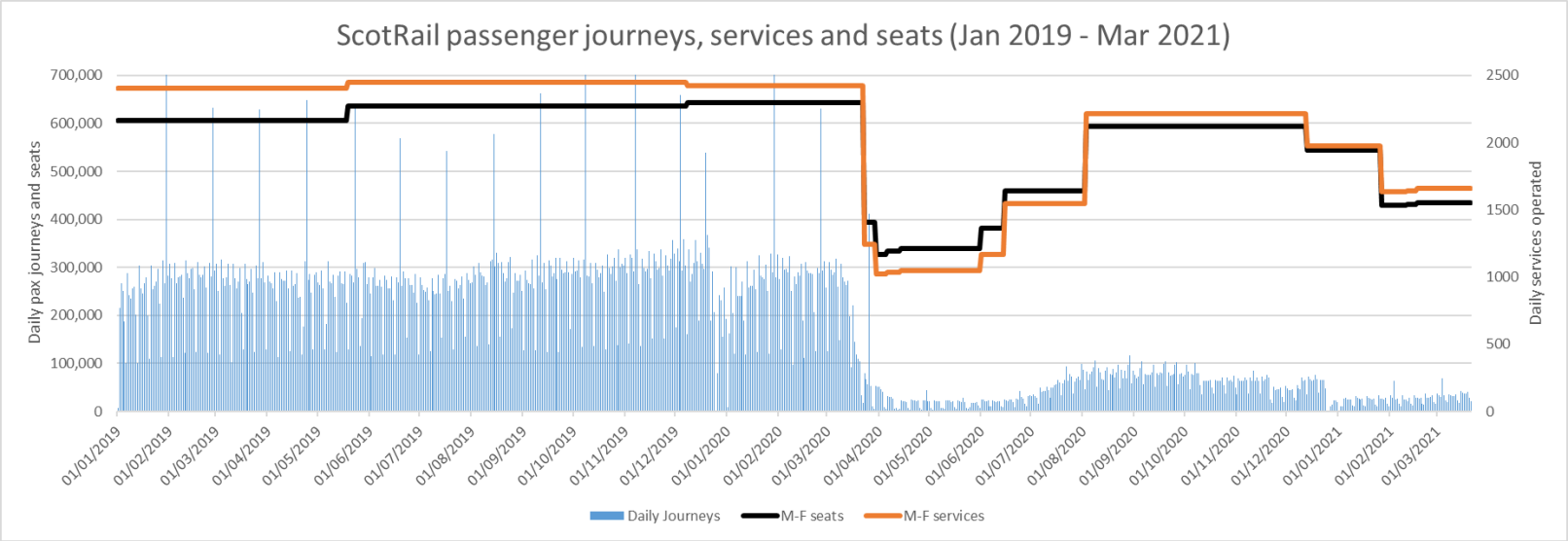


Route by Route Key Metric Assessment



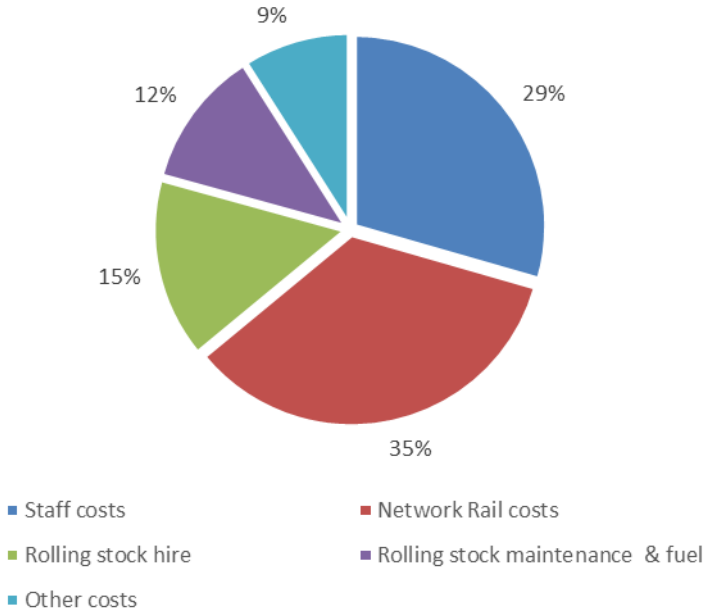
Background

- In the 2019/20 financial year, it cost around £900m to operate ScotRail services. Revenue from fares, advertising, leasing property and providing services to other operators was around £400m. Scottish Government and Abellio funded the shortfall between cost and revenue.
- The adjacent pie chart summarises the main cost areas. Staff, leasing and operating trains and payments to Network Rail account for more than 90% of ScotRail's costs.
- The chart below shows the number of passenger journeys each day and the average number of weekday services and seats provided between Jan 2019 and Mar 2021. The impact of the COVID-19 pandemic on passenger demand can clearly be seen along with the response of reducing the services operating during the first and second lockdowns



- The 4 weekly spikes in daily journeys are inputs for zonecard and UK wide tickets such as Britrail.
- Prior to the pandemic, ScotRail operated just over 2,400 services per weekday, providing 640,000 seats and carrying around 310,000 passengers.

Breakdown of ScotRail costs 2019-20 (£900m)



Overview

- ScotRail costs and revenues for 2019/20 have been disaggregated against 29 principle services and assessed against the outputs delivered:
 - Excluding a fixed payment of £263m to Network Rail for accessing the rail network, it cost £641m to operate just over 2,400 services per day in 2019/20. ScotRail generated £397m revenue from passenger fares, advertising, commercial rentals, catering, train maintenance and other initiatives. The resulting £244m shortfall was funded by Scottish Government and Abellio
 - COVID-19 had a small impact: passenger journeys were suppressed by around 3m and revenue by £14m. Costs were reduced by around £4m.
 - The cost of the intercity routes is lower than it would be now due to delays in delivering refurbished High Speed Trains
 - Parts of the Aberdeen to Inverness route were closed for 6 weeks in 2017, 14 weeks in 2018 and 15 weeks in 2019 to deliver major improvement works. This impacts both costs and revenue and the outputs are not reflective of actual route performance
 - Prior to COVID-19 ScotRail operated with around 330,000 spare seats per day. Each seat can theoretically occupied more as not everyone makes an end to end journey. No route experienced more demand than capacity provided other than for last or first sections of some AM or PM peak journeys, during special events or limited periods in summer during peak tourist season
 - Income from passengers and other activities exceeded operating costs only on the Edinburgh to Glasgow via Falkirk service
 - Income from passengers and other activities was around the same as the cost of operating Edinburgh and Glasgow to Aberdeen services
 - Costs were greater than income from passengers and other activities for all other routes
 - Income from passengers and other activities was less than half the operating cost on 14 routes
 - The Glasgow North and South Electrics and Argyle line account for 41% of passenger journeys, 22% of revenue and 35% of the £244m shortfall
 - Most services are poorly used in the off peak and evening. The Edinburgh to Aberdeen route has the highest weekday occupancy with an average of 41% of available seats used every journey. Cumbernauld and Maryhill routes were the lowest with an average of 7% of seats used
- This analysis excludes more than £600m of Network Rail costs for operating, maintaining and renewing the rail network
- Service improvements introduced in 2019 in Angus, Moray and Aberdeenshire have made rail a viable public transport mode for the first time since the 1960's. There has not yet been sufficient time for people to adjust their travel behaviours and shift to rail from other modes.
- There is no suggestion that every route should generate enough income from passengers to cover its operating cost. This is just not practicable with a dispersed population as Scotland has.
- As the country comes out of the COVID-19 pandemic, the railway industry has an opportunity to take control of operating costs and build a greener, more sustainable railway for the future. This analysis of how our services were used and the costs incurred will helps us prepare a new customer focused timetable which also provides better value for money for taxpayers.

Greater Glasgow routes

Service Group	Passenger Revenue £k	Passenger Journeys '000	Ave Revenue per Journey	Services per weekday	Ave jny distance (miles)	Ave distance travelled along route	Weekday seat utilisation	Weekday seat miles utilisation	Staff, stations and depots £k	Rolling Stock £k	Other costs £k	Total Cost £k	Total Revenue £k	Subsidy Required £k	Subsidy per pax journey	Ave cost per service	Ave revenue per service
East Kilbride	6,266	3,263	£ 1.92	76	8	69%	54%	35%	6,621	4,284	692	11,597	6,604	(4,993)	-£1.53	£ 435	£ 235
Ardrossan and Largs	10,496	3,277	£ 3.20	74	19	51%	53%	27%	7,629	8,276	2,056	17,961	11,500	(6,460)	-£1.97	£ 723	£ 422
Paisley Canal	2,071	1,270	£ 1.63	69	6	82%	27%	21%	2,733	1,707	304	4,744	2,220	(2,524)	-£1.99	£ 210	£ 92
North Electrics	45,010	17,100	£ 2.63	272	11	28%	60%	17%	40,728	33,840	11,510	86,077	50,632	(35,445)	-£2.07	£ 954	£ 499
Argyle Line	25,970	15,416	£ 1.68	292	7	29%	50%	14%	30,367	24,824	7,280	62,471	29,526	(32,945)	-£2.14	£ 623	£ 259
South Electrics	9,280	7,089	£ 1.31	195	4	44%	44%	18%	14,410	10,581	1,454	26,445	9,990	(16,455)	-£2.32	£ 402	£ 141
Inverclyde	12,961	4,537	£ 2.86	152	14	52%	41%	21%	12,791	9,680	2,570	25,040	14,216	(10,824)	-£2.39	£ 496	£ 257
Ayr	19,120	5,295	£ 3.61	116	22	51%	49%	25%	15,522	16,471	3,821	35,814	20,986	(14,828)	-£2.80	£ 929	£ 496
Barrhead and Kilmarnock	4,658	1,982	£ 2.35	94	11	59%	33%	22%	6,848	3,466	904	11,218	5,100	(6,118)	-£3.09	£ 369	£ 153
Cumbernauld and Falkirk	2,458	953	£ 2.58	44	11	28%	25%	7%	4,802	3,884	1,368	10,054	3,127	(6,928)	-£7.27	£ 658	£ 161
Anniesland via Maryhill	549	457	£ 1.20	70	4	55%	13%	7%	3,221	870	298	4,390	694	(3,696)	-£8.08	£ 192	£ 24

Observations

- East Kilbride operation is efficient with 2 carriage trains in off peak and 6 in peak. Average journey distance as a proportion of the route is high and seat miles utilisation the best of all suburban routes. However the yield (average revenue per passenger journey) is low, despite good frequency and journey time compared to competitor modes. Demand consistent throughout year.
- Paisley Canal requires more subsidy per journey than the average yield. Large fluctuations in demand throughout year. Average journey distance as a proportion of the route is high but seat and seat miles utilisation very low. Competitor modes likely to be a factor at some stations.
- North Electrics has largest cost base of all service groups and generates the largest loss. Average journey length is short compared to service length. Whilst seat utilisation per journey is reasonable, seat miles utilisation is very low meaning there are large parts of each journey with few passengers. Core service level is 2tph all day on each leg of the network (4tph between Edinburgh – Bathgate and Airdrie) resulting in an 8tph frequency through the central Glasgow corridor. Most services operate 6-carriages all day due to lack of locations to efficiently split / combine units in the shoulder peaks. There is significant overprovision of capacity in the central Glasgow corridor and between Edinburgh and Airdrie in the off peak.
- Argyle line is second largest cost base and loss after North Electrics. Demand appears to fluctuate more throughout year than North Electrics – possibly due to special events at SEC. Average journey length is shorter and seat and seat miles utilisation lower than North Electrics. All legs of this service group receiving 2tph throughout the day. This results in 6tph through city centre corridor. Yield is very low.

Greater Glasgow routes....continued

Service Group	Passenger Revenue £k	Passenger Journeys '000	Ave Revenue per Journey £	Services per weekday	Ave jny distance (miles)	Ave distance travelled along route	Weekday seat utilisation	Weekday seat miles utilisation	Staff, stations and depots £k	Rolling Stock £k	Other costs £k	Total Cost £k	Total Revenue £k	Subsidy Required £k	Subsidy per pax journey	Ave cost per service £	Ave revenue per service £
East Kilbride	6,266	3,263	£ 1.92	76	8	69%	54%	35%	6,621	4,284	692	11,597	6,604	(4,993)	-£1.53	£ 435	£ 235
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Ayr	19,120	5,295	£ 3.61	116	22	51%	49%	25%	15,522	16,471	3,821	35,814	20,986	(14,828)	-£2.80	£ 929	£ 496
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Anniesland via Maryhill	549	457	£ 1.20	70	4	55%	13%	7%	3,221	870	298	4,390	694	(3,696)	-£8.08	£ 192	£ 24

Observations

- South Electrics has a very short average journey length and low yield, seat and seat miles utilisation. Service level is 2tph on Newton and Neilston legs and 2tph Cathcart Circle. Additional peak services operate to Newton and Neilston. Competitor modes will be a factor at many stations.
- Ayrshire and Inverclyde have relatively consistent demand throughout the year. Average journey length just over 50% of service length but significant over capacity when seat miles considered. This is likely to be as a result of both routes having a 4tph service in the off peak. Rolling stock forms a lower proportion of cost in Inverclyde compared to Ayrshire because fewer services are strengthened.
- Barrhead and Kilmarnock corridor has good proportion of longer journeys but low seat and seat miles utilisation. A few peak services are busy but the all day 4tph frequency in the corridor provides significant over capacity. Competitor modes will be a factor at some stations. Yield compares poorly to Cumbernauld and North Electrics with comparable average journey distance.
- Cumbernauld and Anniesland (Maryhill) routes have competing bus services along entire corridor.

East and Central Scotland

Service Group	Passenger Revenue £k	Passenger Journeys '000	Ave Revenue per Journey	Services per weekday	Ave distance travelled along route	Weekday seat utilisation	Weekday seat miles utilisation	Staff, stations and depots £k	Rolling Stock £k	Other costs £k	Total Cost £k	Total Revenue £k	Subsidy Required £k	Subsidy per pax journey	Cost per service	Revenue per service
Glasgow to Alloa & Dunblane	9,298	3,264	£ 2.85	76	42%	46%	21%	7,057	6,361	2,042	15,460	10,295	(5,164)	-£1.58	£ 617	£ 371
North Berwick and Dunbar	6,049	1,929	£ 3.14	50	63%	32%	20%	4,480	4,093	1,342	9,916	6,704	(3,212)	-£1.67	£ 580	£ 354
Edinburgh to Dunblane	15,563	3,344	£ 4.65	104	59%	35%	21%	12,429	8,520	3,624	24,573	17,333	(7,240)	-£2.17	£ 711	£ 450
Borders	6,769	1,734	£ 3.90	62	54%	41%	23%	6,091	6,734	1,448	14,273	7,476	(6,797)	-£3.92	£ 676	£ 321
Shotts and Carstairs	10,901	2,482	£ 4.39	67	45%	51%	24%	13,400	7,796	2,323	23,519	12,036	(11,483)	-£4.63	£ 1,122	£ 520
Fife Circle	12,476	3,488	£ 3.58	110	42%	48%	20%	15,725	13,757	2,934	32,416	13,909	(18,507)	-£5.31	£ 891	£ 343
Central belt to Dundee & Arbroath	10,769	1,653	£ 6.51	45	45%	51%	26%	17,237	10,944	2,107	30,288	11,798	(18,490)	-£11.18	£ 2,284	£ 812

Observations

- Overall, average journey distance and yield are higher than many of the Greater Glasgow routes demonstrating rail provides an outer rather than inner suburban service in these corridors. Market analysis tells us rail has a lower mode share here compared to Glasgow meaning we need work much harder to keep existing customers and to attract new ones.
- Glasgow to Alloa/Dunblane average journey distance and yield impacted by around half of passengers originating at Bishopbriggs, Lenzie and Croy. Costs benefit from Perth and Dundee services (in other service groups) also serving Dunblane, Stirling and Larbert demand in the peaks. Competitor modes likely to be a factor at many stations.
- North Berwick services benefited from increased peak capacity in May 2019. Terminus capacity constraints mean sets operate strengthened all day, increasing cost. This contributes to low seat and seat miles utilisation, however off peak demand is low given catchment size. There is strong off peak competition from other modes.
- Edinburgh to Stirling / Dunblane cost base includes the Falkirk Grahamston to Edinburgh element of the Edinburgh to Glasgow via Cumbernauld service. New timetable structure introduced in Dec 2018 has not increase off peak demand as anticipated resulting in low seat and seat miles utilisation. There is strong off peak competition from other modes.
- Borders costs are 50% higher than North Berwick despite carrying only 10% more passengers. This is driven by 2tph all day service and diesel rather than electric train operation. Reasonably long journeys and service provision efficient with only peaks strengthened. Off peak demand drives low utilisation metrics. Strong off peak competition from other modes at the stations closest to Edinburgh.
- Shotts route was impacted by engineering disruption from 2016-2019 and demand suppressed. This area has relatively poor access to other public transport modes and rail should be competitive.
- Fife has strong competition from other modes and suffered from poor performance between 2017 and early 2019. Off peak demand and local journeys within Fife are low. Timetable is not customer friendly (different intervals and calling patterns throughout the day).
- Glasgow and Edinburgh to Dundee serves regional flows as well as local Angus services introduced in Dec 2018. Services provide additional peak capacity for Fife Circle and Dunblane to Glasgow. These services are high yielding and provide fast journey times. However utilisation out with the peaks is very low – on Edinburgh flows because it is effectively a limited stop additional Fife Circle service and on Glasgow flows because there are only limited services.

Intercity

Service Group	Passenger Revenue £k	Passenger Journeys '000	Ave Revenue per Journey £	Services per weekday	Ave distance travelled along route	Weekday seat utilisation	Weekday seat miles	Staff, stations and depots £k	Rolling Stock £k	Other costs £k	Total Cost £k	Total Revenue £k	Subsidy Required £k	Subsidy per pax journey	Cost per service	Revenue per service
Edinburgh to Glasgow	54,771	7,417	£ 7.39	126	75%	34%	26%	13,524	19,865	9,286	42,675	59,307	16,632	£2.24	£ 1,003	£ 1,288
Glasgow to Aberdeen	28,227	2,388	£ 11.82	42	46%	80%	35%	13,200	12,797	5,067	31,064	30,702	(362)	-£0.15	£ 1,998	£ 1,815
Edinburgh to Aberdeen	19,434	1,436	£ 13.53	31	64%	73%	41%	10,345	7,926	2,917	21,188	20,859	(330)	-£0.23	£ 2,100	£ 1,926
Central belt to Perth and Inverness	22,825	1,854	£ 12.31	46	65%	58%	38%	16,831	11,510	4,049	32,390	24,803	(7,587)	-£4.09	£ 2,140	£ 1,508

Observations

- The E&G is the only route which returns a profit. Yield and average journey distance are both high, however seat and seat miles load factors are low. This is because sets operate in strengthened formation all day due to capacity constraints to split and combine in the shoulder peak. The markets served by this corridor are well understood.
- During 2019/20, intercity services to Aberdeen and Inverness were operated by an average of 13 HST sets. Had the planned 23 traffic sets been available and operated, costs would have been circa £15m higher turning Aberdeen services from close to breakeven to loss making. Stations on Aberdeen and Inverness intercity routes are 10% of total cost respectively.
- The new Angus and Aberdeenshire services introduced in Dec 2018 enabled very limited stop intercity services to operate between Aberdeen and the central belt. The seat miles utilisation factor shows that most seats are only occupied for part of the journey and the opportunity exists to sell each seat more than once. Had more HSTs operated, the seat and seat miles load factors would have been poorer.
- The Inverness to central belt service group also includes Perth to Edinburgh regional services. These add cost but little revenue as they are poorly utilised in the off peak because the rail journey time between Perth and Edinburgh is not competitive with road and the market in Fife has not responded to a limited stop service to Edinburgh. There is strong competition from other modes along the full Inverness to central belt corridors. This is the most seasonal of the intercity routes.

Rural and NE Scotland

Service Group	Passenger Revenue £k	Passenger Journeys '000	Ave Revenue per Journey £	Services per weekday	Ave distance travelled along route	Weekday seat utilisation	Weekday seat miles utilisation	Staff, stations and depots £k	Rolling Stock £k	Other costs £k	Total Cost £k	Total Revenue £k	Subsidy Required £k	Subsidy per pax journey	Cost per service	Revenue per service
Glasgow to Dumfries & Carlisle	5,024	1,125	£ 4.47	40	40%	51%	22%	6,615	2,968	1,102	10,685	5,562	(5,123)	-£4.55	£ 829	£ 390
Aberdeen to Inverness	8,003	1,301	£ 6.15	57	55%	36%	18%	11,179	6,667	2,549	20,395	9,248	(11,147)	-£8.57	£ 1,080	£ 424
West Highland Line	6,431	530	£ 12.12	22	73%	36%	26%	6,895	4,090	717	11,702	6,781	(4,921)	-£9.28	£ 1,585	£ 871
Kilmarnock to Girvan & Stranraer	1,235	375	£ 3.30	33	58%	23%	14%	3,741	1,855	572	6,168	1,514	(4,654)	-£12.43	£ 568	£ 114
Inverness to Kyle	1,233	135	£ 9.13	8	65%	38%	23%	2,208	1,002	239	3,449	1,349	(2,100)	-£15.55	£ 1,327	£ 474
Aberdeen to Montrose	1,003	223	£ 4.50	27	48%	17%	9%	3,062	2,987	474	6,523	1,234	(5,289)	-£23.74	£ 756	£ 116
Inverness to Wick	1,780	257	£ 6.92	18	55%	30%	17%	5,537	2,583	342	8,462	1,947	(6,515)	-£25.33	£ 1,356	£ 285

Observations

- Rail's competitiveness between Dumfries and Carlisle drives the route revenue performance. The 11 return services per day between Dumfries and Kilmarnock drive the low seat miles utilisation.
- Aberdeen to Inverness impacted by engineering works in 2017, 2018 and 2019.
- Aberdeen to Montrose service only introduced in Dec 2018. Rail is very competitive in the south and west corridors into Aberdeen but the market is immature.
- West Highland Line has very seasonal demand but same service level operated all year round driving the low seat and seat miles metrics. Service is very efficiently resourced, which constrains the timetable. Market well understood and focus should be on growing demand between Sep and Mar.
- Kilmarnock to Girvan and Stranraer serves a limited population. An increased service level has operated since 2015. Whilst passenger numbers have increased, operating costs have risen at a faster rate.
- Kyle is the most seasonal of our routes and we operate the same service level of 4 trains per day all year round. Summer market could support additional services if resources were available. Wick also provided with all year round 4 trains per day service. Invergordon is the northern limit of where rail is competitive with road for travel to Inverness. Journey time to Wick and Thurso means day trips are not practicable and it is challenging to explore Caithness by public transport if you stay over. Stations are 17% of total cost.