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Effects of Novel Coronavirus (COVID-19) on Civil Aviation: Economic Impact Analysis

Economic Development
Air Transport Bureau

Illustrative scenarios: Baseline, V-shaped and U-shaped

- 3 scenarios to assess the possible economic impact of COVID-19:
  - **Baseline**: counterfactual scenario, in which the COVID-19 pandemic does not occur, that is, **originally-planned** or **business as usual**
  - **Scenario 1**: **V-shaped** path, normal shape for recession, a brief period of contraction followed by quick/smooth recovery
  - **Scenario 2**: **U-shaped** path, prolonged contraction and muted recovery, possibility of not to return to trend line growth (L-shaped)
- Analytical focus, for the time being, on:
  - Near-term, i.e. monthly profile from **January to September 2020**
  - Scheduled **international passenger** traffic

What does Scenario mean?

- Scenarios 1 and 2 are **not forecasts** of what is most likely to happen. Given a rapidly changing environment, these scenarios are merely indicative of **possible paths or consequential outcomes out of many**.

- The exact path (depth, length and shape) will depend upon various factors, inter alia, duration and magnitude of the outbreak and containment measures, availability of government assistance, consumer confidence, and economic conditions.

- Scenarios 1 and 2 are differentiated in terms of **supply (output)** and **demand (spending)** conditions, mainly, a) the timing and scale of airline capacity decline and recovery, and b) the degree of consumer confidence in air travel that can be translated into demand or load factor.

Uncertainties surrounding the outlook

- How long will the pandemic last and what will be the severity levels?
- How deep and how long will the global recession be?
- How long will lockdowns and travel restrictions continue?
- How fast will consumer confidence in air travel be restored?
- How long can the air transport industry withstand the current finical adversity?

Due to extreme uncertainty, 6 different paths up till 3Q 2020 are considered

- **Baseline (counterfactual, no COVID-19 pandemic)**
  - **Originally-planned or business as usual**: trend line growth from 2019 level
- **Scenario 1 (V-shaped path, a first sign of recovery in late May)**
  - **Path 1**: Smooth capacity recovery to 75% of Baseline level by September but weak demand return
  - **Path 1a**: Strong capacity rebound to 90% in tandem with quick demand return
  - **Path 1b**: Slow progression to recover 50% capacity by September with downside risk in demand
- **Scenario 2 (U-shaped path, restart in 3Q or later)**
  - **Path 2**: Slow progression of capacity recovery to 40% of Baseline with sluggish demand growth
  - **Path 2a**: Strong capacity rebound to 70% by September, outpacing demand recovery
  - **Path 2b**: Prolonged downturn towards September or later with marginal summer adjustments

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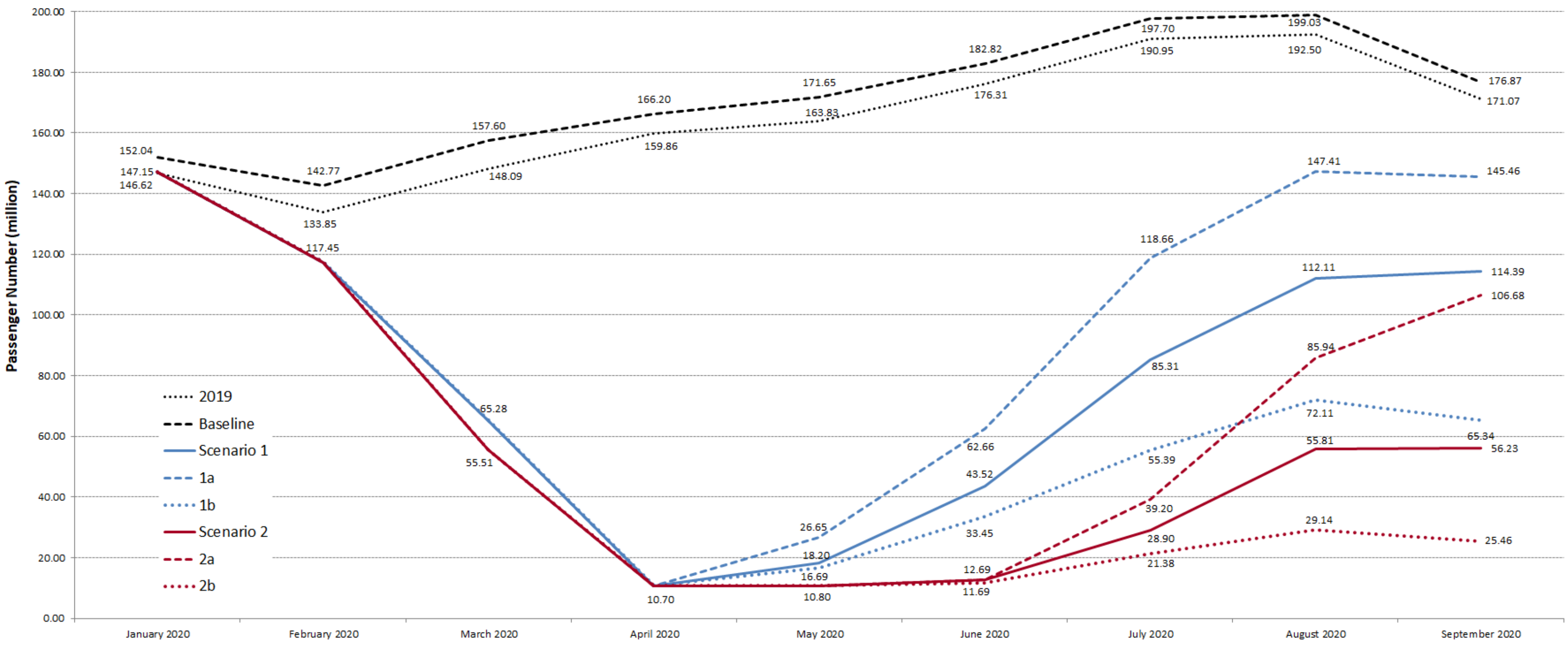
Scenarios 1 & 2: 705 - 1,117 million and 642 - 1,054 million less passengers than Baseline and 2019



Note: Number of international passengers departing from each country and territory, which are aggregated at the regional level to avoid double counting

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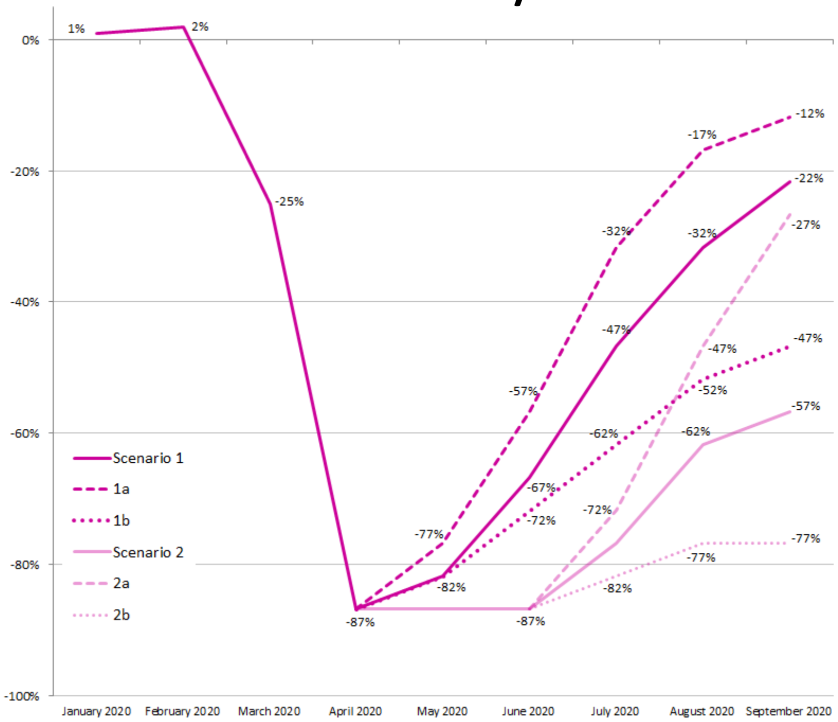
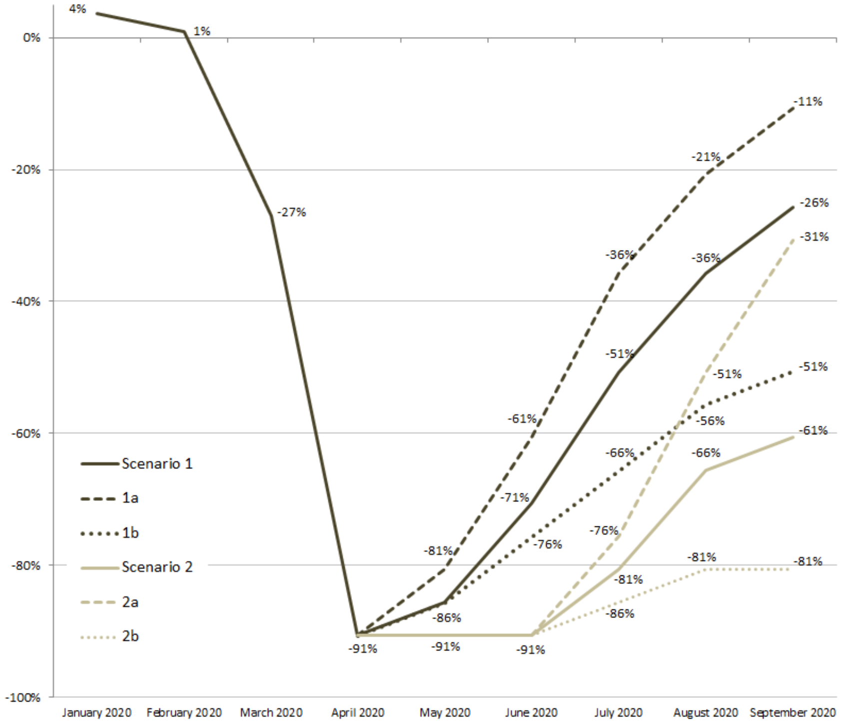
Break-down of seat capacity reduction from Baseline by region

Latin America/Caribbean

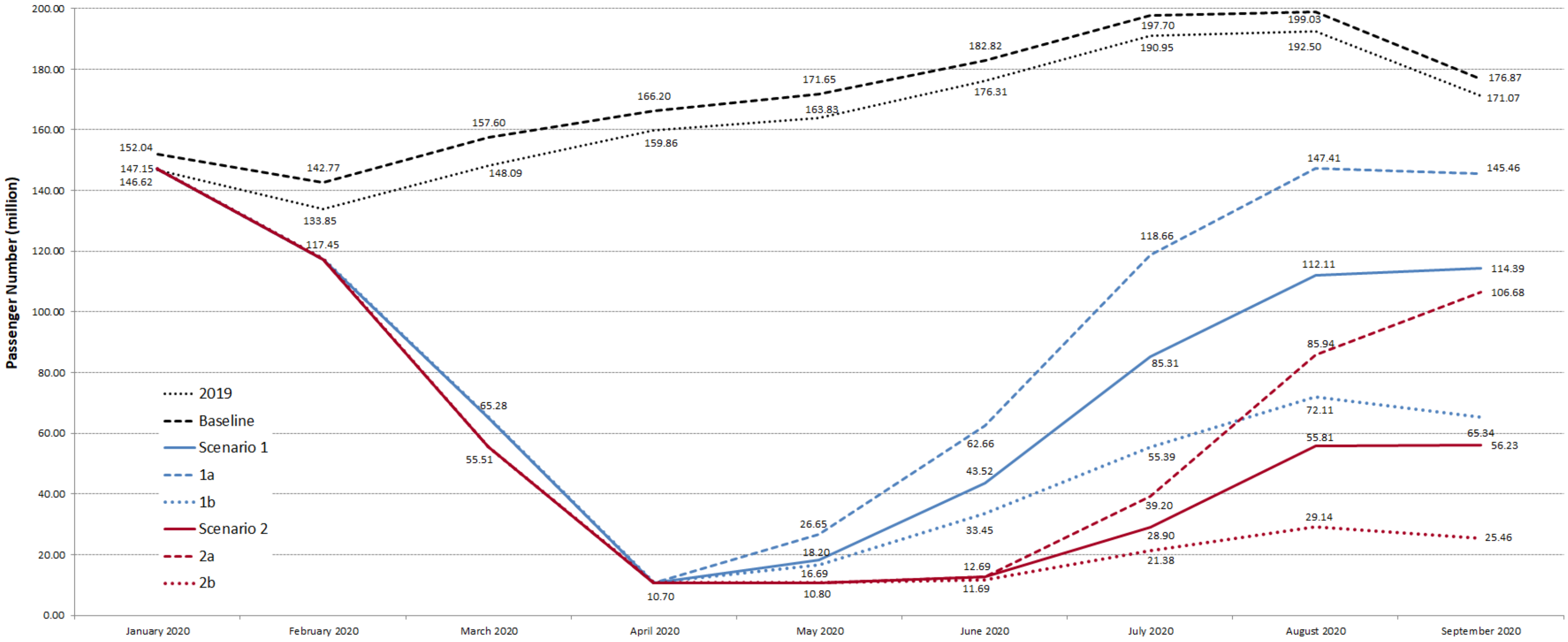


North America



Source: ICAO estimates based on OAG, Routes Online and airline websites

Scenarios 1 & 2: 705 - 1,117 million and 642 - 1,054 million less passengers than Baseline and 2019



Note: Number of international passengers departing from each country and territory, which are aggregated at the regional level to avoid double counting

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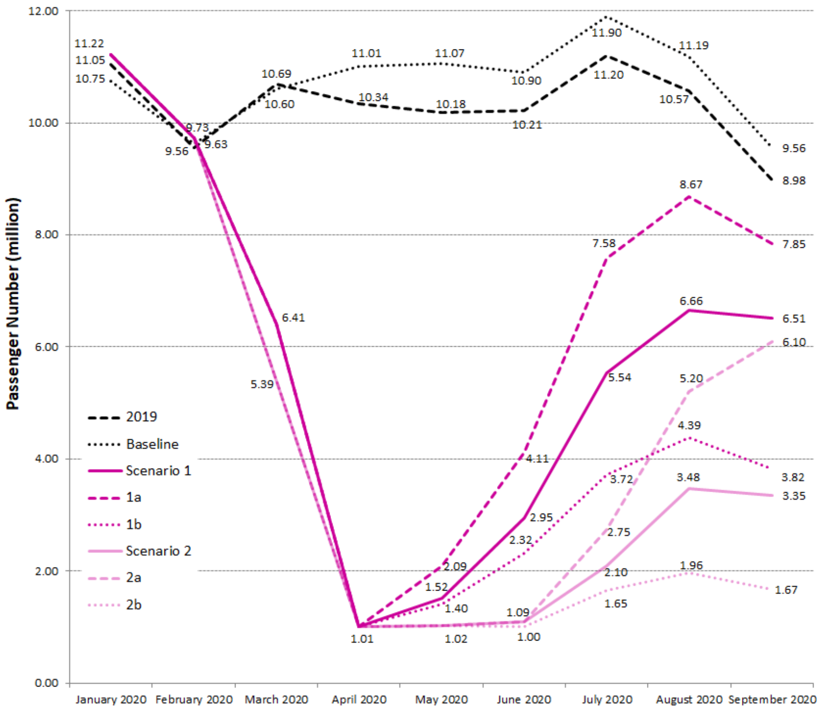
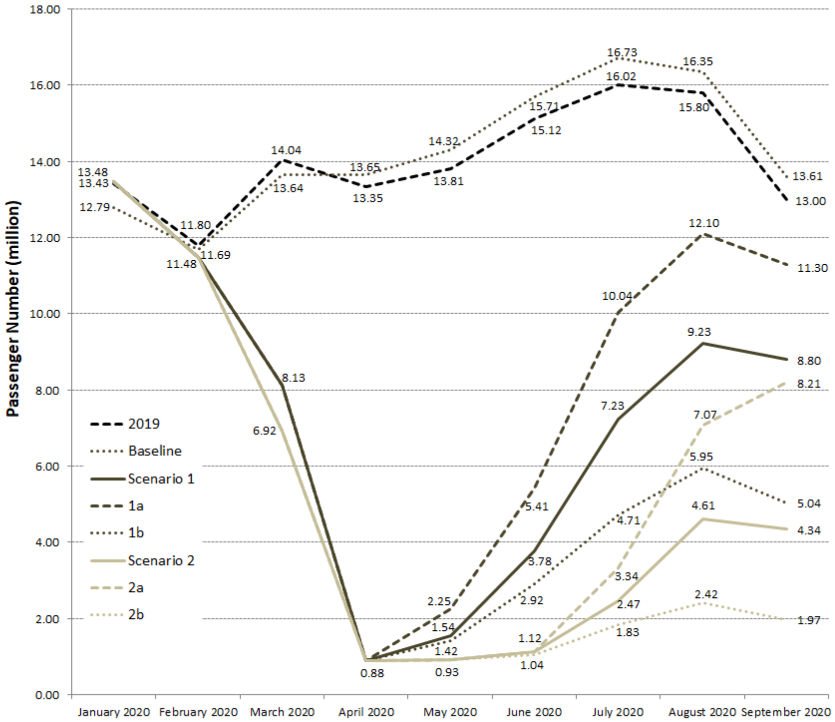
Break-down of passenger number by region

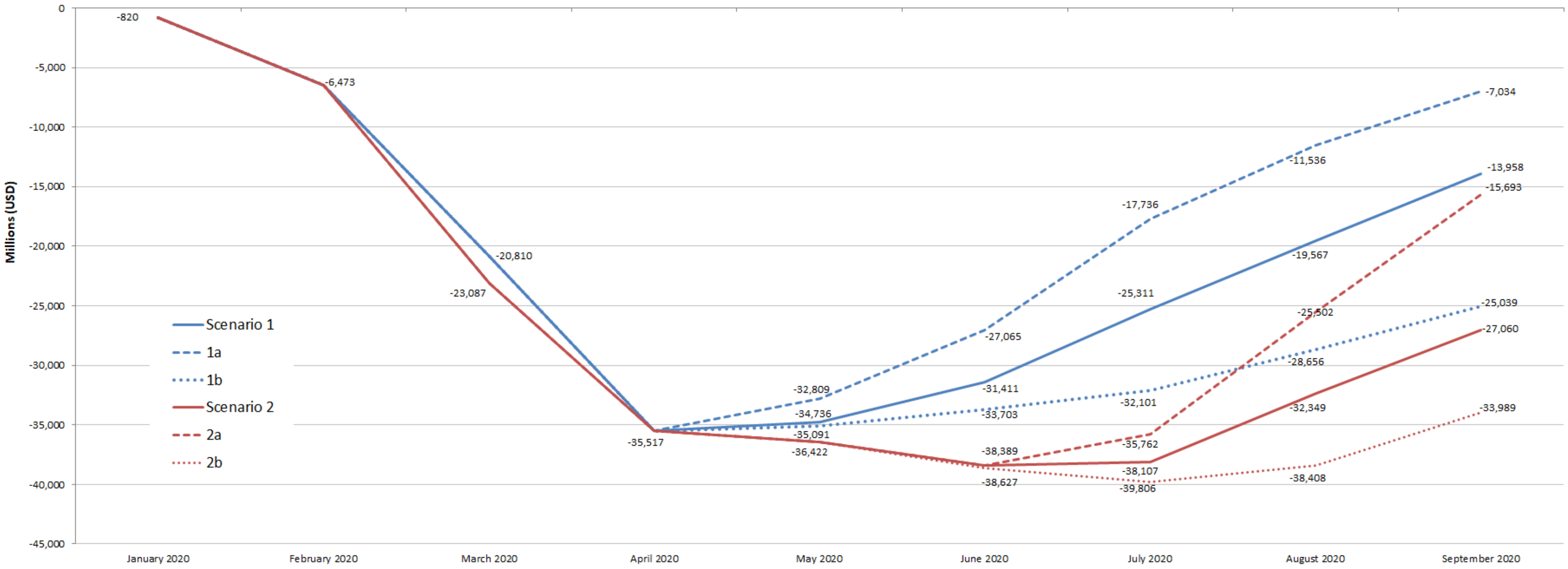
Latin America/Caribbean



North America



Scenarios 1 & 2: USD 160 to 253 billion less revenues than Baseline



Note: The above revenues are gross passenger operating revenues of all airlines serving international routes from each country and territory, which are aggregated at the regional level (revenues of international routes to each country and territory were removed to avoid double counting.

Source: ICAO estimates based on ICAO ADS-B, OAG, ICAO-ICM MIDT, ICAO LTF, ICAO Statistical Reporting, IATA Economics, and IMF Economic Outlook

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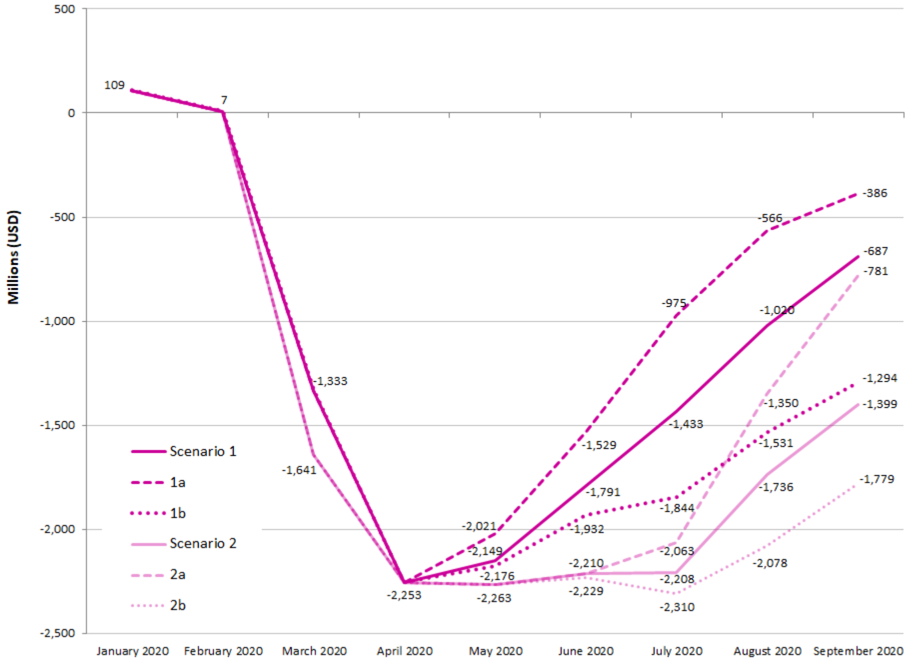
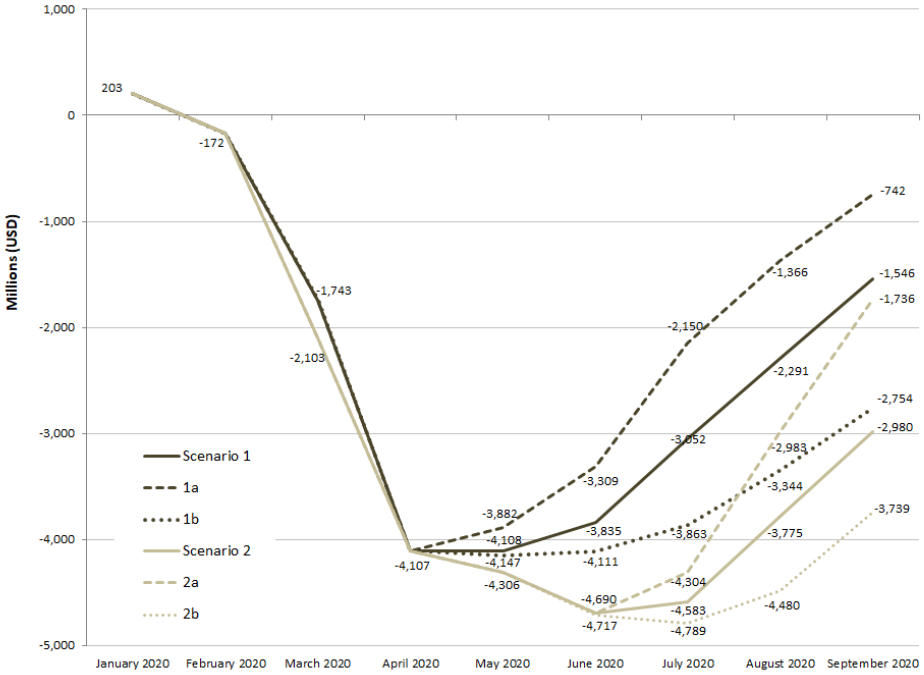
Break-down of revenue reduction compared to Baseline by region

Latin America/Caribbean



North America



Source: ICAO estimates based on ICAO ADS-B, OAG, ICAO-ICM MIDT, ICAO LTF, ICAO Statistical Reporting, IATA Economics, and IMF Economic Outlook

Estimated results in brief

The latest estimates indicate that the possible COVID-19 impact on scheduled international passenger traffic for the first 9 months of 2020, compared to Baseline (business as usual, originally-planned), would be:

V-shaped path (a first sign of recovery in late May)

- Overall reduction ranging from **41% to 56% of seats offered by airlines**
- Overall reduction of **705 to 963 million passengers**
- Approx. **USD 160 to 218 billion potential loss** of gross operating revenues of airlines

U-shaped path (restart in third quarter or later)

- Overall reduction ranging from **57% to 67% of seats offered by airlines**
- Overall reduction of **961 to 1,117 million passengers**
- Approx. **USD 218 to 253 billion potential loss** of gross operating revenues of airlines

The impacts depend on duration and magnitude of the outbreak and containment measures, the degree of consumer confidence for air travel, and economic conditions, etc.

Estimated results by region: Scenario 1 compared to Baseline

Compared to Baseline (Originally-planned, business as usual)	**Scenario 1 (V-shaped) Path 1**			**Scenario 1 (V-shaped) Path 1a**			**Scenario 1 (V-shaped) Path 1b**		
Region	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)
Africa	-42.7%	-30.62	-10.05	-36.5%	-25.81	-8.38	-50.5%	-36.04	-11.94
Asia/Pacific	-50.9%	-232.81	-60.11	-44.2%	-200.93	-52.04	-58.2%	-264.88	-68.23
Europe	-49.9%	-399.39	-70.42	-42.3%	-335.89	-59.07	-58.3%	-464.11	-81.98
Latin America/Caribbean	-39.9%	-45.05	-10.55	-33.8%	-37.93	-8.95	-46.9%	-52.58	-12.25
Middle East	-42.9%	-60.76	-16.83	-36.6%	-51.27	-14.10	-50.4%	-71.04	-19.78
North America	-43.5%	-63.93	-20.65	-36.5%	-53.41	-17.27	-51.1%	-74.47	-24.04
Total	**-48.1%**	**-832.56**	**-188.60**	**-41.1%**	**-705.24**	**-159.80**	**-55.9%**	**-963.11**	**-218.21**

Source: ICAO estimates

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Estimated results by region: Scenario 1 compared to 2019 (year-on-year)

Compared to 2019 (year-on-year)	Scenario 1 (V-shaped) Path 1			Scenario 1 (V-shaped) Path 1a			Scenario 1 (V-shaped) Path 1b		
Region	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)
Africa	-38.4%	-26.24	-8.74	-31.8%	-21.43	-7.07	-46.8%	-31.66	-10.63
Asia/Pacific	-48.3%	-211.32	-54.08	-41.2%	-179.44	-46.01	-56.0%	-243.39	-62.20
Europe	-48.2%	-373.83	-66.26	-40.3%	-310.33	-54.91	-56.8%	-438.55	-77.82
Latin America/Caribbean	-37.6%	-41.22	-9.69	-31.3%	-34.10	-8.09	-44.8%	-48.75	-11.39
Middle East	-40.0%	-54.54	-15.24	-33.3%	-45.05	-12.51	-47.8%	-64.82	-18.19
North America	-42.7%	-61.82	-19.93	-35.6%	-51.30	-16.55	-50.3%	-72.36	-23.32
Total	**-46.0%**	**-768.97**	**-173.94**	**-38.6%**	**-641.65**	**-145.14**	**-54.1%**	**-899.52**	**-203.55**

Source: ICAO estimates

Estimated results by region: Scenario 2 compared to Baseline

Compared to Baseline (Originally-planned, business as usual)	Scenario 2 (U-shaped) Path 2			Scenario 2 (U-shaped) Path 2a			Scenario 2 (U-shaped) Path 2b		
Region	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)
Africa	-56.9%	-39.44	-13.06	-51.0%	-35.71	-11.76	-61.7%	-42.13	-14.00
Asia/Pacific	-64.3%	-286.13	-73.69	-58.8%	-263.86	-68.05	-68.8%	-302.19	-77.76
Europe	-65.3%	-507.76	-89.73	-58.9%	-462.22	-81.59	-70.4%	-540.83	-95.64
Latin America/Caribbean	-52.9%	-58.22	-13.59	-47.7%	-53.11	-12.44	-57.1%	-61.96	-14.44
Middle East	-56.7%	-77.61	-21.63	-51.0%	-70.58	-19.62	-61.3%	-82.75	-23.11
North America	-57.5%	-82.27	-26.51	-51.9%	-75.06	-24.20	-62.1%	-87.54	-28.21
Total	**-62.5%**	**-1,051.43**	**-238.22**	**-56.5%**	**-960.55**	**-217.66**	**-67.3%**	**-1,117.40**	**-253.15**

Source: ICAO estimates

Estimated results by region: Scenario 2 compared to 2019 (year-on-year)

Compared to 2019 (year-on-year)	Scenario 2 (U-shaped) Path 2			Scenario 2 (U-shaped) Path 2a			Scenario 2 (U-shaped) Path 2b		
Region	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)	Seat Capacity (%)	Passenger number (million)	Passenger revenue (USD, billion)
Africa	-53.7%	-35.06	-11.75	-47.4%	-31.33	-10.45	-58.9%	-37.75	-12.69
Asia/Pacific	-62.4%	-264.64	-67.66	-56.6%	-242.37	-62.02	-67.1%	-280.70	-71.73
Europe	-64.1%	-482.20	-85.57	-57.5%	-436.66	-77.43	-69.4%	-515.27	-91.48
Latin America/Caribbean	-51.1%	-54.39	-12.73	-45.7%	-49.28	-11.58	-55.5%	-58.13	-13.58
Middle East	-54.5%	-71.39	-20.04	-48.4%	-64.36	-18.03	-59.3%	-76.53	-21.52
North America	-56.9%	-80.16	-25.79	-51.2%	-72.95	-23.48	-61.5%	-85.43	-27.49
Total	**-60.9%**	**-987.84**	**-223.56**	**-54.7%**	**-896.96**	**-203.00**	**-65.9%**	**-1,053.81**	**-238.49**

Source: ICAO estimates

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https://www.icao.int/sustainability/Pages/Economic-Impacts-of-COVID-19.aspx

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