

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Carpool Seat Rotation MCP

Automate rider assignments and vehicle scheduling with ease.

Carpool Seat Rotation MCP handles the math behind rider assignments and vehicle scheduling. It manages seat capacity, checks rider availability, and uses rotation history to make sure seat distribution stays fair for everyone involved.

A+ Quality Score 100/100

carpool

scheduling

logistics

optimization

transport



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.

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.

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.

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

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

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.

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.

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.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot 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.

FinOps

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

Firewall & DLP

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

Agent Activity

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

Tool Health

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

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.

Carpool Seat Rotation MCP

4 tools available

Cloud-hosted on Vinkius

Managing a carpool shouldn't feel like a full-time logistics job. This MCP takes the guesswork out of assigning riders to vehicles and specific driving days. Instead of manually checking who can ride when, you let your AI client handle the heavy lifting. It looks at your vehicle limits to prevent overcrowding and checks passenger constraints so no one gets stuck without a ride. Most importantly, it uses a rotation system to ensure the same people aren't always driving or riding. It tracks previous assignments to give riders a fairness score, making sure the schedule stays equitable over time. You can use it to build complete daily schedules or just check if a specific person can fit into a ride on a given date.

Core Capabilities

01 — Automated Scheduling

Your agent uses this to build complete rider and driver rosters for any given period.

02 — Capacity Monitoring

The AI checks vehicle limits to ensure no car is ever overbooked.

03 — Fairness Tracking

Your agent calculates priority scores to distribute rides evenly among all passengers.

04 — Availability Verification

The AI cross-references rider constraints to confirm they can actually make a scheduled trip.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/carpool-seat-rotation — connect your AI agent in three steps.

- 01
- Connect your AI client to the Vinkius hosted MCP.
- 02
- Provide your rider, vehicle, and driver data to your agent.
- 03
- Ask the agent to calculate assignments or check specific constraints.
- 04
- Review the generated schedules or fairness scores produced by the tools.

Setting up your automated carpool logic is a direct process through your preferred AI client.

Built For

This MCP is built for anyone managing group transportation logistics where fairness and capacity are critical.

Logistics Coordinators

They hand off the complex math of rider rotation and vehicle limits to the AI.

Fleet Managers

They use the tool to monitor vehicle capacity and driver schedules.

Community Organizers

They rely on the fairness scoring to ensure equitable ride distribution for members.

What Changes When You Connect

- 01
- Eliminates manual scheduling errors by automating rider and vehicle matching.
- 02
- Prevents vehicle overcrowding through real-time capacity validation.

-
- | | |
|----|---|
| 03 | Ensures equitable ride distribution using historical assignment data. |
| 04 | Reduces planning time by generating full schedules in seconds. |
-

Real-World Applications

Employee Commuting

Organize daily carpools for staff members while ensuring everyone gets a turn riding.

School Transport

Manage student ride-sharing schedules while respecting parent-provided availability.

Event Logistics

Coordinate shuttle rotations for large events based on vehicle seat limits.

Non-Profit Transport

Schedule volunteer drivers and passengers using fairness scores to manage limited resources.

Patterns to Avoid

Manual Capacity Guessing

❌ AVOID

You try to eyeball a spreadsheet to see if a van has enough seats for five new riders. You end up overbooking a vehicle because you missed a previous assignment.

✓ INSTEAD

Let your agent check the math directly. Use ``validate_vehicle_capacity`` to confirm a rider fits before you finalize any plans.

Ignoring Rider History

❌ AVOID

You assign the same three people to drive every single morning because it is the easiest way to build a quick schedule.

✓ INSTEAD

Use ``get_fairness_score`` to see who has been driving too much. This ensures the workload stays balanced across the whole group.

Blind Scheduling

❌ AVOID

You build a full weekly roster without checking if the passengers are actually available to ride on Tuesday.

✓ INSTEAD

Run ``get_rider_availability`` first to verify constraints. This prevents you from scheduling someone who can't actually make the trip.

The Right Fit

Connect this MCP if you manage recurring group transport where seat limits and fair rotation are non-negotiable. Do not use it if you are just coordinating a one-time ride for two friends. The deciding factor is whether you have a group of people who need to share the driving and riding duties over multiple days.

4 Tools for Managing Carpool Logistics

These tools handle the math behind rider rotation, vehicle capacity, and scheduling fairness.

#	TOOL	DESCRIPTION
01	calculate_daily_assignments	This tool builds the full schedule of riders, vehicles, and drivers for a specific time period.
02	get_fairness_score	This tool calculates a priority score for a rider based on how many times they have been assigned seats previously.
03	get_rider_availability	This tool checks if a specific rider is able to be accommodated on a certain date.
04	validate_vehicle_capacity	This tool confirms whether adding a rider to a specific vehicle on a specific day stays within the seat limit.

See It in Action

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

U Generate a daily assignment schedule for these riders, vehicles, and drivers.



The schedule for July 10th includes 3 vehicles with 12 riders assigned and 2 unassigned riders due to capacity limits.

U Is rider R-123 available to travel on 2024-08-15?



No, rider R-123 is not available on 2024-08-15 based on their specified availability constraints.

U What is the priority score for rider R-456?



The priority score for rider R-456 is 5, indicating they have been assigned seats 5 times previously.

Frequently Asked Questions

01 How does the MCP ensure the carpool is fair?

The MCP uses a fairness score based on previous assignments. It prioritizes riders who have been assigned fewer seats in the past to ensure everyone gets a turn.

02 Can I use this with Claude or Cursor?

Yes, you can connect this MCP to any compatible client like Claude, Cursor, Windsurf, or VS Code.

03 How does it prevent vehicles from being overfilled?

The `validate_vehicle_capacity` tool checks every assignment against the specific seat limits of each vehicle.

04 Do I need to host the MCP myself?

No, Vinkius hosts and manages the MCP for you. You just connect your client and start using the tools.

05 Can the AI check if a specific person can ride on a Tuesday?

Yes, you can use the `get_rider_availability` tool to check if a rider can be accommodated on a specific date.

06 How does the system ensure fairness among riders?

The system uses `get_fairness_score` to calculate a priority score. Riders with lower historical assignment counts are prioritized for available seats to ensure equitable rotation.

07 Can I check if a vehicle has enough space for a new rider?

Yes, you can use the `validate_vehicle_capacity` tool to check the remaining seats in a specific vehicle against its maximum capacity.

08 How are daily schedules generated?

You can generate a complete schedule of riders, vehicles, and drivers by calling `calculate_daily_assignments` with the necessary rider, vehicle, and driver data.

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 <code>"carpool-seat-rotation": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → 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

Carpool Seat Rotation 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

INDEPENDENT PLATFORM DISCLAIMER

Vinkius is an independent platform and is not affiliated with, endorsed by, sponsored by, verified by, or otherwise authorized by Carpool Seat Rotation. All third-party trademarks, logos, and brand names are the property of their respective owners. Their use in this document is strictly for informational purposes to identify service compatibility and interoperability.

DOCUMENT INFORMATION

Generated	October 2026
MCP Server	Carpool Seat Rotation MCP
Server ID	01a0ec9f-184f-7311-af94-79227d450fc6
Platform	Vinkius Cloud for AI Agents
Endpoint	https://edge.vinkius.com/{token}/mcp

LICENSE & USAGE

This document is generated automatically by the Vinkius PDF Engine. Content reflects the MCP server configuration at the time of generation and may change as updates are deployed. For the most current information, visit vinkius.com/en/ai-agent-connect/carpool-seat-rotation.