

GTE/22 WP/13

Vertical Safety Monitoring Report

**Miami Oceanic, New York West,
and San Juan FIRs**

CALENDAR YEAR 2021

Presented to: GTE/22

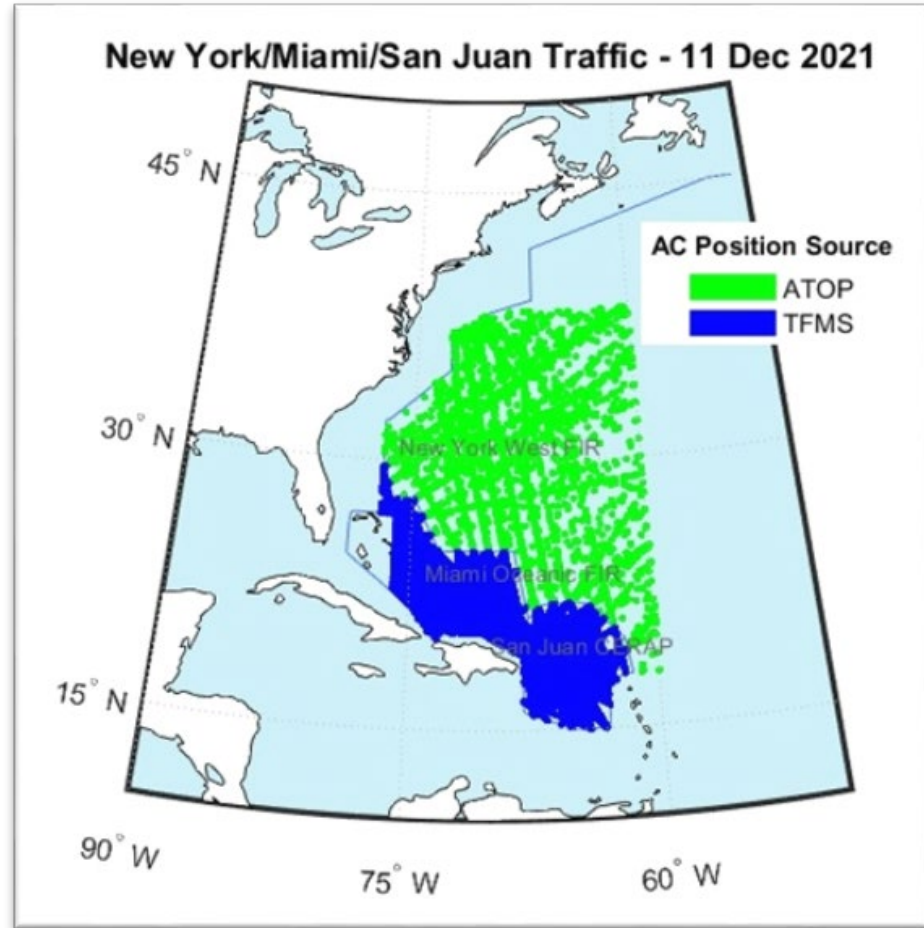
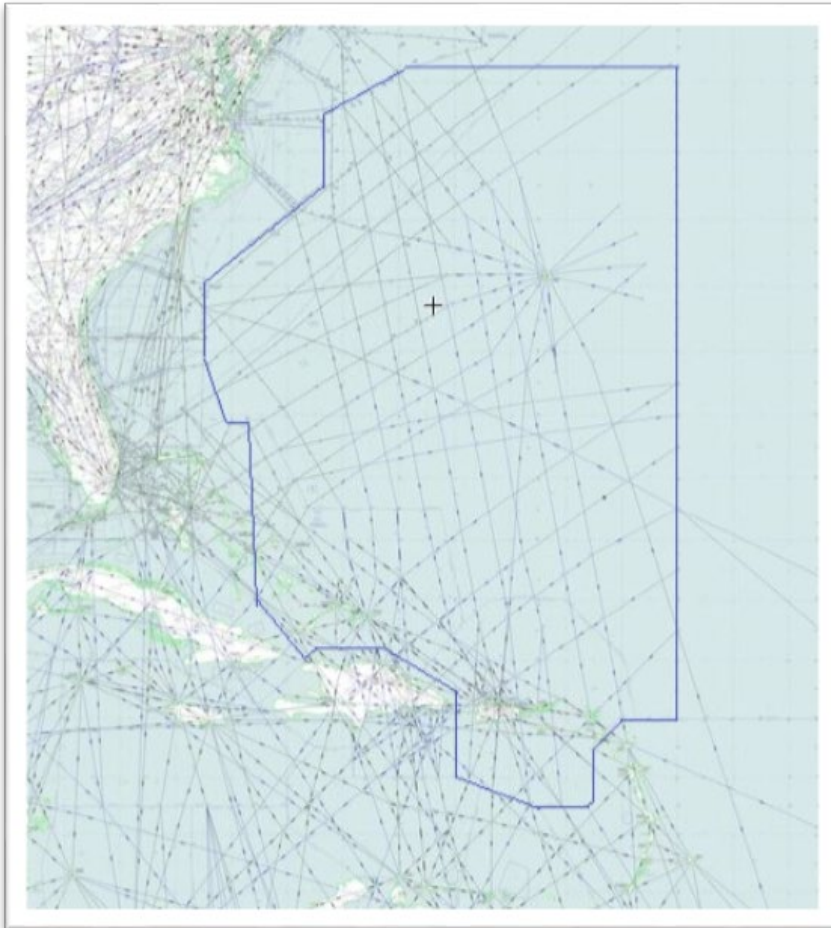
By: NAARMO

Date: 26 – 30 September 2022

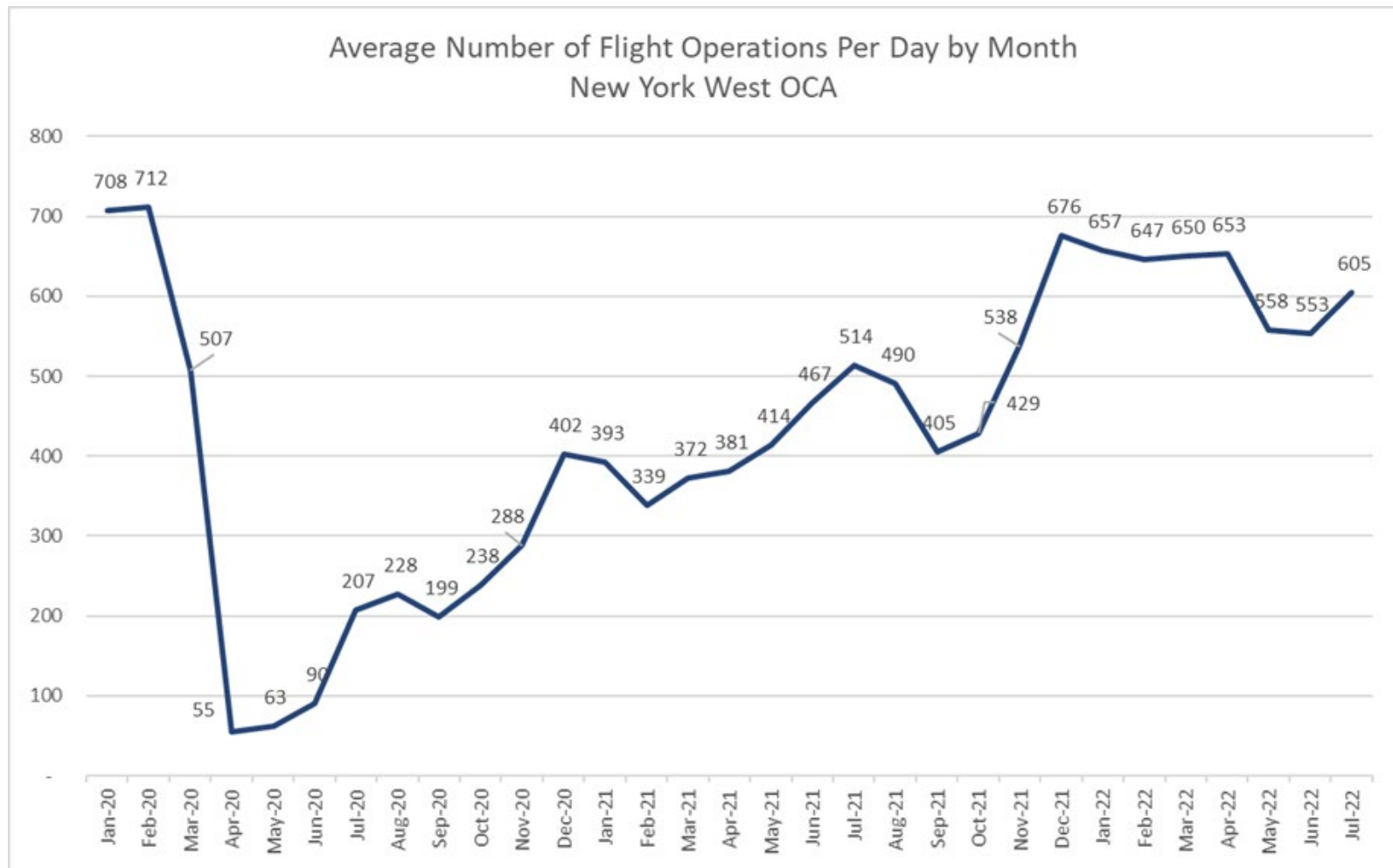


**Federal Aviation
Administration**

Miami Oceanic, New York West, Oceanic, and San Juan FIRs



Average Number of Flight Operations per Day by Month: Jan 2020 – Jul 2022



Reported LHDs by Month – 2021

Includes Operational and Technical LHDs

Month	Count	Duration at Unexpected FL (mins)	Number of Unexpected FLs Crossed
Jan-21	1	0	0
Feb-21	2	4	8
Mar-21	1	0	1
Apr-21	4	1	2
May-21	2	0	2
Jun-21	3	1	0
Jul-21	2	1	0
Aug-21	3	2	0
Sep-21	0	0	0
Oct-21	1	0	9
Nov-21	4	11	0
Dec-21	5	42	1
TOTAL	29	62	23

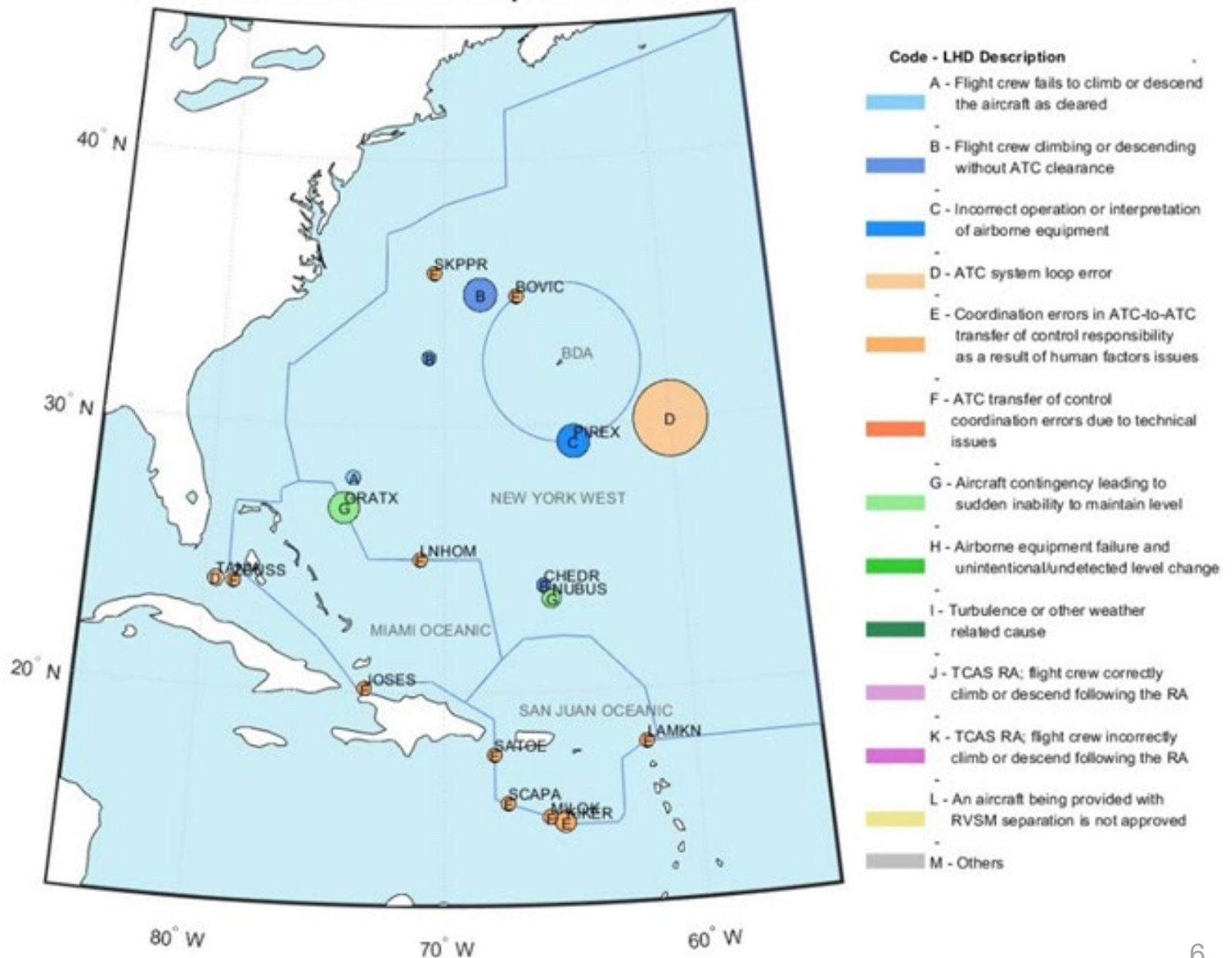


Reported LHDs by Category - 2021

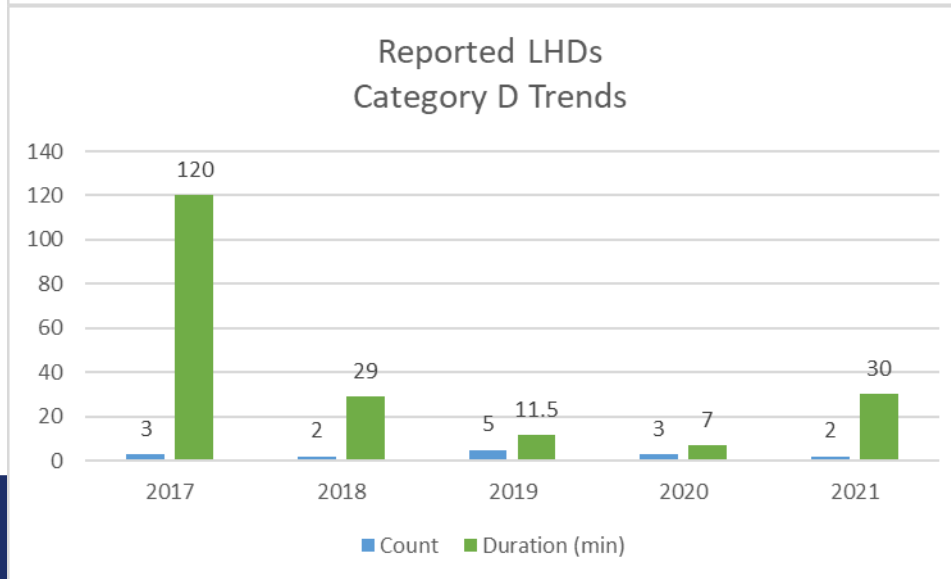
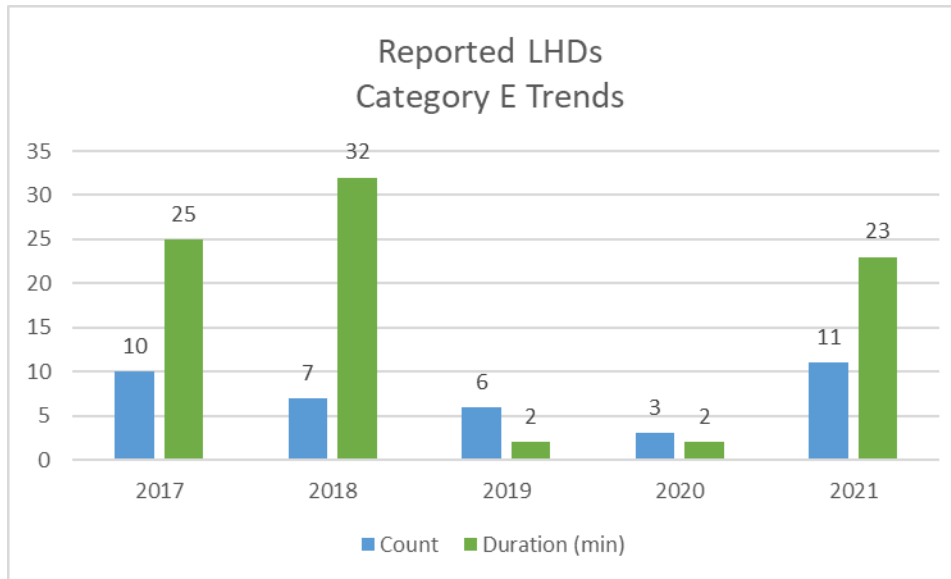
Code	LHD Category Description	Count	Duration (minutes)	FLs Crossed
A	Flight crew failing to climb/descend the aircraft as cleared	1	0	0
B	Flight crew climbing/descending without ATC clearance	3	0	9
C	Incorrect operation of airborne equipment	1	9	1
D	ATC system loop error	2	30	0
E	Coordination errors in the ATC-unit-to-ATC-unit transfer of control responsibility as a result of human factors issues	11	23	3
G	Aircraft contingency event leading to sudden inability to maintain assigned flight level	2	0	10
I	Turbulence or other weather related causes – <i>contributes towards technical risk</i>	3	0	0
L	An aircraft being provided with RVSM separation is not RVSM approved – <i>contributes towards technical risk</i>	6	0	0
	TOTAL	29	62	23



New York/Miami/San Juan Reported LHDs - 2021



Trends by LHD Category



- **Number of Cat E LHDs in 2021 increased from 2020**
- **Durations associated with Cat D LHDs are typically higher than other LHD types**

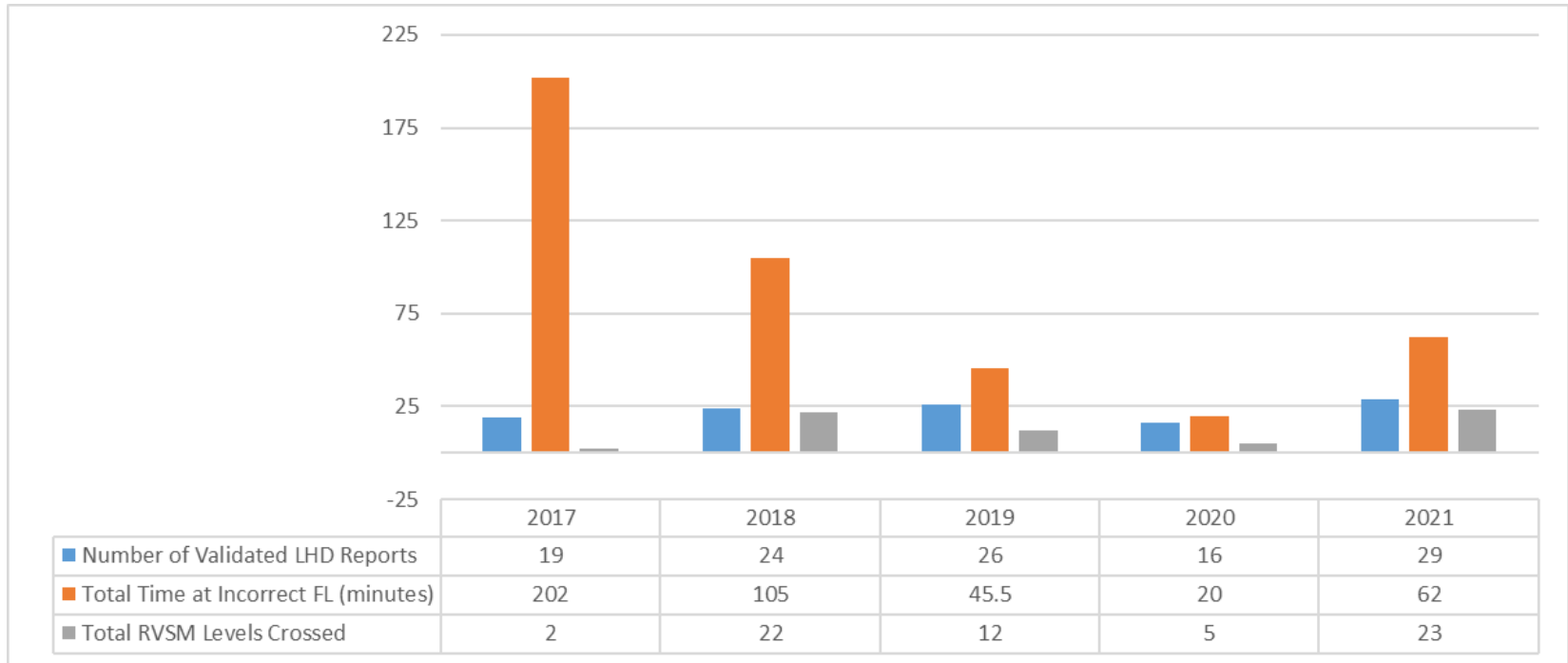


Corrective Actions

- **One category D LLD report had 29 minutes of unprotected time (also an LLD)**
 - ATC received refresher training related to the entry of route amendments
 - Software fix for the automation system. This fix will help alert ATC in identifying a potential incorrect route amendment.



Reported LHDs for Vertical Operational Risk



Operational
Risk LHDs
Only;
Calendar
Year
2021



Airspace	LHD Count	Duration (min)	FLs crossed
Miami Oceanic/San Juan FIRs and New York West boundary	9	9	3
New York West FIR	11	53	20
Total	20	62	23



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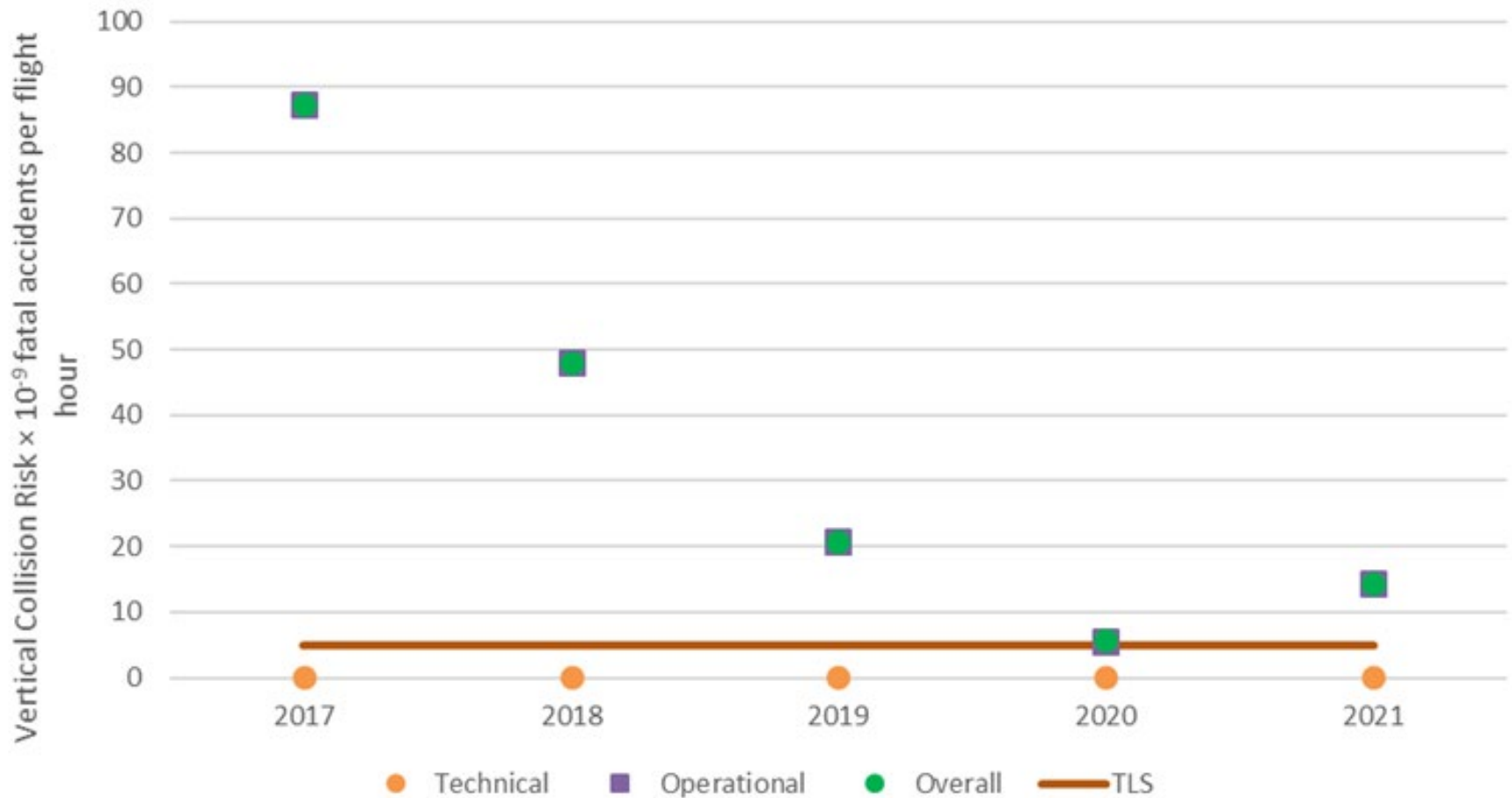
2021 Vertical Risk Estimates

Airspace	Technical	Operational	Overall
New York West	0.04	9.76	9.80
Miami Oceanic and San Juan	0.04	4.52	4.56
Total	0.08	14.28	14.36

**Risk estimates are $\times 10^{-9}$ fapfh*



Vertical Collision Risk Estimates by Year Miami Oceanic / New York West / San Juan Airspace



Summary

- **The estimated vertical risk estimate for 2021 increase from previous year**
- **This increase is directly related to the increase in the time spent at unexpected flight levels**
- **2021 estimated risk is comparable to the risk estimates from the pre-COVID period**

