USE CASE

Sight Lines

Automated driveway & intersection compliance checks

WHAT ARE SIGHT LINE STUDIES?

Sight lines describe the unobstructed distance a driver must be able to see ahead at a driveway, intersection, or along a road section. Planning authorities must verify that sight distances comply with applicable standards at every new or modified access point — a requirement that arises routinely in building permit reviews, road redesign projects, and intersection assessments.

The relevant standards depend on the jurisdiction and road type, but the underlying requirement is consistent: each access point must meet the required sight distance under the applicable guidance.

Clients are typically municipalities, cantonal planning offices, and engineering firms handling building permit reviews or road planning projects.

- Are the sight distances at a proposed or existing driveway or intersection sufficient under the applicable standard?
- What physical constraints — buildings, vegetation, parked vehicles, road geometry — limit sight distances?
- Where do non-compliant situations exist, and what modifications would bring them into compliance?

OUR SOLUTION

The agentic system automates the geometric verification of sight lines at driveways and intersections. Checks run in the background and return structured, audit-friendly outputs. The service delivers:

The approach is modular: the core automated check can be extended with AI-based plan recognition and a full web interface, depending on the client's integration requirements.

WHAT YOU RECEIVE

- **Georeferencing and plan recognition**: Building permit plans are automatically georeferenced and the driveway geometry identified — via AI-based recognition or user-assisted annotation on an interactive map
- **Automated compliance check**: For each driveway, the system calculates the required sight triangle and checks whether it is free of obstructions, referencing the applicable standard
- **Instant feedback**: Results are returned as a compliance report, flagging non-compliant situations and quantifying the extent of the shortfall
- **Web application**: Accessible from any workstation via a browser — no local software installation required

ANALYTICAL PROCESS

1

BASE MODEL

The agentic system runs on a logically consistent spatial model of the built environment. For sight-line checks, the base model represents the relevant road geometry, access points, and surrounding objects that can obstruct visibility, and can be extended with client-provided datasets where available.

2

ACCESS POINT DEFINITION

The driveway or intersection access point is defined and its controlling parameters are set (e.g. road category and design speed), based on the submitted plans and the applicable guidance.

3

SIGHT TRIANGLE CALCULATION

For each driveway, the required sight triangle is computed based on the applicable standard (design speed, road category). The triangle is compared against the spatial context derived from cadastral plans, aerial imagery, and official survey data where available.

4

COMPLIANCE ASSESSMENT

The system checks whether the sight triangle is obstructed by buildings, structures, vegetation, or terrain. Each driveway is classified as compliant or non-compliant, with the shortfall quantified.

5

REPORT

Outputs are delivered as a simple one-page report that flags non-compliant situations and quantifies the shortfall, ready for use in building permit workflows.

COMING SOON: MICROSOFT MARKETPLACE AGENT

This sight lines use case will soon be available as an agent in the Microsoft marketplace. Planning teams will be able to add it to their organisation like an external team member—available 24/7 to answer sight-distance questions instantly.

CASE STUDIES

- **P0027 — Automated verification of sight lines in building permit applications (Dietikon)**