

Very Light Jets Impact on European Airport Operations

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...At Which Airports?



Arriving shortly....



Non (capacity) constrained
Secondary Airports?



...At Which Airports?



.....OR

Capacity Constrained
Main Hubs?



Capacity Constrained Airports Key Parameters

- **Mass - vortex wake mix (ARR only runway)**

<i>Aircraft category</i>		
<i>Preceding aircraft</i>	<i>Succeeding aircraft</i>	<i>Wake turbulence radar separation minima</i>
HEAVY	HEAVY	7.4 km (4.0 NM)
	MEDIUM	9.3 km (5.0 NM)
	LIGHT	11.1 km (6.0 NM)
MEDIUM	LIGHT	9.3 km (5.0 NM)



- **Approach speeds** – Ability to fly “standard” speeds and final deceleration
 - 160Kts to 4DME / 4DME-Threshold
- **Departure Performance** - climb rates and speeds
 - Most airports have ENV restriction requiring jets to follow NPR
 - Most jets climb out at 210-250kts
 - Departure interval (on same route) of 2minutes (equating to 5nm in trail)
 - Impact on minimum departure interval
- **Runway Occupancy Time (ROT)**





Example VLJ: ECLIPSE 500

Key Parameters for Airports

- **Mass**
 - LIGHT Vortex wake category
- **Approach Speed**
 - Touchdown speed +/- 90 knots.
 - Landing configuration stall speed +/- 67 knots.
- **Departure Performance**
 - Normal take-off requires 2100-2500 ft. Initial climb after take-off at 140 knots
 - Climb Rates: Sea Level – 10000 2500-3000 fpm
 10000 – 20000 1500-2000 fpm
- **ROT**
 - Landing Distance 2000 ft.



VLJs – Effect on airport capacity Summary

If VLJs replace existing larger or higher performance aircraft
or
are added to the existing schedule

- **REGIONAL AIRPORTS**
 - No effect on airport itself
 - Possible impact of transit through TMA of neighbouring Hubs
- **MAIN HUBS**
 - Approach spacing / reduced landing rate ?
 - Departure interval / reduced departure rate ?
 - ROT ?



If they only replace other light aircraft.....

....then there should be no effect



Thank You

- Any Questions?

