

The drive to all-jet fleets by major regional carriers may give the impression that demand for turboprops will not remain high enough for their production to continue. Closer examination reveals regional operators are becoming specialised, and demand for turboprops is still high.

Turboprop operator fleet plans provide relief for manufacturers

The migration of most regional airlines from a turboprop to jet fleet raises the issue of what are the fleet plans of carriers still operating turboprops. These fleet plans will determine the market for new and used turboprops. The availability of turboprops remains high, but Saab Aircraft Leasing and ATR's asset management division play important roles in re-marketing. The fleet plans of airlines with more than 15 turboprops in service are studied here. The effects of smaller operators on the market are also considered.

USA & Canada

Air Canada Jazz operates 26 de Havilland Canada Dash 8-300s, 59 Dash 8-100s and five Beech 1900Ds. Air Canada Jazz was formed in March this year by the consolidation of Air BC, Air Nova, Air Ontario and Canadian Regional. At the time of Air Canada's take-over of Canadian, Air Canada committed to continue operating to all existing communities until January 2003. With the imminent expiry of this agreement, Air Canada has announced it will discontinue several of these services. As a result several smaller carriers are looking to expand into these markets and Air Canada Jazz's fleet of smaller turboprops should contract.

In 2001 Air Canada shelved plans to acquire new regional aircraft, including CRJ200s and Q400s, but with a combination of political pressure and the need to replace some of the older Dash 8s a future order for the Q400 is not unlikely.

Horizon Airlines is arguably the most enthusiastic turboprop operator in the US, given that it is the nations only customer for the Q400. All 15 have now been delivered and replace older Dash 8-100s and Fokker F.28s. Horizon will operate 15 Q400s and 28 Q200s, the youngest turboprop fleet in the US, by early 2003.

American Eagle is the world's largest turboprop operator, and also the biggest Saab 340B and ATR42/72 carrier. The Saab 340 fleet is centred around Dallas Fort Worth and the Southern California market. Its ultimate goal, however, is an all jet fleet. It has disposed of 17 Saab 340s, and the rest are being phased out over the next three years. The fleet of ATR42s and ATR72s is being transferred to AMR subsidiary Executive Airlines.

Executive Airlines is an AMR Corp subsidiary, but with a separate operating certificate to American Eagle. Executive's fleet comprises 16 ATR72s and 14 ATR42s, but American Eagle's own fleet of 14 ATR42s and 26 ATR72s is being transferred to Executive. Concentrating the ATR fleet in a single operation will reduce costs, but will also make it easier for AMR to sell Executive. In the longer term, with the disposal of the Saab 340 fleet, turboprop operations within the AMR group will be limited to Executive Airline's hubs in Miami and Puerto Rico, serving Florida and the Caribbean.

Skywest Airlines operates 79 Embraer EMB-120 Brasilias, the majority as United Express (61) and the remainder (18) as Delta Connection. United Express aims to phase out turboprops by 2005 with its other two regional operators Atlantic Coast (which wants to dispose of

its 30 Jetstream 41s), and Air Wisconsin (which aims to scale down its fleet to only 10 Dornier 328s). This will leave Skywest as the only turboprop operator in the United Express network.

Of the other Delta Connection operators, Atlantic Southeast, Skywest and Trans States operate a mixture of jets and turboprops. Skywest has ordered Canadair RJs to replace its Brasilias. It will, however, retain a fleet of about 50 to fly the United Express and Delta Connection turboprop networks.

Atlantic Southeast Airlines (ASA) is a wholly-owned subsidiary of Delta Airlines. It has 19 ATR72s and 37 Embraer Brasilias. Plans are in place to reduce the latter to 30 by the end of 2002, which will remain until 2005, but the ATR72 fleet has a longer term future.

Gulfstream International Airlines has been a codeshare partner with Continental since 1997. Continental subsequently acquired a 28% stake in Gulfstream in December 1999, as part of the transaction Gulfstream purchased Continental Express' fleet of 25 Beech 1900Ds. Since Continental Express (now operating as ExpressJet) phased out all turboprop flying, Gulfstream has been considering adding some of the ExpressJet's surplus ATR42s and Embraer Brasilias.

Mesaba Airlines operates 36 Avro RJ85 regional jets and 84 Saab 340s as Northwest Airlink. The only other Airlink operator is Pinnacle. Northwest has favoured development of Pinnacle, which operates all the Airlink Canadair RJs, and transferred the last 11 Saab 340Bs to Mesaba. Northwest is, however, reducing Mesaba's presence in other



areas, with six Saab 340As becoming surplus over the second half of the year. Mesaba's fleet of turboprops will continue to decline. It shown interest in freighter modification.

Piedmont Airlines is the largest US Airways' regional feeders, all of which operate only turboprops. As part of its restructuring efforts US Airways has obtained agreement with its mainline pilots to operate up to 465 regional jets, 175 70-seaters, 140 50-seaters and 150 32-seaters. This agreement has now been ratified by all three US Airways owned feeders, Piedmont, Allegheny and PSA Airlines, paving the way for each of them to operate regional jets. Following US Airways' entry into bankruptcy protection, it has sought court approval to abandon leases and financing arrangements on 35 Dash 8s, probably to seek flexible lease terms so these aircraft can be replaced with regional jets as soon as they are available. Piedmont and Allegheny control the world's largest fleet of DHC Dash 8s and in the longer term, there will be a significant impact on availability of the type.

Mesa Air Group operates through Air Midwest and Mesa Airlines. Air Midwest operates 48 Beech 1900Ds, of which 36 are on behalf of US Airways Express, and the balance for America West Express and its own independent operation. Mesa Airlines operates a largely regional jet fleet complemented by 12 Dash 8-200s. Although still the world's largest operator of Beech 1900Ds, Mesa has concentrated its efforts on reducing its loss-making turboprop operation, and is chasing Essential Air Service contracts in order to keep the fleet occupied. It has made no secret of its desire to exit the turboprop business.

Allegheny is another US Airways Express carrier, and operates 37 Dash 8-100s. Allegheny's future is dependent upon the availability of regional jets.

Trans States operates 25 Jetstream 41s, five ATR42s and three ATR72s. The ATRs and 18 of the Jetstreams are operated as American Connection, while the remaining seven Jetstream 41s are operated as US Airways Express. The ATRs have been on the market for some time, but in the absence of buyers the airline appears to have no plans for their replacement. Similarly it has no announced retirement plans for the 25 Jetstream 41s.

PSA Airlines operates the world's largest fleet of 31 Dornier 328 turboprops. Industry sources suggest this will be phased out as part of US Airways' bankruptcy reorganisation. This would be a significant development for the Dornier 328, since the second largest operator, Air Wisconsin, has also reduced its fleet from more than 20 to only 10 in recent months.

Atlantic Coast Airlines (ACA) operates 30 BAE Jetstream 41s, but plans to retire them by April 2004 as it moves to an all CRJ fleet. With the loss of these smaller aircraft on its network United Express expects to stop serving a number of smaller markets. ACA demonstrates the extent to which some operators will go to achieve the status of an all-regional jet fleet. Having set aside \$29 million as a restructuring charge against the early termination of its Jetstream 32 leases, ACA is now setting aside a further \$71 million to do the same with its Jetstream 41s.

Shuttle America was an independent operator, with six Dash 8-300s before it became a US Airways Express operator.

Examination of regional airline fleet plans reveals that 10 major carriers are evolving to an all-jet fleet. This will put their 500 turboprops on the market. Four of these carriers are US Airways regional affiliates, and are the largest Dash 8 operators in the US. One quarter of the turboprops put on the market by this development will be Dash 8s.

An expanded fleet was obtained when it leased 18 Saab 340As which had been returned by Chautauqua to Saab Aircraft Leasing.

Chicago Express is a subsidiary of American Trans Air (ATA) and operates 17 Saab 340Bs as ATA Connection. These aircraft were all acquired from American Eagle, but future growth is expected to be based upon regional jets. ATA recently agreed a new contract with its pilots, which allows Chicago Express to operate up to 120 regional jets.

Corporate Airlines is the only sizeable Jetstream 32 operator left in the US, with a fleet of 17. Prior to September 11th, 10 of these were operated as American Connection with another seven operating for Midway. Two of these aircraft were transferred to American Connection after the failure of Midway, but five remain idle. The airline has recently applied for a US Government loan guarantee, and envisages returning the five parked aircraft to service and also adding another nine within the next five years.

Big Sky Airlines has 16 Fairchild Metros on a route network which encompasses a number of Essential Air Service (EAS) routes. The airline has recently been acquired by Mesaba Holdings, and it is anticipated that Big Sky will become the vehicle to operate CRJs on behalf of Northwest. In such an event the future of the small turboprop operation could be in doubt.

Great Lakes Aviation, which is a substantial beneficiary of the Essential Air Service Programme, serving more communities than any other operator, operates a core fleet of 38 Beech 1900Ds and seven Embraer Brasilias.

Europe

Air Dolomiti has a modern fleet of six ATR72s and 10 ATR42-500s, with a further two ATR72-500s on order. The airline has been an ATR customer for most of its existence with the original ATR fleet comprising five ATR42-320s. The ATR aircraft continue to be a cornerstone of the operation, although complemented by a fleet of five CRJ200s.

Air Nostrum has committed to turboprops, with its order for 29 Q300s. Its fleet comprises five ATR72s, 14 Fokker 50s and 17 Q300s. The Fokker



50s will be phased out by early 2003. The future of the small ATR72 fleet has improved with the acquisition of Binter Canarias and the decision to use it to replace CN-235s. In the longer term, the airline still has options on 20 more Bombardier turboprops which can be taken as either Q200s, Q300s or Q400s.

Augsburg Airways has been a loyal Dash 8 turboprop customer since its predecessor company Interot Airways took delivery of its first Dash 8-100 in 1991. Operations are now concentrated on providing wet lease capacity for Lufthansa, and there are no plans to operate regional jets in the immediate future.

British Airways CitiExpress is also Europe's largest turboprop operator, but does not share Air Nostrum's enthusiasm for them. The wholly-owned BA subsidiary has declared its ambition to be an all-jet operator. The only obstacles are its long-term commitments to fleets of BAE ATPs, Jetstream 41s and Dash 8s. Their ultimate replacements are tied in to BA's 70-seat jet order. There will probably not be a direct replacement for the Jetstream 41s; instead the routes they operate will simply be dropped.

The return of CitiExpress' ATPs will reduce the passenger fleet to the four operated by SATA and three with Sun-Air of Scandinavia.

Eurowings currently operates one of Europe's largest fleets of ATR42/72s, but this is set to change following the acquisition of a 24.9% stake in the airline by Lufthansa. The turboprops flying at Eurowings and ATR fleet will be

transferred to Contact Air as replacements for this operator's fleet of Fokker 50s.

Regional Airline's current fleet includes eight Saab 2000s and 17 Embraer Brasilias. Plans are being drawn up that will have an impact on the turboprop operation following severe losses. Many smaller markets that cannot profitably served will be abandoned, and the fleet of Brasilias will be disposed of. There is also little long-term future for the Saab 2000s.

SAS Commuter is an all-turboprop operator with the world's largest fleet of 24 Q400s and five remaining Fokker 50s. The latter will be phased out as SAS' Norlink operation in Northern Norway is transferred to Wideroe. SAS is currently investigating the acquisition of a large fleet of regional jets, and SAS Commuter is the logical regional jet operator in the SAS empire. This would leave Cimber Air, Skyways Express and Wideroe as their turboprop operators in Denmark, Sweden and Norway respectively.

Skyways Express is a predominantly a turboprop operator, with 16 Fokker 50s and 12 Saab 340s. Future development is expected to see an increase in the Fokker 50 fleet with an equivalent reduction in Saab 340s.

Swiss operates 29 Saab 2000s, all of which are scheduled for replacement with Embraer 145/170s. The fleet has already been reduced from 34 to 29.

Tyrolean Airways, soon to be merged with Rheintalflug under a new brand identity, has six Q400s, 10 Q300s and a pair of Dash 8-100s. Two further aircraft,

Supply of the Fokker 50 on the used market is being kept tight by small airlines, including start-ups, absorbing aircraft. The aircraft has found new operators in Indonesia, Thailand and Europe.

both Dash 8-300s, were leased earlier this year to Eastern Australia Airlines, and two Q400s are scheduled for delivery in 2003.

West Air Sweden has made headlines recently as a result of its sponsorship of the BAE ATP freight conversion programme. Six ex-United Flying Services ATPs were acquired to 'supplement' a fleet of 11 HS.748s. Two ex-British World ATPs were acquired in 2002 and a further two examples are scheduled by the end of the year. Future ATP fleet expansion of up to four aircraft per year is planned, although constrained by the limited number of ATPs available to purchase.

Wideroe operates 29 Dash 8s on a largely domestic network. This includes a number of destinations that require the Dash 8's good airfield performance. The airline recently secured 14 of the 20 Public Service Obligation (PSO) route contracts put up for tender by the Norwegian Ministry of Transport and is also taking over SAS' Norlink operation, in northern Norway. This was operated with five Fokker 50s and may provide the opportunity to confirm the five Q400 options that the airline retains.

Rest of the world

Aerolitoral of Mexico has acquired the world's largest fleet of used Saab 340Bs; a total of 22. Its Metro fleet, which has steadily declined to 10, will be phased out by 2003 as it discontinues services to smaller communities. The airline is evaluating whether to add regional jets to its fleet, or continue expanding its Saab 340 operation.

Japan Air Commuter operates 12 NAMC YS-11s and 11 Saab 340Bs. Five Q400s have been selected to replace the YS-11s. A further order for a similar number of aircraft should be expected.

Eastern Australia Airlines is a subsidiary of Qantas, and operates Dash 8s acquired from a wide variety of sources.

Regional Express (REX) commenced operations in August 2002, by taking over the operations of Hazelton Airlines and Kendell Airlines. The combined fleet comprises 21 Saab 340s and seven Metro 23s, providing regional services across the south eastern states of Australia. No major fleet changes are expected in the

short term.

Air Nelson is one of three wholly-owned regional airline subsidiaries of Air New Zealand, the others being Eagle Airways and Mount Cook. The airline operates a fleet of 14 Saab 340As and two Fairchild Metros, but the Metros will be retired as Eagle Airways takes over all 19-seat flying within the group with its fleet of 1900Ds.

Eagle Airways is a wholly-owned subsidiary of Air New Zealand (ANZ). ANZ ordered 16 Raytheon Beech 1900Ds in April 2001, nearly all of which have been delivered.

Freight operators

Emerald Airways qualifies for inclusion by virtue of its recent take-over of another UK operator, Streamline Aviation. Emerald is concentrating on a replacement for its HS748s, which is expected to be ATR42s.

Air Cargo Carriers operates an all-Shorts fleet of eight Shorts 360s and 16 330s. The airline has not added any additional capacity in the past two years.

Superior Aviation is an all-freight airline, with 18 Metros.

Swiftair has nine Convair 580s on behalf of European Air Transport/DHL. This operation is complemented by a fleet of five Embraer Brasilias and four Metros.

Mountain Air Cargo operates 23 Fokker F.27s and 43 Cessna Cargomasters in FedEx Feeder colours. The aircraft are all owned by FedEx as will any future replacements. FedEx has examined most aircraft including the ATR42/72, BAE ATP, Saab 340 and Fokker 50, but industry expectation is that it will select the ATR family.

Small operators

The evolution of larger regional carriers tells one side of the story. With several regional airlines becoming fully-owned subsidiaries of major carriers, and developing all-jet fleets, smaller routes with thin passenger volumes and low yields are being left to smaller carriers. One example of this is BA Citiexpress which plans to drop smaller routes. This process, and other economic circumstances in other parts of the world, is giving birth to new small turboprop carriers. In recent years several have begun operations in Indonesia, Thailand, Mongolia, the Nordic Countries, Austria and South America. Air Alps, for example, based in Salzburg operates a small fleet of Fokker 50s. The market for used turboprops has been strong in the past year because of lower passenger yields and passenger numbers. Moreover, the market for these niche operators shows no sign of weakening. Small

TURBOPROP OPERATORS WHICH WILL DEVELOP ALL-JET FLEETS

Operator	Fleet
American Eagle	26 x ATR72, 14 x ATR42, 97 x Saab 340B
Atlantic Coast Airlines	30 x J41
Allegheny Airlines	37 x DHC8-100
Mesa Air Group	12 x DHC8-200, 48 x Beech 1900D
Piedmont Airlines	11 x DHC8-300, 19 x DHC8-200, 42 x DHC8-100
PSA Airlines	31 x Dornier 328
British Airways Citiexpress	1 x ATR72, 13 x ATP, 11 x DHC8-300, 11 x J41
Eurowings	16 x ATR72, 10 x ATR42
Regional Airlines	8 x 2000, 17 x EMB120
Swiss	29 x Saab 2000

TURBOPROP OPERATORS WHICH WILL HAVE MIXED JET & TURBOPROP FLEETS

Operator	Fleet
Air Canada Jazz	26 x DHC8-300, 59 x DHC8-100, 5 x Beech 1900D
Horizon Air	15 x Q400, 28 x Q200
Chicago Express	17 x Saab 340B
Atlantic Southeast Airlines	19 x ATR72, 39 x EMB-120
Skywest Airlines	79 x EMB120
Mesaba Airlines	61 x Saab 340B, 23 x Saab 340A
Trans States Airlines	3 x ATR72, 5 x ATR42, 25 x Jetstream 41
Big Sky Airlines	16 x Metro
Air Dolomiti	6 x ATR72, 10 x ATR42
Air Nostrum	5 x ATR72, 17 x Q300, 14 x F50
SAS Commuter	24 x Q400, 5 x F50
Skyways Express	16 x F50, 12 x Saab 340A
Tyrolean Airways	6 x Q400, 10 x Q300, 2 x DHC8-100
Aerolitoral	22 x Saab 340B, 10 x Metro

TURBOPROP OPERATORS WHICH WILL MAINTAIN ALL-TURBOPROP FLEETS

Operator	Fleet
American Eagle (Executive)	16 x ATR72, 14 x ATR42
Gulfstream International Corporate Airlines	25 x 1900D
Great Lakes Aviation	17 x Jetstream 32
Augsburg Airways	7 x EMB120, 38 x 1900D, 4 x 1900C
West Air Sweden	5 x Q400, 9 x Dash 8-300, 2 x Dash 8-200
Wideroe	8 x ATP, 9 x HS748
Japan Air Commuter	3 x Q400, 9 x DHC8-300, 17 x DHC-100
Eastern Australia Airlines	1 x Q400, 12 x YS11, 11 x Saab 340
Regional Express	5 x DHC8-300, 3 x DHC8-200, 10 x DHC8-100
Air Nelson	21 x Saab 340, 7 x Metro 23
Eagle Airways	14 x Saab 340A, 2 x Metro III
Emerald Airways	15 x 1900D, 1 x Metro
Air Cargo Carriers	13 x HS748, 9 x Shorts 360, 2 x Shorts 330
Superior Aviation	8 x 360, 16 x 330
Swiftair	18 x Metro
Mountain Air Cargo	9 x Convair 580, 5 x EMB120, 4 x Metro III/II
	23 x F27, 2 x Shorts 330

operators are expected to keep evolving and absorbing used turboprops, playing an important role in the continued tight supply of used turboprops.

Conclusions

The future of the turboprop is still reasonably secure, based on the expected developments within each of these airlines. Of the 20 major passenger

airlines currently operating all-turboprop fleets, 14 plan to remain all-turboprop operators. Aerolitoral, Chicago Express and Big Sky Airlines are expected to progress to mixed operations. The three US Airways owned regional carriers, Piedmont, Allegheny and PSA Airlines, may become all-regional jet airlines.

The number of mixed operators is reducing, with the three additions exceeded by seven operators looking to



move to all-jet operations: American Eagle; Mesa Air Group; BA Citiexpress; ACA; Swiss; Eurowings; and Regional Airlines. These will join the likes of Comair and Expressjet, which have already achieved all-jet status. This indicates a polarisation to either all-jet or all-turboprop fleets.

The transformation of these 10 operators to all-jet fleets will see nearly 500 turboprop aircraft becoming available. Some types are more likely to be affected than others. More than one aircraft in four will be from the Dash 8 family. These aircraft, like the Saab 340B and the ATR72, had until recently benefited from low supply in the market. This is in part the result of having strong asset management organisations behind them. Others like the BAE Jetstream 41, Dornier 328 and Saab 2000 have benefited up to now from remaining in the fleets of their original customers. Therefore no secondary market has so far needed to develop.

Passenger operators

There is a growing tendency for the major airlines' wholly-owned subsidiaries to operate more of the regional jets, leaving their independent regional partners to operate turboprops. This may lead to a further obstacle for turboprop manufacturers, since these regional operators will have less ability to finance new equipment.

The majority of the larger regional carriers with a firm commitment to turboprops, especially those owned by major airlines, operate larger 50 to 70-seat aircraft. The majority of these have based their futures on the Dash 8 family.

Of the top 12 such airlines, nine have gone for the Dash 8, with six selecting the Q400.

ATR's presence among the larger operators is limited to Air Dolomiti in Europe, and ASA and Executive Airlines in the US, both of which operate relatively old fleets.

The only non-ATR/Dash 8 operator is Skyways Express, which has based its future on a used Fokker 50s and Saab 340s.

The Saab 340 is the most popular 30-seat aircraft. With the exception of Mesaba, some Saab 340 operators are either stable fleets or slowly expanding.

Second to the Saab 340 are the smaller Dash 8 family members, with four operators.

The Embraer Brasilia and Jetstream 41 face a less secure future with only Skywest and Trans States respectively looking to operate them in the long-term.

The 19-seaters continue to play an important part in the American passenger air transport system. Mesa, Great Lakes and Gulfstream together operate 111 Beech 1900Ds, while Big Sky and Corporate have added 16 Metros and 17 Jetstream 32s.

The only other 19-seat operator included in this analysis is Eagle Airways of New Zealand, which has taken delivery of its fleet of 16 new Beech 1900Ds.

Used equipment

Air Nostrum of Spain has acquired the most (30) used turboprops in recent years. Its appetite for the Fokker 50 has been such that it has managed to maintain the balance between supply and

Executive Airlines is a subsidiary of AMR Corp, and operates for American Eagle. American Eagle itself will become an all-jet operator, and pass its ATR 42s and 72s to Executive. This an example of regional airlines becoming specialised as all-jet or all-turboprop operators.

demand almost entirely by itself.

Unfortunately for today's market few of the larger passenger operators are willing to expand with large numbers of used aircraft on the market. Of the largest 25 turboprop operators only Aerolitoral, Atlantic Southeast Airlines, Eastern Australia Airways, Mesaba and Skyways have acquired significant numbers of used turboprops.

Future demand for these aircraft therefore has to come from the expansion of smaller operators and start-ups, together with the cargo market. Given that so many airlines are moving all-jet and larger turboprop fleets, there should be demand for a smaller turboprop to serve smaller communities. Operators as far apart as Aerolitoral of Mexico, United Express of the US and CitiExpress in the UK are all giving up profitable routes that cannot support the smallest jet aircraft in their new fleets.

Freight operators

Of the eight cargo operators covered by this analysis, five are based in the US and three in Europe. Among the US operators Ameriflight, Merlin Airways and Superior Aviation operate substantial fleets in the two tonne class, with a combined total of 73 Metros and 11 1900s. Mountain Air Cargo and Air Cargo Carriers operate Fedex's F.27s. Air Cargo Carriers is the largest Short 330/360 airline. The replacement of two-tonne freighters is the largest potential market for the three-four tonne freighter conversions of the Embraer EMB-120 and the Saab 340.

European cargo operators favour larger aircraft. The future for these operators is likely to be split between the ATR42/72 and the ATP.

Several freight conversion programmes for turboprops have been proposed to cater for the expected growth in regional freight. Fokker Services, for example, has developed a conversion for the Fokker 50, but it needs at least 15-20 aircraft to reduce the conversion cost to an acceptable \$1.2-1.5 million per aircraft. This will only happen if the availability of Fokker 50s increase. Due to the tight supply of aircraft this may not happen for several years. **AC**