

ANSI Name	Definition
SCH_ActivationID	A unique number assigned to an activation event
SCH_ActivationTypeDescription	The description of a (local use?) type of activation.
SCH_AnnouncementID	A unique number assigned to an announcement within a transit agency
SCH_AnnouncementLocationID	A unique number assigned to an announcement location
SCH_BlockDesignator	A unique alpha-numeric designator of a vehicle assignment
SCH_BlockGroupName	The name given to a grouping of vehicle assignments
SCH_BlockID	A unique number assigned to a vehicle assignment
SCH_BlockName	The name given to a vehicle assignment. For legacy systems, the block name often identifies the major route served by the block and the pull out sequence.
SCH_DayTypeDescription	The description of a (local use?) type of day that affects transit service
SCH_OperatorDesignator	A unique alpha-numeric designator of a PT vehicle operator
***SCH_PassengerMile - add	<i>Need to add element, use same language as for PassengerKilometers, only change kilometers to miles</i>
SCH_PatternDesignator	A unique alpha-numeric designator of a pattern
SCH_PatternID	A unique number assigned to a pattern
SCH_PatternName	The name given to a pattern
SCH_PayType	The pay factor that identifies the amount of money paid for specific types of duty
SCH_PullinTime	The time at which a transit vehicle arrives at its storage facility (vehicle base) at the end of a vehicle assignment
SCH_PulloutTime	The time at which a vehicle pulls out of its storage facility (vehicle base) at the start of a vehicle assignment
SCH_RosterDesignator	A unique alpha-numeric designator of a roster
SCH_RosterID	A unique number assigned to a roster
SCH_RouteDesignator	A unique alpha-numeric designator of a route
SCH_RouteDirectionID	A unique number assigned to the direction of a route
SCH_RouteID	A unique number assigned to a route
SCH_RouteName	The name given to a route
SCH_RunDesignator	A unique alpha-numeric designator of a run
SCH-RunID	A unique number assigned to a run
SCH-RunningSpeed	The average speed maintained between two points
SCH-RunningTimeActual	The actual time for a transit vehicle to travel between two points
*SCH-RunningTimePeriodName	The name given to a running time period
SCH-RunningTimeSched	A time assigned to the movement of a PT vehicle between time points
SCH-StopPointLength	The linear length along a curb or parking area at a stop point
SCH-StopPointSequenceNo	A unique number assigned to a sequence of bus stops served

	by a pattern or route
SCH-TimeBegin	The beginning time for a time period
SCH-TimeEnd	The ending time for a time period
SCH-TimePointDesignator	A unique alpha-numeric designator of a timepoint
SCH-TimePointID	A unique number assigned to a timepoint
SCH-TimePointIntervalDesignator	A unique alpha-numeric designator of a timepoint interval
SCH-TimePointIntervalID	A unique number assigned to a timepoint interval
SCH-TimeTableVersionID	A unique number assigned to a timetable version
SCH-TimeTableVersionName	The name of a timetable version. E.g. "Summer"
SCH-TripDesignator	A unique alpha-numeric designator of a trip
SCH-TripID	A unique number assigned to a trip
SCH-TripTimePointDescription	The description of a (local use?) trip time point
SCH-TripTimePtAttribute	An attribute of a timepoint in the context of a trip
**SCH-TripTimePtTime	<i>Delete this element</i>
SCH-TripType	A classification of a trip, whether revenue or non-revenue
SchActivateDriver	This message indicates the requirements for activating a driver message
SchBlockGroup	A grouping of vehicle assignments, for example, on common characteristics such as use of a common corridor, terminus or route direction name.
SchMasterSchedule	A table that includes all the time points and trips on a route. Contained within the SchRoute is the Master Schedule Header information. Contained within SchTrip is the day type information
SchMasterScheduleHdr	Sequence of time point identifiers and/or their names used to define the order of time points for all the patterns. This field may be used to build timetables, for exterior signs, etc.
SchPattern	A sequence of points and events that define a route segment
SchPieceOfWork	A piece of an operator's assignment
SchRoute	A collection of patterns in revenue service, with a common route identifier
SchRun	A transit operator's daily assignment
SchRunningTimePeriod	The division of an operating day into time periods for the purpose of assigning running times
SchTimePoint	A point along a route where trips are assigned arrival or departure times
SchTimePointInterval	The one-way path of travel between two consecutive timepoints on a block
SchTrip	A one way scheduled movement of a transit vehicle between two terminals

*Replaces SCH-RunningTimePeriod

**This element is deleted

***SCH-PassengerMile should be added

Definition Issues:

- Many of the data elements that refer to vehicle assignments, contain the name “block”, while the message for vehicle assignment uses “VehicleAssignment”. We recommend that TCIP use one or the other (preferably vehicle assignment) and refer to the alias “block” in the SchVehicleAssignment definition
- In these revised definitions, we tried to adopt a standardized definition style. For example, all ID data elements started with the phrase: “A unique number assigned to...” followed by the name of the element, rather than the definition of the element, that it was assigned to. All designators started with the phrase: “A unique alpha-numeric designator of...” We recommend that the Group consider adopting style standards for the definitions. Another style issue is whether vehicle should be PT vehicle in the definitions.
- It wasn’t clear to us whether the **TypeDescription data elements were the descriptions assigned to all of the 255 types, to just the local use types or what....
- Many of the data elements have an ID, a name and a designator. We remember that we discussed the distinction when we first developed the data elements, but are not sure we still understand the distinction. Do we need all three? Is there some consistent relationship, hierarchy or distinction between the three elements that we could include in the definition to help the end user?
- The message “SchRoute” has both SCH-RouteDesignator and SCH-RouteID as required elements. Shouldn’t it be a choice of?

Scheduling Context for TCIP 1404

Note: This discussion probably fits in Section 3, Basic Concepts, between 3.2.1 Inputs and 3.2.2 Outputs. In other words, an agency uses the described Inputs to perform Scheduling Processes, which then provide the described Outputs.

3.x Scheduling Processes

The scheduling component of transit includes three key processes to define and manage transit service: schedule writing, block building and run-cutting.

3.x.x Schedule Writing

Schedule writing is the process of creating a route and defining the service that will operate that route. A route is defined by one or more patterns – the geographic paths over which trips travel. Patterns may contain many types of points and events, including timepoints, bus stops, transfer points, fare zone changes, destination sign changes, transit signal priority triggers, operator road relief points, automated announcements to passengers and other messages to the operator.

Timepoints are exact locations along routes where trips are assigned specific arrival and departure times. Running time is defined between any two consecutive timepoints, called a timepoint interval, and may be used as a system-wide default for all routes traveling between the pair. Some agencies maintain a separate running time table for each route, in order to more accurately reflect the different operating conditions affecting various routes. Trips are built from

the time at a particular timepoint in a particular pattern using either the system or route level default running times between the remaining timepoint pairs in the pattern.

3.x.x. Block Building

Once schedules are written, the block building process combines a series of consecutive trips into vehicle assignments in order to minimize the number of coaches and platform hours. A block, also known as a vehicle assignment, includes everything a coach is assigned to do from the time it pulls out of the vehicle base until it pulls in. Different vehicle types are assigned to specific trips or routes based on ridership requirements or other characteristics of the route. The block building process determines the amount of layover or recovery time that a coach will have between scheduled revenue trips. This is also the process that identifies the deadhead trips that might be needed to move a coach from last terminal of one route to the first terminal of another so that all trips are operated efficiently.

3.x.x. Run-Cutting

Run-cutting is the final step in the scheduling process, in which vehicle assignments are cut into operator assignments. A short vehicle assignment may require just one operator, while longer vehicle assignments may require several operators throughout the day. Some pieces of work may be combined to create a split shift assignment for a guaranteed 8-hour day. The goal of the run-cutting process is to efficiently distribute the work so that overall costs are minimized given union contract rules, pay rates, work rules and management requirements.



3.x.x. Going Into Production

When these three scheduling processes are complete, the scheduling data are transmitted or published to the rest of the transit agency for implementation, as summarized in Section 3.x.x. Outputs.