Excellent — you've successfully explored the haltestelle-haltekante.csv dataset. Here's a professional interpretation of what you’ve uncovered and how this dataset might serve your project:

**✅ Summary of haltestelle-haltekante.csv**

* **Total entries**: 30,441
* **Unique stop identifiers**: 30,441 (Haltestelle SLOID)
* **Geopositions**: 30,340 unique lat/lon entries — indicating a few overlaps or shared platforms
* **Key columns**:
  + geopos\_haltestelle: Raw coordinates (lat, lon)
  + numberShort, number: Stop IDs (likely Didok format)
  + offizielle Haltestellen Bezeichnung: Official stop names
  + PRM HEIGHT: Boarding height — useful for accessibility mapping
  + haltekante: Likely the platform edge or access code (non-null for all)
  + didok\_url: Link to official SBB metadata
* **High missingness** in columns related to:
  + Extended business metadata
  + designation, parentSloid, trafficPointElementType, etc.

**🧠 Possible Uses in Your Pipeline**

Given your GTFS-SUMO simulation goals and stop-to-node mapping challenges, here are some **specific utilities** of this file:

| **Use Case** | **Column(s)** | **Comment** |
| --- | --- | --- |
| 🧭 **Improve stop-node precision** | geopos\_haltestelle, Haltestelle SLOID | You could cross-match this with GTFS stops by coordinates or stop\_id substrings (e.g., UIC codes or sloids). |
| 🛠 **Platform-level diagnostics** | haltekante, PRM HEIGHT | This could help simulate physical accessibility or multi-platform stations. |
| 📌 **Deduplicate or group stops** | offizielle Haltestellen Bezeichnung, numberShort, number | Grouping by naming and location may help reduce duplication. |
| 🔗 **Enrich routing validation** | didok\_url | Possible external verification or reverse lookup for debugging. |

Would you like me to:

* Write a matching script that cross-compares GTFS stops (stops.txt) with haltestelle-haltekante.csv using coordinate proximity or stop\_id substring logic?
* Or generate a GeoJSON from this file for mapping stops and platforms spatially?

Let me know your next move.