MCP SERVER | NO CODE | CLOUD HOSTED

Trimble Logistics MCP

Master truck routing, compliance, and cost analysis.

Trimble calculates complex truck routes using enterprise-grade data for fleet managers. It determines accurate driving times, estimates total toll costs, and ensures compliance by calculating state mileage for fuel tax reporting. This MCP handles everything from routing around tight bridges to mapping optimal delivery zones.

A+ Quality Score 100/100

fleet-management | routing | geocoding | logistics | fuel-tax-reporting | spatial-analysis

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vinkius.com/mcp/trimble

SCAN TO VIEW

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

> *The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.*
>
> — Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

```
https://edge.vinkius.com/{token}/mcp
```

Claude · Cursor · VS Code · Windsurf · Grok · Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1) Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

> Get started at **cloud.vinkius.com** — connect your AI agent in under 60 seconds.

Trimble MCP

10 tools available
Cloud-hosted on Vinkius

Need to plan a haul across multiple states? Don't waste time guessing if your rig can make the drop-off or what the final cost will be. This MCP connects your agent directly to Trimble PC*MILER logistics infrastructure, giving you real-time visibility over complex transport routes. You can ask it to calculate total toll fees for a full trip, breaking down both cash and electronic costs mathematically. Need to know if that route avoids restricted zones or narrow bridges? The system handles those physical constraints automatically. When routing gets complicated—like needing an exact estimate of how far you can travel in one hour from a depot—you just ask your AI client, and it generates the precise boundary map. Accessing this level of detailed logistics data is made simple when connected through Vinkius, allowing any compatible agent to use these tools instantly.

Core Capabilities

01 — Calculate routes avoiding obstacles

Generates a truck-compliant path that respects specific dimensions like height and weight.

02 — Estimate total trip costs

Calculates the combined cash and electronic fees for tolls along any given route.

03 — Report state mileage accurately

Generates summaries that break down precise fuel-tax (IFTA) mileage crossed within individual states.

04 — Map service area reach

Determines the maximum geographical area reachable from a point given a set time limit.

05 — Determine multi-stop travel times

Calculates total distances and estimated driving times between multiple start and end points.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/trimble** — connect your AI agent in three steps.

01 First, provision this connector inside your Vinkius catalog and inject your certified Trimble Developer API Key.

02 Second, tell your agent the necessary parameters, like starting coordinates, destination addresses, or required vehicle dimensions.

03 Third, your AI client invokes the correct tool to generate a detailed route plan, total cost breakdown, or compliance report.

The bottom line is you get enterprise-grade logistics intelligence without needing specialized GIS software.

Built For

This MCP serves the fleet manager who can't afford delays due to unexpected tolls or restricted routes. It's for dispatch analysts tired of manually cross-referencing map services with compliance manuals, and data scientists needing precise geospatial metrics for large-scale planning.

Fleet Operations Manager

Uses the MCP to run comprehensive route analyses that factor in vehicle dimensions and estimate total toll expenditures across multiple trips.

Logistical Data Scientist

Interrogates geographical locations using structured isochrone grids or matrix origins to test delivery reach for heavy machinery requirements.

Dispatch Analyst

Investigates potential delivery zones by requesting a time-limited boundary, helping set realistic transit expectations for urgent deliveries.

What Changes When You Connect

01 Avoid costly delays by getting real-time toll estimates. Use `calculate_trip_tolls` to know the exact dollar impact of cash lanes versus electronic transponders before you even hit the road.

02 Ensure regulatory compliance every time. The `calculate_state_mileage` tool handles complex fuel-tax reporting (IFTA), giving you precise mileage summaries broken down by state for accounting.

03 Never risk a breakdown or accident due to physical constraints. Use `get_truck_directions` and `route_by_vehicle_size` to guarantee the calculated route clears specific bridge heights, weight limits, or HazMat restrictions.

04 Plan multi-stop hauls with confidence. Instead of mapping each segment separately, use `calculate_matrix_routing` to get total distances and times between dozens of points in one query.

05 Optimize delivery reach quickly. If you need to know what a depot can service within four hours, `calculate_driving_isochrone` generates that maximum reachable zone boundary immediately.

Real-World Applications

Planning an interstate haul through multiple states

A fleet manager asks the agent to plan a route from Texas to New York. The agent uses `calculate_truck_route` and then runs `calculate_state_mileage` on the result, instantly providing the compliance report needed for tax filing.

Determining feasibility around construction zones

A dispatch analyst needs to know if a client's factory can be reached by an oversized vehicle. The agent uses `route_by_vehicle_size` and then runs `get_truck_directions` to confirm the entire path avoids low bridges or weight limits.

Calculating total budget for complex routes

A sales team member asks how much a cross-country delivery will cost. The agent uses `calculate_trip_tolls` on the initial route to give an accurate, detailed toll estimate, preventing unexpected overhead costs.

Mapping service boundaries for new clients

A data scientist wants to show a client their maximum delivery area. The agent uses `calculate_driving_isochrone` with the client's main depot coordinates and a fixed time limit, generating a clear service boundary map.

Patterns to Avoid

Using generic mapping tools

✗ AVOID

The user simply pastes start/end points into a general map widget and assumes the route is safe for heavy equipment.

✓ INSTEAD

Always use `calculate_truck_route` or `get_truck_directions`. These tools factor in truck-specific variables like weight, height, and HazMat rules that standard maps ignore.

Manually tracking tax mileage

✗ AVOID

Copying route segments into a spreadsheet and trying to manually determine which state boundary was crossed for IFTA reporting.

✓ INSTEAD

Use `calculate_state_mileage`. This tool takes the complete, complex itinerary and automatically generates an accurate, state-by-state fuel tax report.

Forgetting about alternate routes

✗ AVOID

Relying solely on the primary highway route when a required stop is blocked by construction or restricted access.

✓ INSTEAD

If you need to bypass certain roads, use `route_avoiding_roads` to ensure your planned itinerary stays within acceptable public road boundaries.

The Right Fit

Use this MCP if your logistics planning requires compliance, dimensional safety checks, or precise cost modeling. You must know the vehicle's dimensions (height/weight) or need tax-compliant mileage reports—that's when you use `route_by_vehicle_size` or `calculate_state_mileage`. Don't use this if you just need simple turn-by-turn navigation for a standard car; in that case, generic map services are fine. You also shouldn't

use it if your only goal is finding a single address; then, `search_trimble_address` or `reverse_geocode` suffices. This MCP shines when multiple constraints (time limit + weight limit + tax reporting) hit the same route.

The headaches of multi-state logistics planning

Today, mapping a large haul means opening five different tabs: one for the basic route, another for toll costs, a third to check bridge heights against your rig's dimensions, and then logging into a separate system just to get mileages broken down by state for tax filing. You spend hours copy-pasting coordinates and cross-referencing disparate data points.

With this MCP, you describe the entire trip—the origin, destination, vehicle size, and even the budget constraints—to your agent. The platform processes all those rules simultaneously, giving you one single report that is ready for dispatch.

Get truck-safe routing with Trimble

The biggest time sink used to be calculating the actual cost and feasibility of a trip. You'd estimate tolls, then realize you needed a different route because your rig was too tall for a bridge on the original path, forcing an entirely new manual calculation.

Now, simply telling the agent to calculate the route automatically factors in those physical constraints while estimating costs. The final result is not just a line on a map; it's a vetted, actionable plan.

Trimble: 10 Tools for Advanced Logistics Planning

These tools let your agent perform detailed logistical tasks like calculating distances between multiple points, checking vehicle safety clearances, or generating tax-compliant mileage reports.

#	TOOL	DESCRIPTION
01	`calculate_driving_isochrone`	Finds the area you can reach from a center point within a specific amount of time.
02	`calculate_matrix_routing`	Calculates the distances and travel times between several starting points and ending points at once.
03	`calculate_state_mileage`	Breaks down a trip's total mileage by every US state or province it crosses for tax reporting.
04	`calculate_trip_tolls`	Estimates the exact dollar cost, separating cash and electronic fees, for an entire truck route.
05	`calculate_truck_route`	Computes a comprehensive, truck-safe path between multiple stops using specialized logistics data.
06	`get_truck_directions`	Provides turn-by-turn driving directions while accounting for specific physical limits like bridge height and weight restrictions.
07	`route_avoiding_roads`	Calculates a route that explicitly skips certain public roads or restricted expressways.
08	`route_by_vehicle_size`	Generates a truck path specifically tailored using provided vehicle height and weight measurements.
09	`search_trimble_address`	Searches the Trimble database to find specific locations and commercial addresses.
10	`reverse_geocode`	Converts raw geographic coordinates into the nearest recognizable commercial address.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U Calculate a truck route starting from -74.0,40.7 to -75.0,41.0.

Route computed successfully. The total truck-safe distance spans 85.3 miles. Expected travel time is approximately 1 hour and 32 minutes along main highways based on these parameters.

U What are the estimated toll costs passing that exact same route?

Checking toll estimators. The total calculated fees are 12.50 USD utilizing verified electronic transponders, scaling higher unpredicted if operating on cash lanes continuously.

Frequently Asked Questions

01 **How does Trimble MCP handle toll costs?**

The `calculate_trip_tolls` tool estimates the total fees for your route. It specifically breaks down whether you'll pay using verified electronic transponders or standard cash lanes.

02 **Can I calculate a route that avoids specific roads?**

Yes, use `route_avoiding_roads`. You specify the restricted expressways or public roads, and the MCP computes an alternate path that respects those exclusions.

03 **What if my vehicle dimensions change the route?**

The `route_by_vehicle_size` tool is designed for this. You provide your truck's height and weight, and it recalculates the entire path to ensure safety clearance.

04 **How do I get tax-compliant mileage using Trimble MCP?**

For fuel tax (IFTA) purposes, run `calculate_state_mileage`. This tool takes a full route and gives you the precise miles driven inside each specific US state or province.

05 **What is an isochrone calculation with Trimble MCP?**

An isochrone calculates your maximum reachable area from one point within a fixed time limit. You use `calculate_driving_isochrone` to visualize this service radius for planning.

Go Live in 60 Seconds

Get your connection token from **cloud.vinkius.com**, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add `"trimble": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → Add endpoint URL
ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

- Ask ChatGPT
- Ask Claude
- Ask Perplexity
- Ask Gemini
- Ask Grok

READY TO CONNECT

Trimble is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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