SCHEDULO

TXC

TRANSXCHANGE

HOW-TO GUIDE · SCHEDULO TXC 0.5

Every stop, the right stop. Using NaPTAN.

What the national stop database is and how to read it (ATCO codes, stop types, indicators, bearings and localities), then how to download it, search it and keep your files in step with it in Schedulo TXC.

UNDERSTAND | DOWNLOAD | FIND | ADD | KEEP UP TO DATE

PART OF THE SCHEDULO FAMILY



Newey Transport Services · Transport planning software

November 2026

THE WHOLE GUIDE ON ONE PAGE

Read it first, then use it.

NaPTAN is where every bus stop in a TransXChange file comes from. Part 1 explains the data in plain words. Part 2 shows where it lives in Schedulo TXC and how to use it, screen by screen.

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About the screenshots. They show the real Schedulo TXC 0.5 screens, with the Greater Manchester stops of route 59 (Manchester to Oldham) taken from a published timetable. A few details, such as indicators and bearings, were filled in for the example, so they may differ from today's NaPTAN.

UNDERSTANDING NAPTAN · 1

One national list of every stop.

NaPTAN is the **National Public Transport Access Nodes** database: every place in Great Britain where you can get on or off public transport, from a pole on a village green to a platform at a major station.

Who keeps it

The Department for Transport publishes NaPTAN as open data. Each local transport authority looks after the stops in its own area: when a stop is added, moved or closed, the council updates its records and the national copy follows. Anyone can download it, free, under the Open Government Licence.

Its companion: NPTG

The **National Public Transport Gazetteer** (NPTG) lists the places themselves: regions, administrative areas and **localities** (cities, towns, villages and suburbs). Every NaPTAN stop belongs to one NPTG locality, which is how a stop called *Broadway* in Chadderton is told apart from every other *Broadway*.

Why it matters for your timetables

- **TransXChange refers to stops by NaPTAN code.** A route pattern is a list of ATCO codes; the names and positions come from NaPTAN.
- **BODS checks them.** The Bus Open Data Service expects every stop to be a real, active NaPTAN stop.
- **Passengers see them.** Journey planners, real-time screens and apps all match your timetable to stops by the same codes.
- **Positions drive the maths.** Distances, run-time estimates, maps and speed checks all use NaPTAN's coordinates.

One stop, one row

NaPTAN is a big table with one row per stop. This is the kind of row Schedulo TXC reads for each stop (the CSV has more columns; these are the ones that matter for planning):

Middleton Bus Station Stand C	`1800MNBS0C1`
ATCOCode	`1800MNBS0C1`, the stop's unique identifier (page 4)
CommonName · Indicator	*Middleton Bus Station* · *Stand C* (page 6)
LocalityName · NptgLocalityCode	*Middleton*, and the code of that NPTG locality (page 7)
StopType · BusStopType	`BCS`, a bay in a bus or coach station (page 5)
Street · Landmark · Crossing · Bearing	Where it is and which way buses face (page 6)
Longitude · Latitude · Easting · Northing	53.547700, -2.200520 (WGS84), and the British National Grid reference
Status	*active* (page 7)

UNDERSTANDING NAPTAN · 2

Reading an ATCO code.

The ATCO code is the stop's permanent identifier, unique across Great Britain. It's the code your TransXChange file uses, so it's the one thing about a stop that must be exactly right.



Printworks, Manchester City Centre. **180** is Greater Manchester; the rest of the code is assigned locally.

The first three digits: the area

Every ATCO code starts with the three-digit **ATCO area code** of the authority that owns the stop. It's also how you download NaPTAN in Schedulo TXC: by area.

CODE	AREA
`180`	Greater Manchester
`430`	West Midlands
`490`	Greater London
`9110`…	Rail replacement stops (a separate national set, page 11)

Not sure of yours? Look at any stop code on a timetable you already run: the first three digits are your area. A route that crosses a boundary needs every area it touches.

The rest: the authority's own numbering

After the area code, each authority numbers its stops its own way, up to twelve characters in all, letters and digits. Don't try to read meaning into it, and never make a code up: a code that isn't in NaPTAN isn't a stop as far as BODS is concerned.

The NaPTAN code on the flag

Many stops also have a short **NaPTAN code** (often called the SMS code), usually eight letters or digits, printed on the stop flag so passengers can text or type it for the next departures. Schedulo TXC searches it too, but TransXChange always uses the ATCO code.

Codes are for life, positions aren't. When a stop moves a few metres, it keeps its ATCO code and NaPTAN updates its position. When a stop is closed, its code is marked inactive and not reused. That's why Schedulo TXC watches for both (page 11).

UNDERSTANDING NAPTAN · 3

What kind of stop it is.

Each row has a three-letter **StopType**. Bus timetables mostly use the first three; the others turn up when a route serves a station, a tram stop or an airport.

TYPE	MEANS	WHEN YOU'LL SEE IT
`BCT`	On-street bus, coach or trolley stop	Almost every stop on a bus route: a pole, a shelter or a marked spot at the kerb.
`BCS`	Bay or stand in a bus or coach station	Each lettered or numbered stand, such as *Middleton Bus Station, Stand C*.
`BCQ`	Variable bay in a bus or coach station	A station where the stand is allocated on the day.
`BCE` `BST`	Bus station entrance, bus station access area	The way in and the station as a whole. Not served by buses: use the bays.
`RSE` `RLY` `RPL`	Rail station entrance, station, platform	Rail. A bus serving a station stops at a `BCT` or `BCS` outside it.
`TMU` `MET` `PLT`	Tram, metro or underground entrance, station, platform	Metrolink, Metro, the Underground and other light rail.
`FTD` `FER` `FBT`	Ferry terminal entrance, terminal, berth	Ports and ferry links.
`AIR` `GAT`	Airport entrance, airport interchange area	Airports. Buses use the on-street or station stops outside.
`TXR` `STR`	Taxi rank, shared taxi rank	Taxi and demand-responsive services.

Kinds of on-street stop

A `BCT` stop also has a **BusStopType** that says how it appears on the street:

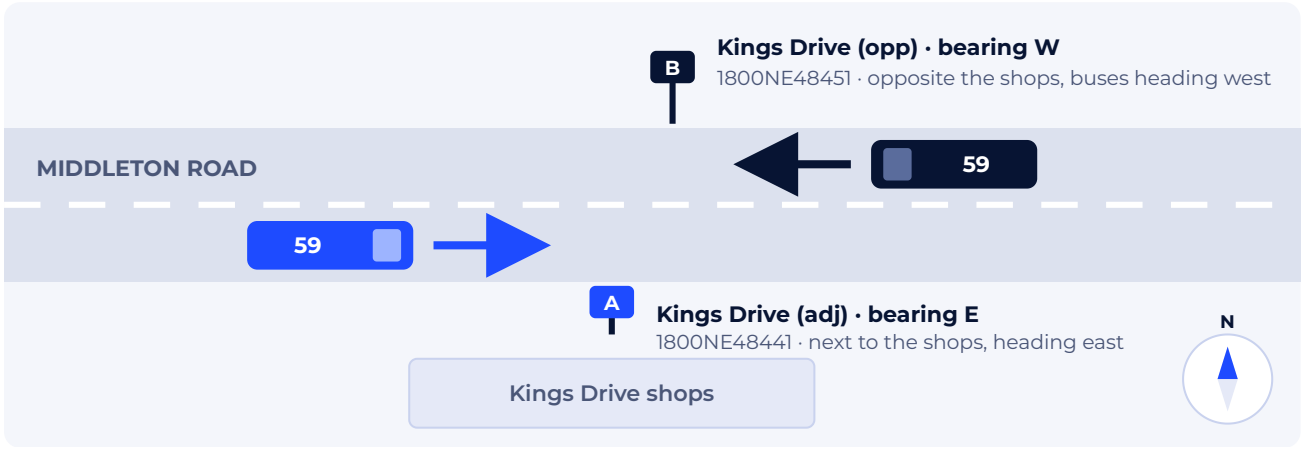
`MKD` **Marked**	A stop with a flag, pole or shelter. The usual kind.	`HAR` **Hail and ride**	A stretch of road where the bus stops on request.
`CUS` **Custom**	An agreed stopping place with no flag, known locally.	`FLX` **Flexible**	A zone served by a flexible or demand-responsive service.

Timing status lives in your file. NaPTAN rows can carry a **TimingStatus** (*PTP* principal timing point, *TIP* time info point, *OTH* other) as a suggestion. In TransXChange, what counts is the timing status you set on each stop of a route pattern, so a stop can be a timing point on one route and not on another.

UNDERSTANDING NAPTAN · 4

Which side of the road, which way.

Stops usually come in pairs, one each side of the road, with the same name. NaPTAN tells them apart with an indicator and a bearing.



Two stops called *Kings Drive*, with different ATCO codes. The indicator says where each one is; the bearing says which way the bus is heading when it stops there. (Illustration: the real street layout differs.)

FIELD	WHAT IT HOLDS
CommonName	The stop's name as passengers know it, usually a street, landmark or junction: *Kings Drive*, *Oldham College*. Schedulo TXC shows it with the indicator in brackets.
Indicator	A short word that places the stop: *opp* (opposite), *adj* (adjacent), *o/s* (outside), *nr* (near), *before*, *after*, or a letter or number on the flag: *Stop A*, *Stand 3*.
Bearing	The direction of travel at the stop, to the nearest of eight compass points: `N`, `NE`, `E`, `SE`, `S`, `SW`, `W`, `NW`. The quickest way to pick the right side of the road for a direction.
Street · Landmark · Crossing	The road it's on, a nearby landmark (a pub, a school) and the nearest side road.
ShortCommonName	A shorter name for small displays and ticket machines, where one is given.

Picking the right one. When two stops share a name, check the bearing against your direction of travel, or look at both on the map. An inbound route that calls at the outbound stop is one of the commonest mistakes in a new file.

UNDERSTANDING NAPTAN · 5

Where it is, and whether it's open.

The rest of a NaPTAN row places the stop on the map and in the gazetteer, and says whether it can be used.

Localities

Every stop belongs to an NPTG locality, identified by an **NptgLocalityCode** (a letter and seven digits, such as `N0078047`) and a **LocalityName**. A locality can sit inside a bigger one, the **ParentLocalityName**: *Cheetham Hill* inside *Manchester*.

Localities are what make a name unique to a passenger: *Broadway, Chadderton*. Schedulo TXC searches them, so typing a town finds its stops.

Administrative areas

Each NPTG **administrative area** is the authority that maintains a set of stops, with its **ATCO area code** and a region: *Greater Manchester (180), North West*.

This is the list you pick from when you download stops in Schedulo TXC (page 8).

Positions

Two forms of the same point: **Longitude** and **Latitude** (WGS84, as in GPS and web maps) and **Easting** and **Northing** (British National Grid, in metres).

Schedulo TXC uses them for the map, distances between stops, run-time estimates and the BODS speed check.

Stop areas

NaPTAN also groups stops that belong together: the pair either side of a road, or all the stands of a bus station. Journey planners use stop areas to offer the whole group.

Schedulo TXC's *Bus station stands* network map uses them to draw a station and its departures.

Status: can I use this stop?

STATUS	MEANS	IN SCHEDULO TXC
active	In use. The normal state.	Shown as *active*; add it freely.
inactive	Closed or suspended, perhaps for roadworks or for good.	Flagged by the change watch, with a nearby active stop suggested.
pending	Recorded but not yet in use.	Shown in amber; check with the authority before you use it.
deleted	Removed from use permanently.	Shown as *deleted: not for new use*, with no Add button.

Inactive stops and BODS. Publish to BODS reports a stop that is inactive in NaPTAN, and fails a stop that isn't in a loaded NaPTAN area at all. Keep your areas up to date and fix these before you upload.

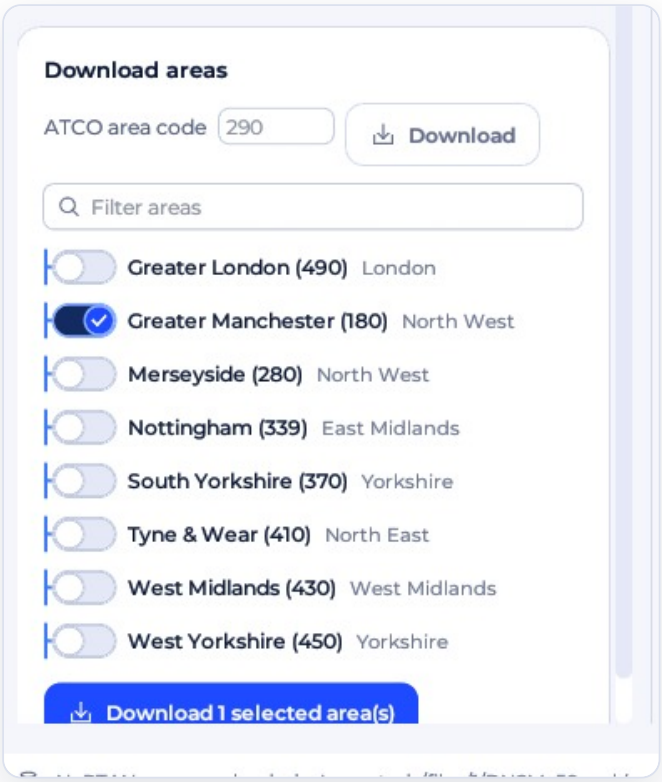
IN SCHEDULO TXC · 6

Download your area once.

Schedulo TXC keeps a local copy of NaPTAN, one area at a time, so searching is instant and works offline. Download the areas your routes run in; they load by themselves every time the app starts.

1. Open **Plan › Stops** and choose the **Stop database** tab.
2. Under **Download areas**, press **Load list of areas**. The NPTG list of administrative areas downloads once and is kept.
3. Type in **Filter areas** and switch on each area you need. A route that crosses a boundary needs both areas.
4. Press **Download N selected area(s)**. Each area appears under **Loaded areas** with its stop count.

Know the code? Type it in **ATCO area code** (such as `180`) and press **Download**.



Download areas, with the NPTG area list loaded and Greater Manchester switched on, ready to download.

Where it's kept, and other ways in

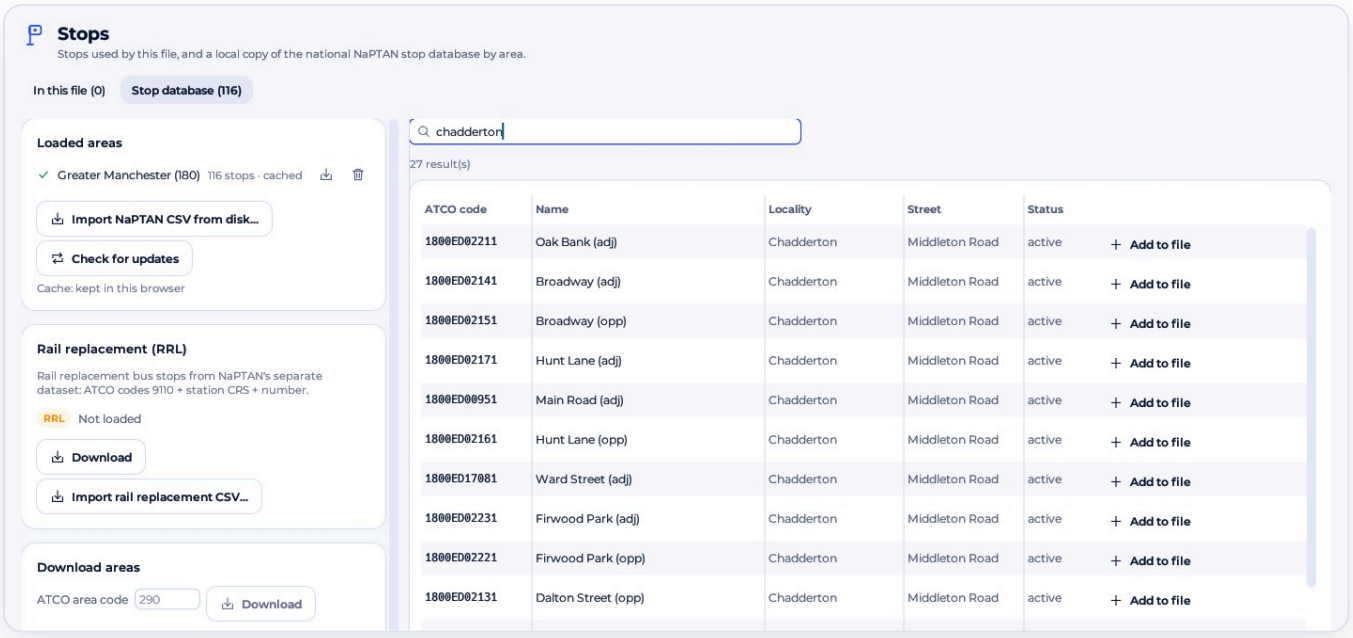
WHAT	HOW
Desktop app	One `<area code>.csv` per area and `nptg.xml` for the area list, in `%APPDATA%\NTS-TransXChange Manager\naptan\`. The folder is shown under Loaded areas.
Browser version	Kept in your browser (*Cache: kept in this browser*). Clearing site data removes it. If the browser blocks the download, import the CSV instead.
Offline, or a full file	**Import NaPTAN CSV from disk…** reads a Stops CSV saved from the NaPTAN website and splits it into areas, cached the same way.
Refresh or remove	Beside each loaded area, the download arrow fetches it again and the bin removes it from the database and the cache.

> **The status bar tells you.** At the bottom left, *NaPTAN: no areas loaded* means searches, checks and the map have no stop data yet. Once an area is in, it shows the number of stops loaded.

IN SCHEDULO TXC · 7

Find a stop, add it in one click.

The search beside the area list looks through every loaded stop: name, locality, street, landmark, indicator, the ATCO code and the NaPTAN code. Type two characters or more.



Searching *chadderton* in a new file finds the stops in that locality. Each row shows the ATCO code, name with indicator, locality, street and status.

Add to file

Copies the stop into the file with its code, name, locality and position. The row then shows **In file**. Stops are written as NaPTAN references (`AnnotatedStopPointRef`).

Straight onto a route

With a route pattern chosen, the route button on each row adds the stop to the end of that pattern, so you can build a pattern from this list in running order.

While building a route

Usually quickest: on **Plan › Route patterns**, type in **Add stop** and pick the stop. It comes from the same database and is added to the file for you.

Search tips

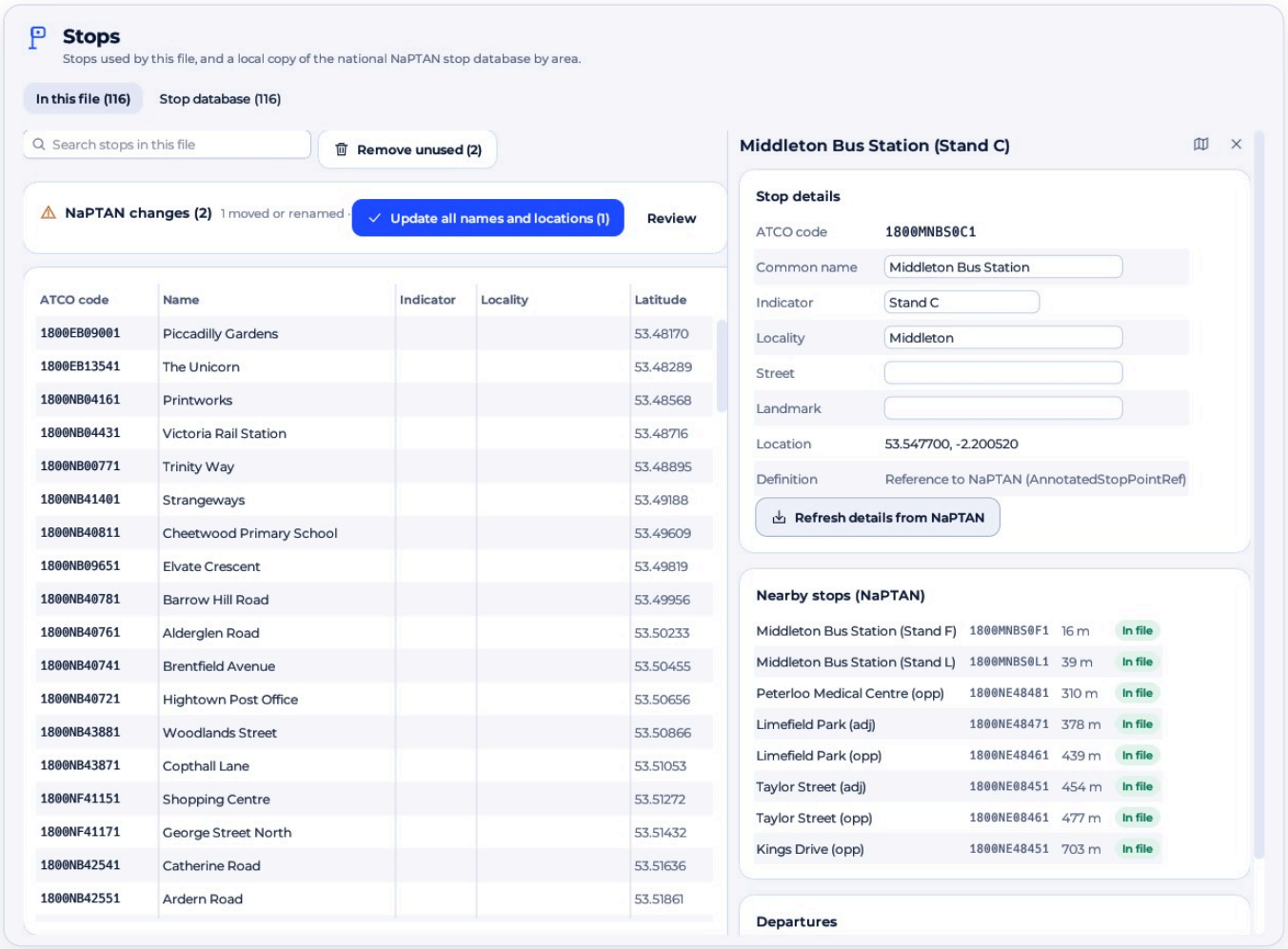
- **Name and place together** narrow it down fast: *broadway chadderton*.
- **Paste an ATCO code** from an old timetable or a BODS file to find that exact stop.
- **Pairs come together.** Both sides of the road are listed: check the indicator and bearing before adding. Missing a stop? Its area may not be loaded.

Screens show sample data for area 180, built from the stops of a published route 59 timetable.

IN SCHEDULO TXC · 8

The stops your file actually uses.

The **In this file** tab lists the stops the file holds, with code, name, indicator, locality, position and how many route patterns use each. Click a stop for its details.



A stop's details after **Refresh details from NaPTAN**: the indicator and locality now come from the database. Below are the nearest NaPTAN stops with their distances, and the stop's departures by day or date.

On the details panel

- **Refresh details from NaPTAN** copies the name, indicator, locality, street and position for this one stop.
- **Nearby stops (NaPTAN)** lists the closest stops by straight-line distance: the quickest way to find the other side of the road or another stand.
- **Definition** shows whether the stop is a reference to NaPTAN or defined locally in the file.
- The map button shows the stop on the Map page.

Tidy-up buttons above the list

- **Fill coordinates from NaPTAN (N)** appears when stops in the file have no position and the database has one. Many BODS files leave positions out.
- **Remove unused (N)** clears stops that no route pattern uses.
- **Search stops in this file** filters the list by name or code.

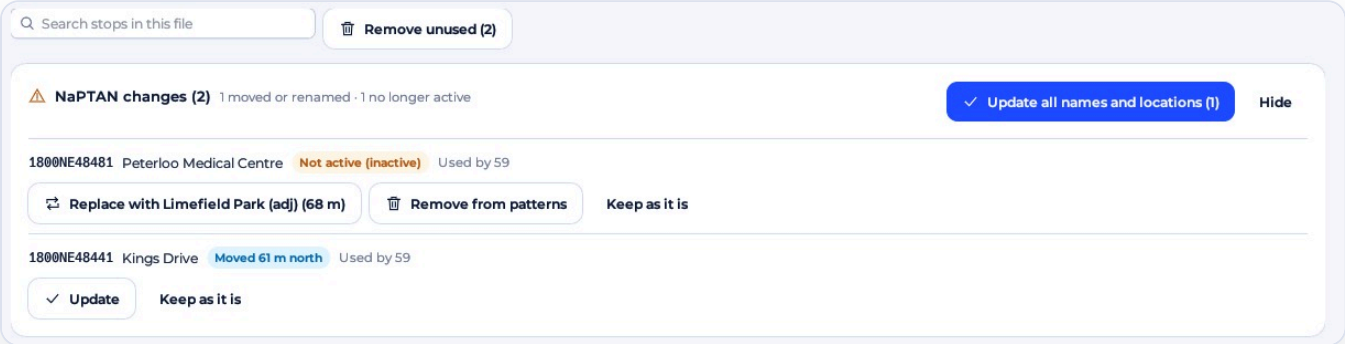
IN SCHEDULO TXC · 9

When NaPTAN changes, you'll know.

Stops move, get renamed and close. Schedulo TXC compares the stops in your file with the stop database and shows you what's different, and never changes your file until you say so.

The NaPTAN change watch

On the **In this file** tab, the **NaPTAN changes** card lists the file's stops that have moved, been renamed or are no longer active in the database. When everything matches it says so in one line.



One stop is no longer active, with the nearest active stop offered as a replacement; another has moved 61 m. Each change has its own fix, and **Keep as it is** leaves the file alone.

Update · Update all	Takes NaPTAN's name and position for moved or renamed stops.
Replace with…	Swaps an inactive stop for the suggested active one everywhere it's used.
Remove from patterns	Takes an inactive stop out of every route pattern. Every fix is one Undo.

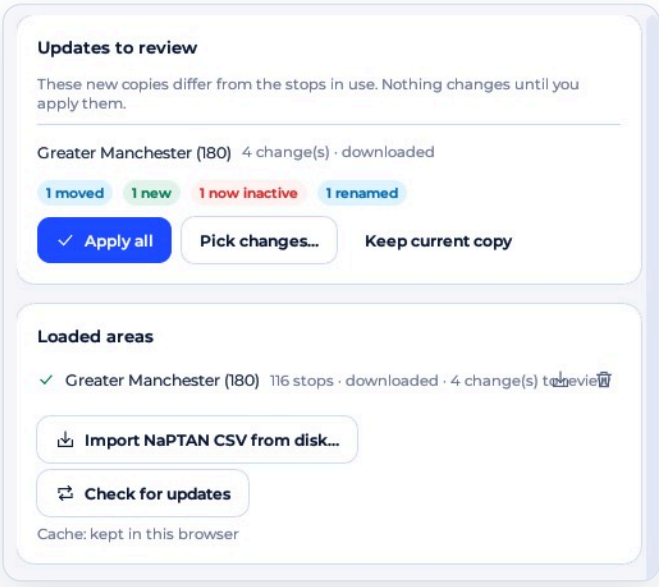
Moves under 20 m are ignored; change this in **Settings**.

Updates to review

Press **Check for updates** under Loaded areas to download every area again. If the new copy differs, **Updates to review** sums it up (moved, new, renamed, now inactive) before anything is used: **Apply all**, **Pick changes…** one by one, or **Keep current copy**.

Rail replacement stops

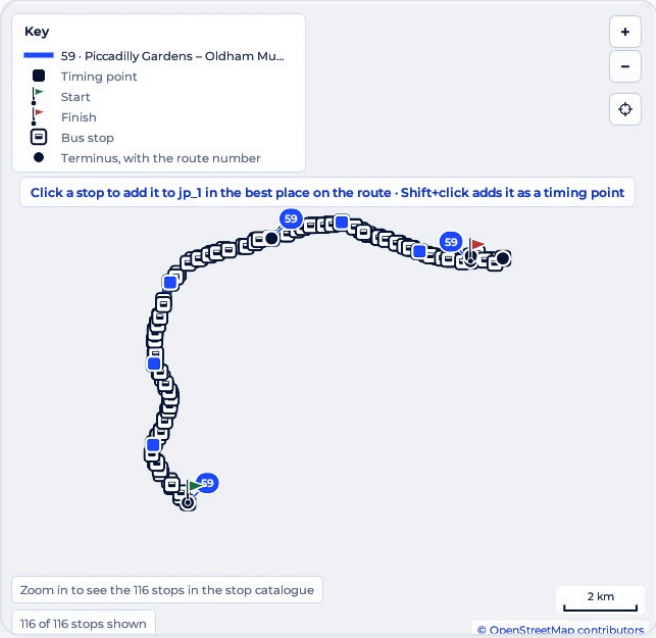
NaPTAN keeps rail replacement bus stops in a separate set (RRL), with codes of `9110`, the station's CRS code and a number. Load it in the **Rail replacement (RRL)** card; its stops show an `RRL` badge.



IN SCHEDULO TXC · 10

NaPTAN works everywhere else too.

Once an area is loaded, other pages use it without being asked. If a page looks empty or a check is skipped, a missing area is the first thing to look for.



The Map in Add stops mode with the NaPTAN stops shown: the hint across the top says where a click will add the stop.

On the map

- **Show NaPTAN database stops** draws the loaded stops around your routes.
- **Add stops**: tick the patterns under **Add to**, zoom in until the catalogue stops appear and click one. It goes in the best place on the route (**Shift**+click adds it as a timing point), and the times around it are shared out again.
- Stops with no position in the file are placed from NaPTAN, as hollow markers. Positions are never guessed.
- **OSM bus stops** compares OpenStreetMap's stops with NaPTAN and lists the differences.

WHERE	WHAT NAPTAN DOES THERE
Import › Spreadsheet	Matches each stop name in the sheet to a NaPTAN stop as *Sure*, *Check* or *Not found*; an ATCO code column makes it exact.
Share › Publish to BODS	Checks every stop is in NaPTAN and active, and tells you which areas weren't loaded.
Check › Performance	Uses stop positions to time buses at each stop. BODS timetables often leave positions out, so load the area first.
Area view	Coverage: how many NaPTAN stops in the area are served or within 400 m of a served stop.
Printed timetables	Welsh stop names from NaPTAN appear first on bilingual timetables.

When something looks wrong

“NaPTAN: no areas loaded”	Download your area on the Stop database tab (page 8).
A stop isn't found	Its area isn't loaded (routes crossing a boundary need both), or try its ATCO code.
The map is empty	The file's stops have no positions: press **Fill coordinates from NaPTAN**.

BEFORE YOU PUBLISH

Stops you can trust.

Run through these and your stops will match what BODS, journey planners and passengers expect.

- [ ] Every area the routes run in is **loaded** and recently **checked for updates**.
- [ ] Every stop in the file is a **NaPTAN stop**, not a local definition.
- [ ] No stop is **inactive** or **deleted** in NaPTAN.
- [ ] Each direction uses the stops on **its own side of the road** (check the bearing).
- [ ] Every stop has a **position** (Fill coordinates from NaPTAN).
- [ ] The **NaPTAN changes** card is clear, or each change is kept on purpose.
- [ ] Bus station routes use the right **stand** (`BCS`), not the station entrance.
- [ ] Unused stops are **removed**.

Glossary

TERM	MEANING
NaPTAN	National Public Transport Access Nodes: the national database of stops and stations.
NPTG	National Public Transport Gazetteer: regions, administrative areas and localities.
ATCO code	A stop's unique identifier, starting with its three-digit area code. Used in TransXChange.
ATCO area code	The three-digit code of the authority that maintains a set of stops, such as `180`.
NaPTAN (SMS) code	A short code on the stop flag for texting or typing into apps.
Indicator	Where the stop is: *opp*, *adj*, *Stop A*, *Stand 3*.
Bearing	The direction of travel at the stop, to one of eight compass points.
Locality	The NPTG place a stop belongs to, such as *Chadderton*.
Stop area	A group of stops that belong together, such as a bus station's stands.
RRL	Rail replacement locations: NaPTAN's separate set of rail replacement bus stops.
AnnotatedStopPointRef	How a TransXChange file refers to a NaPTAN stop: its code with a name and, optionally, a position.

More help. Help & guide, at the bottom of the navigation, has a topic for every page. For building a whole timetable, see the companion guide *Building a TransXChange file in Schedulo TXC*.