

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

NYC Cycling & Bike Infrastructure MCP

Plan smarter bike trips with live NYC transit data.

NYC Cycling & Bike Infrastructure MCP gives your AI agent direct access to the city's cycling network. You can query nearly 30,000 bike route segments, locate 38,000 parking spots, and pull live traffic counts from street sensors. It's a keyless way to map protected lanes, find secure corrals, and check real-time congestion on bridges and boulevards.

A+ Quality Score 96.67/100

new-york

nyc

cycling

bike-lanes

greenways

bike-parking



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.

NYC Cycling & Bike Infrastructure MCP

8 tools available

Cloud-hosted on Vinkius

You can now give your AI client a complete map of New York City's cycling landscape. Instead of digging through messy city databases, you just ask your agent for the specifics. You can trace protected lanes street by street to find the safest routes or locate one of the 38,000 bike racks and 912 secure corrals when you need to park for a few hours. If you want to know if a specific corridor is packed, you can pull live 15-minute interval counts from street sensors to see exactly how many cyclists, pedestrians, or scooters are passing through right now. This MCP handles the heavy lifting of querying NYC Open Data, letting you focus on planning your route or analyzing commuter patterns without needing an API key.

Core Capabilities

01 — Route Mapping

Your agent can trace protected and conventional bike lanes street by street.

02 — Parking Discovery

The AI can find specific chainable racks or secure corrals near any destination.

03 — Live Traffic Monitoring

You can check real-time sensor counts for bikes, pedestrians, and scooters.

04 — Commuter Analysis

The tool calculates direction splits to show inbound versus outbound traffic trends.

05 — Greenway Identification

Your agent can identify and rank the major greenways used for long-distance riding.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/nyc-cycling-bike-infrastructure — connect your AI agent in three steps.

- 01 Connect your preferred MCP-compatible client to Vinkius.
- 02 Ask your AI agent a question about NYC bike lanes, parking, or traffic.
- 03 The agent calls the specific tool needed to query the NYC Open Data.
- 04 The agent receives the raw data and translates it into a clear answer for you.

Connecting to this MCP gives your AI client immediate access to NYC's cycling datasets.

Built For

This MCP is built for anyone navigating the NYC cycling network who needs real-time or structural data without manual searching.

Urban Cyclists

Use the agent to find protected lanes and secure parking for daily commutes.

City Planners

Hand off data analysis tasks like checking sensor volumes or greenway lengths to your AI.

Logistics Coordinators

Use traffic flow and direction split data to understand micro-mobility patterns.

What Changes When You Connect

- 01 Access live sensor data without managing your own API keys.
- 02 Find secure parking locations instantly through natural language queries.
- 03 Identify protected cycling infrastructure to plan safer routes.

04 Analyze real-time traffic volumes for bikes and pedestrians.

Real-World Applications

Safe Commuting

Ask your agent to find a route using only protected bike lanes to avoid heavy car traffic.

Secure Parking

Locate a secure community corral when you need to leave your bike unattended for a long period.

Traffic Assessment

Check how busy a specific bridge or boulevard is before you head out for a ride.

Infrastructure Research

Query the total number of bike segments or greenway lengths for urban studies.

Patterns to Avoid

Asking for general city maps

❌ AVOID

You ask your agent to show you a general map of all bike lanes in Manhattan.

✓ INSTEAD

Instead, use ``list_bike_lanes`` to get specific details on street names, direction codes, and whether a lane is protected or shared.

Guessing parking availability

❌ AVOID

You tell your agent to find any place to park a bike near a specific subway station.

✓ INSTEAD

Use ``search_bike_parking`` to find specific racks or the 912 secure community corrals in that area.

Estimating traffic manually

❌ AVOID

You try to guess how busy a bridge is based on time of day.

✓ INSTEAD

Use ``search_bike_flows`` to pull actual 15-minute interval sensor counts for bikes, pedestrians, or scooters.

The Right Fit

Connect this MCP if you need to plan routes based on actual street infrastructure or real-time sensor data. Do not connect it if you only need high-level city maps or general navigation. The decision depends on whether you require specific lane types and live traffic volumes to make your decisions.

NYC Cycling & Bike Infrastructure 8 Tools

This MCP provides granular access to NYC street sensors, lane classifications, and parking locations. Use it to pull real-time traffic counts or map out protected cycling routes.

#	TOOL	DESCRIPTION
01	bike_direction_split	This tool compares inbound and outbound traffic volumes for a specific travel mode. Use it to see if a bridge or corridor has a heavy commuter bias in one direction.
02	count_bike_lanes	This tool returns a fast count of NYC bike route segments that match your specific filters. It's useful for quickly gauging the scale of a route or street before pulling more detailed data.
03	list_bike_corrals	This tool identifies the 912 secure and community bike corrals across the city. Use it when you need a more reliable parking option than a standard chainable rack.
04	list_bike_lanes	This tool provides details on approximately 29,700 bike route segments, including facility types like Protected or Shared. You can filter by borough or street to trace the network for trip planning.
05	search_bike_flows	This tool pulls raw 15-minute interval counts from live traffic sensors. It provides the specific volume of bikes, pedestrians, or scooters at a given street or intersection.
06	search_bike_parking	This tool searches through 38,000 bike racks and corrals citywide. It returns addresses and street locations to help you find a place to lock up near your destination.
07	top_bike_greenways	This tool ranks the named greenways in NYC by their segment count. Use it to identify the primary long-distance cycling corridors in the city.
08	top_bike_sensors	This tool identifies the busiest bike, pedestrian, or scooter sensors based on total volume. It helps you find the highest traffic areas within a specific lookback window.

See It in Action

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

U Where are the protected bike lanes on First Avenue in Manhattan?



The protected segments on 1 AV in Manhattan include the stretch between the cross streets provided in the route data.

U How busy is the bike traffic on the Williamsburg Bridge right now?



Current sensor data shows the volume of cyclists passing through the Williamsburg Bridge bike path for the most recent 15-minute intervals.

U Where can I leave a bike for hours in Manhattan?



You can use the secure community corrals located at several addresses in Manhattan, such as those near major transit hubs.

Frequently Asked Questions

01 Do I need an API key to use this NYC cycling data?

No. Vinkius hosts the MCP, so you get keyless access to the data through your AI client.

02 How recent is the traffic sensor data?

The sensor readings are live and include 15-minute interval counts collected up to today.

03 Can I find secure parking instead of just regular bike racks?

Yes. You can specifically search for the 912 secure and community bike corrals using the `list_bike_corrals` tool.

04 Which AI clients can I use with this MCP?

You can use any MCP-compatible client, including Claude, Cursor, Windsurf, and VS Code.

05 How do I search for a specific street?

When asking your agent to search, ensure the street name matches the casing used in the results, as the data uses specific uppercase and mixed-case formats.

06 Do I need an API key?

No. NYC Open Data serves all public datasets anonymously over its SODA API (data.cityofnewyork.us). This MCP defines no credentials and needs nothing configured.

07 Do the text filters ignore case or match partial values?

No. The NYC data platform only supports exact-match filters, and each table stores its values differently: the bike-route table stores the boro as the numeric code 1-5 and the street in UPPERCASE ("1 AV" — the tool auto-uppercases the street input); the bike-parking table stores the boro in title case ("Brooklyn", "Staten Island") and mixes street casings (e.g. "BROADWAY" and "Broadway" — pass the street as it appears in a result row). Facility classifications are stored as "Protected", "Conventional", "Shared", "Signed Route", "Wide Parking Lane", "Sidewalk" or "Curbside", and the greenway names are a short set ("Manhattan Waterfront", "Jamaica Bay", "Brooklyn Waterfront", ...). Use `list_bike_lanes` or `search_bike_parking` with no filters to see the exact stored values before filtering.

08 What do the direction codes on bike routes mean?

The route segments carry a short direction code: "L" for left-side/one-way, "R" for right-side/one-way and "2" for two-way operation. Use it to read which way a one-way street's bike lane flows.

09 How do sensor ids map to streets?

`top_bike_sensors` returns numeric sensor ids. Call `search_bike_flows` with that sensor id: the `flowname` field carries the street context, e.g. "87th ST. and Columbus IN" or "Manhattan Bridge Display Bike Counter Cyclist IN". Only 15-minute interval readings are returned (hourly summary rows are excluded), and the counts are live, collected up to today.

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>"nyc-cycling-bike-infrastructure": { "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

NYC Cycling & Bike Infrastructure 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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LICENSE & USAGE

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