

**Question on notice no. 134**

**Portfolio question number: SQ24-001333**

**2024-25 Supplementary budget estimates**

**Rural and Regional Affairs and Transport Committee, Infrastructure,  
Transport, Regional Development, Communications and the Arts Portfolio**

**Senator Steph Hodgins-May:** asked the Airservices Australia on 14 November 2024

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(1. Have any minimum climb gradients been specified in Brisbane Airport?

a. If so, what are they?

b. If not, when will Airservices finally enforce a minimum rate of climb on the SIDs (Standard Instrument Departure) routes and vectored routes serving Brisbane Airport to ensure aircraft achieve a higher altitude and reduce noise impacts on communities?

2. On notice, please table a detailed list of climb gradients (minimum, maximum, average) being achieved by the most common aircraft departing Brisbane Airport for each SID.

**Answer —**

Please find answer attached

**Rural and Regional Affairs and Transport**

**QUESTION ON NOTICE**

**Supplementary Budget Estimates 2024 - 2025**

**Infrastructure, Transport, Regional Development, Communications and the Arts**

**Committee Question Number: 134**

**Departmental Question Number: SQ24-001333**

**Division/Agency Name: Agency - Airservices Australia**

**Hansard Reference: Written (14 November 2024)**

**Topic: AIRSERVICES - Minimum climb gradients for Brisbane Airport**

**Senator Steph Hodgins-May asked:**

1. Have any minimum climb gradients been specified in Brisbane Airport?
  - a. If so, what are they?
  - b. If not, when will Airservices finally enforce a minimum rate of climb on the SIDs (Standard Instrument Departure) routes and vectored routes serving Brisbane Airport to ensure aircraft achieve a higher altitude and reduce noise impacts on communities?
2. On notice, please table a detailed list of climb gradients (minimum, maximum, average) being achieved by the most common aircraft departing Brisbane Airport for each SID.

**Answer:**

1. All departure flight paths at Brisbane Airport include minimum climb gradients, generally to ensure departing aircraft are safely separated by 1000 feet from arriving aircraft where the paths cross. At Brisbane Airport, departures are prioritised to climb over arrivals to get these aircraft higher quicker and reduce noise impacts for communities.
  - a. the actual climb gradients will vary to cater for a range of factors including:
    - heavier aircraft that are not able to climb as quickly – generally larger international flights
    - summer versus winter temperature differences – the warmer air in summer is much thinner, providing less lift and a slow climb rate
    - straight versus turning flight paths – aircraft can climb more quickly on straight flight paths due to the lift gained from travelling into the wind.
  - b. aircraft will typically depart as steep as their performance allows, well above the minimum gradient required for safety, as being higher sooner is more efficient.
2. The following table provides a detailed list of climb gradients for Brisbane Airport flight paths for the calendar year 2024 based on the performance of a Boeing 737-800 which is the most common aircraft type.

Brisbane Standard Instrument Departure (SID) name	Waypoint for calculation	Gradient requirement %	Maximum climb %	Average climb %	Minimum climb %
BIX1L	BUKBU	<b>4.7</b>	9.8	8.4	6.8
BIX1L	OSOKO	<b>4.7</b>	11.3	9.2	6.8
BIX1R	BUKBU	<b>4.7</b>	8.3	7.9	6
BIX1R	OLMAL	<b>6.2</b>	10.3	10.3	10.3
BIX1S	BUKBU	<b>4.7</b>	9.2	8.2	7.1
BIX9L	TOGIN	<b>6.9</b>	13	10.7	8.5
BIX9L	TOGIN	<b>7</b>	13	10.7	8.5
BIX9L	AMBLE	<b>4.8</b>	9.7	8.3	6.8
BIX9L	BUKBU	<b>4.7</b>	8.1	7.1	6.1
BIX9R	TOGIN	<b>6.9</b>	12.9	10.6	8.7
BIX9R	TOGIN	<b>7</b>	12.9	10.6	8.7
BIX9R	BUKBU	<b>4.7</b>	8.1	7.1	6.3
BIX9R	AMBLE	<b>4.8</b>	9.5	8.2	7.1
GUM1R	OLMAL	<b>6.2</b>	10.2	8.6	6.8
GUM9L	DADAN	<b>3.8</b>	12.8	10.5	8.5
GUM9L	LILEE	<b>3.8</b>	10.6	9	7.3
SAN1R	UPRIG	<b>6.2</b>	9.5	8.3	7.1
SAN1R	OLMAL	<b>6.2</b>	11.5	9.9	8
SAN9L	LILEE	<b>3.3</b>	12.1	9.8	7.6
SAN9L	DADAN	<b>3.3</b>	14.1	11.2	9
SCO1R	OLMAL	<b>6.2</b>	10.7	9.3	7.4
SCO9L	LILEE	<b>3.3</b>	10.9	9.1	7.5
SCO9L	DADAN	<b>3.3</b>	12.8	11	9.2
WAC1R	OLMAL	<b>6.2</b>	9.9	9	8.1
WAC9L	TOGIN	<b>7</b>	11.8	10.1	8.7
WAC9L	TOGIN	<b>6.9</b>	11.8	10.1	8.7
WAC9L	IGMAS	<b>5.0</b>	9.6	7.8	6.7
WAC9R	TOGIN	<b>7</b>	11.9	10	8.5
WAC9R	TOGIN	<b>6.9</b>	11.9	10	8.5
WAC9R	IGMAS	<b>5.0</b>	9.1	7.7	6.7