

FEATURE SPOTLIGHT
INTERSECTION MANAGEMENT

Intersection Management is a key component of Cyngn's comprehensive traffic control and monitoring solution. It ensures our autonomous vehicles work together seamlessly, intelligently, and without the need for human intervention.

How It Works:
When deploying vehicles at your site, we collaborate with you to configure and tailor intersection handling to your specific needs.

1. **The Traffic Behavior**
   Intersections are designated as "gated" spaces, allowing only one vehicle at a time to maintain smooth traffic flow.

2. **Intelligent Requests**
   As the vehicle is approaching an intersection, it sends a request to the Cyngn Traffic Broker in the cloud.

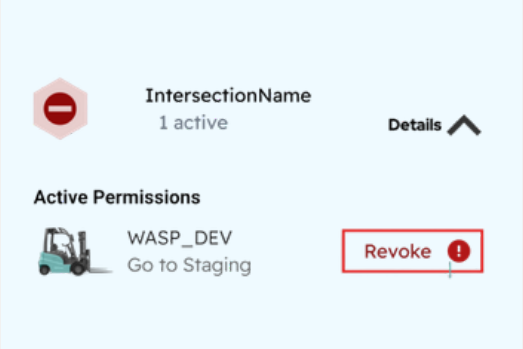
3. **Controlled Entry**
   If the intersection is clear, the Traffic Broker grants the vehicle a "key," allowing it to proceed.

4. **Efficient Handoffs:**
   Once the vehicle exits the intersection, the key is returned to the broker for the next waiting vehicle. Our messaging and broker system is designed with modularity in mind—whether integrating with PLCs, third-party brokers, or other AGVs operating in the space, we provide seamless and reliable communication to keep traffic moving efficiently alongside other robots and manual vehicles in your operations.

5 Keeping the Human in the Loop:

If there is a manual disruption at the intersection or a communication issue between vehicles, fleet managers can use Cyngn Insight to diagnose the situation, monitor vehicle locations, and assess intersection status—ensuring a swift return to normal operations.

- On the Intersections page, you can see the list of intersections set up in your facility.
- If there is an intersection blocked that needs to be released, tap “Revoke” to remove access a vehicle has held onto.



FREQUENTLY ASKED QUESTIONS

1 How do I know if the vehicle is blocked or waiting for the intersection?

As the vehicle approaches the intersection, the lights will flash blue, indicating it is requesting access to the intersection. Once it reaches the intersection, it will stop and wait, continuing to flash blue until access has been granted.

2 The vehicle is waiting at the intersection but not proceeding. What should I do?

If the vehicle appears to be having an issue at the intersection, follow these recommended steps:

- Visually identify if any vehicles are blocked in the intersection space
- If no physical issues can be detected, navigate to the Maps > Intersections page in Cyngn Insight
- Review the intersection status. If there is a blocked intersection caused by a vehicle that is no longer in the intersection, tap "Revoke" to clear the intersection.

3 What should I do when shutting down the vehicle?

When shutting down the vehicle, confirm that there are no unreturned access keys to the traffic broker. Navigate to Cyngn Insight > Maps > Intersections page and identify if any blocked intersections are being held by the vehicle you're shutting down.

SET UP AN INTERSECTION

To begin configuring intersections at your site or to make updates to an existing setup, please contact your Cyngn Customer Success Manager.

THINGS TO AVOID

When taking the vehicle out of service, the vehicle may hold onto the intersection key for an extended period of time. Interventions such as putting the vehicle into manual mode for an extended period of time may require intersection resetting. Review step number 5 to manually release the intersection from Cyngn Insight.