

Commercial Aircraft Data

ADG	Manufacturer	Model	AAC	Approach Speed (V _{ref})	Seating	Wingspan (ft.)	Range (NM)	MTOW	Engine Type (note 6)	ICAO Noise				ICAO Emissions										ASE Operational Capability			Operations Data		
										EPNLdB Noise Level Lateral/Full-Power	EPNLdB Noise Level Approach	EPNLdB Noise Level Flyover	Average ICAO Noise	Fuel per LTO Cycle (kg) per Passenger	Fuel Compared to CRJ-700	CO2 Total Mass LTO (g) per Passenger	CO2 Compared to CRJ-700	NOx Total Mass LTO (g) per Passenger	NOx Compared to CRJ-700	NOx Takeoff	NOx Climbout	NOx Approach	NOx Idle	NOx Total (All Segments)	ASE Missed Approach Capable? Winter	ASE Missed Approach Capable? Summer	Significant Wt Penalty at ASE?	Annual Ops 2018	Annual Ops Future
II	Bombardier	CRJ 100/200/440 LR (CL-600-2B19)	C	140	50	68.67	1,650	53,000	High Bypass Turbofan	82.4	92.2	77.7	84.1	3.34	100%	67.00	188%	22.74	77%	0.23	0.20	0.14	0.08	0.65	Charter	N	Y	16,452	17,816
II	Bombardier	CRJ 550 (Same airframe as CRJ-700)	C	135	50	76.27	1,000	65,000	High Bypass Turbofan	89.5	92.6	82.4	88.2	4.69	140%	49.87	140%	41.30	140%	0.29	0.25	0.22	0.09	0.84	Y	Y	N	16,452	17,816
II	Bombardier	CRJ 700/701/702 LR	C	135	70	76.27	1,400	77,000	High Bypass Turbofan	89.5	92.6	82.4	88.2	3.35	100%	35.62	100%	29.50	100%	0.20	0.18	0.15	0.06	0.60	Y	Y	Y	11,751	12,726
III	Airbus	A220-100	C	130	109	115.08	3,400	134,000	Geared Turbofan	88.0	91.5	78.8	86.1	2.71	81%	17.44	49%	36.83	125%	0.17	0.14	0.07	0.03	0.40	Y	Y	N	7,547	8,173
III	Airbus	A220-300	C	135	140	115.08	3,350	149,000	Geared Turbofan	87.5	92.4	80.3	86.7	1.98	59%	14.33	40%	25.08	85%	0.24	0.19	0.10	0.06	0.58	Unknown	Unknown	Unknown	5,876	6,363
III	Mitsubishi	M100 SpaceJet	C		76	91.30	1,910	86,000	Geared Turbofan	Information not available				Information not available				Information not available			Unknown	Unknown	Unknown	10,823	11,721				
III	Mitsubishi	M90 SpaceJet	C		88*	95.83	2,040	94,358	Geared Turbofan	Information not available				Information not available				Information not available			Unknown	Unknown	Unknown	9,348	10,123				
III	Embraer	EMB 175 LR, extended wingtips	C	124	76	93.92	2,150	85,517	High Bypass Turbofan	91.8	95.1	93.0	93.3	3.23	96%	26.96	76%	30.34	103%	0.20	0.17	0.14	0.06	0.57	Y	Marginal	Y	10,823	11,721
III	Embraer	EMB 175-E2	C	124	80	101.70	2,000	98,767	Geared Turbofan	Information not available				Information not available				Information not available			Unknown	Unknown	Unknown	10,282	11,135				
III	Embraer	EMB 195-E2	C	124	120	115.15	2,600	135,584	Geared Turbofan	92.3	92.7	84.9	90.0	2.63	78%	53.83	151%	26.17	89%	0.16	0.13	0.07	0.03	0.39	Unknown	Unknown	Unknown	6,855	7,423
III	Embraer	E 170 Standard	C	124	69	85.42	2,150	82,012	High Bypass Turbofan	92.0	94.5	81.3	89.3	3.57	107%	29.65	83%	33.63	114%	0.22	0.19	0.16	0.07	0.63	Unknown	Unknown	Unknown	11,921	12,910
III	Embraer	E 190 Standard	C	124	96**	94.25	2,450	105,359	High Bypass Turbofan	92.2	92.3	82.9	89.1	3.24	97%	68.39	192%	31.59	107%	0.20	0.17	0.09	0.04	0.49	Unknown	Unknown	Unknown	8,569	9,279
III	Boeing	737-700 with winglets	C	130	137	117.42	4,400	154,500	High Bypass Turbofan	93.1	95.9	83.5	90.8	2.99	89%	47.66	134%	32.15	109%	0.15	0.12	0.06	0.03	0.37	Y	Marginal	Y	6,528	7,070
III	Embraer	EMB 190-E2	C	124	97	110.70	2,850	124,341	Geared Turbofan	92.3	92.3	83.8	89.5	3.23	96%	67.14	188%	31.81	108%	0.20	0.17	0.09	0.04	0.49	Unknown	Unknown	Unknown	8,480	9,184
III	Boeing	737-MAX 7 (same engine as MAX 8)	D	142	153***	117.83	3,850	177,000	LEAP	Information not available				Information not available				Information not available			Y	Y	N	5,376	5,822				
III	Airbus	A319-100 Sharklet	C	126	132	117.45	3,750	168,653	High Bypass Turbofan	91.4	92.9	83.3	89.2	2.89	86%	39.96	112%	31.07	105%	0.12	0.08	0.06	0.03	0.29	Y	Y	N	6,426	6,959
III	Airbus	A320 NEO Sharklet	C	136	157	117.45	3,500	174,165	LEAP or Geared Turbofan	86.4	92.4	80.5	86.4	1.99	60%	22.00	62%	19.13	65%	0.16	0.13	0.06	0.03	0.37	Unknown	Unknown	Unknown	5,876	6,363
III	Airbus	A320-200 Sharklet	C	136	157	117.45	3,300	171,961	High Bypass Turbofan	90.9	93.6	84.1	89.5	2.57	77%	27.55	77%	31.17	106%	0.16	0.13	0.07	0.04	0.40	Unknown	Unknown	Unknown	5,484	5,939
III	Bombardier	Dash 8 Q400	C	125	76	93.25	1,100	65,200	Turboprop	84.9	94.0	77.8	85.6	Information not available				Information not available			Y	Y	N	10,823	11,721				
III	Boeing	737-MAX 8	D	142	178****	117.83	3,550	181,200	LEAP	88.2	94.0	80.9	87.7	1.99	60%	13.52	38%	32.01	108%	0.27	0.13	0.06	0.03	0.48	Y	Marginal	Y	4,621	5,005

Notes:

- 1) Noise and Emissions Source - ICAO Certification Database, August 2019 | HMMH, August 2019; Per-passenger interpretation - Kimley-Horn August 2019.
- 2) Operations 2018 = Actual Enplanements at 70% load factor. Future = 2028 Enplanements at 0.8% Annual Growth and 70% load factor
- 3) Aircraft Load and Dimensions from FAA Aircraft Design Characteristics Database OCT 2018
- 4) ASE Operational Capability from August 2018 Aircraft Feasibility analysis done by Alec Seybold - Flight Tech Engineering
- 5) Range is nominal stated by manufacturer
- 6) LEAP = "Leading Edge Aviation Propulsion" by CFM, a NextGen High Bypass Engine which competes with Pratt & Whitney Geared Turbofan

* Single-class seating as configured for ANA for use in Japan. Range is 76 to 92
 ** Dual-class seating per Manufacturer
 *** Dual-class range 138 to 153
 **** Dual-class range 162 to 178

Commercial Aircraft - Noise

ADG	Manufacturer	Model	AAC	Approach Speed (V _{ref})	Seating	Wingspan (ft.)	Range (NM)	MTOW	Engine Type (note 6)	ICAO Noise			Noise Score	Operations for 2018 Enplanements
										EPNLdB Noise Level Lateral/Full-Power	EPNLdB Noise Level Approach	EPNLdB Noise Level Flyover		
II	Bombardier	CRJ 100/200/440 LR (CL-600-2B19)	C	140	50	68.67	1,650	53,000	High Bypass Turbofan	82.4	92.2	77.7		16,452
III	Bombardier	Dash 8 Q400	C	125	76	93.25	1,100	65,200	Turboprop	84.9	94.0	77.8		10,823
III	Airbus	A220-100	C	130	109	115.08	3,400	134,000	Geared Turbofan	88.0	91.5	78.8		7,547
III	Airbus	A320 NEO Sharklet	C	136	157	117.45	3,500	174,165	LEAP or Geared Turbofan	86.4	92.4	80.5		5,876
III	Airbus	A220-300	C	135	140	115.08	3,350	149,000	Geared Turbofan	87.5	92.4	80.3		5,876
III	Boeing	737-MAX 8	D	142	178****	117.83	3,550	181,200	LEAP	88.2	94.0	80.9		4,621
II	Bombardier	CRJ 550 (Same airframe as CRJ-700)	C	135	50	76.27	1,000	65,000	High Bypass Turbofan	89.5	92.6	82.4		16,452
II	Bombardier	CRJ 700/701/702 LR	C	135	70	76.27	1,400	77,000	High Bypass Turbofan	89.5	92.6	82.4	2	11,751
III	Embraer	E 190 Standard	C	124	96**	94.25	2,450	105,359	High Bypass Turbofan	92.2	92.3	82.9		8,569
III	Airbus	A319-100 Sharklet	C	126	132	117.45	3,750	168,653	High Bypass Turbofan	91.4	92.9	83.3		6,426
III	Embraer	E 170 Standard	C	124	69	85.42	2,150	82,012	High Bypass Turbofan	92.0	94.5	81.3		11,921
III	Embraer	EMB 190-E2	C	124	97	110.70	2,850	124,341	Geared Turbofan	92.3	92.3	83.8		8,480
III	Airbus	A320-200 Sharklet	C	136	157	117.45	3,300	171,961	High Bypass Turbofan	90.9	93.6	84.1		5,484
III	Embraer	EMB 195-E2	C	124	120	115.15	2,600	135,584	Geared Turbofan	92.3	92.7	84.9		6,855
III	Boeing	737-700 with winglets	C	130	137	117.42	4,400	154,500	High Bypass Turbofan	93.1	95.9	83.5		6,528
III	Embraer	EMB 175 LR, extended wingtips	C	124	76	93.92	2,150	85,517	High Bypass Turbofan	91.8	95.1	93.0		10,823
III	Mitsubishi	M100 SpaceJet	C		76	91.30	1,910	86,000	Geared Turbofan	Information not available				10,823
III	Mitsubishi	M90 SpaceJet	C		88*	95.83	2,040	94,358	Geared Turbofan	Information not available				9,348
III	Embraer	EMB 175-E2	C	124	80	101.70	2,000	98,767	Geared Turbofan	Information not available				10,282
III	Boeing	737-MAX 7 (same engine as MAX 8)	D	142	153****	117.83	3,850	177,000	LEAP	Information not available				5,376

Notes:

- 1) Noise and Emissions Source - ICAO Certification Database, August 2019 | HMMH, August 2019; Per-passenger interpretation - Kimley-Horn August 2019.
- 2) Operations 2018 = Actual Enplanements at 70% load factor. Future = 2028 Enplanements at 0.8% Annual Growth and 70% load factor
- 3) Aircraft Load and Dimensions from FAA Aircraft Design Characteristics Database OCT 2018
- 4) ASE Operational Capability from August 2018 Aircraft Feasibility analysis done by Alec Seybold - Flight Tech Engineering
- 5) Range is nominal stated by manufacturer
- 6) LEAP = "Leading Edge Aviation Propulsion" by CFM, a NextGen High Bypass Engine which competes with Pratt & Whitney Geared Turbofan

- 1 = Measurably meets community goals
- 2 = Generally maintains current condition
- 3 = Worsens current condition

* Single-class seating as configured for ANA for use in Japan. Range is 76 to 92
 ** Dual-class seating per Manufacturer
 *** Dual-class range 138 to 153
 **** Dual-class range 162 to 178

Commercial Aircraft Data

ADG	Manufacturer	Model	AAC	Approach Speed (V _{ref})	Seating	Wingspan (ft.)	Range (NM)	MTOW	Engine Type (note 6)	ICAO Noise				ICAO Emissions										ASE Operational Capability			Operations Data		
										EPNLdB Noise Level Lateral/Full-Power	EPNLdB Noise Level Approach	EPNLdB Noise Level Flyover	Average ICAO Noise	Fuel per LTO Cycle (kg) per Passenger	Fuel Compared to CRJ-700	CO2 Total Mass LTO (g) per Passenger	CO2 Compared to CRJ-700	NOx Total Mass LTO (g) per Passenger	NOx Compared to CRJ-700	NOx Takeoff	NOx Climbout	NOx Approach	NOx Idle	NOx Total (All Segments)	ASE Missed Approach Capable? Winter	ASE Missed Approach Capable? Summer	Significant Wt Penalty at ASE?	Annual Ops 2018	Annual Ops Future
II	Bombardier	CRJ 100/200/440 LR (CL-600-2B19)	C	140	50	68.67	1,650	53,000	High Bypass Turbofan	82.4	92.2	77.7	84.1	3.34	100%	67.00	188%	22.74	77%	0.23	0.20	0.14	0.08	0.65	Charter	N	Y	16,452	17,816
II	Bombardier	CRJ 550 (Same airframe as CRJ-700)	C	135	50	76.27	1,000	65,000	High Bypass Turbofan	89.5	92.6	82.4	88.2	4.69	140%	49.87	140%	41.30	140%	0.29	0.25	0.22	0.09	0.84	Y	Y	N	16,452	17,816
II	Bombardier	CRJ 700/701/702 LR	C	135	70	76.27	1,400	77,000	High Bypass Turbofan	89.5	92.6	82.4	88.2	3.35	100%	35.62	100%	29.50	100%	0.20	0.18	0.15	0.06	0.60	Y	Y	Y	11,751	12,726
III	Airbus	A220-100	C	130	109	115.08	3,400	134,000	Geared Turbofan	88.0	91.5	78.8	86.1	2.71	81%	17.44	49%	36.83	125%	0.17	0.14	0.07	0.03	0.40	Y	Y	N	7,547	8,173
III	Airbus	A220-300	C	135	140	115.08	3,350	149,000	Geared Turbofan	87.5	92.4	80.3	86.7	1.98	59%	14.33	40%	25.08	85%	0.24	0.19	0.10	0.06	0.58	Unknown	Unknown	Unknown	5,876	6,363
III	Mitsubishi	M100 SpaceJet	C		76	91.30	1,910	86,000	Geared Turbofan	Information not available				Information not available				Information not available			Unknown	Unknown	Unknown	10,823	11,721				
III	Mitsubishi	M90 SpaceJet	C		88*	95.83	2,040	94,358	Geared Turbofan	Information not available				Information not available				Information not available			Unknown	Unknown	Unknown	9,348	10,123				
III	Embraer	EMB 175 LR, extended wingtips	C	124	76	93.92	2,150	85,517	High Bypass Turbofan	91.8	95.1	93.0	93.3	3.23	96%	26.96	76%	30.34	103%	0.20	0.17	0.14	0.06	0.57	Y	Marginal	Y	10,823	11,721
III	Embraer	EMB 175-E2	C	124	80	101.70	2,000	98,767	Geared Turbofan	Information not available				Information not available				Information not available			Unknown	Unknown	Unknown	10,282	11,135				
III	Embraer	EMB 195-E2	C	124	120	115.15	2,600	135,584	Geared Turbofan	92.3	92.7	84.9	90.0	2.63	78%	53.83	151%	26.17	89%	0.16	0.13	0.07	0.03	0.39	Unknown	Unknown	Unknown	6,855	7,423
III	Embraer	E 170 Standard	C	124	69	85.42	2,150	82,012	High Bypass Turbofan	92.0	94.5	81.3	89.3	3.57	107%	29.65	83%	33.63	114%	0.22	0.19	0.16	0.07	0.63	Unknown	Unknown	Unknown	11,921	12,910
III	Embraer	E 190 Standard	C	124	96**	94.25	2,450	105,359	High Bypass Turbofan	92.2	92.3	82.9	89.1	3.24	97%	68.39	192%	31.59	107%	0.20	0.17	0.09	0.04	0.49	Unknown	Unknown	Unknown	8,569	9,279
III	Boeing	737-700 with winglets	C	130	137	117.42	4,400	154,500	High Bypass Turbofan	93.1	95.9	83.5	90.8	2.99	89%	47.66	134%	32.15	109%	0.15	0.12	0.06	0.03	0.37	Y	Marginal	Y	6,528	7,070
III	Embraer	EMB 190-E2	C	124	97	110.70	2,850	124,341	Geared Turbofan	92.3	92.3	83.8	89.5	3.23	96%	67.14	188%	31.81	108%	0.20	0.17	0.09	0.04	0.49	Unknown	Unknown	Unknown	8,480	9,184
III	Boeing	737-MAX 7 (same engine as MAX 8)	D	142	153***	117.83	3,850	177,000	LEAP	Information not available				Information not available				Information not available			Y	Y	N	5,376	5,822				
III	Airbus	A319-100 Sharklet	C	126	132	117.45	3,750	168,653	High Bypass Turbofan	91.4	92.9	83.3	89.2	2.89	86%	39.96	112%	31.07	105%	0.12	0.08	0.06	0.03	0.29	Y	Y	N	6,426	6,959
III	Airbus	A320 NEO Sharklet	C	136	157	117.45	3,500	174,165	LEAP or Geared Turbofan	86.4	92.4	80.5	86.4	1.99	60%	22.00	62%	19.13	65%	0.16	0.13	0.06	0.03	0.37	Unknown	Unknown	Unknown	5,876	6,363
III	Airbus	A320-200 Sharklet	C	136	157	117.45	3,300	171,961	High Bypass Turbofan	90.9	93.6	84.1	89.5	2.57	77%	27.55	77%	31.17	106%	0.16	0.13	0.07	0.04	0.40	Unknown	Unknown	Unknown	5,484	5,939
III	Bombardier	Dash 8 Q400	C	125	76	93.25	1,100	65,200	Turboprop	84.9	94.0	77.8	85.6	Information not available				Information not available			Y	Y	N	10,823	11,721				
III	Boeing	737-MAX 8	D	142	178****	117.83	3,550	181,200	LEAP	88.2	94.0	80.9	87.7	1.99	60%	13.52	38%	32.01	108%	0.27	0.13	0.06	0.03	0.48	Y	Marginal	Y	4,621	5,005

Notes:

- 1) Noise and Emissions Source - ICAO Certification Database, August 2019 | HMMH, August 2019; Per-passenger interpretation - Kimley-Horn August 2019.
- 2) Operations 2018 = Actual Enplanements at 70% load factor. Future = 2028 Enplanements at 0.8% Annual Growth and 70% load factor
- 3) Aircraft Load and Dimensions from FAA Aircraft Design Characteristics Database OCT 2018
- 4) ASE Operational Capability from August 2018 Aircraft Feasibility analysis done by Alec Seybold - Flight Tech Engineering
- 5) Range is nominal stated by manufacturer
- 6) LEAP = "Leading Edge Aviation Propulsion" by CFM, a NextGen High Bypass Engine which competes with Pratt & Whitney Geared Turbofan

* Single-class seating as configured for ANA for use in Japan. Range is 76 to 92
 ** Dual-class seating per Manufacturer
 *** Dual-class range 138 to 153
 **** Dual-class range 162 to 178

Commercial Aircraft - Operations

(0.8% Compound Annual Growth)

ADG	Manufacturer	Model	AAC	Approach Speed (V _{ref})	Seating	Wingspan (ft.)	Range (NM)	MTOW (lbs)	Engine Type (note 6)	Operations Data		Ability to limit Operations Score
										Annual Ops 2018	Annual Ops Future	
III	Boeing	737-MAX 8	D	142	178****	117.83	3,550	181,200	LEAP	4,621	5,005	
III	Boeing	737-MAX 7 (same engine as MAX 8)	D	142	153***	117.83	3,850	177,000	LEAP	5,376	5,822	
III	Airbus	A320-200 Sharklet	C	136	157	117.45	3,300	171,961	High Bypass Turbofan	5,484	5,939	
III	Airbus	A220-300	C	135	140	115.08	3,350	149,000	Geared Turbofan	5,876	6,363	
III	Airbus	A320 NEO Sharklet	C	136	157	117.45	3,500	174,165	LEAP or Geared Turbofan	5,876	6,363	
III	Airbus	A319-100 Sharklet	C	126	132	117.45	3,750	168,653	High Bypass Turbofan	6,426	6,959	
III	Boeing	737-700 with winglets	C	130	137	117.42	4,400	154,500	High Bypass Turbofan	6,528	7,070	
III	Embraer	EMB 195-E2	C	124	120	115.15	2,600	135,584	Geared Turbofan	6,855	7,423	
III	Airbus	A220-100	C	130	109	115.08	3,400	134,000	Geared Turbofan	7,547	8,173	
III	Embraer	EMB 190-E2	C	124	97	110.70	2,850	124,341	Geared Turbofan	8,480	9,184	
III	Embraer	E 190 Standard	C	124	96**	94.25	2,450	105,359	High Bypass Turbofan	8,569	9,279	
III	Mitsubishi	M90 SpaceJet	C		88*	95.83	2,040	94,358	Geared Turbofan	9,348	10,123	
III	Embraer	EMB 175-E2	C	124	80	101.70	2,000	98,767	Geared Turbofan	10,282	11,135	
III	Mitsubishi	M100 SpaceJet	C		76	91.30	1,910	86,000	Geared Turbofan	10,823	11,721	
III	Embraer	EMB 175 LR, extended wingtips	C	124	76	93.92	2,150	85,517	High Bypass Turbofan	10,823	11,721	
III	Bombardier	Dash 8 Q400	C	125	76	93.25	1,100	65,200	Turboprop	10,823	11,721	
II	Bombardier	CRJ 700/701/702 LR	C	135	70	76.27	1,400	77,000	High Bypass Turbofan	11,751	12,726	2
III	Embraer	E 170 Standard	C	124	69	85.42	2,150	82,012	High Bypass Turbofan	11,921	12,910	
II	Bombardier	CRJ 100/200/440 LR (CL-600-2B19)	C	140	50	68.67	1,650	53,000	High Bypass Turbofan	16,452	17,816	
II	Bombardier	CRJ 550 (Same airframe as CRJ-700)	C	135	50	76.27	1,000	65,000	High Bypass Turbofan	16,452	17,816	

Notes:

- 1) Noise and Emissions Source - ICAO Certification Database, August 2019 | HMMH, August 2019; Per-passenger interpretation - Kimley-Horn August 2019.
- 2) Operations 2018 = Actual Enplanements at 70% load factor. Future = 2028 Enplanements at 0.8% Annual Growth and 70% load factor
- 3) Aircraft Load and Dimensions from FAA Aircraft Design Characteristics Database OCT 2018
- 4) ASE Operational Capability from August 2018 Aircraft Feasibility analysis done by Alec Seybold - Flight Tech Engineering
- 5) Range is nominal stated by manufacturer
- 6) LEAP = "Leading Edge Aviation Propulsion" by CFM, a NextGen High Bypass Engine which competes with Pratt & Whitney Geared Turbofan

* Single-class seating as configured for ANA for use in Japan. Range is 76 to 92

** Dual-class seating per Manufacturer

*** Dual-class range 138 to 153

**** Dual-class range 162 to 178

- 1 = Measurably meets community goals
- 2 = Generally maintains current condition
- 3 = Worsens current condition

Commercial Aircraft - Operational Capability

ADG	Manufacturer	Model	Physical Class (Engine)	AAC	Approach Speed (V _{ref})	Seating	Wingspan (ft.)	Range (NM)	MTOW	Engine Type (note 6)	ASE Operational Capability			ASE Operation Capability Score
											ASE Missed Approach Capable? Winter	ASE Missed Approach Capable? Summer	Significant Wt Penalty at ASE?	
II	Bombardier	CRJ 550 (Same airframe as CRJ-700)	Jet	C	135	50	76.27	1,000	65,000	High Bypass Turbofan	Y	Y	N	
III	Airbus	A220-100	Jet	C	130	109	115.08	3,400	134,000	Geared Turbofan	Y	Y	N	
III	Boeing	737-MAX 7 (same engine as MAX 8)	Jet	D	142	153***	117.83	3,850	177,000	LEAP	Y	Y	N	
III	Airbus	A319-100 Sharklet	Jet	C	126	132	117.45	3,750	168,653	High Bypass Turbofan	Y	Y	N	
III	Bombardier	Dash 8 Q400	Turboprop	C	125	76	93.25	1,100	65,200	Turboprop High Bypass Turbofan	Y	Y	N	
II	Bombardier	CRJ 700/701/702 LR	Jet	C	135	70	76.27	1,400	77,000	High Bypass Turbofan	Y	Y	Y	2
III	Embraer	EMB 175 LR, extended wingtips	Jet	C	124	76	93.92	2,150	85,517	High Bypass Turbofan	Y	Marginal	Y	
III	Boeing	737-700 with winglets	Jet	C	130	137	117.42	4,400	154,500	High Bypass Turbofan	Y	Marginal	Y	
III	Boeing	737-MAX 8	Jet	D	142	178****	117.83	3,550	181,200	LEAP	Y	Marginal	Y	
II	Bombardier	CRJ 100/200/440 LR (CL-600-2B19)	Jet	C	140	50	68.67	1,650	53,000	High Bypass Turbofan	Charter	N	Y	
III	Airbus	A220-300	Jet	C	135	140	115.08	3,350	149,000	Geared Turbofan	Unknown	Unknown	Unknown	
III	Mitsubishi	M100 SpaceJet	Jet	C		76	91.30	1,910	86,000	Geared Turbofan	Unknown	Unknown	Unknown	
III	Mitsubishi	M90 SpaceJet	Jet	C		88*	95.83	2,040	94,358	Geared Turbofan	Unknown	Unknown	Unknown	
III	Embraer	EMB 175-E2	Jet	C	124	80	101.70	2,000	98,767	Geared Turbofan	Unknown	Unknown	Unknown	
III	Embraer	EMB 195-E2	Jet	C	124	120	115.15	2,600	135,584	Geared Turbofan	Unknown	Unknown	Unknown	
III	Embraer	E 170 Standard	Jet	C	124	69	85.42	2,150	82,012	High Bypass Turbofan	Unknown	Unknown	Unknown	
III	Embraer	E 190 Standard	Jet	C	124	96**	94.25	2,450	105,359	High Bypass Turbofan	Unknown	Unknown	Unknown	
III	Embraer	EMB 190-E2	Jet	C	124	97	110.70	2,850	124,341	Geared Turbofan	Unknown	Unknown	Unknown	
III	Airbus	A320 NEO Sharklet	Jet	C	136	157	117.45	3,500	174,165	LEAP or Geared Turbofan	Unknown	Unknown	Unknown	
III	Airbus	A320-200 Sharklet	Jet	C	136	157	117.45	3,300	171,961	High Bypass Turbofan	Unknown	Unknown	Unknown	

Notes:

- 1) Noise and Emissions Source - ICAO Certification Database, August 2019 | HMMH, August 2019; Per-passenger interpretation - Kimley-Horn August 2019.
- 2) Operations 2018 = Actual Enplanements at 70% load factor. Future = 2028 Enplanements at 0.8% Annual Growth and 70% load factor
- 3) Aircraft Load and Dimensions from FAA Aircraft Design Characteristics Database OCT 2018
- 4) ASE Operational Capability from August 2018 Aircraft Feasibility analysis done by Alec Seybold - Flight Tech Engineering
- 5) Range is nominal stated by manufacturer
- 6) LEAP = "Leading Edge Aviation Propulsion" by CFM, a NextGen High Bypass Engine which competes with Pratt & Whitney Geared Turbofan

- 1 = Measurably meets community goals
- 2 = Generally maintains current condition
- 3 = Worsens current condition

* Single-class seating as configured for ANA for use in Japan. Range is 76 to 92
 ** Dual-class seating per Manufacturer
 *** Dual-class range 138 to 153
 **** Dual-class range 162 to 178