**TransXChange Publisher**

Supportfor the TransXChange 2.5 Schema

Version History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Schema | Version | Date |  | Review |
| 1.0 | 0.1 Preliminary Consultation Draft | 27 12 2013 | NJSK | Review |
| 2.0b | 0.2 Draft for review and pricing | 05 03 2014 | NJSK | Review |
| 2.0b | 0.3 Draft for PTIC review | 29 04 2014 | NJSK/CSG | Review |
|  |  |  |  |  |

[1 Introduction 4](#_Toc381798932)

[1.1 Background 4](#_Toc381798933)

[1.1.1 Resolving inherited values 4](#_Toc381798934)

[1.2 Summary of changes in TransXChange 2.5 4](#_Toc381798935)

[1.2.1 Added content 4](#_Toc381798936)

[1.2.2 Technical 4](#_Toc381798937)

[1.3 Control of publishing of additional content 5](#_Toc381798938)

[2 Enhancements TO PUBLISHED OUTPUT 6](#_Toc381798939)

[2.1 Support for Service Wheelchair Accessible P1 6](#_Toc381798940)

[2.1.1 Data elements: Wheelchair Accessible 6](#_Toc381798941)

[2.1.1 Example of Published Output: Wheelchair Accessible at Service level 6](#_Toc381798942)

[2.1.2 Example of Published Output: Wheelchair Accessible at VehicleJourney level 6](#_Toc381798943)

[2.2 Support for Accessibility Booking P2 7](#_Toc381798944)

[2.2.1 Data elements: AccessibilityBooking 7](#_Toc381798945)

[2.2.2 Example of published output 7](#_Toc381798946)

[2.3 Support for Service Assistance Service P2 8](#_Toc381798947)

[2.3.1 Data elements for AssistanceService 8](#_Toc381798948)

[2.3.2 Example of AssistanceService at Service level 8](#_Toc381798949)

[2.3.3 Example of Service Facilities at Vehicle Journey level 9](#_Toc381798950)

[2.4 Support for Service Vehicle Equipment P2 10](#_Toc381798951)

[2.4.1 Data elements: ***WheelchairEquipment*** 10](#_Toc381798952)

[2.4.1 Data elements: ***AccessVehicleEquipment*** 10](#_Toc381798953)

[2.4.1 Data elements: ***PassengerInfoEquipment*** 10](#_Toc381798954)

[2.4.2 Example of Vehicle Equipment at Service level 11](#_Toc381798955)

[2.4.3 Example of Vehicle Equipment at Vehicle Journey level 11](#_Toc381798956)

[2.5 Support for Service Facility set P2 12](#_Toc381798957)

[2.5.1 Data elements: Service Facility 12](#_Toc381798958)

[2.5.2 Example of Service Facilities at Service level 12](#_Toc381798959)

[2.5.3 Example of Service Facilities at Vehicle Journey level 12](#_Toc381798960)

[2.6 Stop Level Accessibility P3 13](#_Toc381798961)

[2.6.1 Data elements: Service Facility 13](#_Toc381798962)

[2.6.2 Example of Stop Accessibility at TransXChange Document level 13](#_Toc381798963)

[2.6.3 Example Stop Accessibility at Vehicle Journey level 13](#_Toc381798964)

[3 OTHER TECHNICAL CHANGES 14](#_Toc381798965)

[3.1 Support for 2.5 Schema, making use of dynamic version numbers P1 14](#_Toc381798966)

[3.2 Support for Eire locations on NaPTAN stops: P2 14](#_Toc381798967)

[4 TESTING 15](#_Toc381798968)

[4.1 Regression testing 15](#_Toc381798969)

[4.2 Testing of input options 15](#_Toc381798970)

[4.3 Backwards Compatibility Testing 15](#_Toc381798971)

[5 APPENDIX – EXTRACTS FRM TXC 2.5 USER GUIDE 16](#_Toc381798972)

[5.1 Accessibility Booking 16](#_Toc381798973)

[5.1.1 UML [3.15.3] Operator / Accessibility Booking ((v2.5) 16](#_Toc381798974)

[5.1.2 XML: [ ] Operator / AccessibilityBooking / (+TXC v2.5) 16](#_Toc381798975)

[5.2 Assistance Service 18](#_Toc381798976)

[5.2.1 UML [3.17.6] Assistance Service Model (+TXC v2.5) 18](#_Toc381798977)

[5.2.2 XML[6.6.7] ServiceOperationalGroup / AssistanceService Element (+TXC V2.5) 18](#_Toc381798978)

[5.3 Service FacilitySet 21](#_Toc381798979)

[5.3.1 UML [3.17.7] ServiceFacilitySet Model (+TXC v2.5) 21](#_Toc381798980)

[5.3.2 XML [ ] ServiceFacilitySet Data Model – Specific values 23](#_Toc381798981)

[5.4 StopAccessibility 36](#_Toc381798982)

[5.4.1 UML [3.7 ] Inheriting Timing Link Values 36](#_Toc381798983)

[5.4.2 XML [6.7.8.4] StopAccessibility Element (+TXC v2.5) 37](#_Toc381798984)

# Introduction

Version 2.5 of the TransXChange Schema adds a number of new features. This document, prepared at the request of Chris Gibbard and Helen Pattington of Transport Direct, specifies enhancements to the TransXChange Publisher to support many of the added features, most of which are to do with accessibility information.

The enhancements are given a relative priority (P1 , P2 , P3) indicating a relative importance of supporting a feature. The Option number shown against each enhancement refers to the PTIC proposal PTIC-091. The stated enhancement is included in the option with that number and any option with a higher number.

## Background

The TransXChange Publisher is a tool used to publish documents that conform to the TransXChange Schema. It comprises several parts

1. A back-end publisher service, written in Java, that publishes a named document according to a number of input parameters. Output is either to a pdf or html.
2. A web API with which to invoke the service.
3. A desktop GUI application with which to call the web service

The publisher makes use of other external web services (1) to fetch stop details and (ii) to get map tiles.

### Resolving inherited values

In the TransXChange schema many properties can be specified at any or all of three hierarchical levels (i) The whole service (i.e. applying to all journeys unless overridden); (ii) the journey pattern (i.e. applying to all journeys following a specific journey pattern unless overridden); (ii) the individual vehicle journey. The publisher resolves values according to hierarchy (as described in the TransXChange schema guide) in order to render the values it outputs. Thus a further complication is that the publisher should likewise resolve any additional values supported in 2.5 .

## Summary of changes in TransXChange 2.5

### Added content

* Assistance Service (PTIC-087)
* Service Facilities Set (PTIC-087)
* Vehicle Equipment
* Accessibility Booking Info (PTIC-087)
* Stop Accessibility & Override (PTIC-086)

### Technical

* Revised binding to make use of variable version numbers
* Support of ITM (PTIC-083 NaPTAN change)

## Control of publishing of additional content

The input parameters can be used to control what content appears in the output. For simplicity sake the presence of the accessibility content is assigned to existing parameters (e.g. Particulars *full* versus *basic*) rather than introducing an addition parameter to control the presence of accessibility data.

# Enhancements TO PUBLISHED OUTPUT

## Support for Service Wheelchair Accessible P1 Option 2

The Wheelchair accessible attribute provides a summary level indication as to whether a service is usable by a wheelchair user.

If present, the **WheelchairAccessible** summary flag from the ***VehicleType*** should be added to the service details.

1. If specified at the ***Service*** level, a new “Wheelchair accessible attribute can be included under the *“Service* “details.
2. If specified at the ***VehicleJourney*** level the and the value is different from the Service or Journey Pattern value, this can be indicated by a footnote for the journey in the Timetable matrix to indicate that the specific journey is or is not accessible.

If the particulars value is “basic” or “none” this section can be omitted.

### Data elements: Wheelchair Accessible

Paths: ***Service/ VehicleType,   
JourneyPattern / Operational/ VehicleType ;   
VehicleJourney / Operational/ VehicleType***

|  |  |  |
| --- | --- | --- |
| Name | Values | **Element** |
| Wheelchair Accessible | Yes/ No | */* WheelchairAccessible |

### Example of Published Output: Wheelchair Accessible at Service level

**Services…**

**Further Information**

|  |  |
| --- | --- |
| Uses all stops | **Yes** |
| New stops | **None required.** |
| No fixed stopping places | **No** |
| Wheelchair Accessible | **Yes** |

### Example of Published Output: Wheelchair Accessible at VehicleJourney level

**South Shields Market - Marsden**

Service operates from 27/07/2008 until further notice

Service operates Monday to Sunday

**Inbound, Monday to Friday (continued)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 7 1 | 7 1,2 | 7 3 | 7 2 | 7 2 |
| ***South Shields, SOUTH SHIELDS TOWN CENTRE*** | 19:39 | 20:09 | 20:39 | 21:09 | 21:39 |
| ***Chichester, CHICHESTER (M),*** | 19:46 | 20:16 | 20:46 | 21:16 | 21:46 |
| ***Marsden, MARSDEN, W,*** | 19:55 | 20:25 | 20:55 | 21:25 | 21:55 |
| ***Westoe Village, WESTOE, N*** | 20:03 | 20:33 | 21:03 | 21:33 | 22:03 |

1. Journey does not run Bank Holidays
2. Wheelchair accessible vehicle
3. Vehicle not wheelchair accessible

## Support for Accessibility Booking P2 Option 4

Accessibility Booking details indicate how to book accessibility assisted travel..

Accessibility Booking details may be specified for an ***Operator*** using the ***AccessibilityBooking*** element. (See Appendix). If present, these should be included in a new “*Accessibility Booking*” section after the “*Operator*” details. The section should include the following headings and values if present. If there are no constituent details the section can be omitted.

If the *Particulars* output option value is “basic” or “none” this section can be omitted.

### Data elements: AccessibilityBooking

Path: ***Operator/ AccessibilityBooking***

|  |  |  |
| --- | --- | --- |
| Name | Values | Element |
| Regions | Name | *Regions / ref /name* |
| Assistance availability | Available | Available if Booked | Available At Certain Times | Not available | */AssistanceAvailability* |
| Wheelchair booking required | Yes/ No | */Wheelchair booking required* |
| Bookings made by | Public | Staff | Authorised Public ) | */ContactTelephoneNumber,* |
| Assistance contact | 9999999999 | */MinimumBookingPeriod* |
| Assistance booking Phone | Email address | */LatestBookingTime* |
| Booking method | *Call driver | Call Office online | text | Phone at Stop | Other | None* | */BookingUrl* |
| Minimum Booking period | duration | */BookingMethod* |
| Latest Booking time | time | */ContactTelephoneNumber* |
| Booking URL | url | */eMailAddress* |
| Notes | text | */notes* |

### Example of published output

**Operators**

**Stagecoach (Registered)**

|  |  |
| --- | --- |
| Name on Licence | **Busways Travel Services Ltd** |
| Trading Name | **Stagecoach in South Shields** |
| Correspondence Address | **Head Office**  **Wheatsheaf**  **Sunderland, Tyne & Wear**  **SR5 1AQ** |
| Contact Number | **0191 566 0243** |
| Enquiry Number | **0871 200 22 33** |

**Accessibility Booking details for Operator**

|  |  |
| --- | --- |
| Regions | **SouthEast** |
| Accessibility Assistance | **Available At Certain Times** |
| Wheelchair booking required: | **Yes** |
| Booking method: | **Call Office, Online** |
| Minimum booking period | **24 Hours** |
| Latest time in day to book | **16:00** |
| Booking Url | **www.stagecoach..co.uk/se/assist** |
| Booking made by | **Public** |
| Assistance booking Phone | **0214 666 234** |
| Assistance booking email | [**assistance@stagecoach.co.uk**](mailto:assistance@stagecoach.co.uk) |
| Notes | **Walk up assistance not guaranteed** |

## Support for Service Assistance Service P2 Option 4

The nature of the assistance available on a service may be specified for a ***Service*** or individual journey using the ***AssistanceService*** element. (See appendix). If present details should be included as follows.

1. If specified at the ***Service*** level, include as an additional *“Assistance Service”* section under the *“Service*” details.
2. If specified at the ***Vehicle Journey*** level, include as a footnote to the timetable matrix, showing just the ***Name*** field.

If the *Particulars* output option value is “basic” or “none” this section can be omitted.

### Data elements for AssistanceService

Paths: ***Service/ AssistanceService***;  
***VehicleJourney/Operational/ AssistanceService***   
***JourneyPattern/Operational/ AssistanceService***

|  |  |  |
| --- | --- | --- |
| Name | Values | Element |
| Name | Name | *Name* |
| Assistance | **boardingAssistance |wheelchairAssistance |conductor** | */AssistanceServiceType* |
| Availability | *AvailableIfBooked | availableAtCertainTimes etc* |  |
| Availability times | *(Day Name, Timeband)* | */Availability/ DayType* |
| Staffing | **fullTime |PartTime | unmanned** | */ContactTelephoneNumber,* |
| Accessibility Trained Staff | *Yes No* | */AccessibilityTrainedStaff* |
| Equipment on request |  | */LatestBookingTime* |
| Additional Services | *ccTV, sosPoint, etc* | */EmergencyServices* |
| Languages | *French, Polish, Punjabi* | */BookingMethod* |
| Assistance | *time* | */ContactTelephoneNumber* |
| Availability times | *url* | */eMailAddress* |
| Staffing | *Text* | */notes* |

### Example of AssistanceService at Service level

**Services…**

**Further Information**

|  |  |
| --- | --- |
| Uses all stops | **Yes** |
| New stops | **None required.** |
| No fixed stopping places | **No** |
| Wheelchair Accessible | **Yes** |

**Assistance Service**

|  |  |
| --- | --- |
| Name | **Assistance available from driver** |
| Assistance | **boardingAssistance, wheelchairAssistance** |
| Availability times | **MondayToFriday 09:00-1800** |
| Staffing | **fullTime** |
| Accessibility Trained Staff | **Yes** |
| Equipment on request | **Wheelchair, walking stick** |
| Additional Services | **ccTv, sosPoint** |

### Example of Service Facilities at Vehicle Journey level

**South Shields Market - Marsden**

Service operates from 27/07/2008 until further notice

Service operates Monday to Sunday

**Inbound, Monday to Friday (continued)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 7 1 | 7 1,2 | 7 2 | 7 2 | 7 2 |
| ***South Shields, SOUTH SHIELDS TOWN CENTRE*** | 19:39 | 20:09 | 20:39 | 21:09 | 21:39 |
| ***Chichester, CHICHESTER (M),*** | 19:46 | 20:16 | 20:46 | 21:16 | 21:46 |
| ***Marsden, MARSDEN, W,*** | 19:55 | 20:25 | 20:55 | 21:25 | 21:55 |
| ***Westoe Village, WESTOE, N*** | 20:03 | 20:33 | 21:03 | 21:33 | 22:03 |

1. Journey does not run Bank Holidays
2. Limited accessibility Services

## Support for Service Vehicle Equipment P2 Option 4

The availability of accessibility equipment on a Service may be specified for a Service or individual journey using the ***WheelchairEquipment***, ***AccessVehicleEquipment***, and ***PassengerInfoEquipment*** elements. (See appendix). If present these should be included as follows:

1. If specified at the Service level, in a new section under the *Service* details
2. If specified at the Vehicle Journey level as a simple footnote to the timetable matrix.

If the *Particulars* output option value is “basic” or “none” this section can be omitted.

### Data elements: ***WheelchairEquipment***

***WheelchairEquipment*** element ) describes a type of on board vehicle equipment for wheelchair access on the vehicle.

Path: ***Service/ VehicleType / VehicleEquipment / WheelchairVehicleEquipment***

|  |  |  |
| --- | --- | --- |
| Name | Values | Element |
| Name | Name | */Name* |
| Number of places | 99 | */NumberOfWheelChairAreas* |
| Access width | 9.99 m | */WidthOfAccessArea* |
| Access height | 9.99m | */HeightOfAccessArea* |
| Wheel chair turning circle | 9.99 m | */WheelchairTurningCircle* |
| Suitable for | *Wheelchair |, motorized | wheelchair* etc | */SuitableFor* |
| Booking Required | *Yes / No* | */BookingRequired* |
| Booking Number | 9999999999 | */BookingNumber* |

### Data elements: ***AccessVehicleEquipment***

The ***AccessVehicleEquipment*** element describes vehicle equipment relating to physical access to the vehicle relevant to accessibility planning.

Path: ***Service/ VehicleType / VehicleEquipment / AccessVehicleEquipment***

|  |  |  |
| --- | --- | --- |
| Name | Values | Element |
| Name | Name | */Name* |
| Low Floor | Yes / No | */LowFloor* |
| Hoist | Yes / No | */Hoist* |
| Ramp | Yes / No | */Ramp* |
| Ramp Bearing Capacity | 99.99 | */RampBearingCapacity* |
| NumberOfSteps | 99 | */NumberOfSteps* |
| Boarding Height | *99.99* | */BoardingHeight* |
| GapToPlatform | 999999999*99.99*9 | */GapToPlatform* |
| WidthOfAccessArea | *99.99* | */WidthOfAccessArea* |
| HeightOfAccessArea | *99.99* | */HeightOfAccessArea* |
| AutomaticDoors | Yes / No | */AutomaticDoors* |
| SuitableFor | *Wheelchair |, motorized | wheelchair* etc | */SuitableFor* |
| ***AssistanceNeeded*** | levelAccess || rampRequired | hoistRequired | */AssistanceNeeded* |
| AssistedBoardingLocation | enum | */*AssistedBoardingLocation |
| GuideDogsAllowed | Yes / No | */*GuideDogsAllowed |

### Data elements: ***PassengerInfoEquipment***

***PassengerInfoEquipment*** element describes a type of on board information services.

Path: ***Service/ VehicleType / VehicleEquipment / PassengerInfoEquipment***

|  |  |  |
| --- | --- | --- |
| Name | Values | Element |
| Name | Name | */Name* |
| Info types | nextStopIndicator | stopAnnouncements | etc | */PassengerInfo s* |
| Info delivery | audioInformation | visualDisplays, etc | */AccessibilityInfo* |

### Example of Vehicle Equipment at Service level

**Services…**

**Further Information**

|  |  |
| --- | --- |
| Uses all stops | **Yes** |
| New stops | **None required.** |
| No fixed stopping places | **No** |
| Wheelchair Accessible | **true** |

**Vehicle Access Equipment**

|  |  |
| --- | --- |
| Name | **Boarding Equipment** |
| Equipment | **Lowfloor,** |
| Boarding Height | **40 cm** |
| Width Of Access Area | **90 cm** |

**Accessibility Equipment**

|  |  |
| --- | --- |
| Name | **Assistance available from driver** |
| Assistance | **boardingAssistance, wheelchairAssistance** |
| Availability times | **MondayToFriday 09:00-1800** |
| Staffing | **fullTime** |
| Accessibility Trained Staff | **Yes** |

**Wheelchair Equipment**

|  |  |
| --- | --- |
| Number of Wheel chair areas | **1** |
| Name | **Boarding Equipment** |
| BookingRequired | **Yes,** |
| SuitableFor | **Wheelchair, motorizedWheelchair***,* guideDog |
| Wheelchair Turning Circle | **90 cm** |

**Passenger Information Equipment**

|  |  |
| --- | --- |
| Name | **On board Passenger Information** |
| Equipment | **nextStopIndicator, stopAnnouncements** |

### Example of Vehicle Equipment at Vehicle Journey level

**South Shields Market - Marsden**

Service operates from 27/07/2008 until further notice

Service operates Monday to Sunday

**Inbound, Monday to Friday (continued)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 7 1 | 7 1,2 | 7 2 | 7 2 | 7 2 |
| ***South Shields, SOUTH SHIELDS TOWN CENTRE*** | 19:39 | 20:09 | 20:39 | 21:09 | 21:39 |
| ***Chichester, CHICHESTER (M),*** | 19:46 | 20:16 | 20:46 | 21:16 | 21:46 |
| ***Marsden, MARSDEN, W,*** | 19:55 | 20:25 | 20:55 | 21:25 | 21:55 |
| ***Westoe Village, WESTOE, N*** | 20:03 | 20:33 | 21:03 | 21:33 | 22:03 |

1. Journey does not run Bank Holidays
2. **Change to Wheelchair Equipment**

|  |  |
| --- | --- |
| Number of Wheel chair areas | **0** |
| Name | **Change to Boarding Equipment** |
| BookingRequired | **Yes,** |
| SuitableFor | **none** |

## Support for Service Facility set P2 Option 4

The nature of facilities available on a service may be specified for Service or individual journey using the ***ServiceFacilitySet*** element. (See appendix). Details should be included as follows:

1. If specified at the ***Service*** level, add any facilities as new attributes under the *“Service*” Further Information details
2. If specified at the ***Vehicle Journey*** level as a footnote to the timetable matrix , showing a Modified Facility list of values that apply:

### Data elements: Service Facility

Paths: ***Service/ Operational/VehicleType/, VehicleJourney / Operational/ VehicleType/***

|  |  |  |
| --- | --- | --- |
| Name | Values | Element |
| Description | Name | */Description* |
|  | Buffet | trolley beverageVendingMachine, etc | */CateringFacilityList* |
| Fare Classes | *firstClass, SecondClass, etc* | */FareClasses* |
| Catering | Buffet | trolley beverageVendingMachine, etc | */CateringFacilityList* |
| Seating | *smoking | noSmoking | quietArea, etc* | *NuisanceFacilityList* |
| Accommodation | *seating, sleeper | couchette |recliningSeat* | *AccommodationFacilityList* |
| Toilets | *toilet wheelchairAccessToilet | shower, etc* | *SanitaryFacilityList* |
| On board Communications | *FreeWifi | publicWifi | videoEntertainment, etc |* | *PassengerCommsFacilityList* |
| Safety features | *ccTv, staffed* | *SafetyFacilityList* |
| Luggage | *luggageRacks | luggageRacks* | *LuggageCarriageFacilityList* |
| Reservation | seatReservationsCompulsory | cycleReservationsCompulsory | etc | *ReservationFacilityList* |

### Example of Service Facilities at Service level

**Services…**

**Further Information**

|  |  |
| --- | --- |
| Uses all stops | **Yes** |
| New stops | **None required.** |
| No fixed stopping places | **No** |
| Fare Classes | **FirstClass, second class,**  **firstClassRestaurant, trolleyService** |
| Catering | **firstClassRestaurant, trolleyService** |

### Example of Service Facilities at Vehicle Journey level

**Services…**

**Inbound, Monday to Friday (continued)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 7 1 | 7 1,2 | 7 2 | 7 2 | 7 2 |
| ***South Shields, SOUTH SHIELDS TOWN CENTRE*** | 19:39 | 20:09 | 20:39 | 21:09 | 21:39 |
| ***Chichester, CHICHESTER (M),*** | 19:46 | 20:16 | 20:46 | 21:16 | 21:46 |
| ***Marsden, MARSDEN, W,*** | 19:55 | 20:25 | 20:55 | 21:25 | 21:55 |
| ***Westoe Village, WESTOE, N*** | 20:03 | 20:33 | 21:03 | 21:33 | 22:03 |

1. Journey does not run Bank Holidays
2. Modified Facilities TrolleyService,: wheelchairAccessibleToilet

## Stop Level Accessibility P3 Option 5

***StopAccessibility*** has been added to StopPoint to allow stop level overrides of accessibility data. (A default value can be specified using NaPTAN see PTIC-086 NaPTAN). Override values can be specified on individual Vehicle journey stops (using the TimingLink/From & To values) to indicate that the stop is not accessible on a particular journey for example as may happen if the combination of vehicle type and stop does not permit use of a hoist.

The ***StopAccessibility*** can be indicates whether a stop is accessible (true) not accessible (false , partial (for a station) or unknown.

If the *Particulars* output option value is “basic” or “none” this section can be omitted.

1. The nature of the default ***StopAccessibility*** for a stop may be indicated for each stop using an extra column in the list of stops.
2. If there is an override on a TimingLink, the nature of the default ***StopAccessibility*** for a stop may be indicated by a simple footnote

### Data elements: Service Facility

Paths: ***Service/ VehicleType/,  
JourneyPattern / Operational/ VehicleType/  
VehicleJourney / Operational/ VehicleType/***

|  |  |  |
| --- | --- | --- |
| Name | Values | Element |
| Mobility | Y (true) N (False, P (partial) , U (Unknown | */* MobilityImpairedAccess |

### Example of Stop Accessibility at TransXChange Document level

**Existing Stops Used**

|  |  |  |  |
| --- | --- | --- | --- |
| **ATCO Code** | **NPTG Locality** | **Name** | **M** |
| 410000017065 | Marsden (South Shields) | MARSDEN, SW | Y |
| 410000017066 | Marsden (South Shields) | PRINCE EDWARD ROAD-VALLEYLANE-W/B, W | N |
| 410000017067 | Marsden (South Shields) | PRINCE EDWARD ROAD-FORBER AVENUE- W/B, W | Y |
| 410000017068 | Cleadon Park | PRINCE EDWARD ROAD-GARDENWAY-W/B, W | P |

### Example Stop Accessibility at Vehicle Journey level

**South Shields Market - Marsden**

Service operates from 27/07/2008 until further notice

Service operates Monday to Sunday

**Inbound, Monday to Friday (continued)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 7 1 | 7 1 | 7 2 | 7 2 | 7 3 |
| ***South Shields, SOUTH SHIELDS TOWN CENTRE*** | 19:39 | 20:09 | 20:39 | 21:09 | 21:39 |
| ***Chichester, CHICHESTER (M),*** | 19:46,2 | 20:16 | 20:46 | 21:16 | 21:46 |
| ***Marsden, MARSDEN, W,*** | 19:55 | 20:25 | 20:55 | 21:25 | 21:55 |
| ***Westoe Village, WESTOE, N*** | 20:03 | 20:33 | 21:03 | 21:33 | 22:03 |

1. Journey does not run Bank Holidays
2. Stop not accessible for this service
3. Stop is accessible for this service

# OTHER TECHNICAL CHANGES

## Support for 2.5 Schema, making use of dynamic version numbers P1 Option 1

The 2.5 publisher still needs to support the 2.5 and previous (2.1 and 2.4 versions of the schema) – just as the current 2.4 version will publish 2.1 schemas.

In each previous version of the TXC schema, the version number attribute on a TransXChange document was a fixed value (e.g. 2.1, 2.4, etc.), requiring a separate binding for each schema version. In 2.5 it becomes a variable that defaults to the current value (e.g. 2.5 in the 2.5 schema, 2.4 in the 2.4 schema.), but which may be set in a document to a different value. (It is the producers responsibility to ensure that a compatible number is given). A variable version attribute makes it easier for implementers to use a single schema binding with documents that conform to earlier releases.

TransXChange documents are upwards compatible, for example a 2.1 document will be publishable with the2.5 publisher. They are also backwards compatible provided no new elements are used, so that it will also be possible to publish a later version of a document, e.g. version 3.0 document with a 2.5 publisher (provided no new elements are use). If new elements are used the binding will not work, but the publisher should handle the error gracefully with an error message.

The 2.5 Publisher can take advantage of the version number change to simplify its internals for handling 2.5 and subsequent version documents.. At the present the Publisher transforms documents into the latest version (e.g.. 2.4) before publishing using a 2.4 binding. It should now be possible to publish earlier version documents directly. By making this change it will also be possible to use the existing publisher on future versions of the schema provided no new elements are present.

## Support for Eire locations on NaPTAN stops: P2 Option 2

The 2.5 schema allows a new type of coordinate ITM (Irish Transverse Mercator) in addition to the WGS and OS types. This does not require additional support (since we are not undertaking to publisher Eire timetables), but because the publisher carries out coordinate conversion in some circumstances (using a standard library), we should check if ITM is supported and if not, ensure that the Publisher fails gracefully – e.g. ignoring ITM coordinates. The essential requirement is that the publisher should be tested so that it does not crash if ITM coordinates are present.

# Packaging

## Publisher

The new 2.5 version of the publisher should be backagaed as a separate 2.5 installation zip with its own version of the GUI and help text.

# TESTING

## Regression testing

The new 2.5 version of the publisher should be tested against the set of 2.5 documents available on the TXC website, including the real examples.

## Testing of input options

Testing should include checking that reduced particulars output is obtained for the “none” and “basic” options, and that the full options include maps.

## Backwards Compatibility Testing

The new 2.5 version of the publisher should also be tested against the set of 2.1 and 2.4 documents available on the TXC website. including the real examples.

## Installation Testing

The new 2.5 version of the publisher should also be tested for installation as a zipped download.

# APPENDIX – EXTRACTS FRM TXC 2.5 USER GUIDE

This appendix provides for ready reference descriptions of some of the new 2.5 data elements taken from the TransXChange Schema Guide for 2.5 (v0.59)

## Accessibility Booking

### UML [3.15.3] Operator / Accessibility Booking ((v2.5)

**AccessibilityBooking** (Figure 3‑53) allows details about booking for assistance for wheelchair users to be recorded for an operator. Different values may be specified for different modes and regions.



Figure ‑ – UML Diagram of TransXChange Accessibility Booking Model

### XML: [ ] Operator / AccessibilityBooking / (+TXC v2.5)

The ***AccessibilityBooking*** element records details about how to book wheelchair use of an operator’s services (Figure 6‑29).

* Mode: Transport mode of operator’s service to which this information relates.
* Regions: Travel line regions to which to which this information relates for an operator.
  + RegionRef reference to a Traveline region.
* AssistanceAvailability: Availability of services for wheelchair users (Table 6‑8).shows the allowed values for assistance availability.

|  |  |
| --- | --- |
| Value | Description |
| none | Assistance service is not available from Operator. |
| available | Assistance is available from Operator. |
| availableIfBooked | Assistance is available if booked. |
| availableAtCertainTimes | Assistance is available at certain times. |
| unknown | Not known if available. |

Table ‑ – Allowed Values for AssistanceAvailability

## Assistance Service

### UML [3.17.6] Assistance Service Model (+TXC v2.5)

Figure 3‑71 shows the ***AssistanceService***, a type of local service “Equipment” that may be used to specify details and conditions about assistance available for a ***VehicleJourney***. These are based on the NeTEx model.



Figure ‑ – UML Diagram of Assistance Service Types

### XML[6.6.7] ServiceOperationalGroup / AssistanceService Element (+TXC V2.5)

The ***AssistanceService*** element *(*Figure 6‑64) describes the available assistance for wheelchair users to access a vehicle. (+TXC V2.5)

* ***Name:*** Description of service). (+TXC v2.5.)
* ***Availability:*** Days or times when service is available. (+TXC v2.5.) If not specified assume always available.
  + **DayType:** Day type and Timeband when service is available.
* ***AssistanceServiceType:*** Assistance services for wheelchair users. See Table 6‑25. (+TXC v2.5.)

|  |  |
| --- | --- |
| * **Value** | **Description** |
| *none* | No Assistance service is available |
| *boardingAssistance* | Assistance is available to board the vehicle. |
| *wheelchairAssistance* | Assistance is available for wheelchair users |
| *conductor* | A conductor is available |
| *unknown* | Not known if available. |

**Table 6‑25 – Allowed Values for AssistanceServiceType (+TXC v2.5)**

* ***AssistanceAvailability:*** Availability of services for wheelchair users. Table 6‑8 earlier shows the allowed values for assistance availability. (+TXC v2.5.)
* ***Staffing***: shows the normal staffing arrangements for the stop. See **Table 6‑26** for allowed values

|  |  |
| --- | --- |
| **Value** | **Description** |
| **fullTime** | Staffed full time during opening hours |
| **partTime** | Only staffed at certain times |
| **unmanned** | Not normally staffed |
| **unknown** | Staffing unknown |

**Table 6‑26 – Allowed Values for Staffing (+TXC v2.5)**

* ***AccessibilityTools***: Devices available for use by passengers. One or more - See Table 6‑27 for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| **wheelchair** | Wheelchairs are available for use. |
| **walkingStick** | Walking sticks are available for use. |
| **audioNavigator** | Audio Navigators are available for use. |
| **visualNavigator** | Visual Navigator aids are available for use, e.g. floor strips. |
| **passengerCart** | Passenger carts are available for use. |
| **other** | Other equipment is available for use. |

**Table 6‑27 – Allowed Values for AccessibilityTools (+TXC v2.5)**

* ***Languages***: Languages spoken for assistance. One or more languages, as specified by XML Language value. (e.g. en, cy, de, fr, etc). (+TXC v2.5.)
* ***AccessibilityTrainedStaff***: Staff is trained to assist wheelchair users. (+TXC v2.5.)
* ***EmergencyServices:*** List of available emergency service support. One or more - See Table 6‑28 for allowed values. (+TXC v2.5.)

|  |  |
| --- | --- |
| **Value** | **Description** |
| police | Police are available at location or on board. |
| firstAid | First aid is available at location or on-board. |
| sosPoint | SOS help Points are available at location or on board. |
| ccTv | CCTV covers location or on board. |
| **other** | Other services available at location or on board. |

**Table 6‑28 – Allowed Values for EmergencyServices (+TXC v2.5.)**

AssistanceService

**Figure 6‑64 – AssistanceService Element (+TXC v2.5)**

## Service FacilitySet

### UML [3.17.7] ServiceFacilitySet Model (+TXC v2.5)

A ***ServiceFacilitySet***, Figure 3‑71, can be used to list facilities available on a service or specific **JourneyPattern** or ***VehicleJourney***. The facilities are just list of named properties – any detailed attributes of a specific facility are described by a corresponding ***Equipment*** element. The values supported are a subset of those found in the NeTEx model.

Each facility value specified at the Service level apply to all journeys unless overridden on a specific **JourneyPattern**or ***VehicleJourney***.



Figure ‑ – UML Diagram of ServiceFacilitySet Introduction

#### ServiceFacilitySet Data Model Details

Figure 3‑73 shows the details of the ***ServiceFacilitySet*** model.



#### Figure ‑ – UML Diagram of ServiceFacilitySet data elements: Details ServiceFacilitySet Data Model – Common values

Figure 3‑74 shows some the ***Facility*** values that may be specified for a ***ServiceFacilitySet***. These include ***FareClass, CateringFacility, NuisanceFacility, PassengerCommsFacility, PassengerInformationFacility, SafetyFacility,*** and ***SanitaryFacility***



Figure ‑ – UML Diagram of ServiceFacilitySet: Common values

### XML [ ] ServiceFacilitySet Data Model – Specific values

#### ServiceOperationalGroup / AssistanceService Element (+TXC V2.5)

The ***AssistanceService*** element (Figure 6‑64) describes the available assistance for wheelchair users to access a vehicle. (+TXC V2.5)

* Name: Description of service). (+TXC v2.5.)
* Availability: Days or times when service is available. (+TXC v2.5.) If not specified assume always available.
  + DayType: Day type and Timeband when service is available.
* AssistanceServiceType: Assistance services for wheelchair users. See Table 6‑25. (+TXC v2.5.)

|  |  |
| --- | --- |
| * Value | Description |
| none | No Assistance service is available |
| boardingAssistance | Assistance is available to board the vehicle. |
| wheelchairAssistance | Assistance is available for wheelchair users |
| conductor | A conductor is available |
| unknown | Not known if available. |

Table ‑ – Allowed Values for AssistanceServiceType (+TXC v2.5)

* AssistanceAvailability: Availability of services for wheelchair users. Table 6‑8 earlier shows the allowed values for assistance availability. (+TXC v2.5.)
* ***Staffing***: shows the normal staffing arrangements for the stop. See **Table 6‑26** for allowed values

|  |  |
| --- | --- |
| **Value** | **Description** |
| **fullTime** | Staffed full time during opening hours |
| **partTime** | Only staffed at certain times |
| **unmanned** | Not normally staffed |
| **unknown** | Staffing unknown |

Table ‑ – Allowed Values for Staffing (+TXC v2.5)

* ***AccessibilityTools***: Devices available for use by passengers. One or more - See Table 6‑27 for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| **wheelchair** | Wheelchairs are available for use. |
| **walkingStick** | Walking sticks are available for use. |
| **audioNavigator** | Audio Navigators are available for use. |
| **visualNavigator** | Visual Navigator aids are available for use, e.g. floor strips. |
| **passengerCart** | Passenger carts are available for use. |
| **other** | Other equipment is available for use. |

Table ‑ – Allowed Values for AccessibilityTools (+TXC v2.5)

* ***Languages***: Languages spoken for assistance. One or more languages, as specified by XML Language value. (e.g. en, cy, de, fr, etc). (+TXC v2.5.)
* AccessibilityTrainedStaff: Staff is trained to assist wheelchair users. (+TXC v2.5.)
* ***EmergencyServices:*** List of available emergency service support. One or more - See Table 6‑28 for allowed values. (+TXC v2.5.)

|  |  |
| --- | --- |
| **Value** | **Description** |
| police | Police are available at location or on board. |
| firstAid | First aid is available at location or on-board. |
| sosPoint | SOS help Points are available at location or on board. |
| ccTv | CCTV covers location or on board. |
| **other** | Other services available at location or on board. |

Table ‑ – Allowed Values for EmergencyServices (+TXC v2.5.)

AssistanceService

Figure ‑ – AssistanceService Element (+TXC v2.5)

#### ServiceOperationalGroup / ServiceFacilitySet Element (+TXC V2.5)

The ***ServiceFacilitySet*** element (Figure 6‑65) describes the available on-board services for a vehicle as simple lists of named facilities. Certain services with complex properties can be additionally described by an equipment element, for example SanitaryFacilityEquipment allows detailed properties of SanitaryEquipment to be specified. (+TXC V2.5).

* Name: Description of service). (+TXC v2.5.)

***CommonFacilityGroup*** describes services that may also apply to a Site:

* CateringFacilityList: Catering users. See **Table 6‑29**. (+TXC v2.5.)

|  |  |
| --- | --- |
| * Value | Description |
| none | No Assistance service is available |
| boardingAssistance | Assistance is available to board the vehicle. |
| wheelchairAssistance | Assistance is available for wheelchair users |
| conductor | A conductor is available |
| unknown | Not known if available. |

Table ‑ – Allowed Values for **CateringFacilityList**

* *FareClasses:* (+TXC v2.5) specifies the classes of fare available. See Table 6‑30 for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| firstClass | First class seats |
| secondClass | Second or standard class seats |
| thirdClass | Third class seat |
| businessClass | Business class |
| economyClass | Economy Class |
| unknown | Not known if available. |

Table ‑ – Allowed values for ServiceFacilitySet / FareClasses (+TXC v2.4)

* ***NuisanceFacilityList****:* (+TXC v2.5) The type of accommodation available. See Table 6‑31 for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| smoking | Smoking zone. |
| noSmoking | No smoking. zone. |
| mobilePhoneUseZone | Mobile phone zone. |
| mobilePhoneFreeZone | Quiet area. |
| famillyArea | Family area |
| childfreeArea | Child free area. |
| other | Other area. |
| smoking | Smoking zone. |
| noSmoking | No Smoking. zone. |
| lmobilePhoneUseZone | Mobile phone zone. |
| mobilePhoneFreeZone | Quiet area. |
| famillyArea | Family area |

Table ‑ – Allowed values for ServiceFacilitySet / NuisanceFacility (+TXC v2.5)

* ***PassengerCommsFacilityList****:* (+TXC v2.5) The types of on-board passenger communications and entertainment facilities. See Table 6‑32 for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| freeWifi | Free wifi. |
| publicWifi | Public wifi, may be charged. |
| telephone | Telephone. |
| internet | Internet access. |
| mobileCoverage | Mobile phone coverage. |
| videoEntertainment | Video entertainment. |
| audioEntertainment | Audio entertainment. |
| powerSupplySockets | Power supply sockets. |

Table ‑ – Allowed values for ServiceFacilitySet / PassengerCommsFacilityList (+TXC v2.5)

* ***PassengerInformationFacilityList****:* (+TXC v2.5) The type of passenger information facilities available on-board. See Table 6‑33 for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| audioInformation | Audio information. |
| audioForHearingImpaired | Special Audio information for those who are hearing impaired. |
| visualDisplays | Visual displays of information. |
| displaysForVisuallyImpaired | Specially enhanced visual information for those who are visually impaired. |
| largePrintTimetables | Large print timetables. |
| other | Other INFO FACILITY. |

Table ‑ – Allowed values for ServiceFacilitySet / PassengerInformationFacility (+TXC v2.5)

* *SafetyFacilityList:* (+TXC v2.5) Some on-board capabilities that enhance to passenger safety. See **Table 6‑34** for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| mobileCoverage | There is mobile phone coverage. |
| ccTv | There is close circuit television camera surveillance. |
| sosPoint | There is an SOS point. |
| staffed | There are staff. |

**Table 6‑34 – Allowed values for ServiceFacilitySet / SafetyFacility (+TXC v2.5)**

* *SanitaryFacilityList:* (+TXC v2.5) The types of lavatory and washing facilities available on service. See **Table 6‑35** for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| toilet | Lavatories. |
| wheelchairAccessToilet | Toilet for wheelchair access. |
| shower | Shower. |
| wheelchairBabyChange | Baby change facility for wheelchair users. |
| babyChange | Baby change facility. |
| washingAndChangeFacilities | Wash and Change facilities. |
| other | Other sanitary facility. |

**Table 6‑35 – Allowed values for ServiceFacilitySet / SanitaryFacility (+TXC v2.5)**

***ServiceFacilityGroup*** describes services specific to a Service:

* ***AccommodationFacilityList****:* (+TXC v2.5) The type of accommodation available. See **Table 6‑36** for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| seating | Seating. |
| sleeper | Sleeper accommodation. |
| doubleSleeper | Double Sleeper accommodation. |
| singleSleeper | Single Sleeper accommodation. |
| specialSleeper | Special Sleeper accommodation. |
| couchette | Couchette. |
| recliningSeat | Reclining seat. |
| babyCompartment | Baby Compartment. |
| familyCompartment | Family Compartment. |
| panoramaCoach | Panorama coach. |
| pullmanCoach | Pullman coach. |
| standing | Standing accommodation. |

**Table 6‑36 – Allowed values for ServiceFacilitySet / AccommodationFacility (+TXC v2.5)**

* ***LuggageCarriageFacilityList****:* (+TXC v2.5) describes the type of l available. See **Table 6‑37** for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| noBaggageStorage | No baggage storage. |
| luggageRacks | Luggage racks. |
| extraLargeLuggageRacks | Extra-large luggage storage. |
| baggageVan | Baggage van. |
| cyclesAllowed | Cycles allowed. |
| cyclesAllowedInVan | Cycles allowed in van. |
| cyclesAllowedInCarriage | Cycles allowed in carriage. |
| cyclesAllowedWithReservation | Cycles allowed with reservation. |
| noCycles | No cycles allowed. |
| noBaggageStorage | No baggage storage. |
| luggageRacks | Luggage racks. |
| extraLargeLuggageRacks | Extra-large luggage storage. |

**Table 6‑37 – Allowed values for ServiceFacilitySet / LuggageCarriage (+TXC v2.5)**

* *ReservationFacilityList:* (+TXC v2.5) Date that *Service* starts.

|  |  |
| --- | --- |
| **Value** | **Description** |
| seatReservationsCompulsory | Seat Reservations Compulsory |
| cycleReservationsCompulsory | Bicycle Reservations Compulsory |
| seatReservationsRecommended | Seat Reservations Recommended |
| seatReservationsPossible | Seat Reservations Possible |
| wheelchairOnlyReservations | Reservations are required for Wheelchair but not necessarily for others |

#### VehicleType / Equipment Element (+TXC V2.5)

Detailed properties of on vehicle services are described with different types of Equipment. All types of equipment share common ***Equipment*** element properties(*Figure 6‑83*) (+TXC V2.5)

* Name: Name of Equipment (+TXC v2.5).
* Availability: Condition specifying when equipment is available (+TXC v2.5).
  + DaysOfWeek. Which days of week equipment is available
  + Timebands: When equipment is available.

Equipment

Figure ‑ – Operational / Abstract Equipment Element

#### VehicleType / PassengerInfoEquipment Element (+TXC V2.4)

The ***PassengerInfoEquipment*** element (*Figure 6‑83*) describes a type of vehicle equipment relating to passenger information service. (+TXC V2.4)

* PassengerInfo: Arbitrary code that classifies the vehicle. See Table 6‑40 for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| nextStopIndicator | Vehicle has Next Stop Indicator |
| stopAnnouncements | Vehicle has Stop Announcements |
| passengerInfoFacility | Vehicle has Passenger Info Facility on-board |
| other | other |

Table ‑ – Allowed Values for PassengerInfoEquipment / PassengerInfo.

* AccessibilityInfo: Arbitrary code that classifies the vehicle. See Table 6‑40 for allowed values.

|  |  |
| --- | --- |
| **Value** | **Description** |
| audioInformation | Vehicle has audioInformation |
| audioForHearingImpaired | Vehicle has audioForHearingImpaired |
| visualDisplays | Vehicle has visualDisplays |
| displaysForVisuallyImpaired | Vehicle has displaysForVisuallyImpaired |
| tactilePlatformEdges | Vehicle has tactilePlatformEdges |
| tactileGuidingStrips | Vehicle has tactileGuidingStrips |
| largePrintTimetables | Vehicle has largePrintTimetables |
| other | other |

PassengerInforEquipment

Figure ‑ – Operational / Equipment Element

#### VehicleType / AccessVehicleEquipment Element (+TXC V2.4)

The ***AccessVehicleEquipment*** element (Figure 6‑84Figure 6‑84) describes a type of vehicle equipment relating to physical access to the vehicle relevant to accessibility planning. (+TXC V2.4)

* LowFloor: Whether Vehicle has low floor access.
* Hoist: Whether Vehicle has hoist for wheelchair access. (+TXC v2.5)
* Ramp: Whether Vehicle has deployable ramp.
* RampBearingCapacity: Whether Vehicle has deployable ramp.
* NumberOfSteps: Number of steps to board vehicle.
* BoardingHeight: Rise from ground needed for access to vehicle floor.
* GapToPlatform: Gap between vehicle and platform (May vary by stop).
* WidthOfAccessArea: Access width for entry.
* HeightOfAccessArea: Access height for entry.
* AutomaticDoors: Whether Vehicle has automatic doors.
* SuitableFor: Mobility need for which access is suitable. See Table 6‑43 below. (+TXC v2.5)

|  |  |
| --- | --- |
| Value | Description |
| wheelchair | Wheelchair |
| assistedWheelchair | Wheelchair pushed by companion |
| motorisedWheelchair | Motorised Wheelchair |
| mobilityScooter | Small mobility Scooter: A Class 2 scooter under the CPT classification with 3 or 4 wheels, not more than 600mm wide and 1000 mm long and with a turning radius not exceeding 1200mm. Normally weigh about 65 kg. |
| roadMobilityScooter | Large Mobility Scooter: A Class 3 scooter under the CPT classification. Class 3 scooters are bigger and have light for road use. They are not normally allowed on buses. |
| walkingFrame | Walking Frame |
| restrictedMobility | Restricted Mobility |
| normal | Normal mobility |

Table ‑ – Allowed Values for MobilityNeed

* AssistanceNeeded: Nature of assistance needed to board See (Table 6‑44). (+TXC v2.5)

|  |  |
| --- | --- |
| Value | Description |
| levelAccess | Level access – passenger can propel themselves |
| rampRequired | Assistance with ramp needed. |
| hoistRequired | Assistance with hoist needed. |
| unknown | Not known. |

Table ‑ – Allowed Values for AssistanceNeeded

* AssistedBoardingLocation: Whether boarding has to be done at a specific position on the platform. See Table 6‑45). (+TXC v2.5)

|  |  |
| --- | --- |
| Value | Description |
| boardAtAnyDoor | Boarding can be at any location |
| boardOnlyAtSpecifiedPositions | Boarding must be at specific positions on platform |
| unknown | Not known. |

Table ‑ – Allowed Values for AssistedBoardingLocation

* GuideDogsAllowed: Whether guide dogs are allowed. (+TXC v2.5)

AccessVehicleEquipment

Figure ‑ – VehicleType/ AccessVehicleEquipment Element (+TXC v2.4)

#### VehicleType / WheelchairEquipment Element (+TXC V2.4)

The ***WheelchairEquipment*** element (Figure 6‑85) describes a type of on board vehicle equipment for wheelchair access on the vehicle. (+TXC V2.4)

* NumberOfWheelChairAreas: Number of available wheelchair areas in vehicle.
* WidthOfAccessArea: Access width available for entry by wheelchair.
* HeightOfAccessArea: Access height available for entry by wheelchair.
* WheelchairTurningCircle: Wheel chair turning circle on board.
* SuitableFor: Mobility need for which access is suitable, for example motorisedWheelchair, mobilityScooter, etc., See Table 6‑43 earlier. (+TXC v2.5.)
* BookingRequired: Whether booking is required for wheelchair use. (+TXC v2.5.)
* BookingNumber: Phone number to call for wheelchair booking (+TXC v2.5.)

WheelchairVehicleEquipment

Figure ‑ – VehicleType/ WheelchairVehicleEquipment Element (+TXC v2.4

#### StopAccessibility Element (+TXC v2.5)

The StopAccessibility element (Figure 6‑96) specifies the accessibility of the visit to the stop for mobility impaired users. This can be used to override the Journey level defaults if there are specific considerations for a particular stop. For example, it may be that a Vehicle is normally accessible using equipment but that the hoist cannot be used at certain stops. It comprises an overall assessment and a number of detailed criteria. It comprises:

* A MobilityImpairedAccess: Overall assessment of the stop for accessibility. This can be used for example to indicate accessible and inaccessible stops on maps and in journey planners. See Limitation Status (Table 6‑50) for allowed values. For a topologically simple stop such as an on-street bus stop, this will typically be the same as the ***WheelchairAccess*** status. For complex stops such as metro and rail stations it requires an overall judgement based on the accessibility of individual platforms. For example a station which requires the use of a flight of steps to reach the main platform would be considered inaccessible.

Specific assessments:

* WheelchairAccess: Whether stop is accessible to wheelchair users. See Limitation Status (Table 6‑50) for allowed values. Normally if there is Step free access there will be wheelchair access. However wheelchair access may additional require assistance, use of a boarding ramp etc.
* StepFreeAccess: Whether stop is accessible without the use of steps. Normally only relevant for off-street stops such as Station platforms. See Limitation Status (Table 6‑50) for allowed values.
* EscalatorFreeAccess: Whether stop is accessible without the use of escalator. Normally only relevant for off-street stops such as Station platforms. See Limitation Status (Table 6‑50) for allowed values.
* LiftFreeAccess: Whether stop is accessible without the use of lifts. Normally only relevant for off-street stops such as Station platforms. See Limitation Status (Table 6‑50) for allowed values. Lift free access may be of concern to sufferers from claustrophobia, autism and other conditions.

Limitation Status (Table 6‑50).shows the allowed values for accessibility assessments. Note that a value of unknown should be used if the accessibility is not known.

|  |  |
| --- | --- |
| Value | Description |
| true | Stop is considered accessible according to criteria. |
| false | Stop is not considered accessible according to criteria. |
| partial | Stop is partial accessible according to criteria: some areas are not accessible. |
| unknown | The accessibility of the stop according to the criteria a not known. |

Table ‑ – Allowed Values for LimitationStatus

The Limitation Status includes an “unknown” value which can be used when the accessibility status is not known. It is reasonable to assume that Air, Bus and Coach Stops will usually be accessible even if a value is not specified. See Table 6‑51.

|  |  |
| --- | --- |
| Mode of stop | Value to assume if unspecified |
| Air | True |
| Rail | Unknown |
| Metro | Unknown |
| Ferry | Unknown |
| Tram | Unknown |
| Bus | True |
| Coach | True |

Table ‑ – Accessibility defaults by mode

Assistance values:

* AccessVehicle: Details on accessibility for wheelchair users. See below
* AssistanceAvailability: Whether there is an assistance service available for disabled users and if so how it should be booked. See Table 6‑8 earlier for allowed values.
* AssistanceTimes: Times when assistance is available.
  + ***DayType:*** Type of day (Monday to Sunday) and ***Timeband.*** See below.
* OperatorRef: Identifier of operator who provides service. This can be used to integrate booking details and other information.
* InfoUrl: Public URL with information about accessibility at the stop.

Further details

* ServicesAtStopAreNormallyAccessible: Whether services at the stop are normally accessible, for example the vehicle type has low floor, a wheelchair hoist, etc. This is a default value for indicative guidance only. It may be that specific services are not accessible. See Limitation Status (Table 6‑50) for allowed values.
* Note: Any comment about the accessibility at the stop for the journey.

StopAccesssibility

Figure ‑ – StopAccessibility Element

## StopAccessibility

### UML [3.7 ] Inheriting Timing Link Values

See Table 3‑7 for attributes which may be inherited.

* A **VehicleJourney** may override any common property it shares with a **JourneyPattern.**
* A VehicleJourneyTimingLink may override any common property it shares with a JourneyPatternTimingLink**.**
* A VehicleJourneyStopUsage may override any common property it shares with a JourneyPatternStopUsage**,** including the ***StopAccessibility*.**
* 

Figure ‑ – UML Diagram of Service Pattern elements

### XML [6.7.8.4] StopAccessibility Element (+TXC v2.5)

The StopAccessibility element (Figure 6‑96) specifies the accessibility of the visit to the stop for mobility impaired users. This can be used to override the Journey level defaults if there are specific considerations for a particular stop. For example, it may be that a Vehicle is normally accessible using equipment but that the hoist cannot be used at certain stops. It comprises an overall assessment and a number of detailed criteria. It comprises:

* A MobilityImpairedAccess: Overall assessment of the stop for accessibility. This can be used for example to indicate accessible and inaccessible stops on maps and in journey planners. See Limitation Status (Table 6‑50) for allowed values. For a topologically simple stop such as an on-street bus stop, this will typically be the same as the ***WheelchairAccess*** status. For complex stops such as metro and rail stations it requires an overall judgement based on the accessibility of individual platforms. For example a station which requires the use of a flight of steps to reach the main platform would be considered inaccessible.

Specific assessments:

* WheelchairAccess: Whether stop is accessible to wheelchair users. See Limitation Status (Table 6‑50) for allowed values. Normally if there is Step free access there will be wheelchair access. However wheelchair access may additional require assistance, use of a boarding ramp etc.
* StepFreeAccess: Whether stop is accessible without the use of steps. Normally only relevant for off-street stops such as Station platforms. See Limitation Status (Table 6‑50) for allowed values.
* EscalatorFreeAccess: Whether stop is accessible without the use of escalator. Normally only relevant for off-street stops such as Station platforms. See Limitation Status (Table 6‑50) for allowed values.
* LiftFreeAccess: Whether stop is accessible without the use of lifts. Normally only relevant for off-street stops such as Station platforms. See Limitation Status (Table 6‑50) for allowed values. Lift free access may be of concern to sufferers from claustrophobia, autism and other conditions.

Limitation Status (Table 6‑50).shows the allowed values for accessibility assessments. Note that a value of unknown should be used if the accessibility is not known.

|  |  |
| --- | --- |
| Value | Description |
| true | Stop is considered accessible according to criteria. |
| false | Stop is not considered accessible according to criteria. |
| partial | Stop is partial accessible according to criteria: some areas are not accessible. |
| unknown | The accessibility of the stop according to the criteria a not known. |

Table ‑ – Allowed Values for LimitationStatus

The Limitation Status includes an “unknown” value which can be used when the accessibility status is not known. It is reasonable to assume that Air, Bus and Coach Stops will usually be accessible even if a value is not specified. See Table 6‑51.

|  |  |
| --- | --- |
| Mode of stop | Value to assume if unspecified |
| Air | True |
| Rail | Unknown |
| Metro | Unknown |
| Ferry | Unknown |
| Tram | Unknown |
| Bus | True |
| Coach | True |

Table ‑ – Accessibility defaults by mode

Assistance values:

* AccessVehicle: Details on accessibility for wheelchair users. See below
* AssistanceAvailability: Whether there is an assistance service available for disabled users and if so how it should be booked. See Table 6‑8 earlier for allowed values.
* AssistanceTimes: Times when assistance is available.
  + ***DayType:*** Type of day (Monday to Sunday) and ***Timeband.*** See below.
* OperatorRef: Identifier of operator who provides service. This can be used to integrate booking details and other information.
* InfoUrl: Public URL with information about accessibility at the stop.

Further details

* ServicesAtStopAreNormallyAccessible: Whether services at the stop are normally accessible, for example the vehicle type has low floor, a wheelchair hoist, etc. This is a default value for indicative guidance only. It may be that specific services are not accessible. See Limitation Status (Table 6‑50) for allowed values.
* Note: Any comment about the accessibility at the stop for the journey.

StopAccesssibility

Figure ‑ – StopAccessibility Element