.013 |
| 5 Building materials | 529 | 205 | 0 | 735 |
| 6 Fertilizers, chemicals | 3.438 | 1.076 | 36 | 4.550 |
| 7 Transport equipment and machinery | 4.646 | 590 | 125 | 5.360 |
| 8 Other manufactured articles | 9.946 | 4.266 | 29 | 14.240 |
| 9 Paper pulp and waste paper | 731 | 613 | 0 | 1.344 |
| 10 Miscellaneous articles | 3.164 | 301 | 1.792 | 5.257 |
| Total | 31.537 | 12.377 | 2.009 | 45.923 |

| Performance [mil tkm] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.604 | 377 | 0 | 1.980 |
| 1 Foodstuff and animal fodder | 3.906 | 374 | 17 | 4.297 |
| 2 Wood and cork, textiles | 4.655 | 3.124 | 0 | 7.778 |
| 3 Fuels | 112 | 12 | 0 | 124 |
| 4 Ore, metals | 2.717 | 4.399 | 0 | 7.116 |
| 5 Building materials | 691 | 340 | 0 | 1.032 |
| 6 Fertilizers, chemicals | 4.491 | 1.465 | 48 | 6.005 |
| 7 Transport equipment and machinery | 7.078 | 843 | 176 | 8.097 |
| 8 Other manufactured articles | 13.742 | 6.351 | 36 | 20.129 |
| 9 Paper pulp and waste paper | 851 | 876 | 0 | 1.727 |
| 10 Miscellaneous articles | 4.861 | 545 | 2.637 | 8.043 |
| Total | 44.709 | 18.706 | 2.914 | 66.329 |

| Vehicles [1000] | | | | |
|-------------------------------------|--------------|-------------------|-------------------|--------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 61 | 16 | 0 | 77 |
| 1 Foodstuff and animal fodder | 145 | 18 | 1 | 165 |
| 2 Wood and cork, textiles | 158 | 81 | 0 | 239 |
| 3 Fuels | 6 | 0 | 0 | 6 |
| 4 Ore, metals | 125 | 87 | 0 | 213 |
| 5 Building materials | 27 | 11 | 0 | 38 |
| 6 Fertilizers, chemicals | 185 | 46 | 2 | 232 |
| 7 Transport equipment and machinery | 373 | 91 | 22 | 486 |
| 8 Other manufactured articles | 827 | 218 | 1 | 1.045 |
| 9 Paper pulp and waste paper | 31 | 22 | 0 | 53 |
| 10 Miscellaneous articles | 229 | 44 | 168 | 441 |
| Total | 2.166 | 634 | 194 | 2.994 |

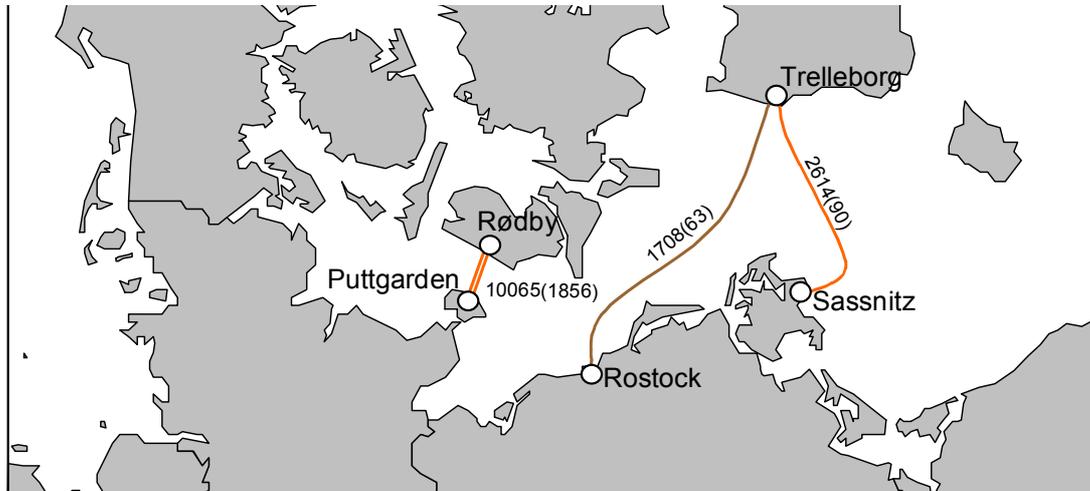
Modal split Scenario 2, 2015 by commodity groups

| Aggregated relation | | 2015 | | | |
|---------------------|---------|-------|------------|------------|--------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 1.639 | 677 | 231 | 2.547 |
| Germany West | Sweden | 8.535 | 4.421 | 241 | 13.197 |
| Germany West | Norway | 1.951 | 433 | 129 | 2.513 |
| Germany West | Finland | 2.156 | 16 | 16 | 2.188 |
| Germany East | Denmark | 165 | 163 | 4 | 331 |
| Germany East | Sweden | 1.327 | 1.214 | 3 | 2.545 |
| Germany East | Norway | 281 | 20 | 14 | 316 |
| Germany East | Finland | 53 | 0 | 0 | 53 |
| West Europe | Denmark | 2.795 | 324 | 1.173 | 4.292 |
| West Europe | Sweden | 8.021 | 4.169 | 193 | 12.383 |
| West Europe | Norway | 1.815 | 289 | 1 | 2.105 |
| West Europe | Finland | 334 | 1 | 1 | 336 |
| East Europe | Denmark | 401 | 141 | 1 | 543 |
| East Europe | Sweden | 1.736 | 442 | 1 | 2.179 |
| East Europe | Norway | 275 | 67 | 0 | 342 |
| East Europe | Finland | 53 | 0 | 0 | 53 |

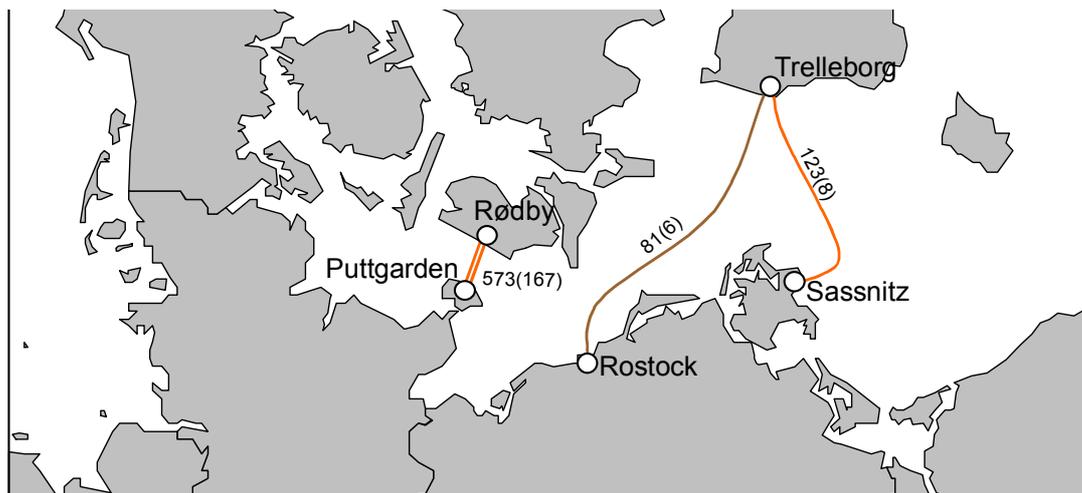
Aggregated freight flows Scenario 2, 2015 (in 1000 tons, two way totals)

| Traffic | | 2015 | | | |
|----------------------------|---------------------------|-------|------------|------------|-------|
| Between | and | Road | Rail conv. | Rail comb. | Total |
| Schleswig-Holstein/Hamburg | East Denmark | 595 | 30 | 69 | 694 |
| Schleswig-Holstein/Hamburg | Skåne | 226 | 43 | 5 | 275 |
| Schleswig-Holstein/Hamburg | Götaland | 411 | 273 | 13 | 697 |
| Schleswig-Holstein/Hamburg | Svealand/Norrland/Finland | 491 | 328 | 2 | 821 |
| Schleswig-Holstein/Hamburg | Norway | 288 | 117 | 19 | 424 |
| Mecklenburg-Vorpommern | East Denmark | 29 | 5 | 0 | 34 |
| Mecklenburg-Vorpommern | Skåne | 53 | 15 | 0 | 68 |
| Mecklenburg-Vorpommern | Götaland | 178 | 37 | 0 | 216 |
| Mecklenburg-Vorpommern | Svealand/Norrland/Finland | 194 | 33 | 0 | 226 |
| Mecklenburg-Vorpommern | Norway | 42 | 9 | 0 | 51 |
| Niedersachsen/Bremen | East Denmark | 252 | 112 | 18 | 382 |
| Niedersachsen/Bremen | Skåne | 180 | 52 | 0 | 232 |
| Niedersachsen/Bremen | Götaland | 639 | 242 | 0 | 881 |
| Niedersachsen/Bremen | Svealand/Norrland/Finland | 557 | 345 | 3 | 906 |
| Niedersachsen/Bremen | Norway | 533 | 17 | 0 | 550 |
| Other West Germany | East Denmark | 764 | 529 | 144 | 1.438 |
| Other West Germany | Skåne | 883 | 192 | 36 | 1.111 |
| Other West Germany | Götaland | 3.023 | 1.034 | 106 | 4.163 |
| Other West Germany | Svealand/Norrland/Finland | 3.856 | 1.842 | 91 | 5.789 |
| Other West Germany | Norway | 1.088 | 290 | 110 | 1.488 |
| Berlin/Brandenburg | East Denmark | 44 | 17 | 0 | 61 |
| Berlin/Brandenburg | Skåne | 86 | 34 | 0 | 121 |
| Berlin/Brandenburg | Götaland | 245 | 217 | 0 | 462 |
| Berlin/Brandenburg | Svealand/Norrland/Finland | 220 | 287 | 0 | 506 |
| Berlin/Brandenburg | Norway | 63 | 4 | 0 | 67 |
| Other East Germany | East Denmark | 121 | 145 | 4 | 270 |
| Other East Germany | Skåne | 125 | 85 | 0 | 210 |
| Other East Germany | Götaland | 428 | 226 | 1 | 655 |
| Other East Germany | Svealand/Norrland/Finland | 276 | 365 | 2 | 644 |
| Other East Germany | Norway | 218 | 17 | 14 | 249 |
| Other West Europe | East Denmark | 2.795 | 324 | 1.173 | 4.292 |
| Other West Europe | Skåne | 1.479 | 315 | 17 | 1.812 |
| Other West Europe | Götaland | 3.748 | 1.581 | 103 | 5.432 |
| Other West Europe | Svealand/Norrland/Finland | 3.128 | 2.273 | 74 | 5.475 |
| Other West Europe | Norway | 1.815 | 289 | 1 | 2.105 |
| Other East Europe | East Denmark | 401 | 141 | 1 | 543 |
| Other East Europe | Skåne | 229 | 55 | 0 | 284 |
| Other East Europe | Götaland | 1.037 | 212 | 0 | 1.249 |
| Other East Europe | Svealand/Norrland/Finland | 523 | 175 | 1 | 699 |
| Other East Europe | Norway | 275 | 67 | 0 | 342 |

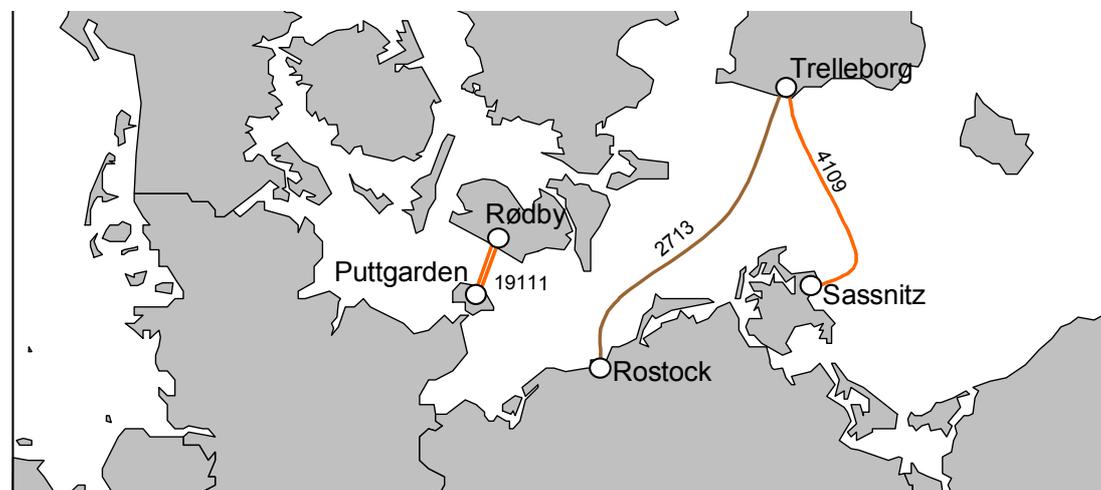
Freight flows per region Scenario 2, 2015 (in 1000 tons, two way totals)



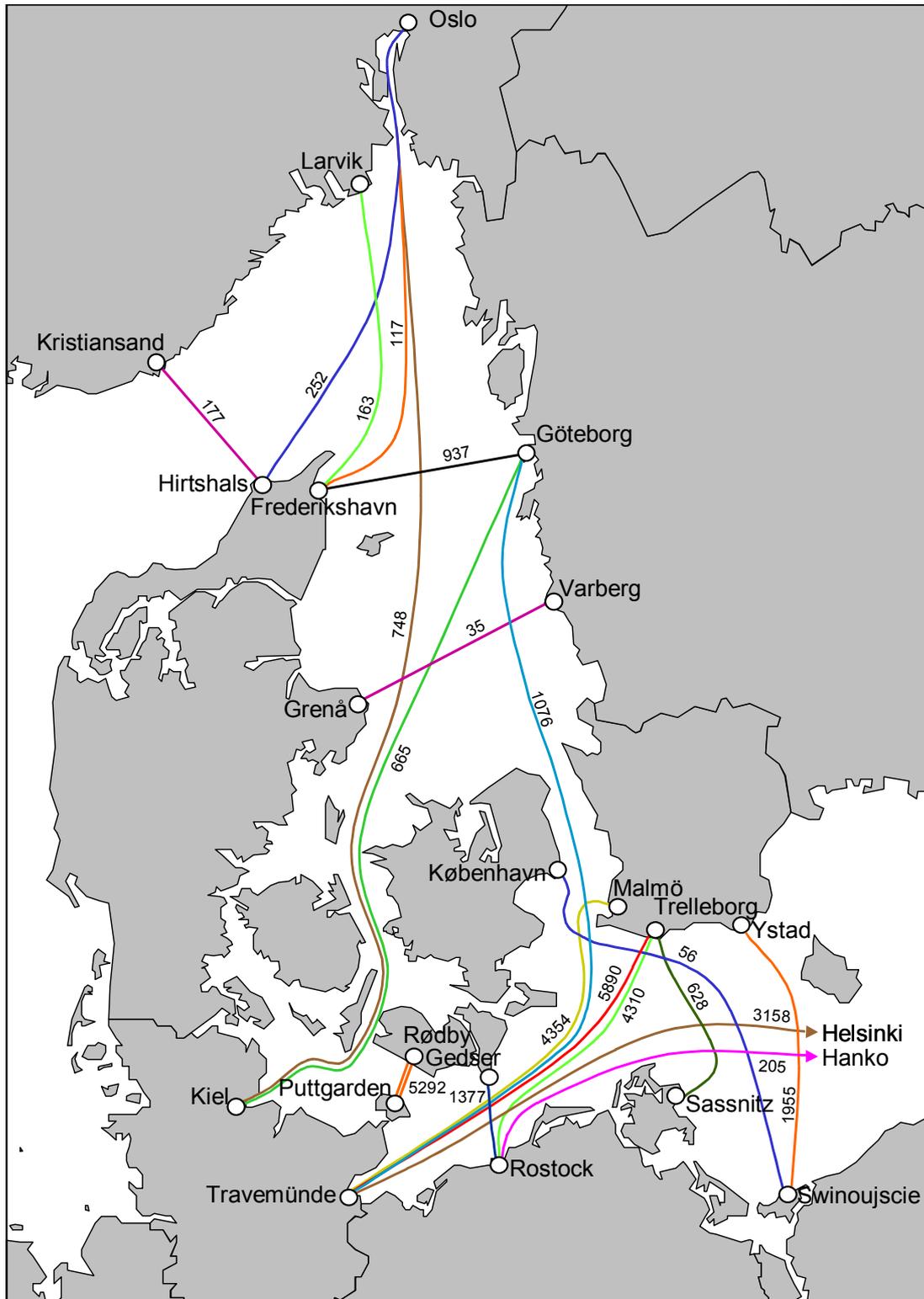
Ferry loads Scenario 2, 2015 – tons rail (thereof combined)
(in 1000 tons, two way totals)



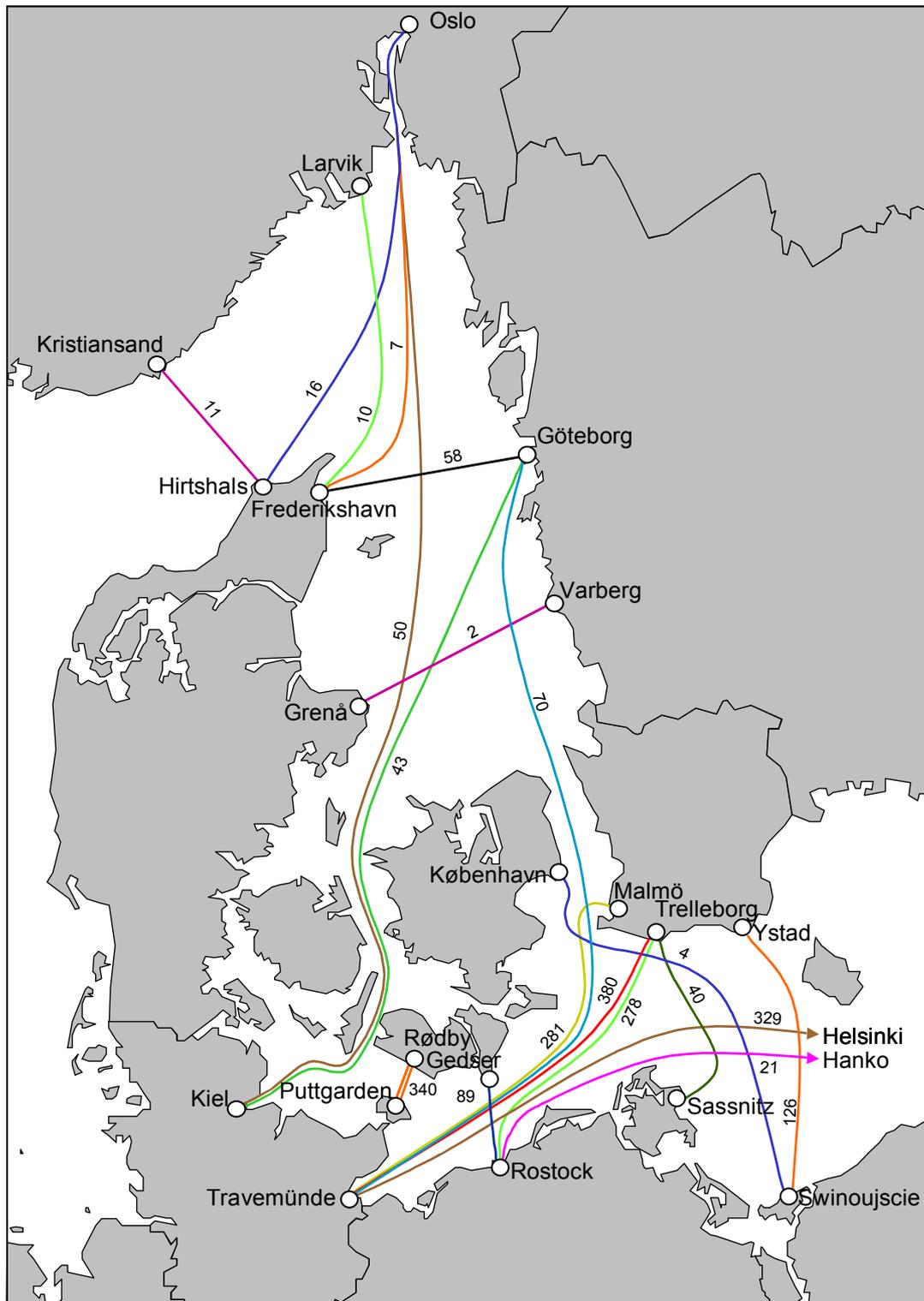
Ferry loads Scenario 2, 2015 – wagons rail (thereof combined)
(in 1000, two way totals)



Ferry loads Scenario 2, 2015 – trains
(two way totals)



Ferry loads Scenario 2, 2015 – tons road
(in 1000 tons, two way totals)



Ferry loads Scenario 2, 2015 – vehicles road
 (in 1000, two way totals)

Scenario 3, 2015

| Volumes [1000 t] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.139 | 243 | 0 | 1.382 |
| 1 Foodstuff and animal fodder | 2.790 | 260 | 31 | 3.081 |
| 2 Wood and cork, textiles | 2.844 | 1.996 | 0 | 4.840 |
| 3 Fuels | 112 | 9 | 0 | 121 |
| 4 Ore, metals | 2.066 | 2.947 | 0 | 5.013 |
| 5 Building materials | 524 | 211 | 0 | 735 |
| 6 Fertilizers, chemicals | 3.377 | 1.136 | 38 | 4.550 |
| 7 Transport equipment and machinery | 4.627 | 609 | 125 | 5.360 |
| 8 Other manufactured articles | 9.778 | 4.430 | 32 | 14.240 |
| 9 Paper pulp and waste paper | 728 | 615 | 0 | 1.344 |
| 10 Miscellaneous articles | 3.150 | 306 | 1.801 | 5.257 |
| Total | 31.136 | 12.760 | 2.027 | 45.923 |

| Performance [mil tkm] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.566 | 414 | 0 | 1.980 |
| 1 Foodstuff and animal fodder | 3.885 | 394 | 19 | 4.297 |
| 2 Wood and cork, textiles | 4.597 | 3.181 | 0 | 7.778 |
| 3 Fuels | 112 | 12 | 0 | 124 |
| 4 Ore, metals | 2.635 | 4.482 | 0 | 7.116 |
| 5 Building materials | 684 | 348 | 0 | 1.032 |
| 6 Fertilizers, chemicals | 4.416 | 1.539 | 50 | 6.005 |
| 7 Transport equipment and machinery | 7.052 | 869 | 176 | 8.097 |
| 8 Other manufactured articles | 13.491 | 6.597 | 41 | 20.129 |
| 9 Paper pulp and waste paper | 848 | 879 | 0 | 1.727 |
| 10 Miscellaneous articles | 4.838 | 555 | 2.651 | 8.043 |
| Total | 44.123 | 19.269 | 2.936 | 66.329 |

| Vehicles [1000] | | | | |
|-------------------------------------|--------------|-------------------|-------------------|--------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 60 | 17 | 0 | 78 |
| 1 Foodstuff and animal fodder | 144 | 19 | 1 | 165 |
| 2 Wood and cork, textiles | 156 | 83 | 0 | 239 |
| 3 Fuels | 6 | 0 | 0 | 6 |
| 4 Ore, metals | 123 | 89 | 0 | 212 |
| 5 Building materials | 27 | 11 | 0 | 38 |
| 6 Fertilizers, chemicals | 182 | 48 | 2 | 232 |
| 7 Transport equipment and machinery | 371 | 94 | 22 | 487 |
| 8 Other manufactured articles | 817 | 226 | 1 | 1.044 |
| 9 Paper pulp and waste paper | 31 | 22 | 0 | 53 |
| 10 Miscellaneous articles | 228 | 44 | 169 | 441 |
| Total | 2.146 | 654 | 195 | 2.994 |

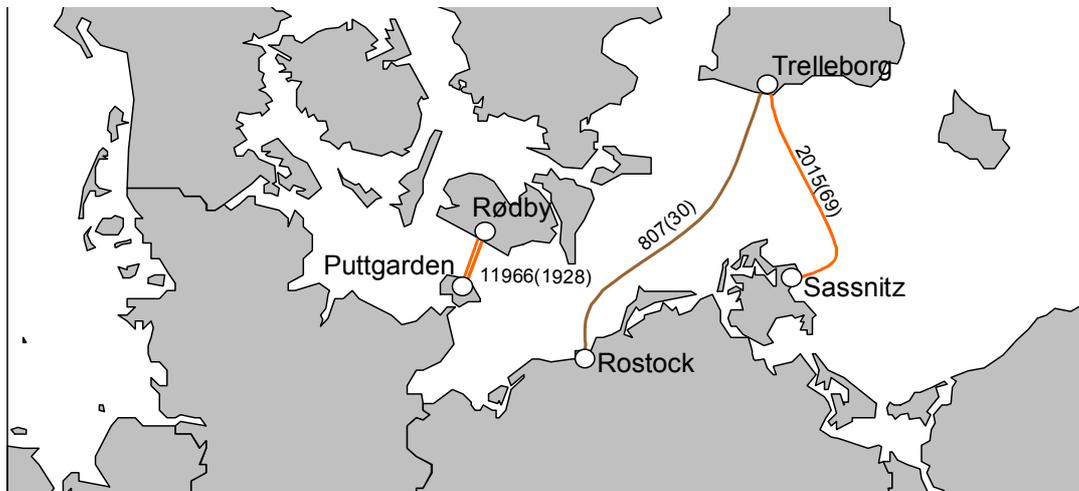
Modal split Scenario 3, 2015 by commodity groups

| Aggregated relation | | 2015 | | | |
|---------------------|---------|-------|------------|------------|--------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 1.626 | 685 | 237 | 2.547 |
| Germany West | Sweden | 8.368 | 4.584 | 245 | 13.197 |
| Germany West | Norway | 1.939 | 443 | 131 | 2.513 |
| Germany West | Finland | 2.153 | 17 | 18 | 2.188 |
| Germany East | Denmark | 164 | 163 | 4 | 331 |
| Germany East | Sweden | 1.307 | 1.234 | 4 | 2.545 |
| Germany East | Norway | 280 | 21 | 15 | 316 |
| Germany East | Finland | 53 | 0 | 0 | 53 |
| West Europe | Denmark | 2.780 | 337 | 1.175 | 4.292 |
| West Europe | Sweden | 7.879 | 4.309 | 195 | 12.383 |
| West Europe | Norway | 1.806 | 297 | 2 | 2.105 |
| West Europe | Finland | 334 | 1 | 1 | 336 |
| East Europe | Denmark | 399 | 143 | 1 | 543 |
| East Europe | Sweden | 1.720 | 458 | 1 | 2.179 |
| East Europe | Norway | 274 | 68 | 0 | 342 |
| East Europe | Finland | 53 | 0 | 0 | 53 |

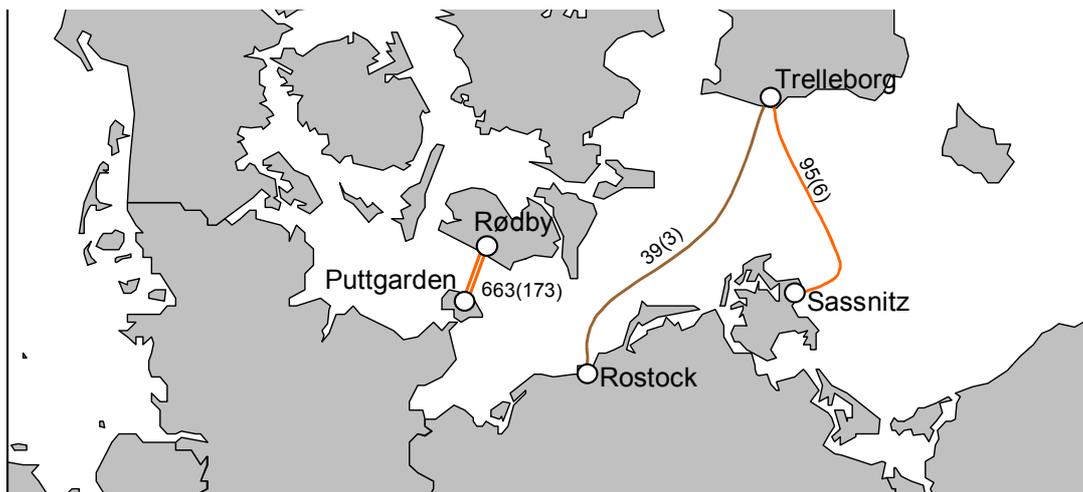
Aggregated freight flows Scenario 3, 2015 (in 1000 tons, two way totals)

| Traffic | | 2015 | | | |
|----------------------------|---------------------------|-------|------------|------------|-------|
| Between | and | Road | Rail conv. | Rail comb. | Total |
| Schleswig-Holstein/Hamburg | East Denmark | 587 | 34 | 73 | 694 |
| Schleswig-Holstein/Hamburg | Skåne | 224 | 46 | 5 | 275 |
| Schleswig-Holstein/Hamburg | Götaland | 400 | 283 | 13 | 697 |
| Schleswig-Holstein/Hamburg | Svealand/Norrland/Finland | 480 | 339 | 3 | 821 |
| Schleswig-Holstein/Hamburg | Norway | 286 | 118 | 19 | 424 |
| Mecklenburg-Vorpommern | East Denmark | 29 | 5 | 0 | 34 |
| Mecklenburg-Vorpommern | Skåne | 53 | 15 | 0 | 68 |
| Mecklenburg-Vorpommern | Götaland | 178 | 38 | 0 | 216 |
| Mecklenburg-Vorpommern | Svealand/Norrland/Finland | 193 | 33 | 0 | 226 |
| Mecklenburg-Vorpommern | Norway | 42 | 9 | 0 | 51 |
| Niedersachsen/Bremen | East Denmark | 250 | 113 | 19 | 382 |
| Niedersachsen/Bremen | Skåne | 177 | 54 | 0 | 232 |
| Niedersachsen/Bremen | Götaland | 634 | 247 | 0 | 881 |
| Niedersachsen/Bremen | Svealand/Norrland/Finland | 545 | 356 | 4 | 906 |
| Niedersachsen/Bremen | Norway | 532 | 18 | 0 | 550 |
| Other West Germany | East Denmark | 760 | 532 | 145 | 1.438 |
| Other West Germany | Skåne | 870 | 205 | 36 | 1.111 |
| Other West Germany | Götaland | 2.973 | 1.083 | 107 | 4.163 |
| Other West Germany | Svealand/Norrland/Finland | 3.794 | 1.901 | 95 | 5.789 |
| Other West Germany | Norway | 1.079 | 298 | 111 | 1.488 |
| Berlin/Brandenburg | East Denmark | 43 | 17 | 0 | 61 |
| Berlin/Brandenburg | Skåne | 84 | 37 | 0 | 121 |
| Berlin/Brandenburg | Götaland | 240 | 222 | 0 | 462 |
| Berlin/Brandenburg | Svealand/Norrland/Finland | 214 | 292 | 0 | 506 |
| Berlin/Brandenburg | Norway | 63 | 4 | 0 | 67 |
| Other East Germany | East Denmark | 121 | 146 | 4 | 270 |
| Other East Germany | Skåne | 125 | 85 | 0 | 210 |
| Other East Germany | Götaland | 425 | 229 | 1 | 655 |
| Other East Germany | Svealand/Norrland/Finland | 272 | 369 | 2 | 644 |
| Other East Germany | Norway | 217 | 17 | 15 | 249 |
| Other West Europe | East Denmark | 2.780 | 337 | 1.175 | 4.292 |
| Other West Europe | Skåne | 1.465 | 330 | 17 | 1.812 |
| Other West Europe | Götaland | 3.678 | 1.650 | 104 | 5.432 |
| Other West Europe | Svealand/Norrland/Finland | 3.070 | 2.331 | 74 | 5.475 |
| Other West Europe | Norway | 1.806 | 297 | 2 | 2.105 |
| Other East Europe | East Denmark | 399 | 143 | 1 | 543 |
| Other East Europe | Skåne | 228 | 56 | 0 | 284 |
| Other East Europe | Götaland | 1.028 | 221 | 0 | 1.249 |
| Other East Europe | Svealand/Norrland/Finland | 516 | 182 | 1 | 699 |
| Other East Europe | Norway | 274 | 68 | 0 | 342 |

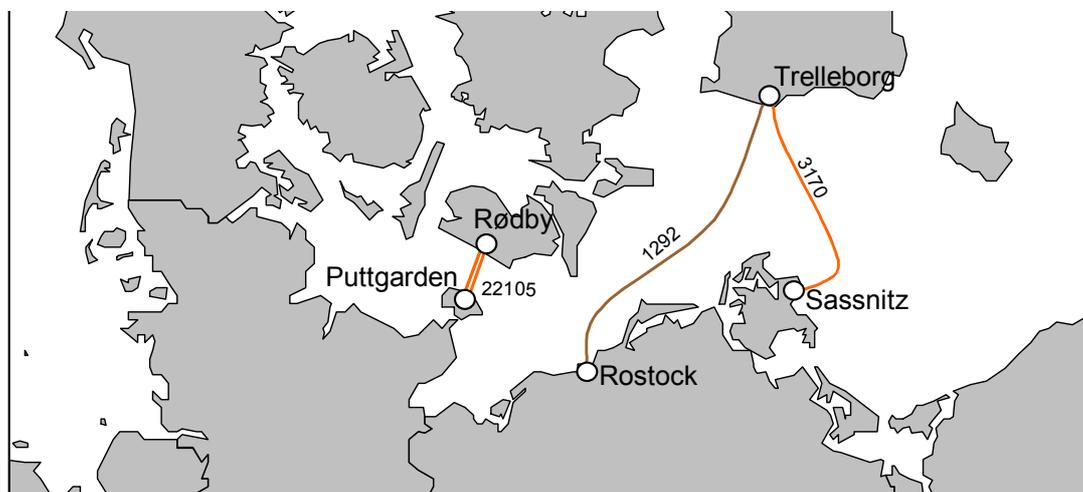
Freight flows per region Scenario 3, 2015 (in 1000 tons, two way totals)



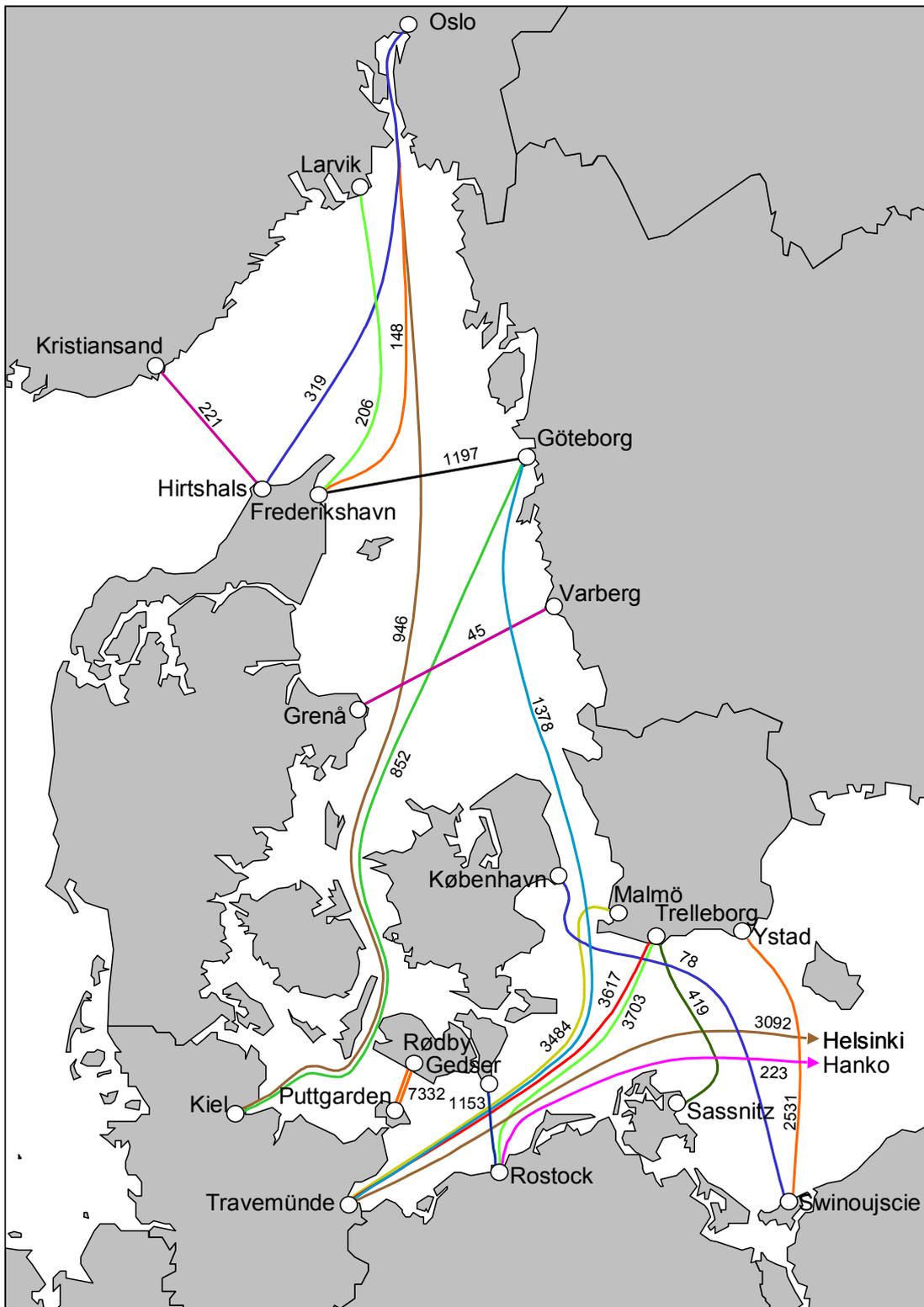
Ferry loads Scenario 3, 2015 – tons rail (thereof combined)
(in 1000 tons, two way totals)



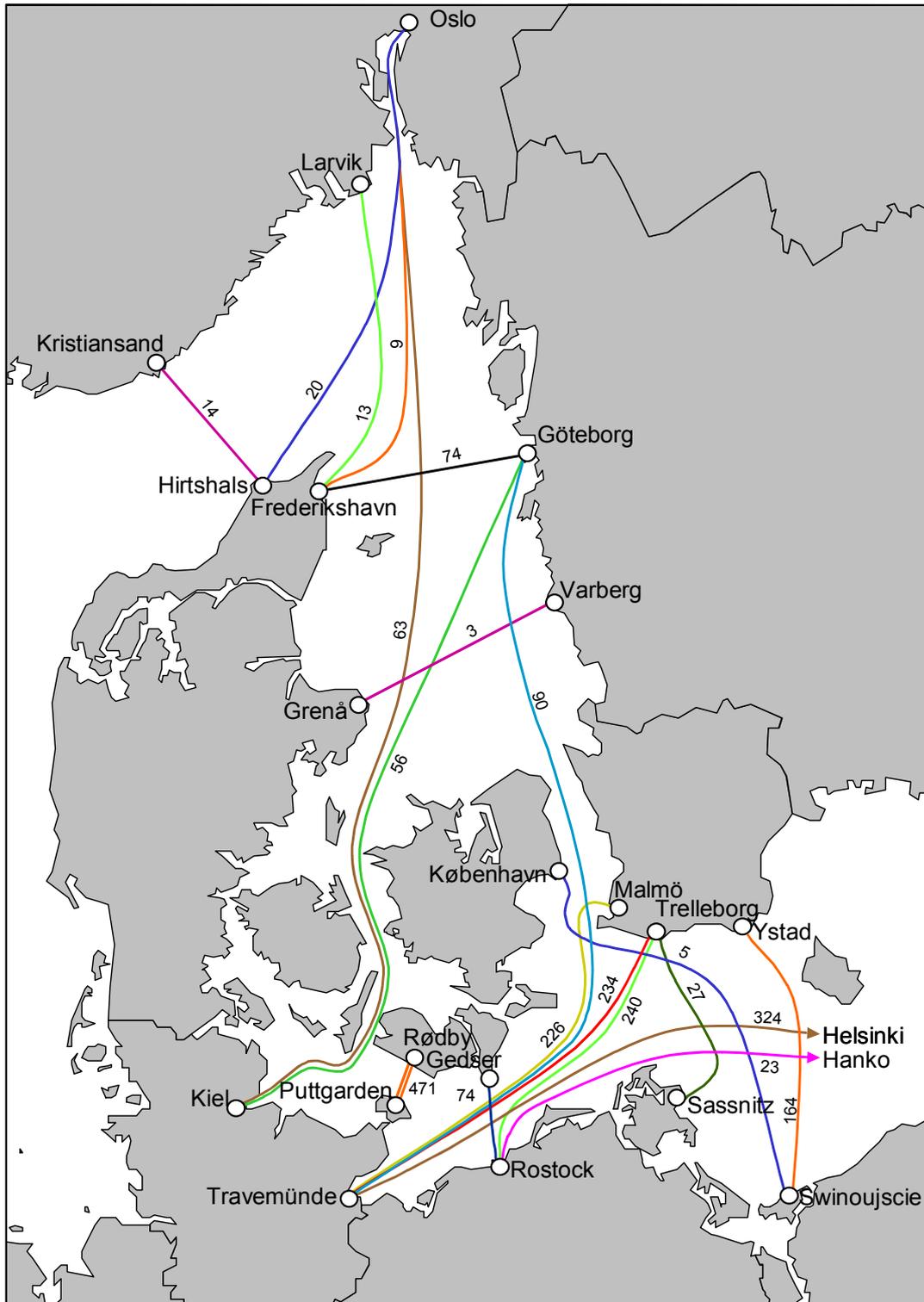
Ferry loads Scenario 3, 2015 – wagons rail (thereof combined)
(in 1000, two way totals)



Ferry loads Scenario 3, 2015 – trains
(two way totals)



Ferry loads Scenario 3, 2015 – tons road
(in 1000 tons, two way totals)



Ferry loads Scenario 3, 2015 – vehicles road
 (in 1000, two way totals)

Scenario 4, 2015

| Volumes [1000 t] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.160 | 222 | 0 | 1.382 |
| 1 Foodstuff and animal fodder | 2.808 | 246 | 27 | 3.081 |
| 2 Wood and cork, textiles | 2.877 | 1.963 | 0 | 4.840 |
| 3 Fuels | 112 | 9 | 0 | 121 |
| 4 Ore, metals | 2.127 | 2.886 | 0 | 5.013 |
| 5 Building materials | 529 | 205 | 0 | 735 |
| 6 Fertilizers, chemicals | 3.439 | 1.075 | 36 | 4.550 |
| 7 Transport equipment and machinery | 4.646 | 590 | 125 | 5.360 |
| 8 Other manufactured articles | 9.946 | 4.266 | 29 | 14.240 |
| 9 Paper pulp and waste paper | 731 | 613 | 0 | 1.344 |
| 10 Miscellaneous articles | 3.164 | 301 | 1.792 | 5.257 |
| Total | 31.539 | 12.376 | 2.009 | 45.923 |

| Performance [mil tkm] | | | | |
|-------------------------------------|---------------|-------------------|-------------------|---------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 1.604 | 377 | 0 | 1.980 |
| 1 Foodstuff and animal fodder | 3.907 | 374 | 17 | 4.297 |
| 2 Wood and cork, textiles | 4.655 | 3.123 | 0 | 7.778 |
| 3 Fuels | 112 | 12 | 0 | 124 |
| 4 Ore, metals | 2.718 | 4.398 | 0 | 7.116 |
| 5 Building materials | 692 | 340 | 0 | 1.032 |
| 6 Fertilizers, chemicals | 4.492 | 1.465 | 48 | 6.005 |
| 7 Transport equipment and machinery | 7.078 | 843 | 176 | 8.097 |
| 8 Other manufactured articles | 13.743 | 6.351 | 36 | 20.129 |
| 9 Paper pulp and waste paper | 851 | 876 | 0 | 1.727 |
| 10 Miscellaneous articles | 4.861 | 545 | 2.637 | 8.043 |
| Total | 44.711 | 18.704 | 2.914 | 66.329 |

| Vehicles [1000] | | | | |
|-------------------------------------|--------------|-------------------|-------------------|--------------|
| Commodity group | Road | Rail conv. | Rail comb. | Total |
| 0 Cereals, fruits and vegetables | 61 | 16 | 0 | 77 |
| 1 Foodstuff and animal fodder | 145 | 18 | 1 | 165 |
| 2 Wood and cork, textiles | 158 | 81 | 0 | 239 |
| 3 Fuels | 6 | 0 | 0 | 6 |
| 4 Ore, metals | 125 | 87 | 0 | 213 |
| 5 Building materials | 27 | 11 | 0 | 38 |
| 6 Fertilizers, chemicals | 185 | 46 | 2 | 232 |
| 7 Transport equipment and machinery | 373 | 91 | 22 | 486 |
| 8 Other manufactured articles | 827 | 218 | 1 | 1.045 |
| 9 Paper pulp and waste paper | 31 | 22 | 0 | 53 |
| 10 Miscellaneous articles | 229 | 44 | 168 | 441 |
| Total | 2.166 | 634 | 194 | 2.994 |

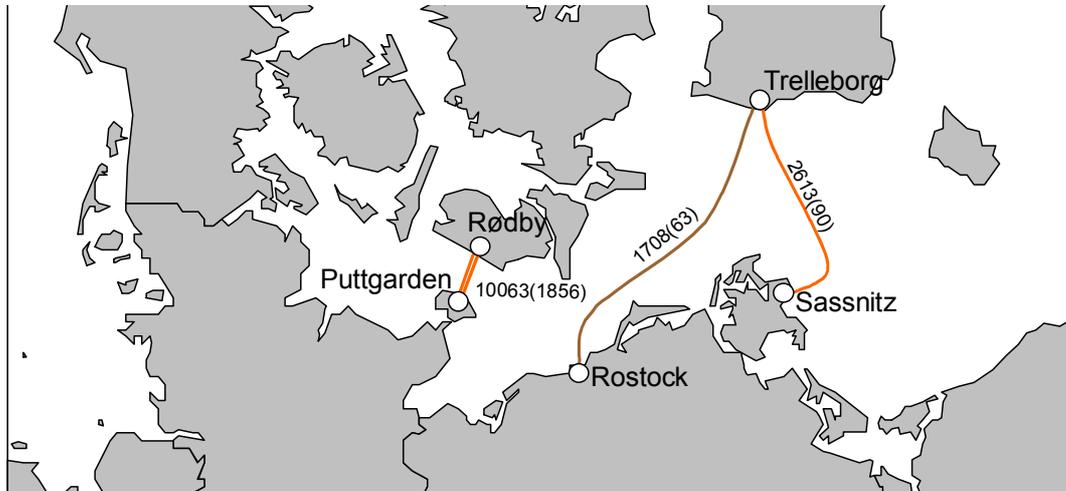
Modal split Scenario 4, 2015 by commodity groups

| Aggregated relation | | 2015 | | | |
|---------------------|---------|-------|------------|------------|--------|
| | | Road | Rail conv. | Rail comb. | Total |
| Germany West | Denmark | 1.639 | 677 | 231 | 2.547 |
| Germany West | Sweden | 8.536 | 4.420 | 241 | 13.197 |
| Germany West | Norway | 1.951 | 433 | 129 | 2.513 |
| Germany West | Finland | 2.156 | 16 | 16 | 2.188 |
| Germany East | Denmark | 165 | 163 | 4 | 331 |
| Germany East | Sweden | 1.327 | 1.214 | 3 | 2.545 |
| Germany East | Norway | 281 | 20 | 14 | 316 |
| Germany East | Finland | 53 | 0 | 0 | 53 |
| West Europe | Denmark | 2.795 | 324 | 1.173 | 4.292 |
| West Europe | Sweden | 8.021 | 4.168 | 193 | 12.383 |
| West Europe | Norway | 1.815 | 289 | 1 | 2.105 |
| West Europe | Finland | 334 | 1 | 1 | 336 |
| East Europe | Denmark | 401 | 141 | 1 | 543 |
| East Europe | Sweden | 1.736 | 442 | 1 | 2.179 |
| East Europe | Norway | 275 | 67 | 0 | 342 |
| East Europe | Finland | 53 | 0 | 0 | 53 |

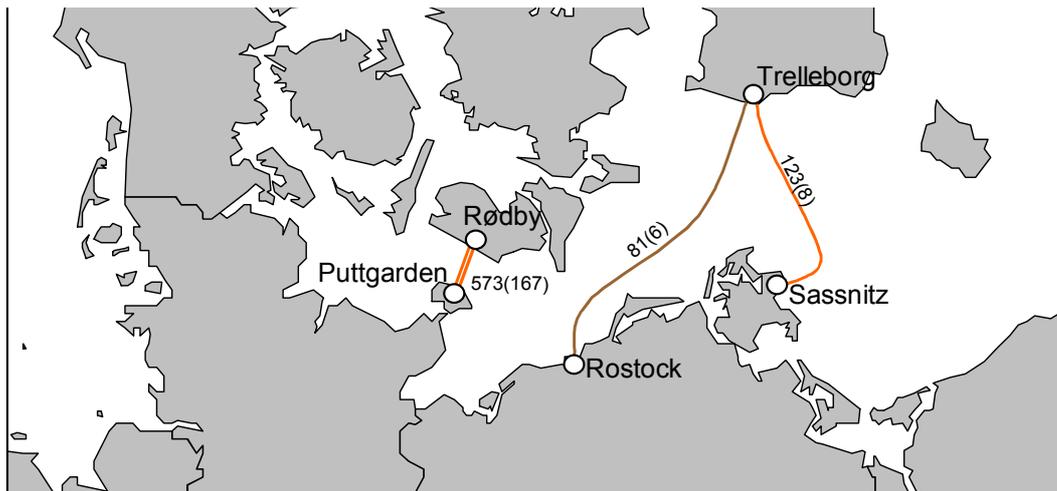
Aggregated freight flows Scenario 4, 2015 (in 1000 tons, two way totals)

| Traffic | | 2015 | | | |
|----------------------------|---------------------------|-------|------------|------------|-------|
| Between | and | Road | Rail conv. | Rail comb. | Total |
| Schleswig-Holstein/Hamburg | East Denmark | 595 | 30 | 69 | 694 |
| Schleswig-Holstein/Hamburg | Skåne | 226 | 43 | 5 | 275 |
| Schleswig-Holstein/Hamburg | Götaland | 411 | 273 | 13 | 697 |
| Schleswig-Holstein/Hamburg | Svealand/Norrland/Finland | 491 | 328 | 2 | 821 |
| Schleswig-Holstein/Hamburg | Norway | 288 | 117 | 19 | 424 |
| Mecklenburg-Vorpommern | East Denmark | 29 | 5 | 0 | 34 |
| Mecklenburg-Vorpommern | Skåne | 53 | 15 | 0 | 68 |
| Mecklenburg-Vorpommern | Götaland | 178 | 37 | 0 | 216 |
| Mecklenburg-Vorpommern | Svealand/Norrland/Finland | 194 | 33 | 0 | 226 |
| Mecklenburg-Vorpommern | Norway | 42 | 9 | 0 | 51 |
| Niedersachsen/Bremen | East Denmark | 252 | 112 | 18 | 382 |
| Niedersachsen/Bremen | Skåne | 180 | 52 | 0 | 232 |
| Niedersachsen/Bremen | Götaland | 639 | 242 | 0 | 881 |
| Niedersachsen/Bremen | Svealand/Norrland/Finland | 557 | 345 | 3 | 906 |
| Niedersachsen/Bremen | Norway | 533 | 17 | 0 | 550 |
| Other West Germany | East Denmark | 764 | 529 | 144 | 1.438 |
| Other West Germany | Skåne | 883 | 192 | 36 | 1.111 |
| Other West Germany | Götaland | 3.023 | 1.034 | 106 | 4.163 |
| Other West Germany | Svealand/Norrland/Finland | 3.857 | 1.842 | 91 | 5.789 |
| Other West Germany | Norway | 1.088 | 290 | 110 | 1.488 |
| Berlin/Brandenburg | East Denmark | 44 | 17 | 0 | 61 |
| Berlin/Brandenburg | Skåne | 86 | 34 | 0 | 121 |
| Berlin/Brandenburg | Götaland | 245 | 217 | 0 | 462 |
| Berlin/Brandenburg | Svealand/Norrland/Finland | 220 | 287 | 0 | 506 |
| Berlin/Brandenburg | Norway | 63 | 4 | 0 | 67 |
| Other East Germany | East Denmark | 121 | 145 | 4 | 270 |
| Other East Germany | Skåne | 125 | 85 | 0 | 210 |
| Other East Germany | Götaland | 428 | 226 | 1 | 655 |
| Other East Germany | Svealand/Norrland/Finland | 276 | 365 | 2 | 644 |
| Other East Germany | Norway | 218 | 17 | 14 | 249 |
| Other West Europe | East Denmark | 2.795 | 324 | 1.173 | 4.292 |
| Other West Europe | Skåne | 1.479 | 315 | 17 | 1.812 |
| Other West Europe | Götaland | 3.748 | 1.581 | 103 | 5.432 |
| Other West Europe | Svealand/Norrland/Finland | 3.128 | 2.273 | 74 | 5.475 |
| Other West Europe | Norway | 1.815 | 289 | 1 | 2.105 |
| Other East Europe | East Denmark | 401 | 141 | 1 | 543 |
| Other East Europe | Skåne | 229 | 55 | 0 | 284 |
| Other East Europe | Götaland | 1.037 | 212 | 0 | 1.249 |
| Other East Europe | Svealand/Norrland/Finland | 523 | 175 | 1 | 699 |
| Other East Europe | Norway | 275 | 67 | 0 | 342 |

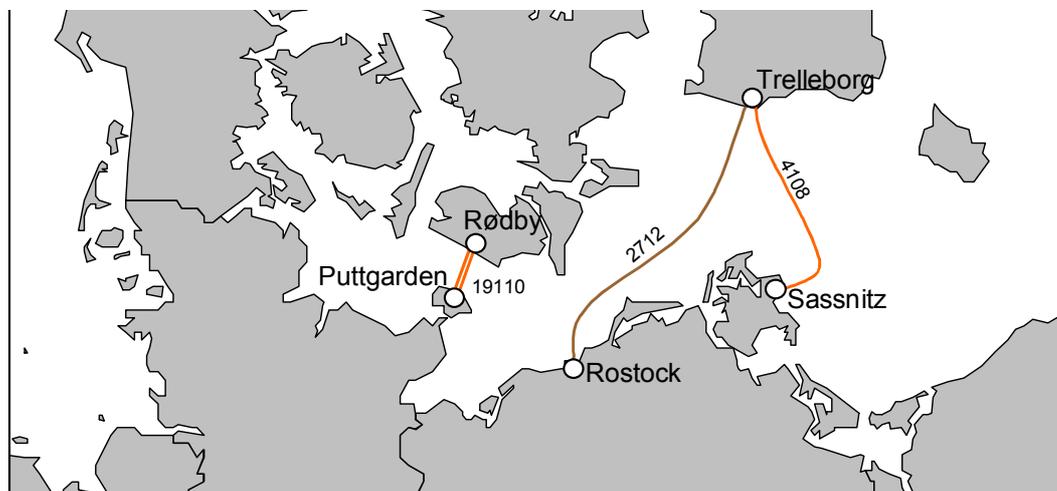
Freight flows per region Scenario 4, 2015 (in 1000 tons, two way totals)



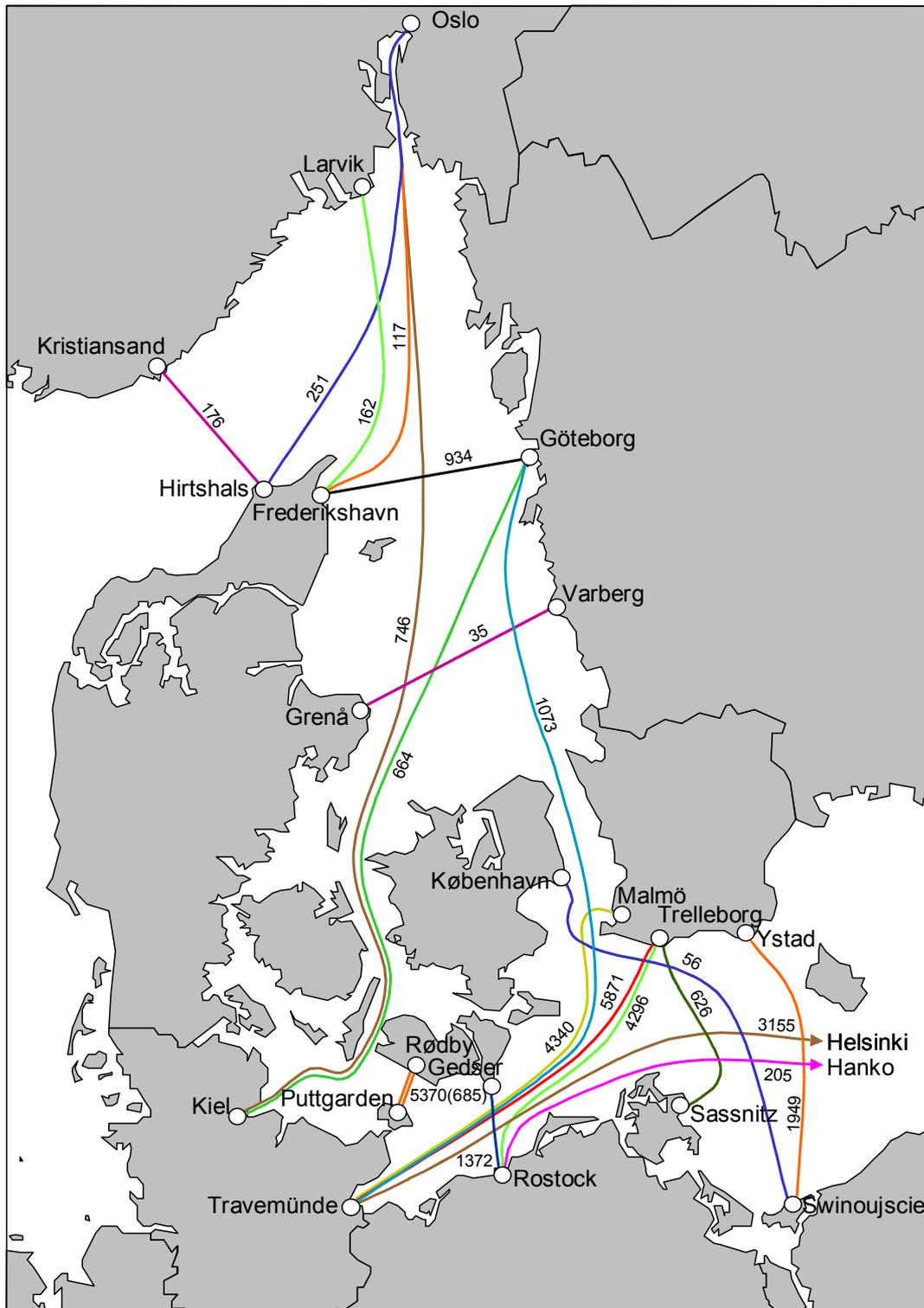
Ferry loads Scenario 4, 2015 – tons rail (thereof combined)
(in 1000 tons, two way totals)



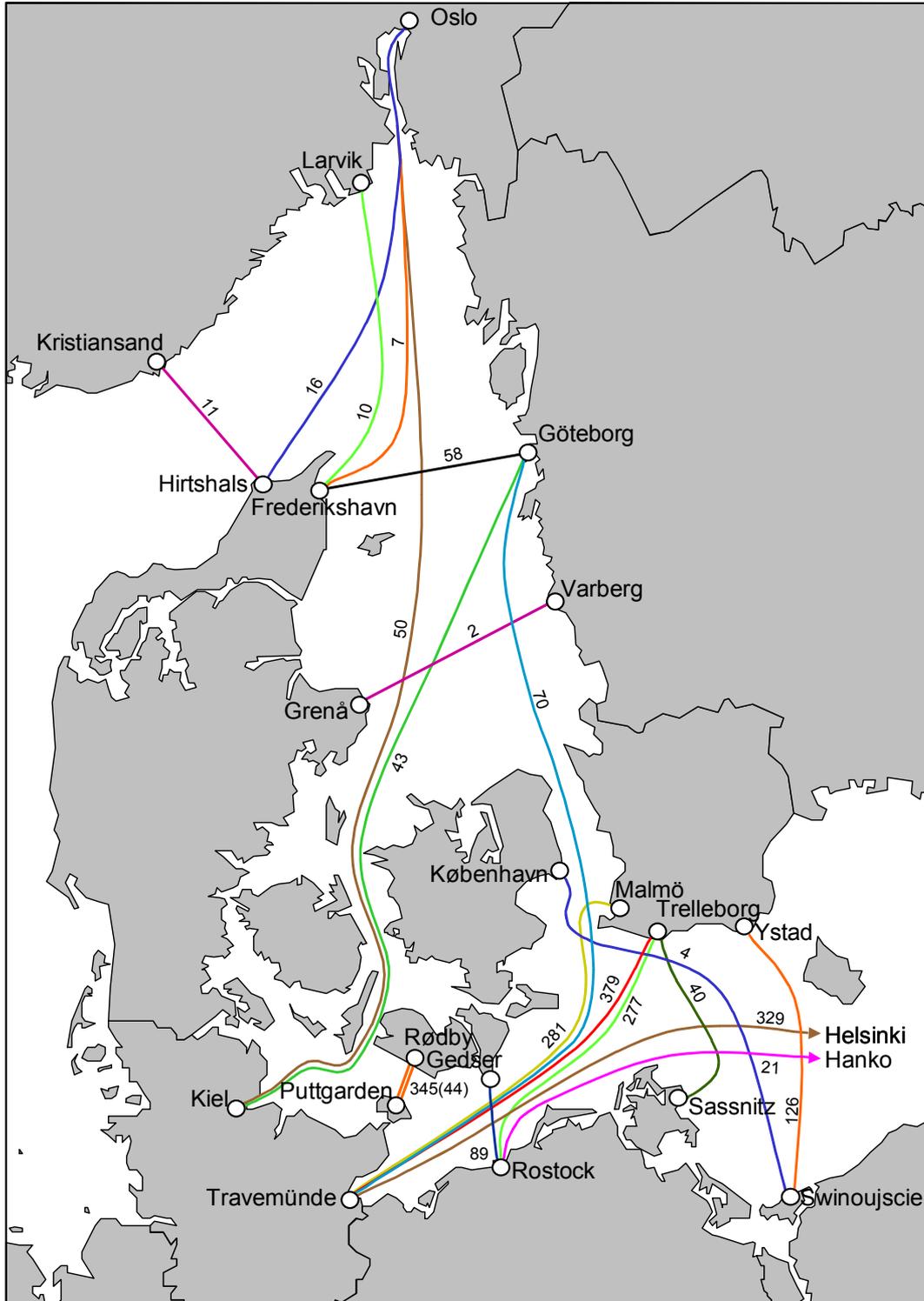
Ferry loads Scenario 4, 2015 – wagons rail (thereof combined)
(in 1000, two way totals)



Ferry loads Scenario 4, 2015 – trains
(two way totals)



Ferry loads Scenario 4, 2015 – tons road
(in 1000 tons, two way totals, Rødby-Puttgarden: thereof ferry)



Ferry loads Scenario 4, 2015 – vehicles road
(in 1000, two way totals, Rødby-Puttgarden: thereof ferry)

3. Tabulation of Ferry Load Figures

| Ferry line | | Number of passenger cars, 1000 cars/year | | | | | | |
|---------------------|-----------------------------------|--|-------------|-------------|------------|------------|------------|------------|
| | | 2001 | Base Case A | Base Case B | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 |
| Hansholm | Egersund/ Bergen ¹⁾ | 18 | 31 | 31 | 31 | 31 | 31 | 31 |
| Hirtshals | Kristiansand ¹⁾ | 76 | 116 | 121 | 116 | 118 | 114 | 118 |
| Hirtshals | Oslo ¹⁾ | 10 | 13 | 13 | 13 | 13 | 13 | 13 |
| Frederikshaven | Larvic ¹⁾ | 37 | 47 | 47 | 47 | 48 | 46 | 48 |
| Frederikshaven | Oslo ¹⁾ | 17 | 20 | 20 | 20 | 20 | 20 | 20 |
| Frederikshaven | Göteborg ¹⁾ | 75 | 64 | 66 | 62 | 61 | 67 | 61 |
| Grena | Varberg ¹⁾ | 10 | 10 | 10 | 9 | 9 | 11 | 9 |
| Kiel | Oslo | 83 | 113 | 111 | 113 | 114 | 112 | 114 |
| Kiel | Göteborg | 92 | 100 | 107 | 99 | 98 | 102 | 98 |
| Puttgarden | Rodby (Fixed Link) | | 2.736 | 2.842 | 2.627 | 2.538 | 2.930 | 2.339 |
| Puttgarden | Rodby (Ferry) | 1.357 | | | | | | 204 |
| Travemünde | Trelleborg/ Malmö | 74 | 67 | 68 | 77 | 89 | 45 | 89 |
| Rostock | Gedser | 194 | 278 | 287 | 320 | 349 | 208 | 348 |
| Rostock | Trelleborg | 145 | 252 | 264 | 295 | 310 | 195 | 310 |
| Sassnitz/ Mukran | Trelleborg | 114 | 209 | 218 | 229 | 245 | 174 | 245 |
| Swinoujscie | Copenhagen | 13 | 17 | 17 | 17 | 17 | 17 | 17 |
| Swinoujscie | Ystad | 108 | 152 | 155 | 149 | 148 | 156 | 148 |
| Germany | Finland | 64 | 112 | 111 | 122 | 151 | 74 | 151 |
| other Poland | Sweden | 77 | 102 | 103 | 102 | 102 | 102 | 102 |

1) without traffic to/from Jylland

| Road freight (1.000 t/year) and number of lorries (1.000 lorries/year) | | | | | | | | | | | | | | | |
|--|--------------|----------------|---------|-------------|---------|-------------|---------|------------|---------|------------|---------|------------|---------|------------|---------|
| Ferry lines | | Base year 2001 | | Base case A | | Base case B | | Scenario 1 | | Scenario 2 | | Scenario 3 | | Scenario 4 | |
| | | freight | lorries | freight | lorries | freight | lorries | freight | lorries | freight | lorries | freight | lorries | freight | lorries |
| Hirtshals | Kristiansand | 140 | 8 | 204 | 13 | 226 | 14 | 194 | 12 | 177 | 11 | 221 | 14 | 176 | 11 |
| Hirtshals | Oslo | 222 | 13 | 293 | 19 | 337 | 21 | 277 | 18 | 252 | 16 | 319 | 20 | 251 | 16 |
| Frederikshavn | Larvik | 143 | 8 | 189 | 12 | 218 | 13 | 179 | 11 | 163 | 10 | 206 | 13 | 162 | 10 |
| Frederikshavn | Oslo | 104 | 6 | 136 | 9 | 156 | 10 | 129 | 8 | 117 | 7 | 148 | 9 | 117 | 7 |
| Frederikshavn | Göteborg | 855 | 50 | 1.095 | 68 | 1.259 | 75 | 1.034 | 64 | 937 | 58 | 1.197 | 74 | 934 | 58 |
| Grenå | Varberg | 32 | 2 | 41 | 3 | 47 | 3 | 39 | 2 | 35 | 2 | 45 | 3 | 35 | 2 |
| Kiel | Oslo | 651 | 41 | 870 | 58 | 1.015 | 65 | 822 | 55 | 748 | 50 | 946 | 63 | 746 | 50 |
| Kiel | Göteborg | 606 | 37 | 779 | 51 | 895 | 56 | 735 | 48 | 665 | 43 | 852 | 56 | 664 | 43 |
| Puttgarden | Rødby | 4.434 | 274 | 6.426 | 413 | 7.206 | 452 | 6.070 | 390 | 5.292 | 340 | 7.332 | 471 | 5.370 | 345 |
| | Fixed link | | | | | | | | | | | | | | 301 |
| | Ferry Line | | | | | | | | | | | | | | 44 |
| Travemünde | Malmö | 2.998 | 185 | 3.867 | 251 | 4.351 | 274 | 3.961 | 256 | 4.354 | 281 | 3.484 | 226 | 4.340 | 281 |
| Travemünde | Trelleborg | 3.379 | 209 | 4.442 | 288 | 5.046 | 317 | 4.836 | 312 | 5.890 | 380 | 3.617 | 234 | 5.871 | 379 |
| Travemünde | Helsinki | 2.040 | 203 | 3.004 | 317 | 3.346 | 332 | 3.263 | 337 | 3.158 | 329 | 3.092 | 324 | 3.155 | 329 |
| Travemünde | Hanko | 147 | 15 | 216 | 23 | 240 | 24 | 212 | 22 | 205 | 21 | 223 | 23 | 205 | 21 |
| Rostock | Gedser | 995 | 62 | 1.324 | 86 | 1.484 | 93 | 1.417 | 91 | 1.377 | 89 | 1.153 | 74 | 1.372 | 89 |
| Rostock | Trelleborg | 3.037 | 187 | 4.049 | 262 | 4.574 | 287 | 4.032 | 260 | 4.310 | 278 | 3.703 | 240 | 4.296 | 277 |
| Sassnitz | Trelleborg | 435 | 27 | 584 | 37 | 661 | 41 | 596 | 38 | 628 | 40 | 419 | 27 | 626 | 40 |
| Swinoujscie | København | 48 | 3 | 68 | 4 | 78 | 5 | 64 | 4 | 56 | 4 | 78 | 5 | 56 | 4 |
| Swinoujscie | Ystad | 1.638 | 101 | 2.298 | 149 | 2.622 | 165 | 2.169 | 140 | 1.955 | 126 | 2.531 | 164 | 1.949 | 126 |

As regards the ferry corridor Puttgarden – Rødby (scenario 4) the number of 1000 vehicles/year on the fixed link is assumed to be 301 and on the ferry 44.

| Rail freight (1.000 t/year) and number of freight trains/year | | | | | | | | | | | | | | | |
|---|------------|----------------|--------|-------------|--------|-------------|--------|------------|--------|------------|--------|------------|--------|------------|--------|
| Ferry lines | | Base year 2001 | | Base case A | | Base case B | | Scenario 1 | | Scenario 2 | | Scenario 3 | | Scenario 4 | |
| | | freight | trains | freight | trains | freight | trains | freight | trains | freight | trains | freight | trains | freight | trains |
| Puttgarden | Rødby | 0 | 0 | 10.843 | 20.346 | 7.983 | 15.645 | 10.412 | 19.632 | 10.065 | 19.111 | 11.966 | 22.105 | 10.063 | 19.110 |
| Rostock | Trelleborg | 691 | 1.102 | 1.234 | 1.963 | 824 | 1.347 | 1.586 | 2.535 | 1.708 | 2.713 | 807 | 1.292 | 1.708 | 2.712 |
| Sassnitz | Trelleborg | 1.440 | 2.259 | 2.531 | 3.977 | 1.735 | 2.782 | 2.550 | 4.016 | 2.614 | 4.109 | 2.015 | 3.170 | 2.613 | 4.108 |

In general it is clearly that the fixed link will compete with the ferries east of the fixed link (see the range of volumes on the ferry connections or/and the estimation of the elasticities). On the other hand the ferries will be able to hold a large share of the market even when the fixed link is open.

4. Competition between the Fehmarnbelt and the Great Belt Fixed Links

1. Background

During the Enquiry of Commercial Interest (ECI) regarding a Fehmarnbelt Fixed Link several participants raised the issue related to the potential competition between the Fehmarnbelt and the Great Belt Fixed Link.

In theory it could be imagined that the two Fixed Links would be competing for the same market of traffic between Scandinavia and Germany passing through Denmark. The participants proposed that a survey of the competition relationship should be carried out in order to investigate the potential commercial risk that might occur seen from a private concessionaires point of view, if the Great Belt Company via the setting of the tolls (which are to a large extent set politically) could “move” traffic from the Fehmarnbelt to the Great Belt Fixed Link.

The participants in the ECI-process found that it could be necessary to develop a coordinated system for toll regulation for the Fixed Links, that would safeguard that the price relations between the two Fixed Links would not develop to the disadvantage of a private concessionaire on the Fehmarnbelt Fixed Link (or vice versa the Great Belt Company).

The issue can be dealt with in three different ways:

1. An evaluation of the actual transfer of traffic from the ferry line Rødby-Puttgarden to the Great Belt Fixed Link after opening in June 1998.
2. A model based calculation of the transfer of traffic from the Great Belt Fixed Link to the Fehmarnbelt Fixed Link in year 2010 (assumed opening year).
3. An overall evaluation of the competition relation between the two Fixed Links based on an evaluation of the transportation costs (incl. tolls) and the time consumption by choosing either of the two routes through Denmark.

This note summarizes existing knowledge brought forward by Sund & Belt Holding and Carl Bro A/S (FTC) regarding the competition between the two Fixed

Links with respect to road traffic, supplemented by some general observations concerning the transport pattern.

2. Results of earlier studies

2.1 Sund & Belt evaluation

Sund & Belt have investigated the composition of the traffic on the Great Belt Fixed Link, incl. a calculation of the transfer of traffic from the ferry service Rødby – Puttgarden to the Fixed Link (ref 1).

In general surveys have shown that only approx. 3% of the traffic on the Great Belt Fixed Link has origin destination in Germany. The potential transfer of car traffic to a Fixed Link across Fehmarnbelt must be considered low.

The calculation shows, that the transfer of traffic from the ferry line Rødby - Puttgarden to The Great Belt Fixed Link in 1998/1999 was as follows:

- Passenger cars:

The transfer from the ferry line Rødby-Puttgarden was 1,3 % of the traffic on the Great Belt Fixed Link in 1999, corresponding to a reduction of 7,8 % for the Rødby - Puttgarden ferries.

- Lorries

The transfer was 2,5 % of the traffic on the Great Belt Fixed Link corresponding to a reduction of 6,9 % for the Rødby/Puttgarden ferries.

2.2 Carl Bro/FTC – evaluation

In May 2000 the Carl Bro A/S made a similar calculation based on the Fehmarnbelt traffic-model (ref. 2). The calculation made by Carl Bro illustrates the opposite process: how much of the traffic on the Fehmarnbelt Fixed Link in year 2010 will be traffic transferred from the Great Belt Fixed Link.

Page 92

The calculations showed that:

- Passenger cars

The Great Belt Fixed Link would loose approx. 1,9 pct. of the estimated traffic in year 2010

- Lorries

The Great Belt Fixed Link would loose approx. 0,8 pct. of the estimated traffic in year 2010

The calculations done by Sund & Belt are based on the actual traffic in 1999 for respectively The Great Belt and Fehmarnbelt, while the estimates done by Carl Bro are based on Fehmarnbelt traffic model's traffic-forecast for 2010. Even though the figures are not quite comparable the calculations seem to match very well.

2.3 Overall evaluation

With the opening of the Great Belt Fixed Link it was anticipated, that a part of the traffic using the ferries Rødby-Puttgarden would be attracted to the Great Belt route, because the travelling time was cut down with more than one hour, making the two routes almost similar in total travelling time. Furthermore the availability and reliability of a fixed link is higher than that of a ferry line. For business travellers and certain transportation companies, these factors play a significant role, when choosing transportation route

The investigation made by Sund & Belt, that was based on 1500 "origin-destination interviews" with travellers using the Great Belt Fixed Link, has shown, that the Great Belt Fixed Link is most of all used for internal Danish transport (approx. 97 %).

It can on that basis be concluded, that only costumers for whom the availability and flexibility in the transport system was transferred to the Great Belt Fixed Link, whereas costumers for whom the transportation cost plays a distinct role still choose the Rødby – Puttgarden route.

Vice versa it can be concluded, that the number of vehicles transferred to a Fixed Link across Fehmarnbelt will be quite limited. This was confirmed by the model calculation carried out by Carl Bro.

The main reason for this is that the transport route between Sweden/Copenhagen and Hamburg via Rødby-Puttgarden is approximately 150 km. shorter, than the route via the Great Belt. The transportation cost - in this context is defined as the cost per driven kilometre + the fare/toll - is substantially lower for the shorter route via Rødby – Puttgarden (see attached appendix A).

In other words it is Sund & Belt's experience that the change in the competition relationship is most of all related to the higher accessibility and therefore an assurance of reaching a certain destination at a certain time.

After the opening of a Fixed Link across Fehmarnbelt the competition relationship must be expected to be changed back, as the two Fixed Links must be expected to have the same degree of availability and flexibility.

For a situation with a Fixed Link across both the Great Belt and the Fehmarnbelt it can therefore be expected that the overwhelming part of the passenger car and lorry traffic between Scandinavia and the Continent passing through Denmark, as a consequence of the substantially higher cost for using the 150 km longer route over the Great Belt, will choose the Fehmarnbelt Fixed Link like most of them do today, unless the difference in tolls are very (unrealistically) high.

It is therefore estimated that even though there will be a competition relationship (based on price and time) between the two Fixed Links the potential for transfer traffic will be relative modest.

3. Conclusion

It can be concluded that the competition relationship between the Great Belt and a Fixed Link across Fehmarnbelt is rather modest. Surveys have indicated that only approx. 3% of the road traffic on the Great Belt Fixed Link has origin destination in Germany. Furthermore, evaluations and model calculations have shown that the amount of traffic that was transferred from the ferries Rødby - Puttgarden to the Great Belt Fixed Link after opening in 1998 was approx. 2 %. Correspondingly this amount can be expected to be transferred back to a Fehmarnbelt Fixed Link after opening.

The major part of the passenger cars and lorry traffic that are transports depending on "just-in-time" deliveries and therefore the high availability of a Fixed Link were transferred to the Great Belt after it opened for traffic in June 1998.

In other words the major part of the existing road traffic between Scandinavia (east of the Great Belt) and Northwest Germany passing through Denmark, uses the considerably shorter route via Rødby-Puttgarden, because this route is much more cost effective.

Unless the toll rates on the two Fixed Links will differ substantially in favour of the Great Belt, this will also be the case after establishment of a Fixed Link across the Fehmarnbelt.

Page 94

References:

Sund & Belt Holding A/S: Konkurrenceforholdet mellem Femer Bælt og Storebælt, notat af 23. oktober 2002 (only in Danish).

Carl Bro A/S: "Trafik over Storebælt i Femerbælt modellen", Notat til trafikministeriet, dateret 11. maj 2000 (only in Danish).

Fehmarnbelt Traffic Consortium: "Femernbelt Traffic Demand Survey and Forecast", Final report, January 1999.

Appendix A

Comparison of cost for passenger cars and lorries for alternative routes between Copenhagen – Hamburg

In order to illustrate the general considerations regarding the travelling costs for passenger cars and freight transport on lorries in the two alternative transport routes between Copenhagen and Hamburg, calculations are presented in this appendix.

The calculations are based on present prices and assumes the same toll rates for a fixed link across Fehmarnbelt as today's ferry fares Rødby-Puttgarden.

Assumptions:

1. The total travelling distance between Copenhagen and Hamburg is approx. 500 km via the Great Belt and approx. 350 km via Fehmarn Belt, corresponding to a difference of 150 km.
2. The "driving costs" are calculated on basis of information from The Danish Road Directorate. The information is provided in 1997-prices and is not inflated, as most of the cost elements are unchanged.

For passenger cars The marginal costs calculated to €0.09/km. represent only the direct cost to fuel. Average total costs are calculated to €0.24/km including all cost elements related to the vehicle, i.e. repair and maintenance and depreciations.

For lorries the costs per driven kilometre is calculated to €0.8-0.9/km depending on type of trailer etc.

3. After opening of a Fixed Link across the Fehmarnbelt the travelling time via the Great Belt will be 1.5 hours longer for a passenger car than via the Fehmarnbelt and 2 hours longer for a lorry. The Danish Road Directorate has published a set of average time costs calculated to €10/hour for passenger cars (assuming 1.3 passengers/car) and €38-42/hour for lorries.
4. The toll rate for crossing the Fehmarnbelt Fixed Link is assumed to be the same as for the ferries today, i.e. €46 for a passenger car and €88 for a lorry.

Page 96

5. The toll rate for crossing the Great Belt Fixed Link is €32 for a passenger car and €3 for a lorry (average toll rate for lorries >10 meter).
6. Medio 2003 a new highway tax will be introduced in Germany. The highway tax is set to €0.1-0.17/km depending of the vehicle. In this calculation a rate of €0.15/km has been used. The route via the Great Belt contains 15 km longer travelling in Germany than the route via Fehmarn Belt.

Cost for passenger cars

| EURO incl. VAT 2002-prices | Copenhagen – Hamburg | |
|-------------------------------|----------------------|--------------------|
| | Via the Fehmarn Belt | Via the Great Belt |
| Toll rate on fixed link | 55 | 32 |
| Extra driving (150 km) | | 13.5 - 36 |
| Direct Travelling Cost | 55 | 45.5 – 64 |
| Time cost | | 15 |
| Total Cost | 55 | 60.5 – 79 |

The table shows that the costs today for the route across the Great Belt exceed the costs for the route across the Fehmarn Belt.

On one hand it could leave room for an increase in the toll level for the Fixed Link across Fehmarnbelt, but on the other hand this would open for competition from a parallel ferry service.

It should be remembered that for passenger cars - in contrast to lorries – the time cost is often “non-monetary”. If the time cost is omitted it can be seen that the cost for the two routes is almost the same. The selection of route will be determined by the time consumption rather than by cost.

Cost for lorries

| EURO excl. VAT 2002-prices | Copenhagen – Hamburg | |
|-------------------------------|----------------------|--------------------|
| | Via the Fehmarn Belt | Via the Great Belt |
| Toll rate on fixed link | 188 | 93 |
| Extra driving (150 km) | | 120 – 135 |
| Direct travelling cost | 188 | 213 – 228 |
| Time cost | | 76 – 84 |
| Extra German highway tax | | 2.25 |
| Total costs | 188 | 291 – 314 |

The table shows that the additional expenditure for the route across the Great Belt exceed the costs for the route across the Fehmarn Belt even if only the marginal (fuel) costs are taken into the calculation.

This means that there is considerable room for a lowering of the tolls on the Great Belt before it becomes attractive for lorries to choose the route via the Great Belt.

The difference in additional costs is considerable and could leave room for an increase in the toll for the Fixed Link but the ferry fare is already today high compared to other ferry lines. If the toll on the Fixed Link was increased it could open for competition from ferry services.

5. Development in ferry services after start of operation of the Fixed Links across the Great Belt and the Øresund

Several participants in the ECI process stated their concern regarding the consequences for the financial viability of a Fixed Link if a parallel ferry services for road vehicles would exist on Fehmarnbelt (Rødby-Puttgarden).

For that reason FDJV investigated whether it would be possible for the governments to decide that a ferry service would not be allowed. It was concluded that it would not be possible through legislative or other legal measures to prohibit a private ferry operator to run a ferry services in parallel to a Fixed Link across Fehmarnbelt between Puttgarden and Rødby.

In order to evaluate the possibility that a ferry service will attract sufficient traffic to be financially viable Sund & Belt has been asked to analyse the experiences with parallel ferry services on the Great Belt and the Øresund after start of operation of the two Fixed Links. Also experiences from the Channel Tunnel are briefly addressed.

The evaluation can be used for assessing a scenario in the traffic forecast model including both a ferry service and a Fixed Link between Puttgarden and Rødby as part of the updating of the traffic analysis and for a general evaluation of the risks related to the future income from the road traffic on the Fehmarn Belt Fixed Link.

1. General observations

Before evaluating the experiences, some general observations have to be made regarding the relevance of comparing the three fixed links in regard to the possibility of a ferry service running in parallel with a Fixed Link across Fehmarnbelt.

The three fixed links are due to their geographical location oriented towards quite different “markets”.

The Great Belt Fixed Link

The Great Belt Link most of all serve the purpose as a regional/national connection for road and railway traffic between the eastern and the western part of Denmark. The establishment of the Fixed Link as a toll road has shown that a barrier has existed on the Great Belt as a result of the time consumption and the lack of immediate availability related to ferry services.

The vehicles crossing the Fixed Link travel routes of in average 200 km. and can be described as an interregional link for leisure passenger traffic, business traffic and lorry traffic between the two major parts of Denmark.

Due to the fact that the Fixed Link is a toll road local commuter work traffic by car is on a quite low level. The railway serves the purpose of providing the means of transport for regular commuter traffic between local areas and interregional traffic, as the Fixed Link has made it possible to travel between the major cities of Denmark in a few hours.

The Øresund Fixed Link

From an overall point of view the Øresund Fixed Link is oriented towards two different markets. The first is the local/regional market in the Øresund region with two larger cities (Copenhagen and Malmö) and a quite dense population. The local market is both a market for commuter work traffic that is expected to expand considerably as legislative (taxes, pensions, etc.), cultural and other barriers are being broken down. But it is estimated that it will take several years before the potential for integration in the region will be fully exploited. The second is the market for international traffic between Scandinavia and the Continent.

The Fehmarnbelt Fixed Link is situated in an area with a relatively low population density and also low industrial and commercial activity. Agriculture (on the Danish side) and the service sector (tourism) are dominating commercial branches in the local areas on both sides. The exchange of labour and trade of commodities between the two local areas are at a very low level. For that reason the traffic in the Rødby- Puttgarden corridor is dominated by long distance transport between the central/southern part of Europe and Scandinavia, dominated by goods traffic on lorries, business travels and leisure traffic (concentrated to the summer months).

This composition of the market for transport across the Fehmarnbelt will also dominate in a situation with a Fixed Link across Fehmarnbelt, although local commuter traffic and local business traffic will grow over the years.

But only a smaller part of the traffic will be local business and commuter traffic at least in the short term.

In general it should be observed, that the three links serve quite different purposes or markets. For that reason one should be very careful in comparing the development in the ferry services in the three areas before and after opening of the Fixed Link.

2. Experiences from the Great Belt and the Øresund Fixed Links

2.1 The Great Belt

Before the opening of the Great Belt Fixed Link for rail and road traffic a number of ferry routes serviced the traffic between east and west Denmark:

Great Belt Ferry routes before the Fixed Link

- DSB-train ferry, Korsør – Nyborg
- DSB/Scandlines-ferry for road traffic, Halsskov – Knudshoved
- Vogmandsruten for road traffic, Korsør – Nyborg

As can be seen from the map, ferry services on the Great Belt sailed in the same corridor as the Fixed Link.



Ferry routes, Great Belt 1997.

The initial public ferry line served the train traffic for transport of passenger and goods between the cities of Korsør and Nyborg since 1883. The train traffic was transferred to the Fixed Link when it opened for railway traffic in 1997 one year before the motorway opened.

The subsequent addition, the public Halsskov-Knudshoved ferry, was carrying private cars, lorries and busses (since 1957).

The third privately owned ferry service, called “Vognmandsruten” (“The Lorry Route”) on the Great Belt corridor carried vehicles only and sailed the same distance as the DSB railway ferries, Korsør-Nyborg, from 1984.

As part of the political decision in 1986 to establish the Fixed Link across the Great Belt it was decided to cease the two state owned DSB ferry lines at the day of the opening of the Fixed Link's railway (June 1997) and motorway (July 1998).

This was (legally) possible because DSB at that time was an institution directly controlled by the state (Ministry of Transport).

Before the opening of the motorway across Great Belt, "Vognmandsruten" proclaimed that it intended to continue its ferry service across the Great Belt in competition with the Fixed Link. The ferry line was serviced by a number of smaller RO-RO (double-ended) ferries offering a discount (low price and quality) product. Service time was approx 75 minutes compared to 10-15 minutes on the Fixed Link.

The private ferries had their harbours very close to the centre of the cities of Korsør and Nyborg, which meant that access from hinterland motorways for private cars and lorries was not optimal compared to the DSB-ferry service and the Fixed Link, but on the other hand its route from city to city might attract "local" traffic, especially private cars and smaller lorries.

As the company offered a discount product the fares could be kept rather low and it was expected, that the ferry line would be able to compete with the Great Belt Fixed Link, especially the lorry transport market and a part of the local passenger traffic.

But it was also recognized that a substantially lower price than for the Fixed Link would be necessary to make it possible for the ferry line to attract sufficient traffic in view of the lower accessibility and the longer travelling time.

The law governing the operation of the Fixed Link stated that the tolls for crossing the Fixed Link should be the same as the fares for the DSB ferries (subtracted the cost for driving across the Fixed Link).

This principle was partly abandoned for two reasons: A general popular pressure for lower prices in order to break down the barrier, that the ferry service has created and to create conditions for the Great Belt company, that would make prices on the Great Belt Fixed Link competitive, but still securing that the income from the traffic would make it possible for the Great Belt company to service loans obtained for financing the Fixed Link within a period of 30-40 years.

The table below clearly shows that a considerable growth in all traffic categories took place on the Great Belt after opening of the Fixed Link. The growth was composed of a transfer of traffic from other ferry routes and modes of transport (air), growth related to the general economic growth and new, induced traffic.

Table 1: Nos of passenger cars, lorries and busses before (1997) and after (1999) opening of the Fixed Link across the Great Belt.

| Number of vehicles per year | | | | | |
|-----------------------------|---|--|---------------------------------------|------------------------------------|-------------|
| Type of vehicle | Vognmandsruten (1997) Korsør – Nyborg | DSB-ferry (Halsskov- Knudshoved) (1997) | Total Great Belt ferries (1997) | Great Belt Fixed Link (1999) | Change % |
| Passenger cars | 446,221 | 2,133,015 | 2,579,236 | 6,101,138 | + 137% |
| Lorries, total | 141,444 | 301,947 | 443,391 | 757,719 | + 71% |
| Busses | 3,269 | 15,285 | 18,554 | 30,218 | + 67% |

Before opening of the Fixed Link the ferry service “Vognmandsruten” decided to cease operation when the motorway on the Fixed Link started operation in 1998.

The reason is judged to be that the ferry company found that although it might be possible to offer competitive prices it would not be able to attract sufficient traffic, due to the fact that the availability of the Fixed Link would be superior and that the travelling time was at least one hour shorter on the Fixed Link.

The ferry fares (1997) and the toll rates on the Fixed link (1999) are shown in the table below.

Table 2: Great Belt ferry fares and toll rates before and after start of operation of the Fixed Link.

| Toll rates/Ferry rates – Great Belt | | | | |
|-------------------------------------|---|--|----------------------------|----------------------|
| DKK Type of vehicle | Vognmandsruten (1997) (Korsør – Nyborg) | DSB-ferry 1997 (Halsskov-Knudshoved) | Great Belt Tolls (1987) | Great Belt (1999) |
| Passenger cars | 270 | 315 | 285 | 210 |
| Lorries (I) (<10 m) | 500 – 720 | 504 – 840 *) | 414 – 750 | 525 |
| Lorries (II) (>10 m) | 950 – 1,600 | 1,040 – 1,644 *) | 950 – 1,554 | 835 |
| Busses | 450 – 990 | N.A. | N.A. | 785 – 2,335 |

*) Discounts of up to 23% were offered to lorry transport companies.

The figures are based on official information but it should be noted that the ferry companies offered several kinds of discount rates for all types of vehicles, making a comparison with the toll rates on the Fixed Link rather difficult. For the same reason it is also difficult to tell how much a ferry company would be able to lower the prices in order to pick up competition with a Fixed Link, as the actual average ferry rates are not known outside the ferry company.

Page 104

All in all the ferries on the Kattegat routes have been able to maintain approximately 15 % of the total East-West market for lorry and passenger traffic.

This must be considered the maximum “natural” market share for the ferries as long as they are able to maintain competitive sailing times and prices for transports that will not have considerable disadvantages in terms of travel time.

Interesting enough a survey of travellers choice of transport alternative shows, that around 70 % of all passengers say that the reason for choosing the Great Belt Fixed Link is because of the travelling time and availability, but only 10-15 % state that its is because of the price.

It should be noted that according to the act of law for the establishment of the Great Belt Fixed Link, the Great Belt company is obliged to run a Kattegat ferry if private investors find it impossible to run it on a business economic basis. The same goes for the ferry service Skodsbjerg-Taars, which today is run by Scandlines but with financial support from the Great Belt company.

2.2 The Øresund Fixed Link

The transport system in the Øresund region is to some extent more differentiated than on the Great Belt.

Before the opening of the Fixed Link the following ferry services were in operation:

Copenhagen - Malmö corridor:

- a) Scandlines Dragør-Limhamn (vehicles and walk on passengers)
- b) “Flyvebådene” Copenhagen – Malmö (only walk on passengers)
- c) “Pilen” Copenhagen – Malmö (only walk on passengers)

Helsingør - Helsingborg corridor:

- a) Scandlines for vehicles and walk on passengers
- b) H-H Ferries for vehicles
- c) Sundbusserne for walk on passengers
- d) Furthermore, a “freight-route”, i.e. a railway-ferry operated between Copenhagen and Helsingborg only carrying freight trains. This ferry line was closed when the Fixed Link opened for railway traffic and all freight trains were transferred to the Fixed Link.



Øresund ferry routes, 1999.

From an overall point of view “the market” for road transport across Øresund can be divided into three parts:

- A local market for road vehicles and passenger traffic around the cities of Helsingør - Helsingborg and Copenhagen - Malmö.
- A market for “international transport” of goods and heavy vehicles and tourists.
- A regional market more or less created on basis of the Fixed Link across Øresund.

The local market is more or less unaffected by the opening of the Fixed Link in the Helsingør-Helsingborg corridor, whereas the local market is expanded dramatically in the Copenhagen-Malmö area, as a direct consequence of the opening of the Fixed Link.

The “international” freight transports and leisure traffic across Øresund is in total more or less unaffected by the opening of the Fixed Link, meaning that the transfer

Page 106

of traffic from the ferry routes between the southern part of Sweden to Germany has been quite limited.

But the Fixed Link has provided a new transport corridor with faster and shorter access to and from the southern part of Sweden.

International transport companies plan their transports of goods on lorries on a basis of travelling cost (distance) and time. For that reason transport companies will – with the present relations of prices between the ferries and the Fixed Link – choose the ferries if the transports are going from/to the area north of Helsingborg in Sweden and the Fixed Link if transports are directed towards/from the southern part of Sweden.

As long as the availability of the ferries is good (30 minutes between ferries) the 50 km longer distance via the Fixed Link to destinations north of Helsingborg the freight transport companies will tend to choose the ferries. For this traffic the Fixed Link will only be competitive under the assumption that the tolls on the Fixed Link is sufficiently low (compared to the ferry fares) to compensate for cost for driving the 50-60 km longer route across the Fixed Link.

Another reason for choosing the ferries is that transport logistic terminals are situated in Helsingborg.

To a large extent the same can be said for tourists going from/to Sweden to/from the Continent unless there are queues on the motorway and/or the ferries, which is often the case in the summer months. Again the importance of availability/flexibility plays an important role for the costumers.

Finally, the required “driving and rest periods” might influence the selection of route.

Looking at the consequences for the ferry lines in the Øresund the following table shows the traffic before and after the opening of the Fixed Link:

Table 3: Nos of vehicles and passengers on Øresund ferry routes, 1 July 1998 – 30 June 1999.

| Traffic Øresund 1 July 1998 – 30 June 1999 | | | | | | |
|---|----------------|-------------|-------------|------------------|--------------|------------|
| | Dragør-Limhamn | Flyvebådene | H-H Ferries | Scandlines (H+H) | Sundbusserne | Total |
| Passenger cars | 319,492 | - | 550,106 | 1,719,718 | - | 2,589,316 |
| Lorries | 28,604 | - | 83,337 | 333,625 | - | 445,566 |
| Busses | 14,633 | - | 7,785 | 38,584 | - | 61,002 |
| Walk-on passengers | - | 3,421,495 | - | - | 2,017,631 | - |
| Passengers in total | 1,852,318 | 3,421,495 | 1,906,919 | 10,078,128 | 2,017,631 | 19,276,491 |

Table 4: Nos of vehicles and passengers on Øresund ferry routes and the Fixed Link, 1 July 2000 – 30 June 2001.

| Traffic Øresund 1 July 2000 – 30 June 2001 | | | | | | | | |
|---|----------------|-------------|-------------|------------------|--------------|-------------------|-----------|------------|
| | Dragør-Limhamn | Flyvebådene | H-H Ferries | Scandlines (H+H) | Sundbusserne | Øresundsbron Road | Train | Total |
| Passenger cars | 0 | - | 519,468 | 1,314,657 | - | 2,770,282 | - | 4,604,407 |
| Lorries | 0 | - | 110,663 | 292,365 | - | 137,823 | - | 540,851 |
| Busses | 0 | - | 6,180 | 34,856 | - | 38,689 | - | 79,725 |
| Walk-on passengers | 0 | 1,579,049 | - | | 1,643,368 | N.A. | 4,857,509 | |
| Passengers in total | 0 | 1,579,049 | 1,868,843 | 8,234,409 | 1,643,368 | 8,169,000 | 4,857,509 | 26,352,178 |

Already in November 1999 before the opening of the Fixed Link between Copenhagen and Malmö, Scandlines decided to stop operation of the ferry service between Dragør and Limhamn. This ferry line had as one of its primary sources of income the holiday tourism in the summer months and was probably carrying a loss in the winter months, due to low traffic volumes.

It can also be seen from table 4 that the two ferry services between Helsingør-Helsingborg are in a strong competition situation with each other on the one hand and with the Fixed Link on the other hand. The H-H ferries succeeded to expand the number of lorries carried by this ferry routes from 1998/99 to 2000/01, while the Scandlines routes lost approx. 40,000 lorries.

“Flyvebådene” continued after start of operation of the Fixed Link until November 2001. This ferry service was in direct competition with the new train services between the Central Stations of Copenhagen and Malmö for “city-to-city” transport

Page 108

of commuter traffic, shopping travels and day-to-day leisure traffic. Travelling time was almost the same for the two traffic modes.

In November 2001 the ferry service closed down after realising a severe drop in the number of passengers from 3.9 million passengers in 1999/2000 to 1.6 million in 2000/2001.

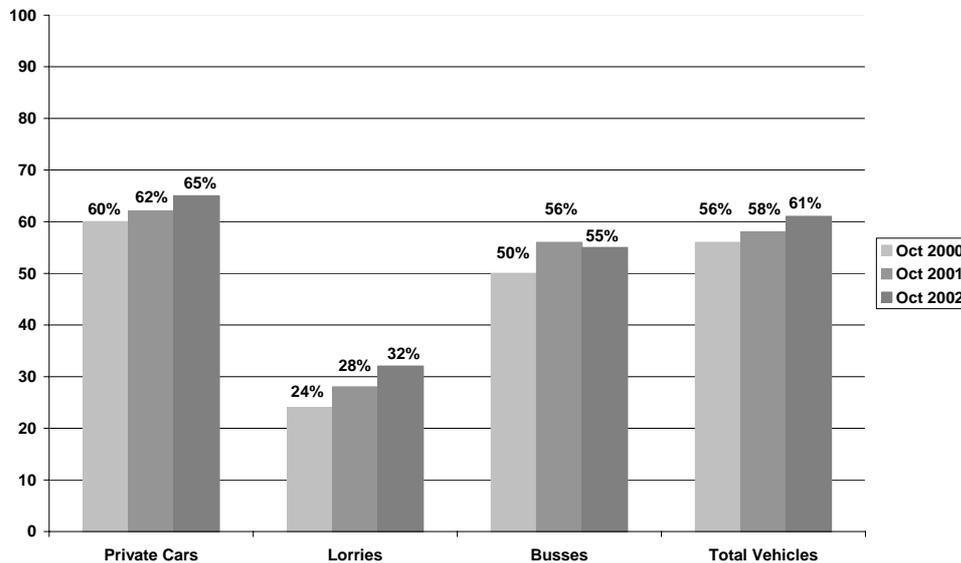
In summary, all the ferry services in the Copenhagen – Malmö corridor have today been closed down following the opening of the Fixed Link.

From the table above it can be seen, that also the ferry services in the Helsingør – Helsingborg corridor have experienced a drop in the number of cars and passengers. But all the 3 ferry services are still in operation and due to the general growth in traffic on the Øresund the ferry services expect that in 2002 the number of cars on the two H-H routes will be back on 1999-level. Despite the (temporary) drop in transport demand and the fact that the competition between the two car ferry services and between these and the fixed link in the southern part of Øresund is very strong, the ferry services have maintained the number of ferries and the travel frequencies, which shows that the ferry companies see a high frequency/availability as an important “competition factor”. Prices have though been regulated downwards following the competition from the Fixed Link.

From the table above it can be seen that a significant growth in total traffic across the Øresund between Denmark and Sweden took place after the opening of the Fixed Link. The total number of passengers (car, train, buses) rose from 1998/99 – 2000/01 with approx. 37%. The number of vehicles rose 64%.

Another interesting development that should be noted is that the Fixed Link across Øresund had a market share for lorries of 30 % in 2002 compared to a market share to the ferry line Dragør-Limhamn of only 6% in 1999. But on the other hand the ferries H-H have been able to maintain a 68% of the lorry transport market by reducing prices.

Øresundsbron's Market Shares, October 2000, 2001 and 2002.



The market shares of the Øresund Fixed Link are very different for passenger cars and lorries.

The Øresund Fixed Link has a much higher share of the passenger car market due to the fact that two large cities are connected which creates a market for commuter traffic, shopping and leisure traffic, while the market share for the lorry traffic to a large degree is a result of comparative transport costs between the two alternative routes.

Again it can be concluded that the ferries as a means of transport has been a barrier that is removed with the opening of the Fixed Link, whereby the Fixed Link has increased the Copenhagen-Malmö corridors market share substantially apart from having expanded the market as such, mainly due to the improved availability/flexibility of a Fixed Link compared to ferry transport.

3. Channel Tunnel Crossing

A comparison with the development of the ferry services on the English Channel after opening of the channel tunnel might be of some relevance. On the other hand a shuttle train solution for transport of passenger cars, busses and lorries does not provide the same advantages as a combined Fixed Link for road and railway traffic in terms of availability and flexibility. In many ways a shuttle train solution can be regarded as a transportation system similar to a ferry with respect to waiting time, travel frequency, ticket reservation, etc.

Furthermore, the market for transport between England and France is very different from the market between Germany and Denmark on the Fehmarnbelt. The market is substantially larger and gives room for several ferry services of different quality.

Page 110

Alone in the Calais – Dover corridor 2 ferry services are running today in direct competition with the Channel Tunnel. One is a conventional ferry with a crossing time of 90 minutes and the other a high speed ferry (Sea-Cat) with a crossing time of 50 minutes compared to a crossing time for the Channel Tunnel shuttle trains of approx. 35 minutes. Comparing the ferry fares with the shuttle train gives the following results:

The ferry fares are varying substantially depending on the length of the period between out- and inbound travel.

The ferry fares are substantially lower than prices on the channel tunnel shuttle trains when comparing prices for passenger cars

| Destination | Transport mode | Travel time in minutes | Price in EURO Passenger cars |
|--------------------|-----------------------|-------------------------------|-------------------------------------|
| Dover - Dunkirk | Ferry | 120 | 170 |
| Dover – Calais | Ferry | 90 | 196 |
| Dover – Calais | Sea-Cat | 50 | 270 |
| Channel Tunnel | Shuttle train | 35 | 323 |

For the reasons above, it is not easy to draw any conclusions in relation to the business economy for continued ferry services parallel to a Fixed Link across the Fehmarnbelt on basis of the experiences from the Channel Tunnel, but one could get the impression that

- a) The demand is sufficiently high to give room for several alternative ferry services sailing (almost) in parallel to the Channel Tunnel.
- b) The financial situation of the Channel Tunnel Company results in relatively high prices and therefore the business economy for the ferry companies is satisfactory.
- c) The competition between ferry companies the shorter travelling time and the better availability of the Channel Tunnel results in a substantially lower price on the ferry services than for the tunnel.

4. General considerations and conclusions

The importance of availability and flexibility for the customers' choice of transport route has to be emphasised and should play a distinct role in the assessment of the possibility to run a parallel ferry service on a business economic basis.

Despite the fact that the two existing Danish Fixed Links have been put into operation in years with economic growth and therefore a growing market for transportation neither on the Great Belt nor on the Øresund private investors have found that it would be attractive to pick up competition and establish parallel ferry routes to the Fixed Links.

The most important factor seems to be that the availability/flexibility and the travel time of the Fixed Links is superior and that the ferry companies will not be able to set ferry fares on such a low level that it can "compensate" for the loss in availability and/or time consumption.

Another important factor is that although the companies behind the Fixed Links are not able to set tolls freely due to governmental regulation, the ferry companies have realized that the Fixed Link Concessionaires have a very long term horizon for evaluating the return on the investments (at least 30-40 years). In contrast to this, private investors in ferry companies expect returns on their investment on short or medium long terms.

Instead, the ferry companies have realized that the Fixed Links do tend to expand the transportation market in general and that the ferry companies are much better off if they concentrated their efforts in establishing alternative efficient and competitive ferry routes in other corridors than in the immediate vicinity of the Fixed Links.

If it is assumed that the Fixed Link and a parallel ferry service compete for the same market, the ferry fares will have to be set substantially lower if traffic should be attracted to the ferries in light of the fact that the Fixed Link provides a almost 100% availability/flexibility and a travelling time that is 50 minutes faster than the ferries.

Parallel ferry service on the Fehmarnbelt

The question then is: Can a private ferry operator from a business economic point of view run a ferry service in parallel to a Fixed Link across Fehmarnbelt?

The experiences from the Great Belt and the Øresund Fixed Links can only to a certain extent be used for assessing whether a "parallel" ferry route from a business economic point of view would be able to survive competition from a Fixed Link.

An evaluation of the business economy of a ferry service running in parallel with a Fixed Link would have to be based on a number of assumptions:

- Type, size and age of ferries

Page 112

- Number of trips per day
- Ferry speed
- Operation cost (salaries, fuel cost, maintenance, depreciations, etc.)
- Difference in VAT between traffic modes (ferry fares/tolls)
- Difference in taxes on consumer goods between Denmark and Germany
- Bus services for shopping trips
- Passenger train services between Lolland-Falster and Ostholstein
- Toll rates on a Fixed Link.

The potential for “walk-on passengers” is to a large degree dependent on the differences in prices, incl. taxes on specific consumer goods between Denmark and Germany. It is expected that today’s differences will decrease with the general tendency within the EU to harmonise tax policies.

Furthermore, it is likely that bus services travelling on the Fixed Link would be a competitive alternative for walk-on passengers.

Train services could also be expected to win a share of this market.

Furthermore, actual consideration for reopening of the railway service for passenger traffic between Warnemünde and Gedser might influence the distribution of traffic between the two corridors on the Fehmarnbelt.

A large part of the passenger car traffic forecasted on a Fixed Link is supposed to be business trips (25-30%). This type of traffic will most likely prefer the Fixed Link as this traffic is rather sensitive to availability and time consumption and less sensitive to price.

For lorry transports the decisive factors in choosing mode and route of transport are transportation costs and time consumption.

As the ferry has a travelling time that is supposed to be approximately 40-45 minutes longer than on the Fixed Link, the ferry fares must probably be lower than the toll rates for the Link to attract traffic. On the other hand the time saving might not be that important in view of the total time consumption of a long distance lorry transport of 2,000 km. Furthermore, the “drive and rest periods” regulating the lorry and bus transport might influence the choice of transport mode. Whether this in combination with lower toll rates on a parallel ferry would attract sufficient traffic to make a ferry route feasible is doubtful.

The experience from the Great Belt Fixed Link shows that it is unlikely that such a lorry based ferry service would survive. The situation on the Øresund is not comparable as the Helsingør-Helsingborg route is 50 km shorter for that part of the lorry transport market that could choose either the Fixed Link or the ferry services in the northern part of Øresund.

For holiday and leisure traffic the general experience is that the most critical factor is the travelling time. Ferry fares must be considerably lower than the tolls on the Fixed Link to attract traffic.

