

# The limitations of GeoLite for fraud prevention & security applications

While GeoLite offers a basic introduction to IP geolocation, its limitations make it unsuitable for commercial-grade applications. For businesses facing evolving security and fraud risks, a robust and accurate IP intelligence solution like GeoIP® is essential.

**GeoIP City: 10% more accurate and 36% better coverage than GeoLite.**

## The cost of accuracy for cybersecurity, fraud prevention, and compliance

It may seem minor, but small uplifts in true positives can have big impacts like:

- ✓ Fewer chargebacks, less remediation costs and lower account abuse
- ✓ Decreased risk of regulatory fines and penalties
- ✓ Improved customer trust and operational efficiency

## GeoLite vs. GeoIP City: A side-by-side comparison

	GeoLite	GeoIP City
<b>Data sources</b>	Primarily public signals	<b>Network-powered accuracy</b> The data and intelligence behind GeoIP is built on validated information from trusted network operator partners and billions of authenticated end user signals.
<b>Coverage and completeness</b>	<b>Lower city level coverage</b> Some IP ranges return only at the country level.	<b>Broader city-level coverage</b> 36% more IPs mapped to regions and cities.
<b>Accuracy</b>	<b>Lower accuracy at the city level</b>	<b>Higher city-level accuracy</b> 10% more accurate.
<b>Accuracy radius and confidence scores</b>	<b>Broad, limiting city level accuracy</b> Provides an estimated radius, but not confidence scores.	<b>Tighter accuracy radius and included confidence scores</b> Enables models to weigh signals and use "We're X% sure this login is in Y."
<b>Data freshness</b>	<b>Updated 2x per week</b>	<b>Updated daily</b> ISP feeds and commercial partner data. New allocations and ISP shifts reflected sooner.
<b>Support</b>	Knowledge base and developer hub <b>articles only</b> .	<b>Dedicated support</b> from the MaxMind team. Access to our knowledge base and developer hub.
<b>Licensing</b>	<b>Limited commercial use</b> (ie. prohibits display and redistribution).	<b>Flexible and customizable commercial licensing.</b>

## Why it matters, understand the impact of GeoIP City

Use case	With GeoLite	With GeoIP City	Business impact
<b>Account takeover detection</b>	City often missing or inaccurate → “impossible travel” checks (e.g., Kansas City to Chicago) may fail to trigger.	More complete and fresher city data → more accurate “impossible travel” detection.	Reduced account takeover losses: even a 5–10% lift in true positive detection can save millions in chargebacks or remediation costs.
<b>Fraudulent new account creation</b>	Incomplete city coverage → many fraudster IPs default to country-level only (miss finer anomalies like “all signups in Toronto suburb from the same datacenter”).	Higher city-level coverage & accuracy radius → clusters of fraud become more obvious.	<b>Improved fraud scoring</b> → lowers false approvals; prevents fake account farms costing \$X per account in promotions, bonuses, or abuse.
<b>Regulatory compliance (KYC / AML)</b>	Country-level okay, but weak city precision → harder to enforce location-specific regulations (e.g., sub-national gaming or tax rules, identification of disputed territories in conflict zones).	Reliable city resolution → aligns with geo-blocking, tax enforcement, gambling laws.	<b>Avoided fines &amp; penalties:</b> one regulatory breach can have devastating financial consequences, easily justifying paid data.
<b>Combating online payment fraud</b>	Lower accuracy and coverage can leave you at risk of missing suspicious financial transactions (e.g., credit card fraud, unauthorized money transfers).	Enhanced accuracy and broader city-level coverage means improved detection of suspicious or fraudulent financial transactions.	<b>Reduced financial losses and improved fraud detection:</b> minimizes chargebacks and restitution costs while protecting against reputational damage.