Transport for NSW API Gateway

TransXChange Data Export Release Notes

CONTENTS

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1. GENERAL

The data is supplied in TransXChange format version 2.4 and is validated to the schemas applicable for this format prior to release. The TransXChange documentation, tools, schemas etc are available at http://www.transxchange.org.uk

The data is supplied in multiple XML documents:

- Each route is in a separate XML document identified by the route number/name.
- Routes may be repeated with a differing suffix following the Route Number (i.e. 520_-1, 520_-2). This indicates a separate version of the data – refer below.
- Each operator is identified by a different number prefix (NSW_nn) in the name of the XML document.

2. SCOPE

The data is a representation of the public transport data currently utilised within TransportNSW.info and will cover the same geographic region.
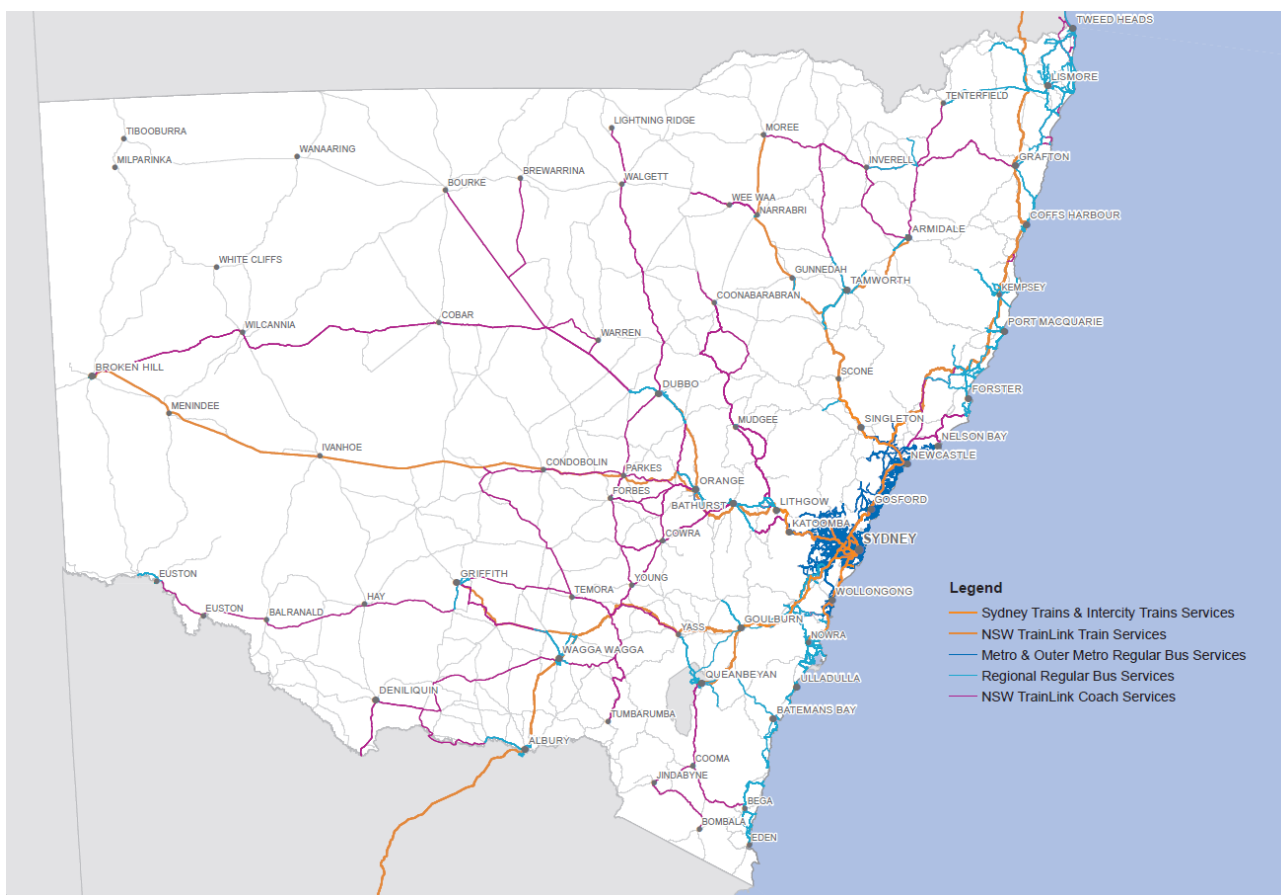
3. XML FILE NAMING

The XML files are named in a specific structure derived from several data elements and this is useful in using the files. The filename is built on a structure where primary data elements are separated by a dash ('-'). For example:

Filename: NSW_90-520-_-sj2-2.xml

Element 1: 'NSW_90'
Explanation: This is a combination of a fixed code 'NSW' (New South Wales) and the Operator number (90 in this example, State Transit).

Element 2: '520-_'
Explanation: This is the Route identifier. For any route identifier that is less than four characters, a trailing underscore ('_') will be appended.

It is very important to note that while in most cases the Route 'Identifier' will be the same as the route number, this is not guaranteed. There are limited cases (e.g. Olympic Park Buses) where the route identifier is different (e.g. Identifier is 'H01' for Route number '1A'). The correct route number can be identified via the Service\Lines\Line\LineName element.

Element 3: 'sj2'

Explanation: This is an internal system identifier. This will always be consistent within a dataset. It is not planned for this code to change but this cannot be guaranteed.

Element 4: '2'
Explanation: This is the Route 'Version' identifier. Refer to Data/Route Versions.

4. DATA/ROUTE VERSIONS

As mentioned in general, multiple files for a given route may be supplied. For example for a Sydney Buses (Operator 90) route 520 service, two XML files may be available:

- NSW_90-520-_-sj2-1.xml
- NSW_90-520-_-sj2-2.xml

As per 'XML File Naming', the number immediately following 'sj2' is the 'Route Version'. Repeated instances of a route identifier with differing 'Route Version' may occur. This indicates that there are multiple versions of the data available. This may represent a short replacement timetable (e.g. overriding data for 1st September – 14th September) or an ongoing replacement dataset in the future (e.g. version 2 commencing 14th September). In most cases (but not guaranteed) a higher version number indicates a later commencement date.

Assessment of the Service operating period should be made as to which is the appropriate file for a given day. Selection should be based on the dataset with the most recent StartDate prior to the day being evaluated which has not passed its EndDate. For example, given two datasets:

> Set A) StartDate 20th September, EndDate 30th September
> Set B) StartDate 24th September, EndDate 28th September

- On the 21st September, Set A is valid as no other sets are within the activation period.
- On the 25th September, both Set A and Set B are active, but Set B is the valid dataset as it has the most recent StartDate.
- On the 29th September, Set A is valid as Set B has expired (past EndDate).

In general, only currently active versions or versions that will become active in the future will be included in the export.

5. OPERATINGPROFILES AND DAYTYPE HANDLING

The TransXChange documents may use two levels of discourse to describe Operations: Service and VehicleJourney.

Commonly the Service element OperatingProfile may be a broad definition of the days that the service as a whole may encompass (e.g. "MondayToSunday") and will describe the bounding dates for the service. Where required, further refinement detail for each individual VehicleJourney's specific operation will be included within the VehicleJourney\OperatingProfile elements.

For example, a Service may be declared with an OperatingProfile of MondayToSunday. This service may have several related VehicleJourney declarations, each with their own OperatingProfile declarations as appropriate, e.g. MondayToFriday.

The implication of this is that consumers need to be aware of and consider both levels of information to accurately interpret the TransXChange data. Also to be noted is that both levels of information are not always utilised – some files will describe operations purely within the Service element, in these instances VehicleJourney elements will not contain OperatingProfile declarations.

Consumers should also note the DepartureDayShift element introduced within VehicleJourney elements – see VehicleJourney DepartureDayShift.

6. CROSS VERSION CONSISTENCY

Each version of the data should be considered stand-alone and a full replacement for previous versions. That is, different versions (releases) of data documents cannot (and should not) be related to each other.

7. TRANSXCHANGE DATA CURRENCY

TransXChange Data is updated on a twice weekly basis based on an export from TransportNSW.info data systems. Therefore TransXChange data may be up to 3 days behind compared to the internal data systems. This means that TransportNSW.info may hold slightly differing data than the TransXChange file. Hence the web-site cannot be guaranteed to produce the same information as that in the TransXChange data.

8. TfNSW SPECIFIC FEATURES

8.1 Descriptive Network Name

The element
"TransXChange.Services.Service.ServiceClassification.OtherService.Description" contains a
"Descriptive Network name".
Users will be able to use the network names in a similar way to the TransportNSW.info website. In addition if the feed is used to pass timetable information, then the receiver software can display network specific details like name, icons and colours.

Descriptive Network Name	Line colour	Line Hex code	Logo
Sydney Trains Network	Train orange	#F6891F	T
Intercity Trains Network	Train orange	#F6891F	T
Regional Trains and Coaches Network	Train orange	#F6891F	T
Regional Trains and Coaches Network	Coach purple	#732A82	C
Blue Mountains Buses Network	Bus blue	#00B5EF	B
Sydney Buses Network	Bus blue	#00B5EF	B
Central Coast Buses Network	Bus blue	#00B5EF	B
Hunter Buses Network	Bus blue	#00B5EF	B
Illawarra Buses Network	Bus blue	#00B5EF	B
Temporary buses	Bus blue	#00B5EF	B
Private bus services	Bus blue	#00B5EF	🚌
Sydney Ferries Network	Ferry green	#5AB031	F
Newcastle Ferries	Ferry green	#5AB031	F
Private ferry and fast ferry services	Ferry green	#5AB031	⛴
Sydney Light Rail Network	Light Rail red	#EE343F	L

8.2 Service Direction Name

The element "TransXChange.Services.Service.StandardService.JourneyPattern.Description" is populated with the "Service Direction Name" that corresponds to that of Service/JourneyPattern.
For example if a route travels between the City and Parramatta in both directions, then it would have two "Service Direction Names" (1)"City to Parramatta" and (2)"Parramatta to City". The Service Direction Name does not change for trips that have a different origin/destination, it will be consistent for all trips that operate in the same direction. Subscribers will be able to display this field in a similar manner to the TransportNSW.info website.

8.3 Service Notes

Each Service element will contain a Note child element (**TransXChange.Services.Service.Note**) with the NoteCode of 'IcsRt'. The sibling NoteText content will be a unique route identifier.

9. STOPS

9.1 StopPoint AtcoCode & TSN identifiers

As the TransXChange 2.4 schema prevents the continued usage of a Transit Stop Number (TSN) value for the AtcoCode (**TransXChange.StopPoints.StopPoint.AtcoCode**), this element will now contain a non-TSN identifier.

An additional element **TransXChange.StopPoints.StopPoint.PrivateCode** has been added and will be populated with the TSN (where available).

9.2 StopPoint Notes

As the **StopPoint.Descriptor.CommonName** element has schema constraints which may limit content and prevent the correct stop name from being presented, the element **TransXChange. StopPoints.StopPoint.Notes** will contain the unmodified stop point name and should be used for display purposes.

9.3 Timing Point presentation information

To assist with the presentation of information as a tabular summary timetable, the documents have been enriched to provide additional detail related to Timing points (TimingStatus). This is indicated on the **JourneyPatternTimingLink.From.TimingStatus** and **JourneyPatternTimingLink.To. TimingStatus** elements.

The TimingStatus element now has four possible values with the following meanings:

Value	Summary timetable display	Meaning
PTP	Yes	Key stop on the journey where the passing time is specifically known and the stop should be shown on a summary timetable
PPT	Yes	Key stop on the journey where the passing time is estimated and the stop should be shown on a summary timetable
TIP	No	Minor stop on the journey where the passing time is specifically known but the stop is considered minor and should not be shown on a summary timetable
OTH	No	Minor stop on the journey where the passing is estimated and the stop should not be shown on a summary timetable.

Consumers should be aware that the PTP value is mandatory for the first and last stops on a Journey and will always be indicated for these stops, regardless of whether they are considered key timing points in terms of presentation.

9.4 Journey-Stop Notes

Additional Note information is now included for stops within individual Journeys. This is managed via inclusion of notes within JourneyPatterns as required. The Note structure will be included within
TransXChange.JourneyPatternSections.JourneyPatternSection.JourneyPatternTiming Link.(To|From).Notes where notes are applicable to the associated Journey(s).

Consumers should be aware that Notes will be indicated within two consecutive Timing Links to match the two StopUsages (arrival and departure) applicable for the stop within a Journey. The exception to this rule is for the first and last stops on a Journey which only have single StopUsages.

The NoteCode value is a dynamic identifier which should not be relied upon beyond the individual file scope.

9.5 JourneyPatternTimingLink Activity Flag

The first and last stops in a JourneyPattern reflect a 'pickUp' and 'setDown' respectively, instead of both being 'pickUpAndSetDown'

9.6 JourneyPatternLink SequenceNumbers

These numbers match the sequence numbers in TfNSW internal systems. They follow an incremental pattern, but do not necessarily start at 1 and increase by 1.

9.7 WaitTime

Dwell times may be present for some Sydney Trains and regional coach services. The example below indicates a dwell time of 30 minutes

```
<To SequenceNumber="5">
      <WaitTime>PT30M</WaitTime>
            <Activity>pickUpAndSetDown</Activity>
```

10 DEPARTURE DAY SHIFT

The VehicleJourney DepartureDayShift element (**TransXChange.VehicleJourneys. VehicleJourney.DepartureDayShift**) is included where the VehicleJourney operates on a day offset from that defined in the OperatingProfile, i.e. operates on a different calendar day to which it is operationally scheduled or indicated on a timetable. This typically occurs for late night journeys e.g. trips may operate at 1am Tuesdays – Saturdays but be shown as 1am next day on a Monday-Friday timetable. This is analogous to indicating a trip departure time of 24:00:00 or greater within GTFS.

Consumers should be aware of the scenario where a VehicleJourney may technically operate on a calendar day beyond that defined by the Service OperatingPeriod. For example it is valid to indicate a VehicleJourney on the final day of an OperatingPeriod with a DepartureDayShift of 1, technically indicating the Journey is performed on the day after the end of the OperatingPeriod.

11. NON-COMPLIANT ATTRIBUTES/ELEMENTS

While the data supplied is schematically valid to the TransXChange schema, there are several areas where the TransportNSW.info data uses non-standard and/or 'dummy' values.

These elements or attributes relate to UK or NapTan specific values which do not have a correlation in Australia. The elements / attributes that are 'noncompliant' values are as follows:

- \NpTgLocalities\AnnotatedNptgLocalityRef\NptgLocalityRef
  - This is set to 'ES000000'

- \StopPoints\StopPoint\Place\NptgLocalityRef
  - o This will always reference

- \NpTgLocalities\AnnotatedNptgLocalityRef\NptgLocalityRef hence will be set to
  - 'ES000000'

- \StopPoints\StopPoint\AtcoCode
  - According to the TransXChange Standard this should be a NapTan identifier. In the case of bus and ferry stops this identifier is based on the Transit Stop Number (TSN), modified to meet schematic requirements. In the case of train stops, this is an internal code used to uniquely identify each station platform.

- \StopPoints\StopPoint\AdministrativeAreaRef
  - This is set to '000' in all cases.

- \JourneyPatternSections\JourneyPatternSection\JourneyPatternTimingLink\From\TimingStatus and \JourneyPatternSections\JourneyPatternSection\JourneyPatternTimingLink\To\TimingStatus
  - The value 'PPT' is used. This is allowable under the associated NapTan schema definition but not formally documented as an allowable TimingStatus within TransXChange. Refer to 9.3 Timing Point presentation for further information.