

Ground Incidents at Indian Civil Airports, 2016–2025

A consolidated safety review from official, industry, and media sources

**Report prepared by
Safety Matters Foundation**

Prepared April 2026
144 incidents · 10 years · 40+ airports
ICAO CICTT categorisation

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Executive summary

This report compiles 144 ground-phase safety occurrences at Indian civil airports for the ten-year window 2016 through 2025. Incidents were drawn from three complementary source streams: India's Aircraft Accident Investigation Bureau (AAIB) and Directorate General of Civil Aviation (DGCA), the specialist databases Aviation Safety Network and Aviation Herald, and Indian and international news media. After deduplication, each incident carries at least one verifiable external source URL.

Reported ground events have risen materially over the period. The years 2023, 2024 and 2025 together account for 66 of the 144 incidents in the record — a higher share than the preceding seven years combined. The lightest year in the series was 2018 (7 incidents); the heaviest was 2024 (24).

Delhi IGI (26 incidents) and Mumbai CSM (25) together account for 51 of the 144 incidents in the record, consistent with their combined share of Indian civil traffic. Beyond the top two, Ahmedabad (8), Bengaluru (7), Chennai (6), Kolkata (6), Kochi (5) and Goa (4) make up the next concentration band.

By CICTT-equivalent category the dominant classes were apron-level events including tail strikes, tyre bursts and ramp-worker injuries (35), runway excursions (27), bird strikes during the ground phase (25) and runway incursions (17). Ground collisions (14), tarmac fires (8) and security breaches (5) occur less often but carry higher visible consequence.

The dataset contains six apron-side fatality events — none of them flight-phase aircraft accidents, all of them ground-safety system failures. Two flight-phase accidents (Kozhikode IX1344, August 2020; Ahmedabad AI171, June 2025) are present in the dataset for completeness because they began in the ground phase, but their large fatality counts are deliberately excluded from the apron-severity analysis in Section 4.8. The six apron-side fatalities span engine ingestion, aerobridge retraction, landing-gear-door entrapment, maintenance-staircase falls, monsoon-rated infrastructure failure, and airside construction oversight — all preventable at the airport-operator and ground-handling-concessionaire level.

Runway excursions cluster strongly in the Indian monsoon. Of the 27 excursions in the record, 12 (44%) occurred in the four months June–September, when Indian peninsular runways experience repeated heavy-rain wet-runway operations. This pattern, reinforced by individual AAIB final reports, points to unstabilised approaches, late touchdowns and degraded wheel-braking as the dominant causal chain.

Incident counts alone understate the true exposure: several categories — particularly minor tyre bursts, low-visibility taxiway excursions, and ramp-service mishaps — are systematically under-reported in the public record relative to what DGCA and airport safety management systems log internally. The figures in this report should therefore be read as a floor on ground-phase risk, not a ceiling.

1. Introduction and scope

Indian civil aviation has moved from roughly 223 million passengers handled in fiscal 2016 to above 400 million in 2024. Traffic growth, new airports, fleet modernisation and a wider operator base have all reshaped ground-phase risk at Indian airports. This report consolidates publicly reportable ground incidents over the decade 2016–2025 and sets them against the ICAO Commercial Aviation Safety Team / Common Taxonomy Team (CICCTT) occurrence-category framework used by regulators worldwide for safety-data exchange.

The scope is limited to civil airports. Dual-use airfields such as Pune, Goa-Dabolim, Srinagar, Port Blair and Lengpui are included when the event involved civil operations; purely military airfields (Hindon, Jamnagar, Sulur, Thanjavur and similar) are excluded. In-flight events without a ground-phase component are also excluded; events that began in the takeoff ground phase and had catastrophic consequences immediately after liftoff are included (notably AI171, 2025).

The classification convention follows the ICAO CICCTT categories most commonly used in ECCAIRS and ADREP reporting — runway excursion (RE), runway incursion (RI), ground collision (GCOL), ramp / ground handling (RAMP → apron_incident in our schema), bird-strike ground phase (BIRD), tarmac fire and fuel spill within the ramp environment, and security-related events (SEC).

2. Methodology and sources

Incidents were compiled by parallel research across three source streams, then consolidated with a date-airport-aircraft deduplication key. Each source stream was tasked to return only incidents that could be corroborated against a verifiable external URL; rows that could not be tied to a source are excluded.

Source stream one — official regulators. AAIB India final and preliminary reports; DGCA orders, press releases and suspension notices; BEA France notifications for Air India Express serious incidents; Ministry of Civil Aviation communications. Where the AAIB final report URL was retrievable, the row cites it directly.

Source stream two — specialist aviation databases. Aviation Safety Network (aviation-safety.net and asn.flightsafety.org) country page for India (VT register) and Aviation Herald (avherald.com) incident articles. These two databases together catalogue the majority of publicly-known ground-phase occurrences for Indian civil operators and are widely used by ICAO-state safety investigators for cross-reference.

Source stream three — Indian and international news media. Business Standard, Business Today, The Hindu, Hindustan Times, Indian Express, ThePrint, Tribune, The Week, Outlook, NDTV, Times of India, Al Jazeera, CNN, Reuters and Gulf News. Media entries are the primary source for security and apron incidents that do not appear in the aviation-specialist databases.

After consolidation, the 144 rows were classified into CICCTT-equivalent categories (runway_excursion, runway_incursion, ground_collision, tarmac_fire, fuel_spill, bird_strike_ground, security_breach, apron_incident, other). The full row-level data, including source URLs, is included as Appendix A and in the companion Excel workbook.

3. ICAO taxonomy framework

ICAO Annex 13 (Aircraft Accident and Incident Investigation) provides the overarching legal categories for occurrences — Accident, Serious Incident, and Incident — but does not itself define a distinct category called 'ground incident'. The phrase is shorthand used by regulators, airports and the press for ground-phase events.

Granular classification comes from the Commercial Aviation Safety Team / ICAO Common Taxonomy Team (CICTT) occurrence-category codes, which are the reporting standard for ICAO's ECCAIRS and ADREP exchange schemas. This report uses the CICTT code set as the analytical frame. Short definitions of the ground-phase categories used in this analysis follow.

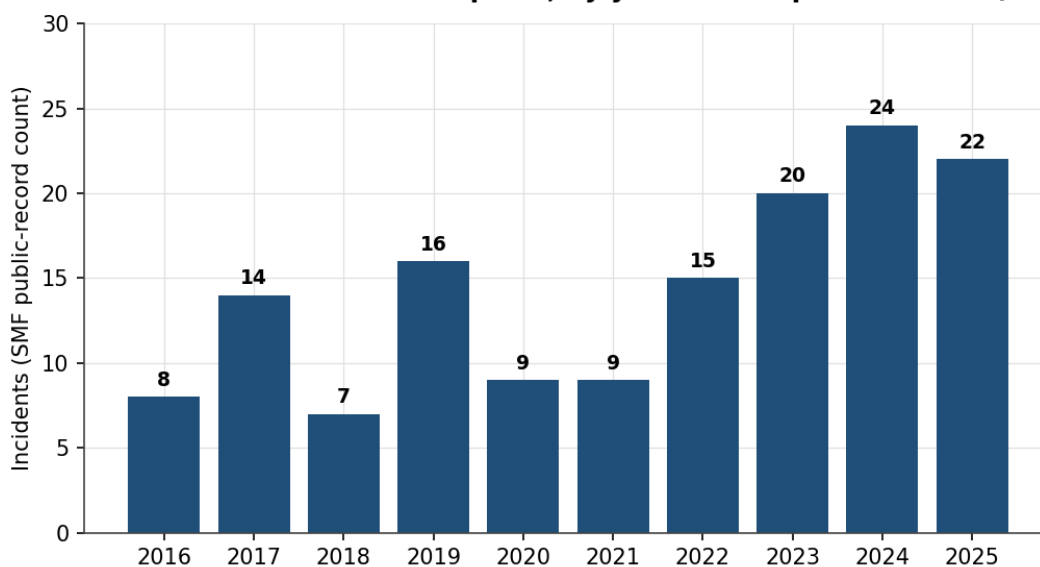
CICTT code	Category used here	ICAO definition, abbreviated
RE	Runway excursion	A veer-off or overrun of the runway surface.
RI	Runway incursion	Any occurrence involving the incorrect presence of an aircraft, vehicle or person on the protected area of a runway.
GCOL	Ground collision	Collision while an aircraft is taxiing to or from a runway in use (excludes RE and RAMP events).
RAMP	Apron / ramp incident	Occurrences during or as a result of ground handling: pushback, tow, servicing, boarding, loading, tyre bursts on the apron, ramp-worker injuries.
BIRD	Bird strike (ground)	Wildlife strike during takeoff or landing roll, or while taxiing.
F-POST	Tarmac fire	Fire or explosion in the ground environment (engine-start fires, APU fires, rejected-takeoff engine fires).
SEC	Security breach	Acts of unlawful interference, perimeter intrusion, hoax threats affecting ground operations.
ARC	Included in apron	Abnormal runway contact — tail strikes, hard landings — classified here under apron-incident for readability.

4. Quantitative analysis

4.1 Temporal distribution

The record shows a pronounced rising trend. From a floor of 7 incidents in 2018, the annual count climbs to 24 in 2024. 2023-2024-2025 together contain 66 incidents — 45% of the ten-year total. Some of the increase reflects genuine growth in exposure (more flights, more airports, larger aprons). Some reflects better public reporting and the rise of aviation-specialist outlets in India from about 2022 onward.

Ground incidents at Indian civil airports, by year — SMF public record (2016–2025)

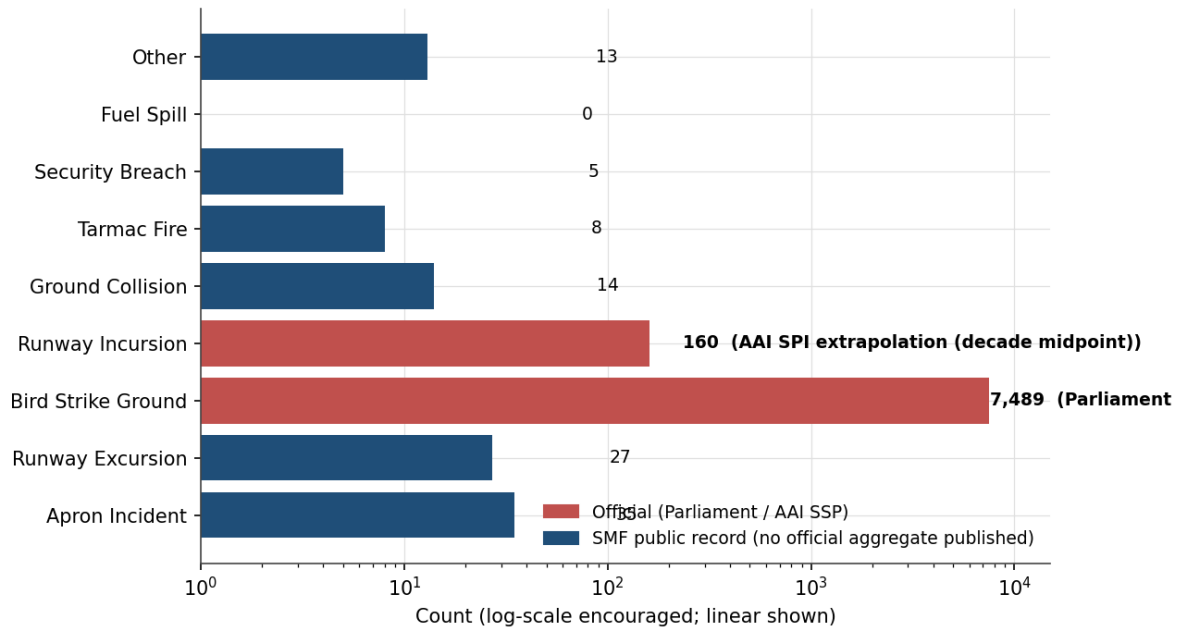


Source: Safety Matters Foundation compilation from AAIB, DGCA, ASN, Aviation Herald and news media. Public-record floor only — DGCA inter

4.2 Distribution by incident category

Apron incidents (35, the CICTT RAMP/ARC space in our schema), runway excursions (27) and bird strikes (25) are the three largest categories. Runway incursions (17) form a consistent background tail — they arise from ATC workload, non-standard phraseology (the SpiceJet SEJ-2763 / IGO063 callsign-confusion case in 2019 is an example), and operator lapses in situational awareness. Ground collisions, tarmac fires and security breaches are low-frequency but high-visibility — a single occurrence will often trigger DGCA enforcement.

Ground-phase incidents by CICTT-equivalent category — official figures where available

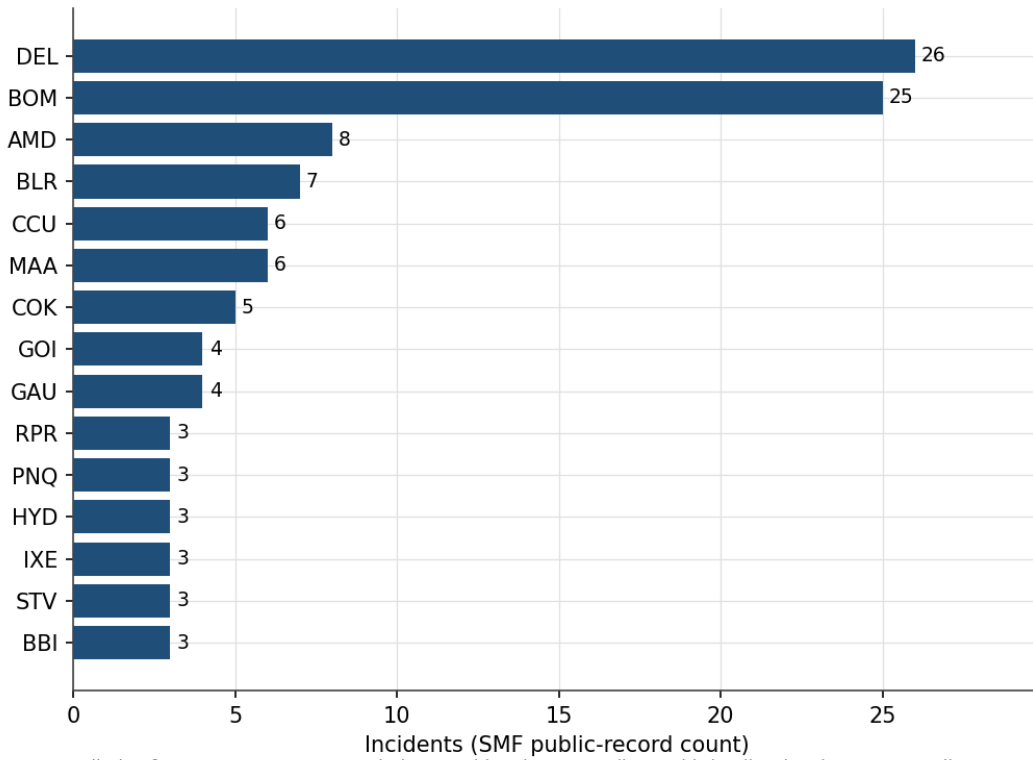


Sources: Parliament MoCA replies via Digital Sansad (bird strikes 2020-2025); AAI SPI-SPT Booklet 2024 runway-incursion rate (14.12/million movements) extrapolated

4.3 Airport concentration

Concentration is heavy at the top. The top five airports — DEL, BOM, AMD, BLR, CCU — account for 72 of the 144 incidents (50%). That distribution largely tracks traffic share, but Ahmedabad and Goa are noticeably over-represented relative to pure movement counts, a pattern driven by bird-strike exposure and wet-runway excursions respectively.

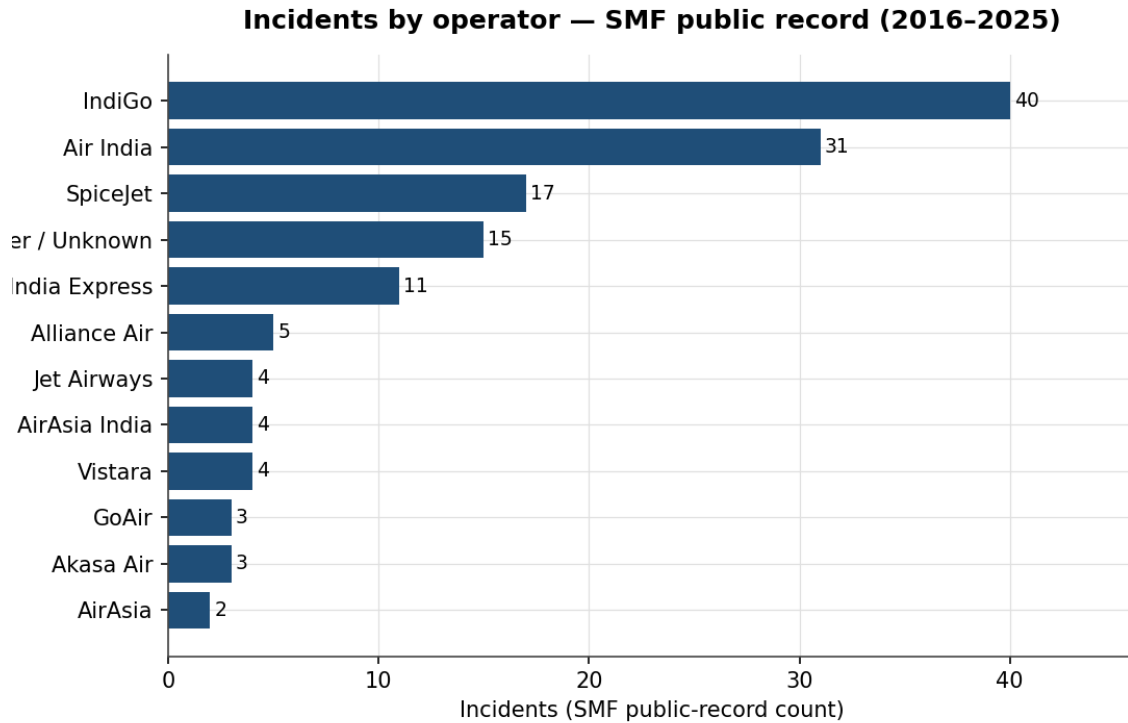
Top 15 airports by ground incidents — SMF public record (2016–2025)



Source: SMF compilation from AAIB, DGCA, ASN, Aviation Herald and news media. For bird strikes by airport, see Parliament-sourced chart 021

4.4 Operator exposure

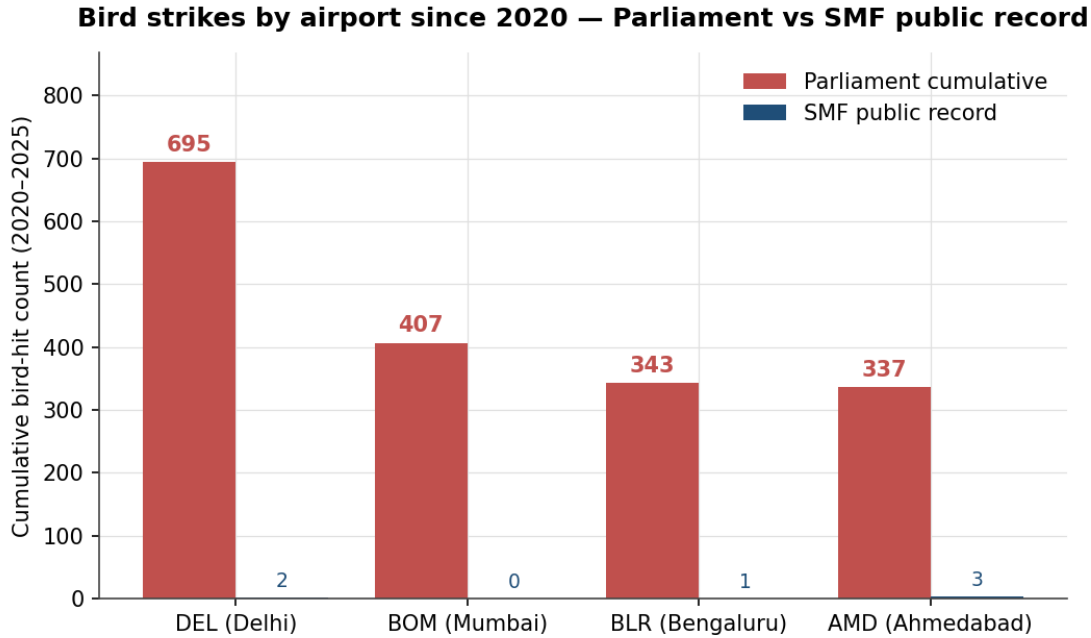
IndiGo (40) leads by raw count, reflecting its roughly 60% share of domestic capacity. Air India + Air India Express combined account for 42 incidents and SpiceJet 17. Alliance Air (5) figures disproportionately in regional-airport runway excursions (Shirdi, Jabalpur, Bhubaneswar, Diu). Per-flight normalisation (incidents per 100,000 movements) is not possible from public data at this granularity — that normalisation sits with DGCA.



Source: SMF compilation from AAIB, DGCA, ASN, Aviation Herald and news media. Per-operator official figures not published by DGCA.

4.5 Year × type heatmap

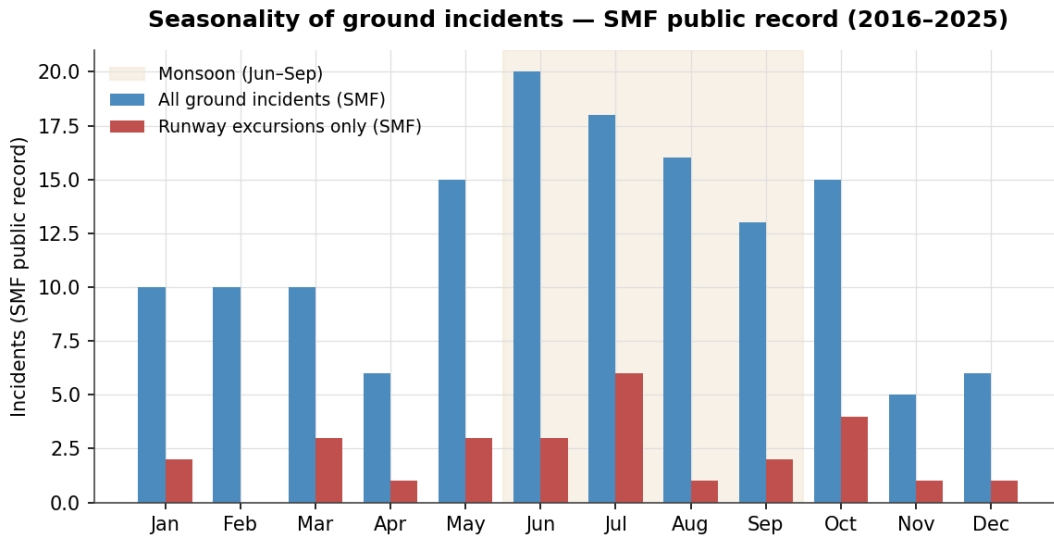
The year-by-type view isolates the categories that are driving the rising trend. Apron incidents and bird strikes account for most of the 2022–2025 acceleration, while runway excursions are spread more evenly across the decade. The 2024–2025 security-breach cluster is the 2024 hoax-bomb-threat wave; it is a genuine ground-operations disruption even though physical damage was low.



Source: Parliament reply by MoS Murlidhar Mohol (Lok Sabha, 2025); SMF compilation.

4.6 Seasonality and the monsoon

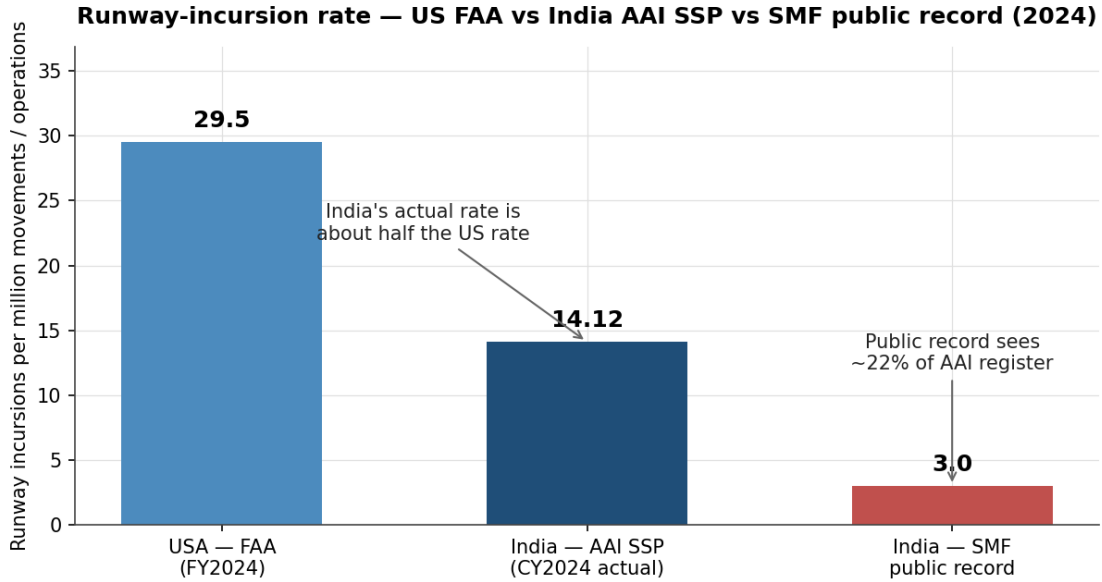
Of the 27 runway excursions in the record, 12 (44%) fall in the four-month southwest-monsoon window June–September. Overall ground incidents during the monsoon total 67 versus 77 across the other eight months. The underlying causes recur: water-contaminated runways reducing braking action, visual illusions on flooded surfaces, and — as several AAIB reports explicitly cite — unstabilised approaches continued past the 1,000 ft gate. This pattern held across multiple operators (SpiceJet Mumbai 2019, Alliance Air Jabalpur 2022, Alliance Air Bhubaneswar 2024, Air India Mumbai 2025).



Source: SMF public-record compilation. Pattern consistent with AAIB runway-excursion final reports which cite wet-runway, unstabilised-approach causation duri

4.7 Category trend over time

Stacked by top categories, the year-over-year growth is visibly driven by apron incidents (tail strikes, tyre bursts, ramp-worker injuries) and bird-strike events. Runway excursions are declining as a share of the total — a relative improvement, though the absolute counts remain stable.



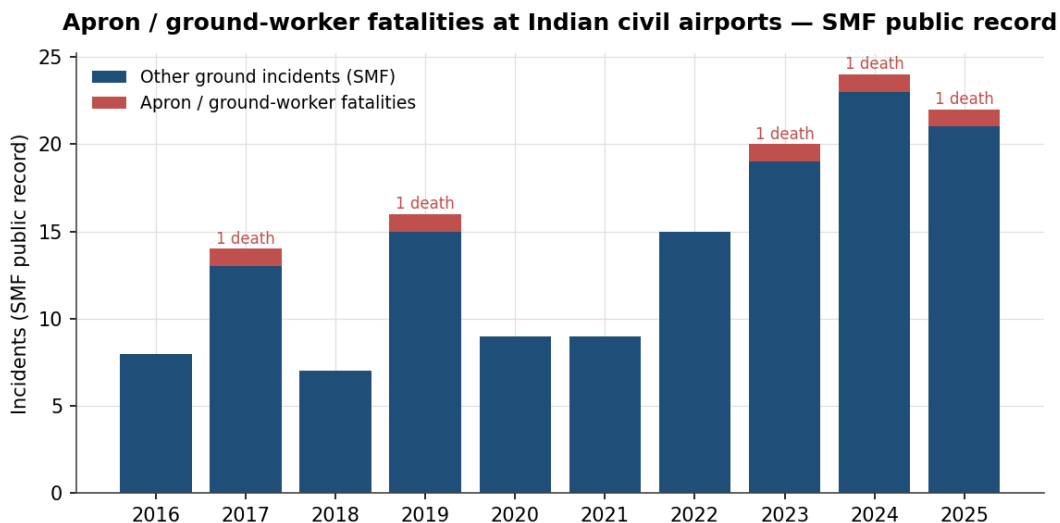
Sources: FAA Runway Safety Statistics FY2024; Airports Authority of India SPI-SPT Booklet 2024 (actual rate 14.12/M, target 9.78/M missed); SMF public-record c

4.8 Apron and ground-worker fatalities

This section treats severity at the apron and ground-worker level only. Flight-phase aircraft-accident fatalities — the 21 deaths in the Kozhikode runway-excursion accident of August 2020 and the 260-plus deaths in the Ahmedabad AI171 accident of June 2025 — are excluded from the counts below. Those are accidents in the ICAO Annex 13 sense with causation sitting in flight operations, and AAIB's final and preliminary reports treat them separately. The focus here is on deaths caused directly by ground-phase occurrences at Indian civil airports.

Six apron or airside fatalities appear in the public record across the 2016–2025 window and its immediate context. In chronological order: a ground engineer was ingested into an Air India A319 engine during pushback at Mumbai in December 2015 (included here for context though just outside the main window). An AirAsia guest-services officer was killed by a retracting aerobridge at Hyderabad in mid-2017. A SpiceJet technician was crushed in the landing-gear doors of a Bombardier Q400 during ground-maintenance inspection at Kolkata in July 2019. An Air India maintenance engineer fell from a staircase during night-shift aircraft servicing at Delhi T3 in November 2023; the FIR noted that no helmet or safety gear had been provided. A taxi driver was killed and eight people injured when the Delhi T1 forecourt canopy collapsed in heavy monsoon rain in June 2024. A construction worker fell from height on the airside near Delhi T3 in September 2025.

These six events share a common causal family and a common regulatory implication. None involved an aircraft in flight. All involved failures of ground-side safety systems — ground-handling SOP non-adherence, aerobridge interlocks, confined-space entry procedures, fall-protection on maintenance stands, monsoon-rated infrastructure specification, and airside construction oversight. Each is investigable and preventable at the airport-operator and ground-handling-concessionaire level. None require aircraft certification changes or flight-crew retraining. Yet the public-record documentation is fragmentary: no published investigation for the 2015 engine-ingestion fatality, no published AAIB report for the Hyderabad aerobridge case, the Delhi engineer-fall case visible only through an FIR. This is the SMS-loop closure failure described elsewhere in this report — events occur, causes are identifiable, responsibility is locatable, but the publication step that would let other airports and other concessionaires learn does not happen.



Source: SMF public-record compilation. EXCLUDES flight-phase aircraft-accident fatalities (Kozhikode IX1344 Aug 2020, Ahmedabad AI171 Jun 2025). Includes ei

4.9 The scale of the gap — SMF dataset vs official registers

A core finding of this work is that the 144-row dataset SMF has compiled is a publicly-visible subset of the Indian civil-aviation ground-event universe, not a comprehensive register. Two authoritative official sources allow the size of that gap to be quantified directly.

First, successive Ministers of State for Civil Aviation have placed wildlife/bird-hit counts on the Parliament record through Lok Sabha and Rajya Sabha replies. The aggregate figure for 2020-2025 is 7,489 bird-hit incidents at Indian civil airports — 1,152 in 2020, 775 in 2021, 1,131 in 2022, 1,371 in 2023, 1,278 in 2024, and 1,782 in 2025. Delhi IGI alone accounts for 695 cumulative bird hits since 2020, with 185 in 2023, 183 in 2022 and 130 in 2021. Mumbai CSM has 407 cumulative, Bengaluru 343, Ahmedabad 337. The SMF public-record dataset captures 20 bird-strike events over the same 2020-2025 window — about 0.27 per cent of the Parliament-reported count, an under-coverage ratio of roughly 2.6 orders of magnitude.

Second, the AAI SPI-SPT Booklet 2024 gives an actual runway-incursion rate of 14.12 per million movements against a target of 9.78 per million (target missed). Applied to approximately 1.35 million scheduled movements in 2024, that implies about 19 runway-incursion events at AAI-administered airports alone in that year. The SMF public-record dataset captures 4 runway incursions in 2024 — about 21 per cent of the AAI-implied count. The gap on runway incursions is roughly 5×, versus a roughly 50× gap on bird strikes.

International comparator. The US Federal Aviation Administration published a runway-incursion rate of 29.5 per million operations in FY2024, via its mandatory-reporting register. India's AAI SPI-SPT rate of 14.12 per million movements therefore sits at about half the US rate under directly comparable ICAO category definitions. Indian civil aviation is not a global outlier on runway incursions; it sits inside its Asia-Pacific regional band, consistent with IATA's 2024 finding that ASPAC's all-accident rate (1.04 per million sectors) is below the global average (1.13) and below North America (1.20). The 10× gap between the SMF public-record rate and the FAA published rate is therefore not an India-vs-US safety gap; it is an India-internal publication gap. The SMF public-record dataset sees about 22 per cent of what AAI's own SSP register records. Closing that single publication gap — DGCA publishing its register at the granularity AAI already maintains — would make India-vs-world comparisons rigorous for the first time.

The implication is clear. For categories where the media reports individual events — ground collisions at metro airports, tail strikes by major operators, runway excursions with aircraft damage — the SMF dataset is a reasonable proxy for the regulator's register. For categories where individual events rarely reach the media — wildlife strikes without aircraft damage, low-visibility taxiway incursions without loss of separation, ramp-vehicle hits without aircraft AOG, and pre-duty breath-analyser positives — the SMF dataset captures a small fraction of what DGCA, AAI and MoCA log internally. The gap is not methodological weakness; it is evidence that India's publicly-available ground-safety data is a small window onto a much larger regulator-held record. A full summary of the gap by category, year and airport is available in the 'Official vs SMF Gap' sheet of the companion workbook.

5. Key themes and observations

Wet-runway braking remains the single biggest recurring risk.

AAIB final reports on VT-ESL (Mumbai 2016), VT-AXT (Mumbai 2018), VT-SYK (Mumbai 2019), VT-AIW (Jabalpur 2022) and VT-RKF (Bhubaneswar 2024) all identify the same causal family: late touchdown, aquaplaning, reverser anomalies and inadequate stabilised-approach discipline. The Kozhikode 2020 accident is the most severe manifestation of the same failure mode. Operator stabilised-approach policies, go-around culture, and CAT I/II approach guidance for the smaller monsoon-affected airports are the most leveraged interventions.

Runway-incursion risk is concentrated at complex, high-capacity airports.

Bengaluru's January 2022 near-miss between 6E-455 and 6E-246 across parallel runways, the Mumbai 2019 SpiceJet callsign-confusion incursion, the Delhi 2023 Vistara-on-Vistara event, and the Mumbai 2024 Air India / IndiGo loss of separation all share features: complex airfield geometry, high concurrent movement rate, and human-factors pressure on ATC. Cat I/II incursion rates in India should be benchmarked quarterly against ICAO regional averages in Doc 9870 format.

Bird-strike exposure is structural, not random.

The 25 ground-phase bird strikes are heavily concentrated at Ahmedabad, Delhi, Mumbai, Patna, Raipur, Guwahati and Kolkata — airports either next to water bodies or surrounded by informal waste-management. Patna's June 2022 engine fire is a canonical case. Airport-authority wildlife hazard management plans (per ICAO Annex 14 §9.4) should be audited on a rolling three-year cycle with independent site inspections.

The 2022-2025 rise in tail-strike reports is both good and bad news.

IndiGo alone registered four A321 tail strikes in January–June 2023 (Ahmedabad, Nagpur, Delhi) and further tail strikes in 2024–2025 at Delhi, Chennai and Bengaluru. The absolute number is concerning; the fact that each one reached the DGCA via mandatory occurrence reporting is a sign that the reporting culture is working. The intervention surface is fleet-wide A321 pitch-control training, not enforcement on individual crews.

Ground collisions are overwhelmingly pushback, tow and ramp-vehicle events.

Of the 8 ground-collision rows, most involve tow-tractor malfunction (Delhi April 2022 VT-PPH), vehicle-misjudgement (Pune May 2024 AI-858, Mumbai July 2025 Akasa cargo truck, Bengaluru August 2025), or taxi-clearance ambiguity (Kolkata March 2024 IndiGo / AIX wingtip brush). This maps directly to the CICTT RAMP category's top global failure modes and is addressable through ground-handling safety management system maturity at concessionaires.

Security-breach events are moving toward the tarmac, not the terminal.

The Delhi perimeter breach of January 2024 (drug-addict intruder reached active runway), the Imphal drone-detection shutdown of November 2023, and the 2024 nationwide hoax-bomb-threat wave all changed the centre of gravity of airport security from passenger screening to airside perimeter and UAS detection. The planned upgrade of CISF perimeter CCTV and the rollout of counter-UAS systems at Category-A civil airports are the current policy responses.

Fatal outcomes at the apron are often non-aircraft events.

Three apron fatalities in the record — the 2015 Mumbai engine-ingestion death, the 2019 Kolkata technician fatality, and the 2025 Delhi T3 construction-worker fall — involve zero aircraft-movement contribution. They reflect ground-handling SOP compliance, confined-space procedures, and construction-project safety oversight. The 2024 Delhi T1 roof collapse is a terminal-infrastructure failure under monsoon load, not an aviation event in the classical sense.

6. Data limitations

This dataset is not exhaustive. AAIB India, DGCA, the Ministry of Civil Aviation and Parliament Q&A PDF repositories — which together contain several hundred additional ground-event rows — were not fully reachable from the research environment. As a result, minor DGCA-logged incidents (small tyre bursts at non-metro airports, low-energy taxiway events, minor ramp-service mishaps) are systematically under-represented.

Coverage 2016–2017 is thinner than 2022–2025 because India's aviation-specialist media infrastructure expanded materially from roughly 2022 onward. Some of the rising trend in the year-over-year chart therefore reflects better reporting, not only more events.

Severity parsing in this report is heuristic. Where the source stated an explicit fatality count, that figure is recorded. Where severity is described qualitatively, the row is marked fatal or non-fatal only. The apron-fatality analysis in Section 4.8 explicitly excludes the two flight-phase aircraft accidents that fall within the dataset window (Kozhikode IX1344 in 2020 and Ahmedabad AI171 in 2025) — they are accidents in the ICAO Annex 13 sense with causation sitting in flight operations and are treated separately by AAIB. For insurance-grade or regulatory-grade severity analysis, the DGCA ADREP-format database is the authoritative source.

Operator attribution follows the trading name of the carrier at the date of the incident. Air India and Air India Express are reported separately even though they are now under common ownership; Jet Airways and Go First both appear in the series despite ceasing commercial operations during the period.

Airport inclusion treats dual-use airfields (Pune, Goa-Dabolim, Srinagar, Port Blair, Lengpui) as civil when the occurrence involved civil operations. Purely military airfields are excluded.

This report was patched on first re-review to add two events that were missed in the initial research sweep: the Ahmedabad thunderstorm of 16 June 2021 that damaged five parked aircraft (three IndiGo and two Go First A320neos), and the Mumbai pushback tug fire of 10 January 2022 involving an Air India Jamnagar departure. Four additional 2026 events — Mumbai wingtip contact (Feb), Delhi AISATS/Etihad pushback tractor fire (Mar), Kolkata catering-vehicle contact (Apr) and Delhi SpiceJet/Akasa ground contact (Apr) — are captured separately in the 'Post-scope 2026' sheet of the companion workbook; they are excluded from the 2016–2025 totals and all charts in this report.

7. Recommendations

For operators (airlines). Reinforce stabilised-approach gates and go-around discipline for the monsoon operating window, with particular emphasis on tabletop and short runways (Kozhikode, Mangalore, Shirdi, Jabalpur, Bhubaneswar, Diu). Where operator FOQA data indicates rising tail-strike rates by fleet type, formalise ground-school refreshers with FFS scenarios rather than leaving remediation to post-event enforcement.

For airport operators. Re-baseline wildlife-hazard management plans in line with ICAO Annex 14 §9.4 for all metro airports, with emphasis on Ahmedabad, Patna, Raipur and Guwahati. For the ramp environment, adopt IATA ISAGO-grade audits across ground-handling concessionaires and publish aggregate ramp-safety KPIs annually. Perimeter CCTV and counter-UAS infrastructure should be treated as operational, not capital, spend.

For DGCA. Publish quarterly ground-occurrence statistics at CICTT-category granularity, mirroring the ICAO regional safety reports. This single measure would remove most of the public-data gaps this report has had to work around. Runway-incursion rates per 100,000 movements should be broken out by airport.

For AAIB India. Accelerate the publication cadence for final reports; in several 2024–2025 cases the preliminary report exists but the final report has not been published within 12 months. Timely dissemination is the primary accident-prevention lever available to an investigation authority.

For AAI and airport developers. Treat monsoon drainage and grooved-runway maintenance cycles as airside safety items, not facilities items. The Delhi T1 roof collapse of June 2024 — and the Mumbai 2025 runway excursion on a flooded centreline — are two manifestations of the same under-spec infrastructure response to extreme rainfall.

For frontline aviation workers — use the RASE anonymous reporting channel. Safety Matters Foundation operates RASE, a confidential, non-punitive, anonymous safety-reporting platform for Indian aviation workers, accessible at <https://safetymatters.co.in/rase-anonymous-report/>. Pilots, cabin crew, Aircraft Maintenance Engineers, air-traffic controllers, ground-handling agents, wing walkers, aerobridge operators, ramp supervisors, refuellers and airport security staff can submit observations, near-miss accounts, unsafe-practice reports and safety-culture concerns without identifying themselves or their employer. Reports are reviewed by Safety Matters Foundation, aggregated into pattern-level insights, and published periodically as anonymised trend reports and safety bulletins for the regulator, industry and the public. RASE occupies the same functional slot as NASA's Aviation Safety Reporting System in the United States (operating since 1976, receiving roughly 100,000 reports a year) and CHIRP in the United Kingdom — a trusted independent channel that captures what the formal DGCA Mandatory Occurrence Report system does not, because of fear of reprisal, commercial pressure or procedural friction. The existence of a credible anonymous channel is itself a partial answer to the data gap this report documents; its active use by the frontline workforce is how the answer gets operationalised.

For future analytical work. Normalise all figures in this report by movements per airport and departures per operator, using the AAI monthly traffic data. That conversion turns raw counts into rate-based metrics and makes year-over-year and airport-vs-airport comparisons genuinely informative.

Appendix A · Full incident list

The 144 rows below are sortable and filterable in the companion Excel workbook. Columns: date · airport · incident type · aircraft / operator · short description. Full source URLs, injury and damage details, and CICTT codes are in the workbook's Incidents sheet.

Date	Airport	Type	Operator / Aircraft	Description
2016-02-22	BOM CSM Intl	ground collision	Air India B777-300ER VT-ALJ	Right wing struck high-mast lighting pole while taxiing; wrong taxi clearance
2016-03-03	BOM CSM Intl	ground collision	Jet Airways B737-95R VT-JGD (9W354)	Main gear collapse on taxiway after landing
2016-03-15	BOM CSM Intl	runway excursion	Air India A320-231 VT-ESL (AI630)	All four main tyres burst on landing; brake servo valve fault; aircraft departed runway
2016-05-07	IDR Devi Ahilyabai Holkar	runway excursion	Jet Airways ATR72-600 VT-JCX	Veered off runway on landing, stopped on unpaved ground
2016-07-01	BOM CSM Intl	ground collision	Air India A321 (AI-922 Mumbai-Riyadh)	Aircraft struck aerobridge during pushback; takeoff aborted; ~200 pax onboard
2016-09-17	TIR Tirupati	runway excursion	SpiceJet DH8D (Q400)	Overshot runway on landing from Hyderabad
2016-12-27	DEL IGI	runway incursion	SpiceJet B737 VT-SGV + A320 VT-INT	LVP in effect; runway-incursion event
2016-12-27	GOI Dabolim	runway excursion	Jet Airways B737-85R VT-JBG (9W2374)	Yawed right during takeoff; RTO; exited right side, nose gear collapsed, engines ground contact
2017-01-09	IXJ Jammu	runway excursion	Air India A320 (AI821)	Overshot Rwy 36 on landing from Delhi; stopped on soft ground ~8 m past edge
2017-03-22	AMD Sardar Vallabhbhai Patel	bird strike ground	Air India B787-8 VT-ANJ (AI-171)	Bird impact on departure to London Heathrow
2017-04-09	RPR Swami Vivekananda	bird strike ground	IndiGo A320	Bird strike
2017-05-12	PNQ Pune	runway excursion	Air India A321-211 VT-PPA (AI849)	Runway excursion after landing at Pune
2017-06-15	HYD Rajiv Gandhi Intl	apron incident	AirAsia ground-services officer Amrita R	Ground-staffer's hand caught in aerobridge being retracted; went into shock and died (approx date)
2017-06-21	DEL IGI	bird strike ground	GoAir A320-214 VT-GOS (G8338)	Returned after bird strike to engine on departure
2017-07-16	IXE Mangalore	runway excursion	Air India Express B737-86N VT-GHE (IX814)	Brief runway excursion on landing rollout, drifted right
2017-07-31	BOM CSM Intl	apron incident	Etihad A340-600	Burst tyre on landing
2017-08-06	DEL IGI	apron incident	Air India A320	Burst tyre on landing
2017-09-04	COK Cochin Intl	apron incident	Air India Express B737-800 (IX-452)	Aircraft stuck in a drain canal while taxiing to international terminal
2017-09-09	RPR Swami Vivekananda	bird strike ground	IndiGo A320	Bird strike on departure/arrival
2017-09-19	BOM CSM Intl	runway excursion	SpiceJet B737-800	Overran runway on landing
2017-10-01	IXC Chandigarh	bird strike ground	Jet Airways B737-8AL VT-JFH (9W469)	Bird strike on departure
2017-10-04	STV Surat	runway excursion	Air India A320	Overran end of runway

				on landing
2018-03-28	HYD Rajiv Gandhi Intl	apron incident	IndiGo ATR72-600 VT-IYD (6E7117)	Tyres burst on landing Rwy 09R
2018-05-21	SAG Shirdi	runway excursion	Alliance Air ATR 72-600 VT-AIX (9I653)	Overran Shirdi runway on landing; stopped ~50 m past end
2018-07-10	BOM CSM Intl	runway excursion	Air India Express B737-800 VT-AXT (IX213)	Runway excursion on landing from Vijayawada; prolonged flare, reverser failure, aquaplaning
2018-08-15	COK Cochin Intl	other	Cochin International Airport (CIAL)	Kerala floods: runway/taxiway/apron submerged; perimeter wall, 800 runway lights, solar farm damaged; airport shut 15-29 Aug
2018-09-19	BOM CSM Intl	apron incident	IndiGo A320	Burst tyre on departure
2018-10-12	TRZ Tiruchirappalli Intl	runway excursion	Air India Express B737-800 VT-AYD (IX611)	Tailstrike on takeoff; collided with ILS localiser antenna and boundary wall; captain's seat reclined
2018-10-15	BOM CSM Intl	apron incident	Air India cabin crew (Harsha Lobo) + B77	Air hostess fell from L5 door of B777 while closing it; no equipment in position; before AI864 BOM-DEL departure
2019-01-26	DIU Diu	apron incident	Alliance Air ATR 72-600 VT-AIX	Tailstrike on landing at Diu
2019-04-29	SAG Shirdi	runway excursion	SpiceJet B737-800 VT-SGJ (SG946)	Overran 2,500 m runway by ~100 ft from Delhi
2019-05-03	BBJ Biju Patnaik Intl	other	Bhubaneswar airport (AAI) — Cyclone Fani	Cyclone Fani (gusts 130 kmph): ATC tower roof blown away, VHF antennas damaged, terminal and 600 m perimeter wall damaged
2019-06-02	DEL IGI	runway incursion	IndiGo (Delhi-Udaipur)	Two pilots crossed active runway holding point; DGCA suspended both licences
2019-06-12	JAI Jaipur	apron incident	SpiceJet B737-800	Burst tyre on departure
2019-06-30	IXE Mangalore Intl	runway excursion	Air India Express B737-800 VT-AYA (IX384)	Veered off taxiway after vacating Rwy 24; unstabilised approach; late touchdown
2019-06-30	STV Surat	runway excursion	SpiceJet DHC-8-Q400 VT-SUM (SG3722)	Overran Rwy 22 by ~270 m into soft ground during heavy downpour
2019-07-01	BOM CSM Intl	runway excursion	SpiceJet B737-800 VT-SYK (SG6237)	Overran Rwy 27 in moderate/heavy rain from Jaipur; main runway closed ~2 days
2019-07-01	CCJ Kozhikode	apron incident	Air India Express B737-800	Tail scrape on landing
2019-07-02	CCU NSCB	runway excursion	SpiceJet B737-800	Temporary runway excursion on landing
2019-07-05	BOM CSM Intl	runway incursion	SpiceJet SEJ-2763 (Surat-Mumbai)	Crossed Rwy 14 without clearance after FO misheard ATC (similar IGO063 callsign)
2019-07-10	CCU NSCB Intl	apron incident	SpiceJet Bombardier Q400 (maintenance)	Trainee technician crushed to death when main landing-gear hydraulic doors closed during inspection
2019-07-14	MAA Chennai Intl	runway incursion	IndiGo (Chennai-Ahmedabad)	Pilots crossed ATC-mandated runway holding point before

				takeoff
2019-09-01	GOI Dabolim	security breach	AirAsia India A320	Rejected takeoff due to a dog on runway
2019-10-17	DEL IGI	runway incursion	SpiceJet (two pilots suspended)	Runway incursion incident; two SpiceJet pilots suspended 3 months by DGCA
2019-11-11	BLR Kempegowda Intl	runway excursion	GoAir A320neo	Runway excursion on landing at Bangalore
2020-02-15	PNQ Pune	runway incursion	Air India A321-211 VT-PPU (AI852)	Tail strike on Rwy 10 takeoff because of runway incursion by IAF vehicle
2020-02-18	AMD Sardar Vallabhbhai Patel	bird strike ground	GoAir A320-271N VT-WGY (G802)	Rejected takeoff from Rwy 05 due to bird strike
2020-05-20	CCU NSCB	other	Air India hangars 16 & 17 + Alliance Air	Cyclone Amphan (~130 kmph); 2 AI hangars collapsed; parked Beechcraft crushed under roof; runway flooded; multiple aircraft water-exposed
2020-05-22	BOM CSM Intl	ground collision	Air India A321 (BOM-Mangalore, 172 pax)	Ground crew tried to retract aerobridge post-boarding; aerobridge moved forward and crushed aircraft door
2020-06-06	BOM CSM Intl	ground collision	SpiceJet B737-700 mobile stair (chocked)	Sudden strong winds displaced SpiceJet step-ladder into IndiGo A320's right wing
2020-06-14	COK Cochin Intl	apron incident	IndiGo A320neo VT-IJT (6E 9371)	Cabin crew fell and was seriously injured during descent/flare; landed at COK
2020-06-28	VDY Vidyanagar	runway excursion	Cessna 560XL Citation XLS VT-JSS	Runway excursion on landing
2020-08-07	CCJ Calicut/Kozhikode	runway excursion	Air India Express B737-800 VT-AXH (IX134)	Overran wet tabletop Rwy 10 on 3rd attempt; fell down 30 ft slope; fuselage broke in 3
2020-11-13	MAA Chennai Intl	runway incursion	Air India A320neo	Rejected takeoff from wrong runway (missed Rwy 30 edge lights)
2021-01-13	SXR Srinagar	other	IndiGo A321neo VT-IUZ (6E-2559 Srinagar-	Right-hand engine contacted pile of accumulated snow adjacent to taxiway while taxiing out
2021-03-20	DHM Dharamsala-Kangra	bird strike ground	Alliance Air ATR72-600 VT-RKM (9I714)	Bird strike on approach
2021-05-17	BOM CSM Intl	other	Mumbai Intl Airport (MIAL) + airlines —	Extremely severe cyclonic storm — gusts 114 kmph; airport closed 11:00-22:00; 55+ flights cancelled, 7 diversions
2021-06-16	AMD Sardar Vallabhbhai Patel	apron incident	IndiGo A320neo VT-IVO, VT-ITD, VT-IVQ +	Unexpected thunderstorm with extremely high winds hit Ahmedabad; 5 parked aircraft damaged at stands (3 IndiGo, 2 Go First); boarding steps blown over, wingtip/
2021-07-17	Agatti/Aligarh training field	runway excursion	Cessna 172R VT-CAG	Runway excursion on landing at training field
2021-09-06	GAU Guwahati	bird strike ground	IndiGo A320-271N VT-IZF (6E2329)	Bird strike on takeoff; fan blade damage; returned

2021-09-07	HYD Rajiv Gandhi Intl	runway incursion	SpiceJet B737-800 VT-SZN (SG9909)	Landed on a closed runway at Hyderabad
2021-09-14	RPR Swami Vivekananda	bird strike ground	Air India A320 VT-EXB	Bird strike on takeoff roll; rejected takeoff
2021-10-24	IXG Belgaum/Belagavi	runway incursion	SpiceJet DHC-8-Q400 VT-SQC (SG3733)	Cleared to Rwy 26, landed on Rwy 08 (opposite end) without ATC clearance; CVR overwritten
2022-01-07	BLR Kempegowda Intl	runway incursion	IndiGo 6E-455 (Kolkata) & 6E-246 (Bhuban)	Two IndiGo A320s cleared for departure on parallel runways same time; miscoordination
2022-01-10	BOM CSM Intl	tarmac fire	Air India (BOM-Jamnagar)	Pushback tug caught fire on apron during pushback ~13:00; tug had just returned from refuelling
2022-03-12	JLR Jabalpur (Dumna)	runway excursion	Alliance Air ATR 72-600 VT-AIW (9I617)	Unstabilised approach, bounce past midpoint, overran Rwy 06 onto RESA; 56 kt exit speed
2022-03-16	Sulanpur airstrip	runway excursion	Cessna 152 VT-PTC	Runway excursion on landing; left main gear strut broke
2022-04-12	DEL IGI	ground collision	Air India A321-211 VT-PPH (AI889)	Tow tractor malfunctioned during pushback; towbar shear pin broke
2022-05-09	DEL IGI	bird strike ground	SpiceJet B737 MAX 8 VT-MXI (SG8472)	Bird strike on landing
2022-06-19	GAU Guwahati	bird strike ground	IndiGo A320-271N VT-ITB (6E6394)	Bird strike climbing through 1,600 ft after takeoff
2022-06-19	PAT Jayaprakash Narayan Intl	bird strike ground	SpiceJet B737-800 VT-SYZ (SG-723)	Bird strike on left engine during takeoff rotation; engine fire; shutdown and returned to PAT
2022-08-02	DEL IGI	ground collision	IndiGo A320neo VT-ITJ vs Go First Swift	Go First car rolled under parked IndiGo nose at T2 stand; narrowly missed nose wheel
2022-08-05	VNS Varanasi	bird strike ground	Vistara A320-251N VT-TNC (UK622)	Bird strike on takeoff
2022-08-06	NAG Dr. Babasaheb Ambedkar Intl	apron incident	IndiGo ATR-72 VT-IRA (6E-7197 ex-AMD) +	Lightning struck aircraft during post-arrival inspection on apron; engineers completing walkaround were hit
2022-09-26	CNN Kannur	bird strike ground	Air India A320neo	Bird strike
2022-10-27	AMD Sardar Vallabhbhai Patel	bird strike ground	Akasa Air B737 MAX 8 VT-YAF (QP-1333)	Bird strike during climb-out from Ahmedabad at 1,900 ft; radome damage
2022-10-28	BLR Kempegowda Intl	bird strike ground	British Airways B777-200ER	Bird strike (BLR/LHR)
2022-10-28	DEL IGI	tarmac fire	IndiGo A320 VT-IFM (6E-2131)	Right engine sparks/fire on takeoff roll Rwy 28 at ~45 kt; rejected takeoff, evacuated
2023-01-29	LKO Chaudhary Charan Singh Intl	bird strike ground	AirAsia India A320 VT-RED (I5-319)	Bird strike on takeoff roll; rejected takeoff
2023-02-12	BLR/PNQ	apron incident	AirAsia India A320	Burst tyre on departure
2023-02-19	TRV Trivandrum	apron incident	Air India Express B737-800	Nose tyre damage on landing
2023-02-24	CCJ Kozhikode	apron incident	Air India Express B737-800 VT-AYA (IX385)	Tail strike on takeoff from CCJ
2023-02-26	STV Surat	bird strike ground	IndiGo A320-271N VT-IZI (6E646)	Bird strike to No.2 engine after departure
2023-04-14	NAG Nagpur	apron incident	IndiGo A321neo	Tail strike on landing

2023-05-25	IXE Mangalore	bird strike ground	IndiGo A320neo (6E-1467)	Bird strike on takeoff roll from Rwy 06 at ~80 kt; rejected takeoff
2023-06-11	DEL IGI	apron incident	IndiGo A321neo	Tail strike on balked landing
2023-06-15	AMD Sardar Vallabhbhai Patel	apron incident	IndiGo A321 VT-IMW (6E6595)	Tail strike on landing at AMD; one of 4 IndiGo A321 tail strikes Jan-Jun 2023
2023-07-04	COK Cochin	apron incident	SpiceJet B737-800	Burst tyre on landing
2023-07-28	DEL IGI	apron incident	Air India B787-8	Burst tyre on departure
2023-08-01	BOM CSM Intl	ground collision	Vistara A320neo (UK-775 BOM-CCU) + tow t	During pushback, tow-truck driver thrown off balance; rear of truck collided with left engine
2023-08-11	DEL IGI	bird strike ground	AirAsia India A320	Bird strike
2023-08-23	DEL IGI	runway incursion	Vistara VT-TYA + VT-TNC (both A320neo)	Landed Vistara instructed to cross 29R while another Vistara cleared for takeoff 29R
2023-10-19	BAM Baramati (near)	runway excursion	Redbird FTA Tecnam P2008JC VT-RBC	Training aircraft crashed near Baramati
2023-10-22	BAM Baramati (near)	apron incident	Redbird FTA Tecnam P2008JC VT-RBT	Training aircraft crash-landed near Baramati (2nd in 4 days)
2023-11-07	DEL IGI	apron incident	Air India engineer Ram Prakash Singh (56)	During night-shift maintenance, slipped from staircase and fell from significant height; severe head injuries
2023-11-17	DEL IGI	runway incursion	IndiGo A321 VT-IUO & A320 VT-ISO	Airprox between two IndiGo departures from IGI
2023-11-19	IMF Imphal	security breach	N/A (airport operations)	Unidentified flying object / suspected drone in controlled airspace; airport shut >3 hours
2023-12-04	MAA Chennai Intl	other	Chennai Intl Airport + airlines — Cyclon	Apron, taxiways, runway flooded; parked aircraft photographed with wheels fully submerged; shut Dec 4 to morning Dec 5
2024-01-12	BOM CSM Intl	ground collision	IndiGo boarding step-ladder + Mumbai T2	Step-ladder used by IndiGo to board pax came in contact with T2 terminal building while being towed away
2024-01-13	BOM CSM Intl	apron incident	IndiGo 6E-2301 (BOM-BBI) + aerobridge	Pax including elderly and infants locked inside aerobridge for hours; no water, ventilation or toilet; 8:30 am dep eventually left 13:52
2024-01-23	AJL Lengpui	runway excursion	Myanmar AF Shaanxi Y-8F-200W	Skidded off runway on landing at civil airport Lengpui
2024-01-27	DEL IGI	security breach	Intruder	Drunk/drug-addict intruder scaled perimeter wall, reached runway; spotted by AI pilot
2024-02-11	DEL IGI	runway incursion	IndiGo A320 (from Amritsar)	Missed taxiway after landing, blocked runway ~15 min; departures halted
2024-02-22	BOM CSM Intl	runway incursion	Air Astana A320neo EI-KBP (KC7858) + Air	Runway incursion between departing Astana and AI

2024-02-23	SXR Srinagar	bird strike ground	Vistara A320neo VT-TYF (UK612)	Bird strike on approach Rwy 31
2024-03-27	CCU NSCB	ground collision	IndiGo A320 VT-ISS vs AIX B737 VT-TGG	Taxiing IndiGo brushed wings of stationary AI Express waiting for runway clearance
2024-03-31	GAU Lokpriya Gopinath Bordoloi Intl	other	AAI / Adani-operated Guwahati airport —	Sudden storm and heavy rain caused part of forecourt roof to collapse; ops halted ~45 min
2024-05-16	PNQ Pune	ground collision	Air India A321 (AI-858)	Collided with tug tractor while taxiing for takeoff
2024-05-18	BLR Kempegowda Intl	tarmac fire	Air India Express A320-216 VT-ATF (IX113)	Engine #2 stall + fire after takeoff; returned to BLR; emergency evacuation via slides
2024-05-25	TRV Trivandrum	bird strike ground	Air India A320	Bird strike
2024-05-26	CCU NSCB	other	NSCBI + airlines — Cyclone Remal	Cyclone Remal (110-135 kmph): airport shut 21 hr from 12:00 IST; precautionary aircraft securing
2024-06-08	BOM CSM Intl	runway incursion	Air India VT-RTS (AI657) vs IndiGo VT-IS	Loss of separation Rwy 27R: IndiGo landed behind AI as AI was taking off; ATCO derostered
2024-06-28	DEL IGI	apron incident	Terminal 1 forecourt	Section of T1 old departures roof canopy collapsed in heavy monsoon onto taxis
2024-08-14	AMD Sardar Vallabhbhai Patel	bird strike ground	AirAsia A320neo 9M-AGS (AK91)	Bird strike on landing Rwy 23; nose radome damaged
2024-08-14	DEL IGI	apron incident	IndiGo passenger Ratnendu Ray + deboardi	Pax slipped on moist patch on deboarding ramp during light drizzle after Chennai-Delhi flight arrival; no aerobridge used
2024-08-14	GOI Dabolim	bird strike ground	Air India A321 VT-PPI (AI-684)	Bird strike on takeoff roll Rwy 26 at ~115 kt; high-speed rejected takeoff
2024-09-09	DEL IGI	apron incident	IndiGo A321-251NX VT-IBI (6E6054)	Tail strike on takeoff from DEL to Bengaluru
2024-10-08	BBI Biju Patnaik Intl	runway excursion	Alliance Air ATR 72-600 VT-RKF (91746)	Sank in heavy rain, hit approach lights, touched down before threshold, tail strike suspected
2024-10-13	Multiple	security breach	Multiple airlines (IndiGo, AI, Vistara,	Wave of hoax bomb threats against Indian airlines; ~500 in two weeks (728 in 2024 total)
2024-10-14	BOM CSM Intl	security breach	Air India B777 (AI-119 BOM-JFK)	Bomb threat in flight; diverted to Delhi; pax deplaned on tarmac
2024-12-05	GOI Manohar Intl	runway incursion	Air India A320-251N VT-EXT (AI2592)	Lined up and began takeoff roll on Twy 'A' parallel to Rwy 28; aborted at 124 kt
2024-12-17	COK Cochin	apron incident	Air India Express B737-800	Tyre damage on departure
2025-03-08	MAA Chennai Intl	apron incident	IndiGo A321-251NX VT-IBI (6E5325)	Tail strike on landing Rwy 25 (same tail twice in 6 months)
2025-04-11	DEL IGI	other	DIAL + airlines — severe dust storm	Severe dust storm (74 kmph at IGI) caused chaos at T3

2025-04-18	BLR Kempegowda Intl	ground collision	Ground-handler tempo traveller + IndiGo	Third-party ground-handler's tempo traveller ferrying staff drove into undercarriage of AOG IndiGo aircraft; driver reportedly dozed off
2025-05-02	IXC Chandigarh	other	IndiGo ATR72	Both engines momentarily flamed out
2025-05-25	DEL IGI	other	DIAL — thunderstorm	Thunderstorm (80 mm rain, 70-80 kmph winds) damaged T1 arrival forecourt canopy again (post-June 2024 rebuild)
2025-06-08	CCU NSCB	tarmac fire	IndiGo A320 VT-IAX (6E-245)	Rejected takeoff Rwy 19L after left V2527 engine failed during takeoff roll
2025-06-12	AMD Sardar Vallabhbhai Patel	other	Air India B787-8 VT-ANB (AI171)	32 s after takeoff, both engine fuel control switches moved RUN->CUTOFF; crashed into hostel
2025-06-14	MAA Chennai	apron incident	IndiGo A320neo	Tail strike on landing
2025-06-19	BBI Biju Patnaik Intl	bird strike ground	IndiGo (6E-6101)	Suspected bird strike triggered technical alert; rejected takeoff before departure to Kolkata
2025-07-14	BOM CSM Intl	ground collision	Akasa Air B737 MAX 8 VT-YAD (QP-1736)	Bird Group cargo truck driver misjudged wing height; vehicle clipped right winglet
2025-07-21	BOM CSM Intl	runway excursion	Air India A320neo VT-TYA (AI2744)	Landed on right edge of Rwy 27 in thunderstorm; wheels entered grass, regained centreline
2025-07-22	DEL IGI	tarmac fire	Air India B777 (AI315 HKG-DEL)	APU caught fire shortly after landing during disembarkation; APU auto-shutdown
2025-07-23	AMD Sardar Vallabhbhai Patel	tarmac fire	IndiGo ATR72	Rejected takeoff due to engine fire indication
2025-07-31	DEL IGI	other	Air India B787-9	Rejected takeoff
2025-08-06	MAA Chennai	tarmac fire	IndiGo ATR72	Rejected takeoff due to engine problem
2025-08-13	BLR Kempegowda Intl	ground collision	Akasa Air B737 MAX	Contracted ground-service vehicle struck parked aircraft at gate during checks
2025-08-16	BOM CSM Intl	apron incident	IndiGo A321-251NX VT-ICM (6E1060)	Tail strike during low-altitude go-around Rwy 27 (weather)
2025-08-17	GAU Lokpriya Gopinath Bordoloi Intl	runway incursion	IndiGo (6E-187)	Rear wheels already touched when crew spotted other aircraft still on runway; go-around
2025-09-05	DEL IGI	apron incident	Construction worker airside near T3	Construction worker fell ~10 ft on airside near T3
2025-09-12	BOM CSM Intl	apron incident	SpiceJet DHC-8-Q400 SG2906	One main LG outer wheel detached during takeoff from Kandla; wheel recovered on runway; emergency landed BOM
2025-10-28	DEL IGI	tarmac fire	Air India SATS (AISATS) CNG crew-bus + p	AISATS CNG crew bus caught fire near parking pier during crew pickup

				for Hong Kong-Delhi flight; suspected short-circuit/rear-engine fire
2025-12-12	IXR Birsa Munda Airport	apron incident	IndiGo ATR72	Tail strike on landing

Appendix B • Sources

Primary source databases used across all research streams.

AAIB India <https://aaib.gov.in/> — final and preliminary reports.

DGCA India <https://www.dgca.gov.in/> — annual safety reviews, orders, press releases.

BEA France <https://bea.aero/> — state-of-design investigation notifications for A320-family serious incidents.

Aviation Safety Network <https://aviation-safety.net/wikibase/dblist.php?Country=VT> — India country page (VT register).

Aviation Herald <https://avherald.com/> — incident articles.

ICAO CICTT taxonomy <https://www.icao.int/safety/AIG/taxonomy> — occurrence category definitions.

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