

Option 1 (most common): Composite model

Keep your SQL table **live** via DirectQuery, and bring the NPPES side in as a small **Imported** table that you refresh periodically.

How it works

- **DirectQuery table:** your live SQL rows (already changing constantly).
- **Imported table:** NPPES “Candidates” fetched once per distinct (state, city) using the **NppesFetch** M function we built (or a **Dataflow**).
- **Join in the model:** relate your SQL table to the imported mapping using a key (ideally a stable **id**).

What you click

1. **Get Data** → **SQL Server** → **DirectQuery** → pick your live table (must have a stable key, e.g., **id**).
2. **Transform Data** → add the two helper functions:
 - **NppesFetch** (API + pagination)
 - **StreetTokens** (address tokens)
3. **New query** → build **Candidates** (distinct **state, city** → call **NppesFetch** → add tokens).
4. **New query** → **KeysForMatch:** *Imported* copy of just the keys you need from SQL (e.g., **id, state, city, address1**)
 - This is a tiny Import table (OK to refresh every 30–60 min).
 - Add **Tok = StreetTokens([address1])**.
5. In Power Query, **merge** **KeysForMatch** with **Candidates** twice:
 - On (**state, city, Tok**) → rank 1/2 (address+taxonomy / address+any)
 - On (**state, city**) → rank 3/4 (city+taxonomy / city+any)
 - Pick best per **id** → this yields **Mapping(id → NPI)** (Imported).
6. **Close & Apply**, then in Model view make a **relationship**:
 - SQL (DirectQuery) table [**id**] → Mapping (Imported) [**id**] (one-to-one or many-to-one).
7. Use **NPI** from **Mapping** alongside live SQL fields in visuals.

Pros: your main table stays live; NPPES piece refreshes on a schedule (hourly/daily).

Cons: the NPI mapping updates only when the Imported tables refresh.

If you're on **Power BI Pro**: up to 8 refreshes/day. **Premium**: up to 48/day. For most NPES use cases (daily changes), this is usually fine.

Option 2 (all live, no Import): External enrichment service

If you truly need *everything* live with **zero Import**, do the enrichment **outside** Power BI:

Architecture

- A small service (Azure Function / Python job) that:
 - listens/polls your SQL for new/changed rows,
 - calls NPES once per distinct (state, city) with caching,
 - writes the resolved **NPI** into a **separate store you control** (e.g., an **Azure SQL** table you're allowed to create).
- In Power BI, build a **composite model with two DirectQuery sources**:
 - DirectQuery to your original SQL table,
 - DirectQuery to the enrichment table (**id** → **NPI**),
 - Create a model relationship on **id**.

Pros: fully live, no Import.

Cons: you need a place to write the mapping (a DB you can create), plus a small background job.