Data Element

Name PI-AccessPreference

Identifier pidd 1

Purpose The preferred method of access to a transit stop.

Usage

Definition

```
ENUMERATED
{
 walk (1),  -- (or go to, e.g.,via  wheelchair
  bicycle  (2),
  park-ride (3), -- drive-park
  kiss-ride (4) -- drive and be dropped off
--5-100 reserved
--101-200 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-ADAAccess

Identifier pidd 2

Purpose A description of whether a transit stop is ADA accessible.

Usage

Definition

```
ENUMERATED
{
  notCompliant           (1),
  fullyCompliant         (2),
  mobilityChallengedAccess     (3),
  visuallyImpairedAccess       (4),
  hearingImpairedAccess        (5),
  mobility-VisuallyImpairedAccess   (6),
  visually-HearingImpairedAccess    (7),
  mobility-MobilityImpairedAccess   (8)
                    -- 9-149 reserved
                    -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-ADANeed

Identifier pidd 3

Purpose A traveler's need for ADA accessibility

Usage

Definition

```
ENUMERATED
{
    noADANeed          (1),
    mobilityAssistanceRequired   (2),
    visualAssistanceRequired   (3),
    audioAssistanceRequired   (4),
    otherAssistanceRequired   (5),
    visual-AudioAssistanceRequired   (6),
    visual-MobilityAssistanceRequired   (7),
    audio-MobilityAssistanceRequired      (8),
    visual-Audio-MobilityAssistanceRequired   (9)
            -- 10-149 reserved
            -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-AmenityID

Identifier pidd 4

Purpose A unique identifier of an amenity.

Usage

Definition IDENS

Data Element

Name	PI-AmenityName
Identifier	pidd 5
Purpose	The name of an amenity.
Usage	UCS
Definition	NAME30

Data Element

Name PI-AmenityStatus

Identifier pidd 6

Purpose Indicates whether an amenity is in operation or not.

Usage

Definition

```
ENUMERATED
{
outOfOrder    (1),
 operational    (2)
        -- 3-149 reserved
        -- 150-255 local use
 …  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-ArriveDateDesired

Identifier pidd 7

Purpose The date at which a traveler desires to be at a destination.

Usage ANSI X3.30

Definition DATE

Data Element

Name PI-ArriveTimeDesired

Identifier pidd 9

Purpose The time at which a traveler desires to be at a destination.

Usage ANSI NCITS.310

Definition TIME

Data Element

Name PI-ArriveTimeScheduled

Identifier pidd 10

Purpose The time at which a transit vehicle is scheduled to arrive at a specific stop point. In the case of stop points that are not also timepoints, the scheduled arrival time may be derived by adding the typical travel time from the preceding timepoint on the route's trip pattern to that timepoint's time.

Usage ANSI NCITS.310

Definition TIME

Data Element

Name PI-AudioFormat

Identifier pidd 120

Purpose Identify the format in which audio is recorded.

Usage

Definition

```
ENUMERATED
{
 WAV(1),
 --2 Reserved
 MP3(3),
 --4-100 Reserved
 --101-200 Local use
 --201-255 Reserved
…  -- # LOCAL_CONTENT
}
```

Data Element

Name	PI-BinaryAudioData
Identifier	pi 104
Purpose	Convey the binary data comprising a sound or audio announcement.
Usage	The binary format is defined using the PI-AudioFormat data element.
Definition	MEMLONG

Data Element

Name PI-BinaryImageData

Identifier pidd 118

Purpose Convey the binary data comprising a graphical image.

Usage The binary format employed is defined using the PI-GraphicFormat data element.

Definition MEMLONG

Data Element

Name	PI-BinaryVideoData
Identifier	pidd 122
Purpose	Convey the binary data comprising a video sequence.

Usage

Definition MEMLONG

Data Element

Name	PI-DepartDateDesired
Identifier	pidd 11
Purpose	The date on which a traveler desires to leave an origin point.
Usage	ANSI X3.30
Definition	DATE

Data Element

Name	PI-DepartTimeDesired
Identifier	pidd 13
Purpose	The time at which a traveler desires to leave an origin point.
Usage	ANSI NCITS.310
Definition	TIME

Data Element

Name PI-DepartTimeSchedNext

Identifier pidd 14

Purpose The time that the next vehicle serving the route segment desired by a traveler is scheduled to depart the specified stop point.

Usage ANSI NCITS.310

Definition TIME

Data Element

Name	PI-DepartTimeScheduled
Identifier	pidd 15
Purpose	The time at which a transit vehicle is scheduled to depart from a specific stop point. In the case of stop points that are not also timepoints, the scheduled depart time may be derived by adding the typical travel time from the preceding timepoint on the route's trip pattern to that timepoint's time.
Usage	ANSI NCITS.310
Definition	TIME

Data Element

Name PI-DesiredTrip

Identifier pidd 16

Purpose A traveler's preferred trip type.

Usage

Definition

```
ENUMERATED
{
departDesignatedTime     (1),
  -- leave at designated time
    arriveDesignatedTime     (2),
  -- Arrive at a designated time
    firstTrip          (3),   -- First trip of the day
    lastTrip           (4),   -- Last trip of the day
    nextTrip           (5)   -- The next trip
        -- 6-149 reserved
        -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-Distance

Identifier pidd 100

Purpose Specify a straight line distance between two points in meters.

Usage

Definition USHORT

Data Element

Name PI-DMSMessage

Identifier pidd 17

Purpose A free text data element used for sending text messages for display to dynamic message signs.

Usage UCS

Definition NAME60

Data Element

Name PI-DrivingDirections

Identifier pidd 18

Purpose The instructions given to a transit passenger explaining specifically how to go from one point to another using an automobile. Generally, driving directions are given from the passenger's origin (I.e., home) to the transit stop point (e.g., bus stop, subway station, etc.). Driving directions might also include information about parking facilities.

Usage UCS

Definition TEXTLONG

Data Element

Name PI-EstimatedArrivalRange

Identifier pidd 19

Purpose The code for an estimated range within which a transit vehicle serving a specific trip will arrive at a stop point. This object is used in the PiSchedAdherenceRange message.

Usage

Definition

```
ENUMERATED
{
onTime      (1),      -- On-time
early       (2),   -- Early
lateOneMin      (3),    -- 0-1 minutes late
lateOneTwoMin   (4),    -- 1-2 minutes late
lateTwoThreeMin   (5),    -- 2-3 minutes late
lateTwoFourMin   (6),    -- 2-4 minutes late
lateThreeFourMin   (7),    -- 3-4 minutes late
lateThreeFiveMin   (8),    -- 3-5 minutes late
lateFourFiveMin   (9),    -- 4-5 minutes late
lateTwoFiveMin   (10),    -- 2-5 minutes late
lateFiveSevenMin (11),    -- 5-7 minutes late
lateSevenTenMin   (12),    -- 7-10 minutes late
lateFiveTenMin   (13),    -- 5-10 minutes late
lateTenFifteenMin  (14),    -- 10-15 minutes late
lateFifteenTwentyMin  (15),    -- 15-20 minutes late
lateMoreThanTwentyMin (16)   -- More than 20 minutes late
                    -- 17-149 reserved
                    -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-FormattedTextTimetable

Identifier pidd 102

Purpose Provide a formatted text version of the published timetable for a route. This object is intended to provide a low complexity version of the timetable for printing, pasting into a document, or parsing by a computer application.

Usage While the data type is text, this data element is strictly formatted. Each line is terminated with an ASCIIcarriage return and line feed. No tabs or non printable characters are allowed. Fields within a line which are not filled by the specified content shall be blank padded unless they are the last field on the line. No nonprintable characters shall be included in the data element. No line shall exceed 80 characters in length including the carriage return and line feed. All characters are 7-bit ASCII encoded. Time is encoded as 00:00 P to always occupy 6 characters the 6 characters are always preceded by a space to form a 7 character field. Unused time points shall be encoded with a leading space and 6 hyphens to create a 7 character field.

The text shall be formatted as follows:
Line1 characters 1-6 “Route:”
Line1 character 7-space
Line1 characters 8-78 (max) Agency Defined Publicly Known Route Designator
Line1 last 2 characters Carriage Return Line Feed

Line2 characters 1-10 “Direction:”
Line2 character 11 space
Line2 characters 12-78 (max) Agency Defined Direction Identifier (North,Downtown Etc.)
Line2 last 2 characters Carriage Return Line Feed

Line3 characters 1-9 “Schedule:”
Line3 characters 10 space
Line3 characters 11-78 (max) Agency Defined Schedule Identifier (weekday, Holiday etc.)
Lines 4-25(max) characters 1-27 Agency Defined Timepoint Name or Abbreviation 9th Ave. and 5th St.
Lines 4-25(max) character 28 space
Lines 4-25(max) character 32-78 time fields (up to 7)
Lines 4-25(max) last 2 characters Carriage return Line feed

Definition TEXTLONG

Data Element

Name PI-GraphicFormat

Identifier pidd 119

Purpose Identify the format of graphics images, or video feeds.

Usage

Definition

```
ENUMERATED
{
 GIF(1),
 JPEG(2),
MPEG (3),
MPEG(4),
 --5-100 Reserved
 --101-200 Local use
 --201-255 Reserved
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-InformationType

Identifier pidd 22

Purpose The type(s) of information available at a transit facility or on a transit vehicle.

Usage

Definition

```
ENUMERATED
{
staticSign      (1),    -- static sign with station stop ID/name
routes      (2),
schedules       (3),
fares       (4),
system-map      (5),
area-map        (6),
timetables      (7),    -- printed and removable
real-time-information       (8),
attended  (9)   -- agent or attended phone for information
                -- 10-149 reserved
                -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-ItineraryID

Identifier pidd 126

Purpose Provide a unique identifier for a trip itinerary

Usage

Definition IDENL

Data Element

Name PI-LandmarkID

Identifier pi 119

Purpose Assign a unique identifier to a landmark.

Usage

Definition IDENL

Data Element

Name PI-LandmarkType

Identifier pi 120

Purpose Define the type/category of a landmark.

Usage

Definition

ENUMERATED
{
airport(1),
amusementPark(2),
bank(3),
beach(4),
bodyOfWater(5),
bridgeOverpass(6),
busStation(7),
campground(8),
capitalBuilding(9),
casino(10),
cemetary(11),
church(12),
collegeUniversity(13),
conventionCenter(14),
countySeat(15),
courthouse(16),
dam(17),
gasStation(18),
golfCourse(19),
governmentBuilding(20),
historicalSite(21),
hospital(22),
hotelMotel(23),
indigineousReserve(24),
intermodalStation(25),
landfill(26),
library(27),
lighthouse(28),
marina(29),
militaryFacility(30),
monument(31),
museum(32),

Data Element

```
observatory(33),
officeBuilding(34),
operaHouse(35),
park(36),
parkAndRide(37),
parkingFacility(38),
port(39),
residence(40),
resort(41),
restaurant(42),
school(43),
shoppingCenter(44),
sportsArena(45),
swampWetland(46),
theater(47),
trainStation(48),
trolleyStation(49),
tunnel(50),
volcano(51),
watertfall(52),
zoo(53),
--54-150 reserved
--151-200 local use
--201-249 reserved
otherLandmark(250)
--251-255 reserved
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-MailingConfirmationNumber

Identifier pidd 125

Purpose Provide a number to confirm that a mailing request was validated and accepted for processing.

Usage

Definition IDENL

Data Element

Name PI-MarkerType

Identifier pidd 23

Purpose The type of marker that designates a transit stop as such. This may be a bus stop sign, a subway entrance, etc.

Usage

Definition

```
ENUMERATED
{
posted        (1),   -- Posted Sign
shelter       (2),   -- at Station or Shelter
post          (3)   -- concrete post
                -- 4-149 reserved
                -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-MaxCost

Identifier pidd 24

Purpose The maximum cost a traveler is willing to spend to make a public transit trip.

Usage Units are in the monetary instrument of the jurisdiction of the service provider unless specified by a FcMonetaryInstrument message. For example, the default value and resolution is 0.01 dollars when used by U.S.-based transit agencies. FcMonetaryInstrument should be used when more than one monetary instrument may be assumed.

Definition USHORT

Data Element

Name PI-MaxTransfers

Identifier pidd 25

Purpose The maximum number of transfers that a traveler is willing to make.

Usage

Definition UBYTE

Data Element

Name	PI-MaxTripTime
Identifier	pidd 26
Purpose	The maximum amount of time a traveler is willing to spend getting from an origin point to a destination point using public transit.
Usage	IEEE/ASTM SI 10-1997: Time Units are in seconds.
Definition	DURTIME

Data Element

Name	PI-MaxWalkTime
Identifier	pidd 27
Purpose	The maximum amount of time a traveler is willing to spend walking to a transit stop.
Usage	IEEE/ASTM SI 10-1997: Time Units are in seconds.
Definition	DURTIME

Data Element

Name PI-Minimize

Identifier pidd 28

Purpose Identifies trip parameters that a traveler requests to minimize.

Usage

Definition

```
ENUMERATED
{
transfers   (1),    -- Minimize transfers
travelTime   (2),    -- Minimize travel time
cost      (3),    -- Minimize cost
walking   (4),    -- Minimize walking distance
waitTime   (5)    -- Minimize wait time
             -- 6-149 reserved
             -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name	PI-NextArrivalCountdown
Identifier	pidd 29
Purpose	Indicates the number of seconds until the next transit vehicle service a specific trip will arrive at a specific stop point.
Usage	IEEE/ASTM SI 10-1997: Time
Definition	DURTIME

Data Element

Name PI-NextLeg

Identifier pidd 30

Purpose This object indicates whether the next record (or message) is the next leg of the same trip option or not. If the next record is not part of the description of a trip option, the 'no' value is used to indicate the end of the trip option description.

Usage

Definition

```
ENUMERATED
{
no      (1),
yes       (2)
            -- 3-149 reserved
            -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-OffSchedule

Identifier pidd 31

Purpose Number of seconds a PT vehicle on a trip is expected to vary from the scheduled time at a timepoint or transit stop. This object is used in the PiSchedAdherenceOffSched message.Negative values indicate early, positive late.

Usage

Definition DURTIME

Data Element

Name PI-ParkingArriveDateTime

Identifier pidd 32

Purpose The time and date a traveler in a private vehicle arrives, or is expected to arrive at a parking facility. Used to determine the cost of parking at a facility.

Usage ANSI/ISO 9899: 1990 Units are in the monetary instrument of the jurisdiction of the service provider unless specified by a FcMonetaryInstrument message. For example, the default value and resolution is 0.01 dollars when used by U.S.- based transit agencies. FcMonetaryInstrument should be used when the more than one monetary instrument may be assumed.

Definition DATETIME

Data Element

Name PI-ParkingAvailability

Identifier pidd 33

Purpose The real-time availability of parking spaces at a particular parking facility.

Usage

Definition USHORT

Data Element

Name PI-ParkingDepartDateTime

Identifier pidd 34

Purpose The time and date a traveler in a private vehicle departs or is expected to depart from a parking facility. Used to determine the cost of parking at a facility.

Usage ANSI/ISO 9899:1990

Definition DATETIME

Data Element

Name PI-ParkingEntranceID

Identifier pidd 35

Purpose A unique identification number assigned to a specific entrance of a parking facility.

Usage

Definition IDENS

Data Element

Name PI-ParkingFacID

Identifier pidd 36

Purpose A unique identification number for a parking facility.

Usage

Definition IDENS

Data Element

Name PI-ParkingFacPhone

Identifier pidd 37

Purpose The customer information telephone number of a parking facility.

Usage

Definition TELEPHONE

Data Element

Name PI-ParkingFillTime

Identifier pidd 38

Purpose The time at which a parking facility usually (on weekdays) reaches a point where spaces available equals 0.

Usage ANSI NCITS.310

Definition TIME

Data Element

Name	PI-ParkingHoursofOperation
Identifier	pidd 39
Purpose	A free text data element for posting the hours of operation of a particular parking facility.
Usage	UCS
Definition	TEXTLONG

Data Element

Name PI-ParkingOwnerName

Identifier pidd 40

Purpose The name of the company, agency, or person that owns a parking facility.

Usage UCS

Definition NAME60

Data Element

Name	PI-ParkingProvided
Identifier	pidd 41
Purpose	An identifier that tells whether or not parking is available at a transit stop.
Usage	FALSE means no parking available. TRUE means that parking is available.
Definition	BOOLEAN

Data Element

Name PI-ParkingRates

Identifier pidd 42

Purpose The amount of money required to park at a parking facility. This can be expressed hourly, by the day, etc. This text field allows for a short explanation of the way parking cost is calculated.

Usage UCS If a monetary value is included, units are in the monetary instrument of the jurisdiction of the service provider unless specified by a FcMonetaryInstrument message. For example, the default value and resolution is 0.01 dollars when sued by U.S.-based transit agencies. FcMonetaryInstrument should be used when the situation may be ambiguous.

Definition TEXTLONG

Data Element

Name	PI-ParkingSpacesTotal
Identifier	pidd 43
Purpose	The total number of parking spaces in a parking facility.
Usage	
Definition	USHORT

Data Element

Name PI-ParkingTotalCost

Identifier pidd 44

Purpose The total cost of parking a private vehicle at a pay parking facility at a transit facility. The amount is calculated according to the rates set at the particular parking facility. The rates are expressed using the PI-ParkingRates data element.

Usage Units are in the monetary instrument of the jurisdiction of the service provider unless specified by a FcMonetaryInstrument message. For example, the default value and resolution is 0.01 dollars when used by U.S.-based transit agencies. FcMonetaryInstrument should be used when more than one monetary instrument may be assumed.

Definition USHORT

Data Element

Name PI-ParkingType

Identifier pidd 45

Purpose The physical characteristics of a parking facility.

Usage

Definition

```
ENUMERATED
{
    open        (1),   -- Open lot
    garage      (2),
    permit      (3),
    contract      (4),
    free        (5),
    pay        (6),
    other        (7)
              -- 8-149 reserved
              -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-ParkingVehicleClass

Identifier pidd 46

Purpose The vehicle class applicable to parking facility concerns.

Usage

Definition

```
ENUMERATED
{
    all   (1),
    compact   (2),
    standard      (3),
    van   (4),
    oversized (5),
    truck (6),
    bus (7)
            -- 8-149 reserved
            -- 150-255 local use
...  -- # LOCAL_CONTENT
}
```

Data Element

Name	PI-PIDTakeText
Identifier	pidd 114
Purpose	A take is a text insert into a larger text message to be displayed on a Passenger Information Display (PID). An example is that route name might be a take inserted into a next bus arrival announcement.
Usage	While the name type allows up to 30 characters, implementers should attempt to use shorter takes whenever feasible due to finite PID display capacity.
Definition	NAME30

Data Element

Name PI-PIDTextAttribute

Identifier pi 108

Purpose Specify an attribute associated with text displayed on a Passenger Information Display (PID).

Usage

Definition

```
ENUMERATED
{
 flashingFast(1)
 flashingSlow(2)
 scrollLeftToRight(3),
 scrollRightToLeft(4),
 scrollTopToBottom(5),
 scrollBottomToTop(6),
 --7-10 reserved
 oneLineDisplay(11),
 twoLineDisplay(12),
 threeLineDisplay(13),
 fourLineDisplay(14),
 fiveLineDisplay(15),
 sixLineDisplay(16),
 sevenLineDisplay(17),
 eightLineDisplay(18),
 nineLineDisplay(19),
 --20-200 Reserverd
 --201-250 localUse
 --251-255 Reserved
 …  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-PIDTextColor

Identifier pi 107

Purpose Define the color that should be used to display text on a Passenger Information Display (PID).

Usage

Definition

```
ENUMERATED
{
red(1),          --red letters on dark background
yellow(2),     --yellow letters on dark background
green(3),      -- green letters on dark background
blue(4),  -- blue  letters on dark background
white(5),       -- white letters on dark background
 --6-10 reserved
blackRed(11),     --dark letters on red background
blackYellow(12),-- dark letters on yellow background
blackGreen(13), --dark letters on green background
blackBlue(14),          --dark letters on blue background
blackWhite(15),  --dark letters on white background
 --16-100 reserved
 --101-200 local use
 --201-255 reserved
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-PIDTextTakeListID

Identifier pi 112

Purpose Provide a unique identifier for each list of take text values stored in a Passenger Information Display (PID). As examples one take list might include numbers from 0-99 and another might include bus route names.

Usage

Definition IDENS

Data Element

Name PI-ReasonNotSent

Identifier pidd 124

Purpose Notifies why a requested mailing to a transit customer was not processed.

Usage

Definition

```
ENUMERATED
{
invalidAddress (1),
invalidTraveler (2),
invalidTravelerName (3),
invalidMaterials (4),
outOfStock (5),
--6-150 Reserved
-- 150-250 Local Use
--251-255 Reserved
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-ServiceBulletinID

Identifier pi 121

Purpose Provide a unique identifier for a service bulletin. Service bulletins are used to specify temporary changes to service (e.g. detours, disruptions).

Usage

Definition IDENL

Data Element

Name PI-ServiceStatusType

Identifier pidd 101

Purpose Classify a real-time service status request based on the type of real-time information request. The types are estimated arrival time range (range), interval until the arrival is estimated to occur (countdown), or deviation from schedule (off/sched).

Usage

Definition

```
ENUMERATED
{
range (1),
countdown (2),
offSched (3)
--4-100 Reserved
--101-254 Local Use
--255 Reserved
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-SignID

Identifier pidd 47

Purpose A unique identifier assigned by a transit agency for a posted sign at a transit facility.

Usage

Definition IDENL

Data Element

Name PI-SignType

Identifier pidd 48

Purpose The type of sign posted at a transit facility (i.e., whether it is printed or can be changed electronically).

Usage

Definition

```
ENUMERATED
{
dynamic            (1),
notDynamic           (2),
 other             (3)
                  -- 4-149 reserved
                  -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name PI-SoundID

Identifier pidd 121

Purpose Provide a unique identifier for a sound (or recorded voice announcement) stored in a PID.

Usage

Definition IDENL

Data Element

Name	PI-StaticSignDescription
Identifier	pidd 49
Purpose	This data element is a description field for describing important characteristics of a static sign. The description may include how a sign is posted, what materials a sign is made of, the color(s) of a sign, what ADA requirements it meets, etc.
Usage	UCS
Definition	TEXTLONG

Data Element

Name	PI-StaticSignMessage
Identifier	pidd 50
Purpose	The message or content of a static sign.
Usage	UCS
Definition	TEXTLONG

Data Element

Name	PI-TravelDate
Identifier	pidd 51
Purpose	The date on which a traveler desires to travel, is traveling, or has traveled.
Usage	ANSI X3.30
Definition	DATE

Data Element

Name PI-TravelerCallBack

Identifier pidd 52

Purpose The telephone number that should be used to call a traveler back.

Usage

Definition TELEPHONE

Data Element

Name PI-TravelerContactMode

Identifier pidd 53

Purpose The means of contact with a customer including phone, pager, e-mail, etc.

Usage

Definition

```
ENUMERATED
{
 phone           (1),
 pager           (2),
 regularMail     (3),
  e-mail         (4),
  fax            (5)
                  -- 6-149 reserved
                  -- 150-255 local use
…  -- # LOCAL_CONTENT
}
```

Data Element

Name	PI-TravelerEmail
Identifier	pidd 54
Purpose	A traveler's e-mail address.
Usage	UCS
Definition	FOOTNOTE

Data Element

Name	PI-TravelerFax
Identifier	pidd 55
Purpose	The telephone number to a traveler's fax machine.
Usage	
Definition	TELEPHONE

Data Element

Name	PI-TravelerFirstName
Identifier	pidd 56
Purpose	The first name of a traveler.
Usage	UCS
Definition	NAME20

Data Element

Name PI-TravelerID

Identifier pidd 57

Purpose A unique identifier assigned by a transit agency to a traveler.

Usage

Definition IDENL

Data Element

Name	PI-TravelerLastName
Identifier	pidd 58
Purpose	The last name of a traveler.
Usage	UCS
Definition	NAME20

Data Element

Name PI-TravelerMailingMaterials

Identifier pidd 59

Purpose Identification of materials to be mailed to a traveler.

Usage UCS

Definition FOOTNOTE

Data Element

Name PI-TravelerPager

Identifier pidd 60

Purpose A traveler's pager telephone number.

Usage

Definition TELEPHONE

Data Element

Name PI-TravelerPhone

Identifier pidd 61

Purpose A traveler's phone number.

Usage

Definition TELEPHONE

Data Element

Name	PI-TravelerPhoneExtension
Identifier	pidd 62
Purpose	The phone extension, associated with piTravelerphone for a specific traveler.
Usage	If extension is fewer than 10 characters, number should be right justified with zeros in the higher character field.
Definition	TELEPHONE

Data Element

Name	PI-TravelerTriggerEvent
Identifier	pidd 63
Purpose	The event that indicates that at traveler should be contacted. For example, a change in the schedule of a route a traveler usually used may be an event trigger.
Usage	UCS
Definition	FOOTNOTE

Data Element

Name PI-TravelerTriggerTime

Identifier pidd 64

Purpose The time when a traveler should be contacted.

Usage ANSI NCITS.310

Definition TIME

Data Element

Name PI-TripOptionID

Identifier pidd 65

Purpose A unique number assigned to each of multiple options for making a public transportation trip between a specified origin and a specified destination.

Usage

Definition IDENS

Data Element

Name	PI-TripTotalCost
Identifier	pidd 66
Purpose	The total out of pocket cost to a traveler to make a specified trip by transit services.
Usage	Units are in the monetary instrument of the jurisdiction of the service provider unless specified by a FcMonetaryInstrument message. For example, the default value and resolution is 0.01 dollars when used by U.S.-based transit agencies. FcMonetaryInstrument should be used when more than one monetary instrument may be assumed.
Definition	USHORT

Data Element

Name	PI-TripTotalTime
Identifier	pidd 67
Purpose	The total number of seconds a transit trip is estimated to take a traveler from his/her origin to his/her destination.
Usage	ANSI NCITS.310
Definition	DURTIME

Data Element

Name PI-TripTotalTransfers

Identifier pidd 68

Purpose The total number of transfers required to make a specified trip by transit.

Usage

Definition UBYTE

Data Element

Name	PI-TripTotalWalkDistance
Identifier	pidd 69
Purpose	The total distance (in meters) that a traveler will have to walk in order to make a specified trip by transit.
Usage	IEEE/ASTM SI 10-1997: Length (meter)
Definition	USHORT

Data Element

Name PI-WalkingDirections

Identifier pidd 70

Purpose The instructions given to a transit passenger explaining specifically how to go from one point to another. Examples include going from the passengers origin (e.g., home, office, etc.) to the transit stop point (e.g., bus stop, subway station, etc.), from a stop point where the passenger alights from a transit vehicle to his/her destination, or when transferring between transit services.

Usage UCS

Definition TEXTLONG

Data Frame

Name PIAmenitiesDesired

Identifier piTripReq 4

Purpose Lists the types of amenities desired on the trip, including stop point and vehicle attributes. At least stop or vehicle (i.e., ptv) attributes must be included in this message.

Usage

Definition

```
SEQUENCE {
stop-attributes  SEQUENCE (SIZE(1..20)) OF CPT-StoppointAttribute      OPTIONAL,
ptv-attributes     SEQUENCE (SIZE(1..20)) OF CPT-PTVehicleAttribute    OPTIONAL
}
(WITH COMPONENTS {..., stop-attributes PRESENT}|
WITH COMPONENTS {..., ptv-attributes PRESENT })
```

Data Frame

Name PIAmenity

Identifier pi 3

Purpose Describes the attributes of amenities at a fixed location or transit facility.

Usage

Definition

```
SEQUENCE {
amenityID       PI-AmenityID,
stopAttribute   CPT-StoppointAttribute,
location        LRMS.GeoLocation        OPTIONAL,
name            PI-AmenityName          OPTIONAL,
stopID          CPT-StoppointID         OPTIONAL,
infoType        PI-InformationType      OPTIONAL,
footnote        CPT-Footnote            OPTIONAL,
startDate       CPT-ActivationDate      OPTIONAL,
startTime       CPT-ActivationTime      OPTIONAL,
endDate         CPT-DeactivationDate    OPTIONAL,
endTime         CPT-DeactivationTime    OPTIONAL,
facility-id     CPT-FacilityID          OPTIONAL
}
```

Data Frame

Name PIDestination

Identifier piTripReq 2

Purpose The place where the customer wishes to travel.

Usage

Definition

```
SEQUENCE {
destination    SPPointClass,
exit           CPT-StoppointPortal     OPTIONAL
}
```

Data Frame

Name PILandmark

Identifier pi 1031

Purpose Define a landmark.

Usage

Definition

```
SEQUENCE {
landmarkID              PI-LandmarkID,
landmarkType            PI-LandmarkType,
landmarkName            SP-LandmarkName,
landmarkAddress         SPAddresspoint      OPTIONAL,
landmarkLocation        LRMS.GeoLocation,
landmarkDescription     SP-LandmarkDesc     OPTIONAL
}
```

Data Frame

Name PINearestStop

Identifier pi 7

Purpose The closest stop to a given location. This is the response to the PiNearestStopRequest message.

Usage

Definition

```
SEQUENCE {
stopID          CPT-StoppointID,
location        LRMS.GeoLocation,  -- the location of the nearest stop
mode            CPT-Mode                                    OPTIONAL,
routeID         SCH-RouteID                                 OPTIONAL,
rtDirection     SCH-RouteDirectionName                      OPTIONAL,
stopAttributes  SEQUENCE (SIZE(1..20)) OF CPT-StoppointAttribute  OPTIONAL
}
```

Data Frame

Name PINearestStopRequest

Identifier pi 6

Purpose Request for information about the nearest stop to a point such as a traveler's home, or an information kiosk in a downtown location.

Usage Location indicates the geographical point to which the nearest stop meeting the request criteria is sought. RouteIDs, RtDirection and StopAttributes if present provide criteria that the stop must meet. If no criteria are present, then the nearest stop point to location is requested.

Definition

```
SEQUENCE {
location        SPPointClass,
routeID         SCH-RouteID                                    OPTIONAL,
rtDirection     SCH-RouteDirectionName                         OPTIONAL,
stopAttributes  SEQUENCE (SIZE(1..20)) OF CPT-StoppointAttribute  OPTIONAL
}
```

Data Frame

Name PIOrigin

Identifier PiTripReq 1

Purpose The place from where the customer wishes to originate his/her transit itinerary.

Usage

Definition

```
SEQUENCE {
origin          SPPointClass,
entrance        CPT-StoppointPortal     OPTIONAL
}
```

Data Frame

Name PIParkingFacility

Identifier pi 5

Purpose Describes a parking facility associated with a transit stoppoint.

Usage The stopID field should be included unless the associated stopID is unknown.

Definition

```
SEQUENCE {
  parkingFacID   PI-ParkingFacID,
  stopID         CPT-StoppointID,
  owner          PI-ParkingOwnerName                              OPTIONAL,
  phone          PI-ParkingFacPhone                               OPTIONAL,
facilityInfo     ATIS.ParkingLotInformation,
instructions     ATIS.ParkingInstructions                         OPTIONAL,
directions       SEQUENCE (SIZE(1..100)) OF ATIS.ManeuverInstruction OPTIONAL
}
```

Data Frame

Name PIReturnTrip

Identifier piTripReq 5

Purpose Lists the parameters for a separate return trip itinerary. At least one of the day or date data elements must be included in this message.

Usage

Definition

```
SEQUENCE {
depart-date          PI-DepartDateDesired       OPTIONAL,
arrive-date       PI-ArriveDateDesired       OPTIONAL,
depart-time       PI-DepartTimeDesired       OPTIONAL,
arrive-time          PI-ArriveTimeDesired       OPTIONAL,
day-of-week          CPT-DayofWeek              OPTIONAL,
desired-trip         PI-DesiredTrip             OPTIONAL
}
(WITH COMPONENTS {..., depart-date  PRESENT}|
WITH COMPONENTS {..., arrive-date PRESENT}|
WITH COMPONENTS {..., day-of-week PRESENT}|
WITH COMPONENTS {..., desired-trip PRESENT})
```

Data Frame

Name PISchedAdherenceCountdown

Identifier pi 10

Purpose The estimated time until the arrival of the next transit vehicle serving a particular transit stop.

Usage The routeDirection field should be present for any stopID that supports more than one direction of travel. The available-seats field, if present, specifies the number of unoccupied seats on the vehicle. The tolerance value should be interpreted as an estimate of the number of seconds (plus of minus) that the next Arrival Countdown is within.

Definition

```
SEQUENCE {
routeID                 SCH-RouteID,
routeName               SCH-RouteName               OPTIONAL,
routeDirection          SCH-RouteDirectionID        OPTIONAL,
tripID                  SCH-TripID,
vehicleID               CPT-VehicleID,
stopID                  CPT-StoppointID,
nextArrivalCountdown    PI-NextArrivalCountdown,
tolerance               CPT-TimeInterval            OPTIONAL,  -- measurement is in seconds
comment                 CPT-Footnote                OPTIONAL,
available-seats         CPT-SeatCount               OPTIONAL
}
```

Data Frame

Name PISchedAdherenceOffSched

Identifier pi 11

Purpose The number of minutes an actual transit vehicle serving a scheduled transit trip varies from that scheduled trip.

Usage The routeDirection field should be present for any stopID that supports more than one direction of travel. The available-seats field, if present, specifies the number of unoccupied seats on the vehicle. The tolerance value should be interpreted as an estimate of the number of seconds (plus or minu) that the offScheduleTime is within.

Definition

```
SEQUENCE {
routeID                 SCH-RouteID,
routeName               SCH-RouteName               OPTIONAL,
 routeDirection         SCH-RouteDirectionID        OPTIONAL,
tripID                  SCH-TripID,
vehicleID               CPT-VehicleID,
stopID                  CPT-StoppointID,
arriveTimeScheduled     PI-ArriveTimeScheduled,
vehicleLocation         LRMS.GeoLocation,   --The real-time location of a transit vehicle
offScheduleTime         PI-OffSchedule,
tolerance               CPT-TimeInterval            OPTIONAL ,
comment                 CPT-Footnote                OPTIONAL,
available-seats         CPT-SeatCount               OPTIONAL
}
```

Data Frame

Name PIServiceBulletin

Identifier pi 1033

Purpose Convey a service bulletin. Service bulletins are used to specify temporary changes to service (e.g. detours, disruptions).

Usage If more than one route is affected and they are affected differently, separate bulletins are required to describe the differing effects.

Definition

```
SEQUENCE  {
bulletinID              PI-ServiceBulletinID,
routesAffected          SEQUENCE (SIZE(1..500)) OF SCH-RouteID,
directionsAffected      SEQUENCE (SIZE(1..10)) OF SCH- RouteDirectionName     OPTIONAL,
effectiveTime           CPT-DateTime  OPTIONAL,
expirationTime          CPT-DateTime  OPTIONAL,
pointsSkipped           SEQUENCE (SIZE(1..500)) OF SCHTimeStoppoint       OPTIONAL,
description             CPT-Footnote
}
```

Data Frame

Name PIServiceStatusRequest

Identifier pi 1001

Purpose Specify a set of criteria for a real-time service status request.

Usage PI-ServiceStatusType indicates the type of status information that is requested. RouteID indicates what route service status is being requested for; if absent all routes servicing stopID are requested. RouteDirection is intended for use at stops supporting multiple directions of travel. If present, information is requested only for vehicles traveling in the specified direction.

Definition

```
SEQUENCE {
statusType       PI-ServiceStatusType,
stopID           CPT-StoppointID,
routeID          SCH-RouteID                OPTIONAL,
 routeDirection  SCH-RouteDirectionID       OPTIONAL
}
```

Data Frame

Name PIStaticSign

Identifier pi 15

Purpose Information related to the sign at the transit stop point.

Usage

Definition

```
SEQUENCE {
signID          PI-SignID,
location        LRMS.GeoLocation          OPTIONAL,
stopID          CPT-StoppointID,
message         PI-StaticSignMessage      OPTIONAL,
description     PI-StaticSignDescription  OPTIONAL,
type            PI-SignType               OPTIONAL
}
```

Data Frame

Name PITextToDisplay

Identifier pi 1018

Purpose Convey a text message for immediate display by a Passenger Information Display (PID).

Usage The displayHeight field specifies how many lines of text should simultaneously be displayed.

Definition

```
SEQUENCE {
attributes      SEQUENCE (SIZE(1..20)) OF PI-PIDTextAttribute   OPTIONAL,
color           PI-PIDTextColor                                 OPTIONAL,
displayHeight   CPT-GenericCounter,
text            PI-DMSMessage
}
```

Data Frame

Name PITravelDateTime

Identifier piTripReq 3

Purpose The desired date and time for the trip itinerary. At least one or more of the date or time data elements must be defined in this message.

Usage

Definition

```
SEQUENCE {
depart-date       PI-DepartDateDesired       OPTIONAL,
arrive-date   PI-ArriveDateDesired         OPTIONAL,
depart-time       PI-DepartTimeDesired       OPTIONAL,
arrive-time       PI-ArriveTimeDesired       OPTIONAL,
day-of-week       CPT-DayofWeek              OPTIONAL,
desired-trip      PI-DesiredTrip             OPTIONAL
}
(WITH COMPONENTS {..., depart-date PRESENT}|
WITH COMPONENTS {..., arrive-date PRESENT}|
WITH COMPONENTS {..., day-of-week PRESENT}|
WITH COMPONENTS {..., desired-trip PRESENT})
```

Data Frame

Name PITravelerProfile

Identifier piTripReq 6

Purpose Describes the customer information related to the transit customer. At least the traveler's last name or identification number must be included in this message.

Usage If the traveler-id is unknown, use zero to indicate no value has yet been assigned.

Definition

```
SEQUENCE {
travelerID              PI-TravelerID,
nameLast                PI-TravelerLastName,
nameFirst               PI-TravelerFirstName,
travlerHomeAddress      LRMS.AddressPointProfile      OPTIONAL,
travelerWorkAddress     LRMS.AddressPointProfile      OPTIONAL,
phone                   PI-TravelerPhone              OPTIONAL,
phoneExt                PI-TravelerPhoneExtension     OPTIONAL,
pager                   PI-TravelerPager              OPTIONAL,
callBack                PI-TravelerCallBack           OPTIONAL,
fax                     PI-TravelerFax                OPTIONAL,
email                   PI-TravelerEmail              OPTIONAL,
triggerEvent            PI-TravelerTriggerEvent       OPTIONAL,
triggerTime         PI-TravelerTriggerTime        OPTIONAL,
contactMode             PI-TravelerContactMode        OPTIONAL,
mailer                  PI-TravelerMailingMaterials   OPTIONAL
}
```

Data Frame

Name PITripConstraintExclude

Identifier piTripReq 7

Purpose Lists the constraints on a trip request that a customer would like to exclude such as modes, routes, or service types he/she would not like to use.

Usage

Definition

```
SEQUENCE {
access-pref     SEQUENCE (SIZE(1..10)) OF PI-AccessPreference  OPTIONAL,
modes           SEQUENCE (SIZE(1..10)) OF CPT-Mode             OPTIONAL,
service-types   SEQUENCE (SIZE(1..10)) OF SCH-ServiceType      OPTIONAL,
routes          SEQUENCE (SIZE(1..100)) OF SCH-RouteID         OPTIONAL
}
(WITH COMPONENTS {..., access-pref PRESENT}|
WITH COMPONENTS {..., modes PRESENT}|
WITH COMPONENTS {..., service-types PRESENT}|
WITH COMPONENTS {..., routes PRESENT})
```

Data Frame

Name PITripConstraintInclude

Identifier piTripReq 8

Purpose Lists the constraints on a trip request that a customer would like to include such as modes, routes, or service types he/she would like to use.

Usage

Definition

```
SEQUENCE {
access-pref      SEQUENCE (SIZE(1..10)) OF PI-AccessPreference  OPTIONAL,
modes            SEQUENCE (SIZE(1..10)) OF CPT-Mode             OPTIONAL,
service-types    SEQUENCE (SIZE(1..10)) OF SCH-ServiceType      OPTIONAL,
routes           SEQUENCE (SIZE(1..100)) OF SCH-RouteID         OPTIONAL
}
(WITH COMPONENTS {..., access-pref PRESENT}|
WITH COMPONENTS {..., modes PRESENT}|
WITH COMPONENTS {..., service-types PRESENT}|
WITH COMPONENTS {..., routes PRESENT})
```

Data Frame

Name PITripItinerary

Identifier pi 4

Purpose An alternative trip itinerary generated from the itinerary engine.

Usage

Definition

```
SEQUENCE {
itineraryID          PI-ItineraryID,
route                ATIS.Route,
itineraryInfo        ATIS.Itinerary,
--advisory info particular to this itinerary
weatherReport        ATIS.WeatherInformation                          OPTIONAL,
traffic              ATIS.LinkTrafficInformation                      OPTIONAL,
events               SEQUENCE (SIZE(1..10)) OF ATIS.EventInformation  OPTIONAL
}
```

Data Frame

Name PITripLeg

Identifier pi 14

Purpose A recommended customer trip (leg) generated by the transit trip itinerary planning engine. If this is a linked trip or transfer, the last field indicates that the next PiTripLeg is part of the desired trip, or the next leg of the trip.

Usage

Definition

```
SEQUENCE {
  optionID              PI-TripOptionID,
  toOriginWalk          PI-WalkingDirections                          OPTIONAL,
  directionDriving      PI-DrivingDirections                          OPTIONAL,
  parking-lots          SEQUENCE (SIZE(1..20)) OF PIParkingFacility   OPTIONAL,
  stopName              CPT-StoppointName,
  stopDescr             CPT-StoppointDescription                      OPTIONAL,
  mode                  CPT-Mode                                      OPTIONAL,
  agencyID              CPT-AgencyID                                  OPTIONAL,
  routeDirection        SCH-RouteDirectionName,
  routeID               SCH-RouteID                                   OPTIONAL,
  routeDesignator       SCH-RouteDesignator                           OPTIONAL
  routeName             SCH-RouteName                                 OPTIONAL
  sign                  PIStaticSign                                  OPTIONAL,
  departPoint           LRMS.GeoLocation                              OPTIONAL,
  departSchedule        PI-DepartTimeScheduled,
  departSchedNext       PI-DepartTimeSchedNext                        OPTIONAL,
  arriveSchedule        PI-ArriveTimeScheduled                        OPTIONAL,
  arrivePoint           SPPointClass                                  OPTIONAL,
  toEndWalk             PI-WalkingDirections                          OPTIONAL,
  fareTransaction       FCFareCharacterCost                           OPTIONAL,
  schedAdhCountdown     PISchedAdherenceCountdown                     OPTIONAL,
  footnote              CPT-Footnote                                  OPTIONAL,
  nextLeg               PI-NextLeg                                    OPTIONAL
}
   (WITH COMPONENTS {..., routeID PRESENT} |
    WITH COMPONENTS {..., routeDesignator PRESENT} |
    WITH COMPONENTS {..., routeName PRESENT}  )
```

Data Frame

Name PITripRequest

Identifier pi 2

Purpose Lists customer request for an itinerary for a trip including a transit system. Some of the data elements to define fares will be derived from the response to this request. They include mode, route, boarding, and alighting point/zone.

Usage Start/Stop times, constraints and preferences for the trip are included in the ATIS.RouteRequest.

Definition

```
SEQUENCE {
tripRequest          ATIS.RouteRequest,
returnRequest        ATIS.RouteRequest              OPTIONAL,
profile              PITravelerProfile              OPTIONAL,
fareConstraints      PITripRequestFareConstraints   OPTIONAL,
mapRequest           CPT-Boolean
}
```

Data Frame

Name PITripRequestFareConstraints

Identifier Pi 1036

Purpose Identify fare-related constraints for a transit trip request.

Usage

Definition

```
SEQUENCE {
fareInstrumentID    FC-FareInstrumentID                    OPTIONAL,
agencyID            CPT-AgencyID                           OPTIONAL, --owner of fare media
monetaryInstID      FC-MonetaryInstrumentType              OPTIONAL,
rideInstID          FC-RideInstrumentID                    OPTIONAL,
passInstID          FC-PassInstrumentID                    OPTIONAL,
riderClass          FC-RiderClassification                 OPTIONAL,
adaNeeds            SEQUENCE (SIZE(1..10)) OF PI-ADANeed   OPTIONAL,
costMax             PI-MaxCost                             OPTIONAL
}
```

Data Frame

Name PIXMLTimetable

Identifier pi 1035

Purpose Provide timetable information in an XML parsable format.

Usage

Definition

```
SEQUENCE {
route                SCH-RouteID,
route-name           SCH-RouteName                OPTIONAL,
route-designator     SCH-RouteDesignator          OPTIONAL,
direction            SCH-RouteDirectionName,
schedule-identifier  CPT-Footnote,
entries              SEQUENCE (SIZE(1..1000)) OF SCHTimeTableEntry
}
```

Message

Name PiAmenitiesList

Identifier Pi 2052

Purpose Provide a list of amenities for a specified group of stopoints or transit facilities.

Usage This message may be used to provide changes to a previously obtained list using the update-since field.

Definition

```
SEQUENCE {
subscriptionInfo     CPTSubscriptionHeader,
routes               SEQUENCE (SIZE(1..500)) OF SCH-RouteID          OPTIONAL,
stops                SEQUENCE (SIZE(1..25000)) OF CPT-StoppointID    OPTIONAL,
facilities           SEQUENCE (SIZE(1..500)) OF CPT-FacilityID       OPTIONAL,
update-since         CPT-DateTime                                    OPTIONAL,
amenities-deleted    SEQUENCE (SIZE(1..25000)) OF PI-AmenityID       OPTIONAL,
amenities            SEQUENCE (SIZE(1..25000)) OF PIAmenity      OPTIONAL
}
```

Message

Name PiAmenitiesListSub

Identifier Pi 2051

Purpose Request a list of amenities for a specified group of stopoints or transit facilities.

Usage This message may be used to request changes to a previously obtained list using the update-since field.

Definition

```
SEQUENCE {
subscriptionInfo  CPTSubscriptionHeader,
routes            SEQUENCE (SIZE(1..500)) OF SCH-RouteID          OPTIONAL,
stops             SEQUENCE (SIZE(1..25000)) OF CPT-StoppointID    OPTIONAL,
facilities        SEQUENCE (SIZE(1..500)) OF CPT-FacilityID       OPTIONAL,
update-since      CPT-DateTime                                    OPTIONAL,
}
```

Message

Name PiItineraryFare

Identifier CC 2070

Purpose Provide the fare(s) associated with specified itinerary(ies).

Usage Multiple trip-fares fields may be present for a single itinerary to allow fares for different rider classifications to be specified.

Definition

```
SEQUENCE {
subscriptionInfo    CPTSubscriptionHeader,
itinerarys          SEQUENCE (SIZE(1..50)) OF PITripItinerary,
trip-fares          SEQUENCE (SIZE(1..50)) OF FCTripFare
}
```

Message

Name PiItineraryFareSub

Identifier CC 2069

Purpose Request the fare(s) associated with specified itinerary(ies).

Usage Each itinerary must have a unique identifier to allow it to be associated with the fare in the reply.

Definition

```
SEQUENCE {
subscriptionInfo    CPTSubscriptionHeader,
itinerarys          SEQUENCE (SIZE(1..50)) OF PITripItinerary
}
```

Message

Name PiLandmarksList

Identifier pi 2041

Purpose Provide a list of landmarks.

Usage The subscriptionHeader, location, distance and landmarkTypes fields should be inherited from the PiLandmarkListSub message. If the landmarkList is left off of this message it implies that no landmarks met the criteria in the PiLandmarkListSub.

Definition

```
SEQUENCE {
subscriptionHeader  CPTSubscriptionHeader,                          
location            SPPointClass                                    OPTIONAL,
distance            SP-DistanceInMeters                             OPTIONAL,
landmarkTypes       SEQUENCE (SIZE(1..15000)) OF PI-LandmarkType    OPTIONAL,
landmarkList        SEQUENCE (SIZE(1..15000)) OF PILandmark         OPTIONAL
}
```

Message

Name PiLandmarksListSub

Identifier pi 2042

Purpose Request a list of landmarks.

Usage May be used by an end user device (e.g. kiosk, PDA) to obtain a list of nearby landmarks, or by an ATIS to load a landmarks list from an agency database. If the location and distance fields are absent, the list of all known landmarks is implied. If a landmark type list is present, only the specified type(s) of landmarks are requested.

Definition

```
SEQUENCE  {
subscriptionHeader      CPTSubscriptionHeader,
location                SPPointClass                              OPTIONAL,
distance                SP-DistanceInMeters                       OPTIONAL,
landmarkTypes           SEQUENCE (SIZE(1..15000)) OF PI-LandmarkType  OPTIONAL
}
```

Message

Name PiMailingList

Identifier pi 2047

Purpose Convey a list of materials available to be mailed to travelers.

Usage If the availableMaterials field is missing from this message it signifies that no mailing materials are available for the indicated routes. The subscriptionHeader and routes fields should be inherited from the PiMailingListSub message. If no routes are specified in the PiMailingsListSub message, all routes are implied.

Definition

```
SEQUENCE {
subscriptionHeader   CPTSubscriptionHeader,
routes               SEQUENCE (SIZE(1..500)) OF SCH-RouteID                    OPTIONAL,
availableMailings    SEQUENCE (SIZE(1..2000)) OF PI- TravelerMailingMaterials  OPTIONAL
}
```

Message

Name PiMailingListSub

Identifier pi 2048

Purpose Request a list of materials available to be mailed to travelers.

Usage If the routes field is omitted, available materials for all routes are requested.

Definition

```
SEQUENCE {
subscriptionHeader   CPTSubscriptionHeader,
routes               SEQUENCE (SIZE(1..500)) OF SCH-RouteID     OPTIONAL
}
```

Message

Name PiMailingResponse

Identifier pi 2046

Purpose Notify a requester of the result of a PiSendMailing command message.

Usage The commandID must be inherited from the PiSendMailing message. If the mailing is rejected confirmationNum should be zero, otherwise a unique number should be provided. The reason field should be present if the confirmationNum is zero.

Definition

```
SEQUENCE {
commandID          CPT-CommandID,
confirmationNum    PI-MailingConfirmationNumber,
reason             PI-ReasonNotSent          OPTIONAL
}
```

Message

Name PiNearestStopList

Identifier pi 2003

Purpose Provide the identification of the nearest stop point(s) to a specified location meeting specified criteria.

Usage Based on the selection criteria and the value of includeDistance in the original request, more than one stop may be provided. In the event that more than one stop is provided, they should be listed from closest to farthest from the specified location.

Definition

```
SEQUENCE {
subscriptionInfo    CPTSubscriptionHeader,
 request            PINearestStopRequest,
 includeDistance    PI-Distance                          OPTIONAL,
stops               SEQUENCE (SIZE(1..20)) OF PINearestStop
}
```

Message

Name PiNearestStopListSub

Identifier pi 2002

Purpose Request the identification of the nearest stop point(s) to a specified location meeting specified criteria.

Usage Request specifies the location, and, optionally, criterion that must be met for a stop point to be considered. IncludeDistance specifies a distance difference which should be ignored - that is to say that if the nearest stop meeting the criteria is a distance X from the specified location, and one or more other stops (also meeting the criteria) are within (X + includeDistance) of the location, those additional stops should be included in the response. If the includeDistance field is not present, only the closest stop meeting the criteria should be included.

Definition

```
SEQUENCE {
subscriptionInfo    CPTSubscriptionHeader,
request             PINearestStopRequest,
includeDistance     PI-Distance          OPTIONAL
}
```

Message

Name PiSendMailing

Identifier pi 2045

Purpose Instructs a server to send a mailing (printed materials) to a transit customer.

Usage The sender must assign a unique command ID. The mailingRequest must contain the travelerID, nameLast, and mailer fields. The mailingRequest must contain either travelerHomeAddress or travelerWorkAddress.

Definition

```
SEQUENCE {
commandID          CPT-CommandID,
mailingRequest     PITravelerProfile
}
```

Message

Name PiServiceBulletinsList

Identifier pi 2043

Purpose Provide the service bulletins in effect for specified route(s). Service bulletins are used to specify temporary changes to service (e.g. detours disruptions).

Usage The subscription header and route list should be inherited from the PiServiceBulletinsListSub message. If no bulletins are listed in this message, it indicates no bulletins are in effect for the indicated routes.

Definition

```
SEQUENCE  {
subscriptionHeader      CPTSubscriptionHeader,
routeList               SEQUENCE (SIZE(1..500)) OF SCH-RouteID,
bulletins               SEQUENCE (SIZE(1..500)) OF PIServiceBulletin     OPTIONAL
}
```

Message

Name PiServiceBulletinsListSub

Identifier pi 2044

Purpose Request the service bulletins in effect for specified route(s). Service bulletins are used to specify temporary changes to service (e.g. detours, disruptions).

Usage

Definition

```
SEQUENCE {
subscriptionHeader   CPTSubscriptionHeader,
routeList            SEQUENCE  (SIZE(1..100)) OF SCH-RouteID
}
```

Message

Name PiServiceStatus

Identifier pi 2007

Purpose Provide information about the real-time status of service at a transit stop or group of transit stops.

Usage The requests field may contain requests of any or all types (range, countdown, or offSched). The corresponding responses are returned in separate fields based on their separate formats. The server may not include the responses within a field in any particular order. The time provided field indicates the time at which the server generated the response. This allows perishable real-time information to be discarded by the client if its (manufacturer-defined) interval algorithm determines the information is too old to use. The server may include multiple responses for the same stoppoint, route, and direction to provide information on the next few vehicles providing the requested service (local agency decision).

Definition

```
SEQUENCE {
subscriptionInfo        CPTSubscriptionHeader,
requests                SEQUENCE  (SIZE(1..100)) OF PIServiceStatusRequest,
timeProvided            CPT-TimeStamp,
rangeResponses          SEQUENCE  (SIZE(1..100)) OF PISchedAdherenceCountdown   OPTIONAL,
countdownResponses      SEQUENCE  (SIZE(1..100)) OF PISchedAdherenceOffSched    OPTIONAL,
offSchedResponses       SEQUENCE (SIZE(1..100)) OF  PISchedAdherenceOffSched    OPTIONAL
 }
```

Message

Name PiServiceStatusSub

Identifier pi 2006

Purpose Request information about the real-time status of service at a transit stop or group of transit stops.

Usage This message is intended for queries from individual user devices or from ATIS. In the case of an ATIS source, this message supports the ability for an ATIS to buffer requests from multiple users (e.g. over a 2 second period) and to send out a single message containing multiple requests. This approach reduces the load imposed on the real-time information server (e.g. AVL system) in two ways: first duplicate requests from different users can be filtered by the ATIS, and second the server receives fewer PiServiceStatusSub messages to process.

Definition

```
SEQUENCE {
subscriptionInfo   CPTSubscriptionHeader,
requests           SEQUENCE  (SIZE(1..100)) OF PIServiceStatusRequest
 }
```

Message

Name PiStopPointETA

Identifier Pi 2049

Purpose Provide ongoing bus arrival estimates for a designated stop point of group of stop points.

Usage

Definition

```
SEQUENCE {
subscriptionInfo    CPTSubscriptionHeader,
stop-points         SEQUENCE (SIZE(1..25000)) OF CPT-StoppointID,
arrival-estimates   SEQUENCE (SIZE(1..25000)) OF PISchedAdherenceCountdown
}
```

Message

Name PiStopPointETASub

Identifier Pi 2050

Purpose Request ongoing bus arrival estimates for a designated stop point or group of stop points.

Usage

Definition

```
SEQUENCE {
subscriptionInfo    CPTSubscriptionHeader,
stop-points         SEQUENCE (SIZE(1..25000)) OF CPT-StoppointID
}
```

Message

Name PiStoppointParking

Identifier pi 2005

Purpose Provide information about a specified parking facility, or facilities, associated with a transit stop point.

Usage The parkingFacID or stopID field should mirror the field present in the eliciting PiStoppointParkingSub message. If the parkingFacID field is used and no information about the facility is available (or the facility does not exist), then the parkingInfo field shall be omitted, otherwise parkingInfo describes the facility identified in parkingFacID. If the stopID field is present in the PiStoppointParkingSub message and there are multiple parking facilities associated with the stop then the parkingInfo field shall contain information about each facility. If the stopID field is present and no parking facility information is available or there are no parking facilities associated with the stop, then the parkingInfo field shall be omitted.

Definition

```
SEQUENCE {
subscriptionInfo   CPTSubscriptionHeader,
parkingFacID       PI-ParkingFacID      OPTIONAL,
stopID             CPT-StoppointID      OPTIONAL,
parkingInfosets    SEQUENCE (SIZE(1..100)) OF PIParkingFacility
}
```

Message

Name PiStoppointParkingSub

Identifier pi 2004

Purpose Request information about a specified parking facility or facilities associated with a transit stop point. The elicited message is PiStoppointParking.

Usage Either parkingFacID or stopID may be present, if parkingFacID is used, the request is for information about the specified facility. If stopID is used, the request is for information about all parking facilities associated with the specified stop point. The subscriber may determine the identifiers for the stop point and/or the parking lot of interest using the SubscribeStoppointList dialog or the SubscribeNearestStopList dialog, prior to initiating this dialog.

Definition

```
SEQUENCE {
subscriptionInfo   CPTSubscriptionHeader,
parkingFacID       PI-ParkingFacID     OPTIONAL,
stopID             CPT-StoppointID     OPTIONAL
}
(WITH COMPONENTS{…, parkingFacID PRESENT}|
WITH COMPONENTS {…, stopID PRESENT})
```

Message

Name PiTextTimetable

Identifier pi 2009

Purpose Provide published timetables in simple formatted text, for distribution via printers and other media, or for parsing by a computer application.

Usage

The text-timetables field uses a data element (PI-FormattedTextTimetable) with limited capacity (7 timepoints). If the requested time interval for a route provides more than 7 timepoints, then multiple instances of (PI-FormattedTextTimetable) shall be used to convey the required trips. If multiple routes are requested separate instances of PI-FormattedTextTimetable must be used for each route.

Definition

```
SEQUENCE  {
subscriptionInfo    CPTSubscriptionHeader,
routes              SEQUENCE  (SIZE(1..100)) OF SCH-RouteID,
beginTime           CPT-ActivationTime,
endTime             CPT-DeactivationTime,
date                CPT-ActivationDate,
timetables          CHOICE{
text-timetables     SEQUENCE  (SIZE(1..100))  OF PI-FormattedTextTimetable,
xml-timetables      SEQUENCE   (SIZE(1..100)) OF PIXMLTimetable
}
}
```

Message

Name PiTextTimetableSub

Identifier pi 2008

Purpose Request published timetables in simple formatted text, for distribution via printers and other media, or for parsing by a computer application.

Usage The print-version field specifies whether the response should use the data element PI-TextTimeTable (True) of the data frame PiSMLTimeTable (False).

Definition

```
SEQUENCE  {
subscriptionInfo    CPTSubscriptionHeader,
routes              SEQUENCE (SIZE(1..100)) OF SCH-RouteID,
beginTime           CPT-ActivationTime,
endTime             CPT-DeactivationTime,
print-version       CPT-Boolean
date                CPT-ActivationDate
 }
```

Message

Name PiTripItineraryList

Identifier pi 2001

Purpose Provide a trip itinerary from an ATIS to a subscriber. The subscriber may be another ATIS or an end-user device (e.g. kiosk).

Usage If the message contains no alternatives, then the request was valid, but no available service met the tripRequest criteria, if only one alternative is provided, that was the only option for meeting the tripRequest criteria. If multiple alternatives are provided, they all met the tripRequest criteria. Recommend putting the most desirable alternative (if known) first and other alternatives following in order of decreasing desirability (if known). Desirability criteria are server ATIS manufacturer defined.

The returnAlternatives field should be present only if there was a returnRequest in the trip-request.

Definition

```
SEQUENCE  {
subscriptionInfo      CPTSubscriptionHeader,
tripRequest           PITripRequest,
alternatives          SEQUENCE (SIZE(1..10)) OF PITripItinerary                OPTIONAL,
returnAlternatives    SEQUENCE (SIZE(1..10)) OF PITripItinerary                OPTIONAL,
--advisory into applicable to overall request
weatherReports        SEQUENCE (SIZE(1..4)) OF ATIS.WeatherInformation         OPTIONAL,
links                 SEQUENCE (SIZE(1..10)) OF ATIS.LinkTrafficInformation    OPTIONAL,
events                SEQUENCE (SIZE(1..10)) OF ATIS.EventInformation          OPTIONAL
}
```

Message

Name PiTripItineraryListSub

Identifier pi 2000

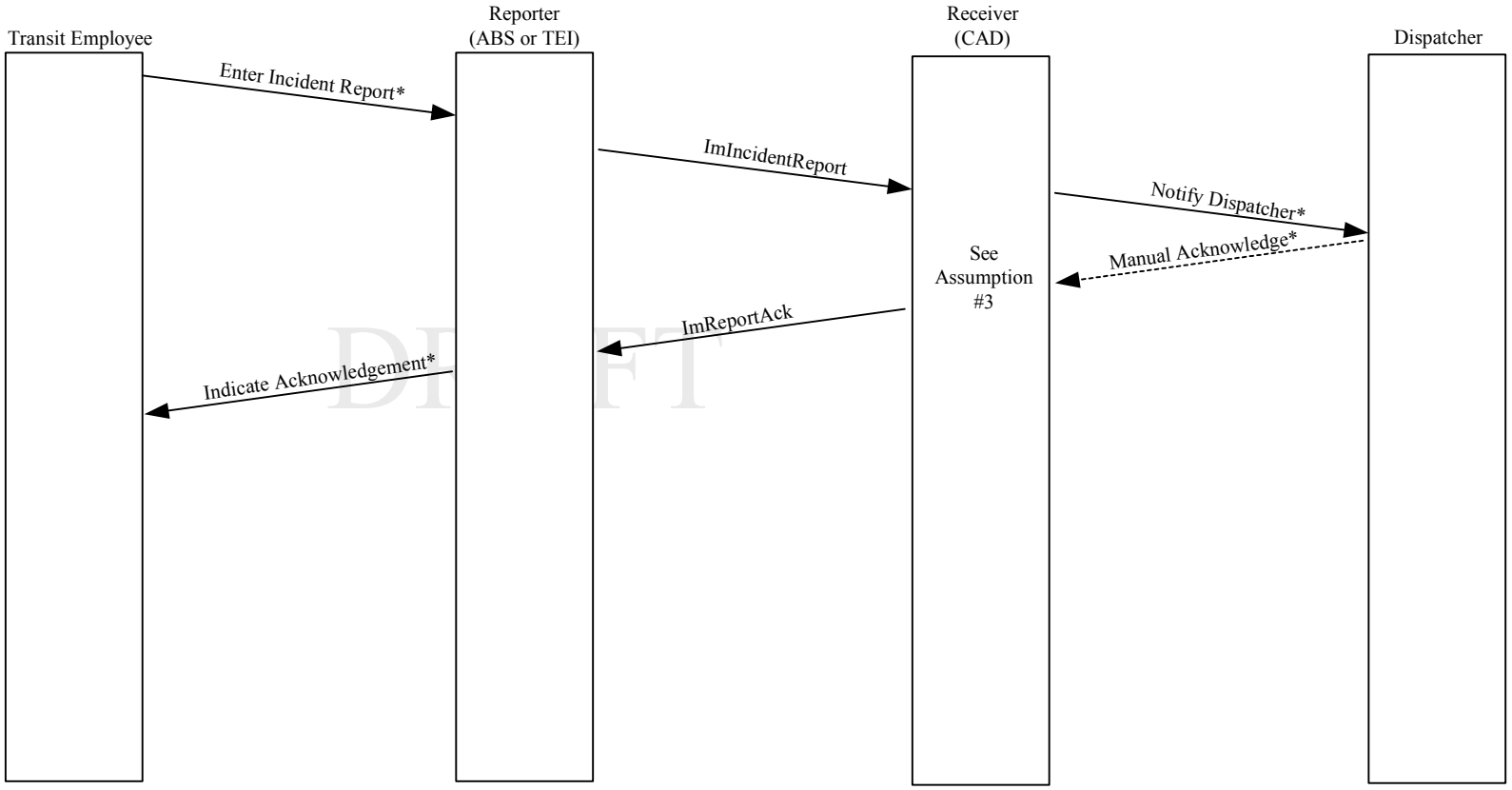
Purpose Request a trip itinerary from an ATIS. Request may originate from another ATIS or from an end user device (e.g. kiosk).

Usage

Definition

```
SEQUENCE {
subscriptionInfo        CPTSubscriptionHeader,
tripRequest         PITripRequest
 }
```

Message Sequence Diagram Page 2



*Agency/Vendor defined Transaction

Normal Execution of the Report Incident Report Dialog

TCIP Dialog Definition Page 3

Dialog Name: Report Incident

Business Area: Im

Dialog Pattern: Report

Message Name	Message Identifier	Role
ImInitialIncidentReport	Im 2004	Provide an initial incident report to the CAD/AVL System.
ImInitialReportAck	Im 2005	Acknowledge receipt by the CAD/AVL System of the incident report.

Notes:

TCIP Dialog Definition Page 1

Dialog Name: Report Incident Update

Business Area: Im

Dialog Pattern: Report

Purpose: Notify the dispatcher of an update to an incident.

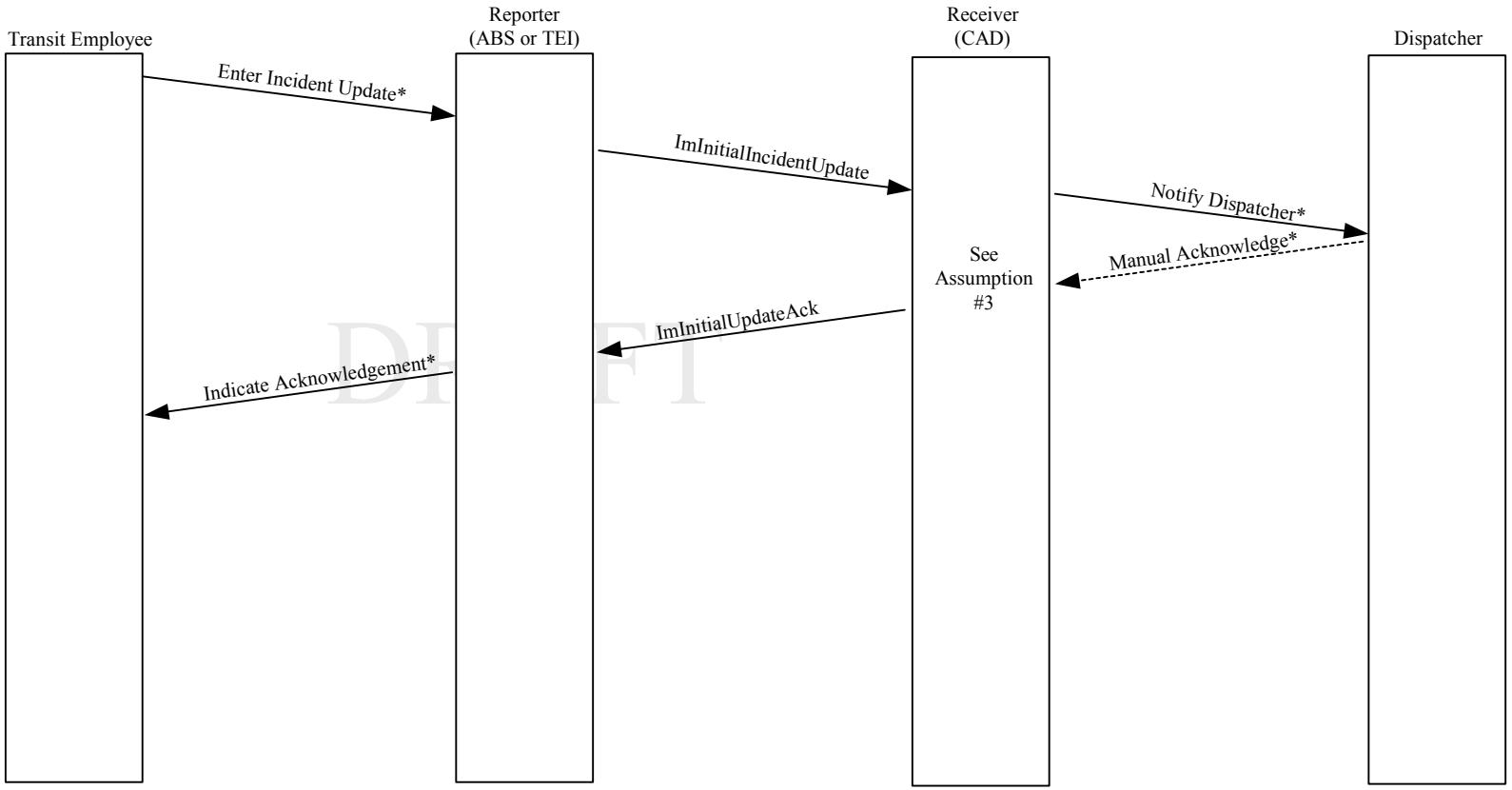
Assumptions:

1. Optional fields in the incident report are filled in only if they have changed.
2. The employee's user device already has a copy of the incident information, either as a result of the Report Incident dialog, or as a result of the SubscribeIncidents dialog.
3. Agency policies govern whether the CAD/AVL System acknowledges the update automatically, or if the dispatcher must manually acknowledge the update.
4. Agency/vendor defined procedures govern the recovery if the ImUpdateAck message is not received.
5. The reporter may be an Authorized Business System (ABS) or a Transit Employee Interface (TEI).
6. The receiver may be a CAD/AVL System (CAD).

Narrative:

1. An employee has new information about an incident to send to the dispatcher, and enters it into a Transit Employee Interface (TEI) or other Authorized Business System (ABS).
2. The TEI or ABS sends an ImIncidentUpdate message to the CAD/AVL System (CAD).
3. The CAD notifies the dispatcher, and/or performs other agency/vendor defined incident update procedures. These procedures may include initiating event driven updates via the Subscribe Incidents Dialog.
4. The CAD/AVL System acknowledges the message to the initiating TEI or ABS, by sending an ImUpdateAck message.
5. The TEI or ABS indicates to the transit employee that the update was received.
6. The dialog ends.

Message Sequence Diagram Page 2



*Agency/Vendor defined Transaction

Normal Execution of the Report Incident Update Dialog

TCIP Dialog Definition Page 3

Dialog Name: Report Incident Update

Business Area: Im

Dialog Pattern: Report

Message Name	Message Identifier	Role
ImIncidentUpdate	Im 2006	Provide an update to an existing incident report from a TEI or ABS to the CAD.
ImUpdateAck	Im 2007	Indicate receipt by the CAD of the incident update.

Notes:

Silent Alarm

TCIP Dialog Definition Page 1

Dialog Name: Silent Alarm

Business Area: Im

Dialog Pattern: Silent Alarm

Purpose: Provide covert incident communications between a Public Transit Vehicle operator and the dispatcher. This dialog is intended to be used in circumstances where the operator may be under duress.

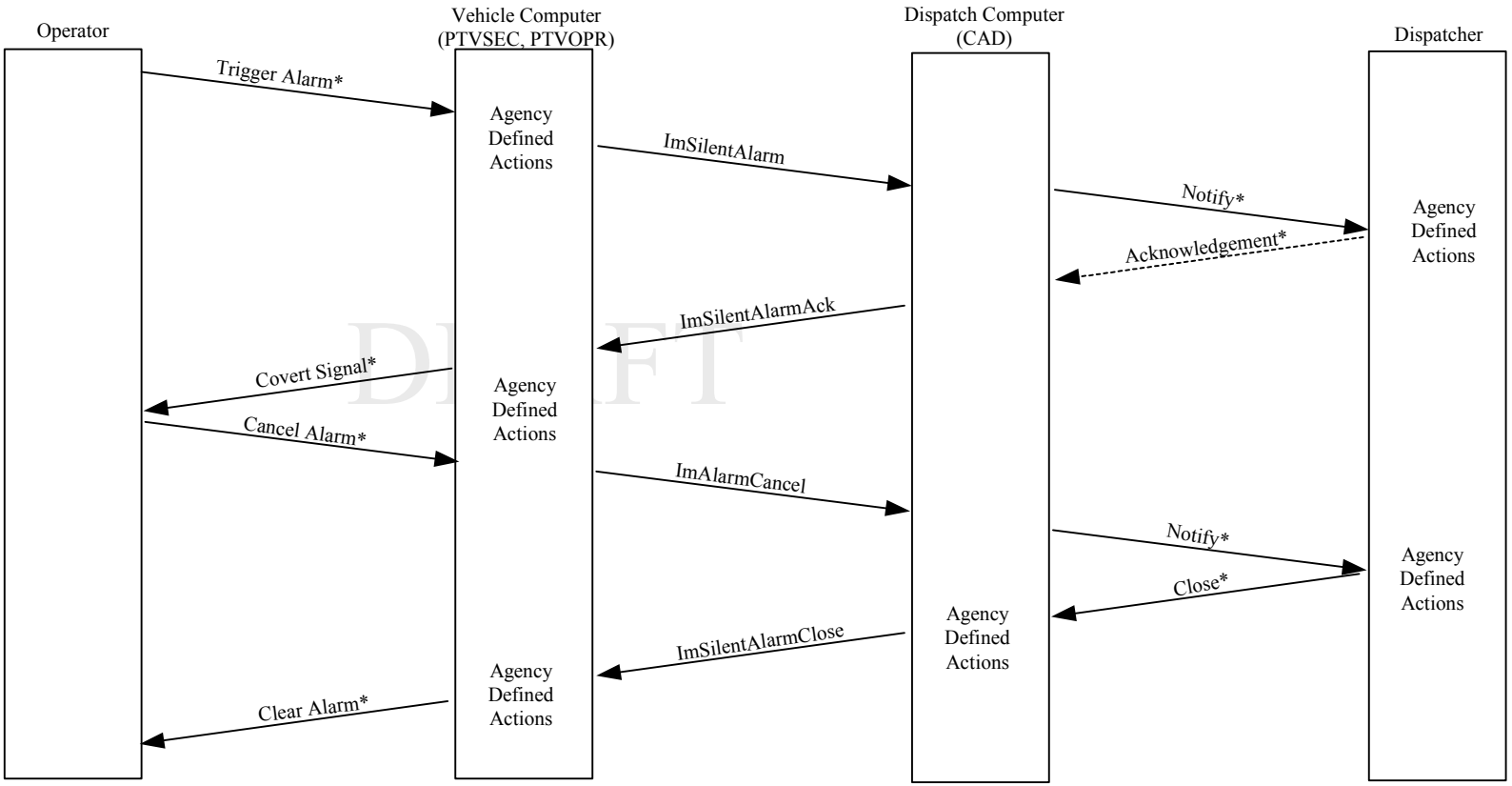
Assumptions:

Once the silent alarm is triggered it can only be cleared by the dispatcher.

Narrative:

1. The vehicle operator triggers the silent alarm using an agency defined covert mechanism.
2. The VLU (PTVSEC) sends a ImSilentAlarm message to notify the CAD/AVL System (CAD). The PTVSEC may perform other agency defined covert actions while the silent alarm is in effect.
3. The CAD/AVL System notifies the dispatcher using an agency defined method. The CAD/AVL System may automatically initiate other agency defined actions as a result of the notification.
4. The dispatcher acknowledges the silent alarm using an agency defined method. The CAD/AVL System notifies PTVSEC of the acknowledgement by sending an ImSilentAlarmAck message.
5. The PTVSEC notifies the operator of the acknowledgment using an agency-defined covert mechanism.
6. Optionally, the operator cancels the alarm via the vehicles MDT (PTVOPR).
    A. The PTVOPR sends a ImAlarmCancel message to the CAD/AVL System.
    B. The CAD/AVL System notifies the dispatcher of the request to clear the alarm using an agency defined mechanism.
7. Due to 6 above, or for other reasons, the dispatcher determines the alarm should be cleared, and notifies the CAD/AVL System.
    A. This CAD/AVL System clears the alarm, and performs related agency defined housekeeping tasks.
    B. The CAD/AVL System sends a ImSilentAlarmClose message to the PTVSEC.
8. The PTVSEC performs necessary agency-defined housekeeping tasks to clear the alarm, including normalizing the MDT.
9. The dialog ends.

Message Sequence Diagram Page 2



*Agency/Vendor defined transactions

Normal Execution of the Silent Alarm Dialog

TCIP Dialog Definition Page 3

Dialog Name: Silent Alarm

Business Area: Im

Dialog Pattern: Silent Alarm

Message Name	Message Identifier	Role
ImSilentAlarm	Im 2000	Used by the PTVSEC to notify the CAD that the silent alarm had been activated.
ImSilentAlarmAck	Im 2001	Used by the CAD/AVL System to notify the VLU that the dispatcher is aware of the silent alarm actuation
ImAlarmCancel	Im 2002	Used by the PTVSEC/PTVOPR to notify CAD that the vehicle operator has requested that the alarm be cleared.
ImSilentAlarmClose	Im 2003	Used by CAD to notify the PTVSEC/PTVOPR that the alarm has been cleared/cancelled by the dispatcher.

Notes: Agencies may specify that the CAD/AVL System acknowledge the ImSilentAlarm message with an ImSilentAlarmAck message without waiting for dispatcher input. This is a local agency policy decision.

Subscribe Incident Report History

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Incident Report History

Business Area: IM

Dialog Pattern: Subscription-Query

Purpose: Distribute information on current or past incidents from the CAD/AVL system or data repository to interested parties within the agency.

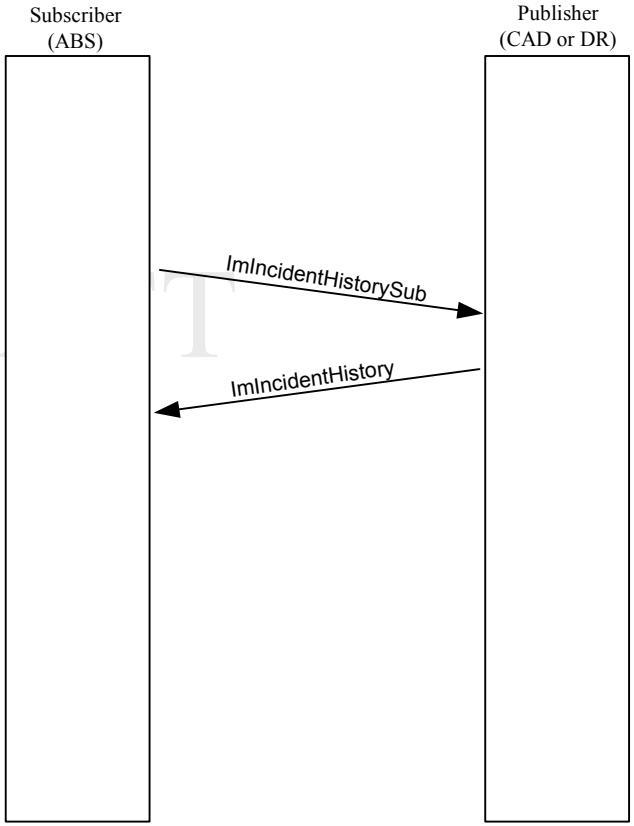
Assumptions:

1. The publisher determines whether the subscriber is authorized to have the incident information based upon agency policies.
2. The publisher maybe the CAD/AVL System (CAD) or a Data Repository (DR).
3. The subscriber maybe any Authorized Business System (ABS).
4. This dialog is a query subscription.

Narrative:

1. The subscriber determines the scope of the query and sends an ImIncidentHistorySub message.
2. The publisher determines if the subscription request (query) is valid, and the subscriber is authorized.
    a. If the query is invalid, or the subscriber is unauthorized, the publisher sends a CptSubErrorNotice to the subscriber and the dialog ends.
    b. If the query is valid, the publisher sends a ImIncidentHistory message to the subscriber and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the "Subscribe Incident Report History" Dialog

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Incident Report History

Business Area: IM

Dialog Pattern: Subscription-Query

Message Name	Message Identifier	Role
ImIncidentHistorySub	Im 2010	Query for one or more current or past incident reports.
ImIncidentHistory	Im 2011	Provide one or more current or past incident reports.
CptSubErrorNotice	Cpt 2000	Notify the subscriber that the query is invalid.

Notes:

Command Dispatch Incident Response

TCIP Dialog Definition Page 1

Dialog Name: Command Dispatch Incident Response

Business Area: IM

Dialog Pattern: Command Response

Purpose: Direct a transit person, team or equipment to respond to an incident.

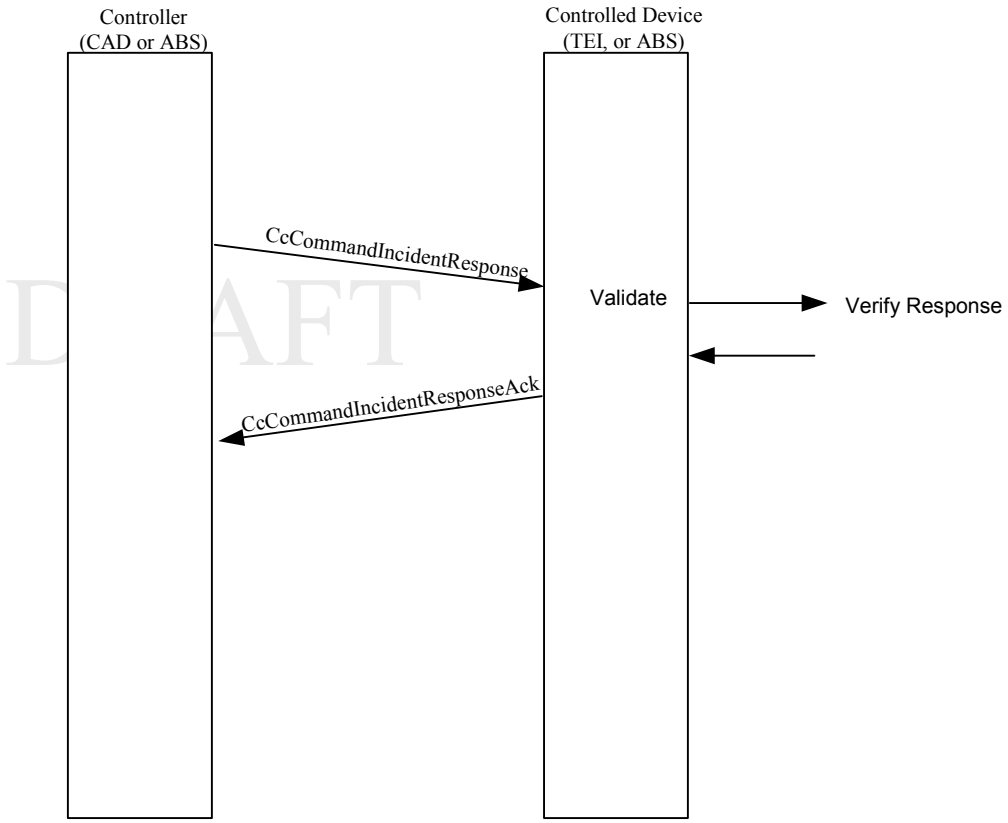
Assumptions:

1. The incident has preciously been reported/detected and an incident report has been created in the CAD/AVL System.
2. The controller may be the CAD/AVL System (CAD), or another Authorized Business System (ABS).
3. The controlled device is the Transit Employee Interface (TEI) or other Authorized Business System (ABS).

Narrative:

1. The controller determines the necessary incident and responder information and sends a CcCommandIncidentResponse message to the responder's TEI or ABS (controlled device).
2. The controlled device validates the message, verifies with the employee that he/she will respond, and sends a CcCommandIncidentResponseAck message back to the controller. If the employee indicates he/she cannot respond, the acknowledgement so indicates.
3. The dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the "Command Dispatch Incident Response" Dialog

TCIP Dialog Definition Page 3

Dialog Name: Command Dispatch Incident Response

Business Area: IM

Dialog Pattern: Command Response

Message Name	Message Identifier	Role
CcCommandIncidentResponse	CC	Direct a responder to go to an incident.
CcCommandIncidentResponseAck	CC	Acknowledge the command, with an indication as to whether the employee will respond.

Notes:

D.3 Passenger Information Dialogs

Subscribe Trip Itinerary List

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Trip Itinerary List

Business Area: Pi

Dialog Pattern: Subscription

Purpose: Allow a subscriber to obtain a trip itinerary from a Transit Agency. The dialog is applicable between an appropriately equipped and authorized, Internet Service Provider (ISP), subscriber or between two transit agency system (one subscriber, one publisher) for example to obtain an itinerary using another agency's service.

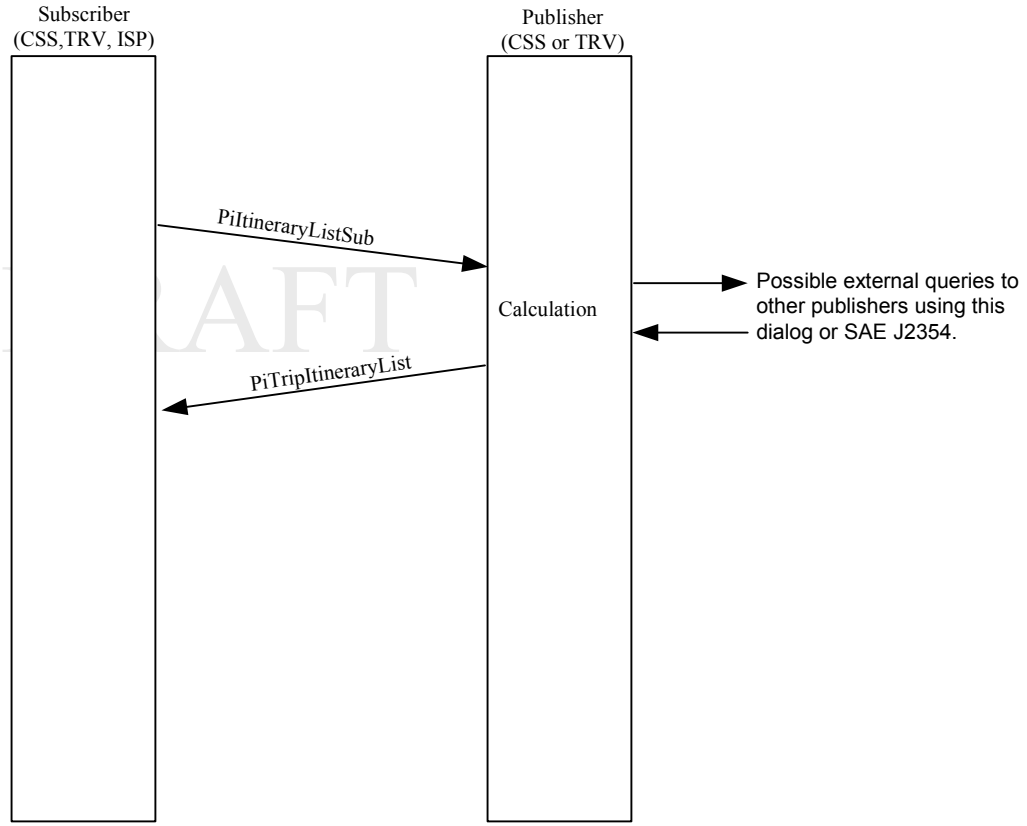
Assumptions:

1. This is a query type subscription.
2. The interaction between the user and the user device (screen/display design) is outside of the scope of this dialog.
3. For trips that span multiple agencies and agency system, the agency system directly serving the initial subscriber, may use multiple instances of this dialog to query the various ATIS for each agency. In this case the ATIS directly servicing the user is responsible for dividing the request up among the various ATIS, for reassembling the results into a single itinerary, and for resolving error conditions (e.g. if one system does not answer).
4. The publisher may be a Traveler Information System (TRV), or a Customer Information System (CSS).
5. The subscriber may be a Customer Service System (CSS), Traveler Information System (TRV), or an Information Service Provider (ISP) (NIA Entity).
6. If the itinerary involves non-transit components SAE J2354 may be used to query non transit ATIS.

Narrative:

1. The subscriber determines the parameters for the requested trip as defined in PiTripRequest.
2. The subscriber sends a PiTripListSub message to the publisher.
3. The publisher validates the request and determines:
   A. The request is invalid, unauthorized, or cannot be serviced. The publisher then generates a CptSubErrorNotice to the subscriber and the dialog ends.
   B. The request can be serviced. The publisher then generates a PiTripItineraryListMessage to the subscriber in response to the subscription request and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the Query "Subscribe Trip Itinerary List" Subscription Dialog.

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Trip Itinerary List

Business Area: Pi

Dialog Pattern: Subscription

Message Name	Message Identifier	Role
PiTripItineraryListSub	Pi 2000	Request the itinerary from the subscriber to the publisher.
PiTripItineraryList	Pi 2001	Provide the requested itinerary information from the publisher to the subscriber.
CptSubErrorNotice	Cpt 2000	End the dialog with an error notification from the publisher to the subscriber.

Notes:

Subscribe Stop Point ETA

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Stop Point ETA

Business Area: PI

Dialog Pattern: Subscription - Event

Purpose: Provide ongoing next bus information for a specified stop point, or group of stop point. The primary usage of this dialog is to provide next bus information from CAD (publisher) to TRV or ISP (subscriber) to support next bus signs at stop points.

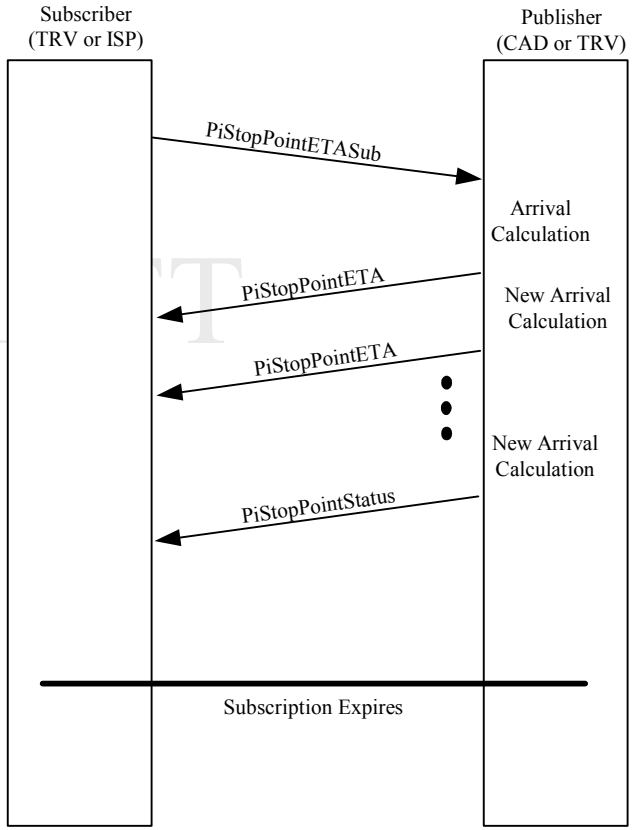
Assumptions:

1. This is an event-based subscription. The algorithm for calculating the estimated time of arrival and for determining when to send an update is CAD/AVL vendor specific.
2. The look ahead distance (number of buses ahead provided) is a local agency specified decision.
3. The publisher may be a CAD/AVL System (CAD) or a Traveler Information System (TRV).
4. The subscriber may be a Traveler Information System (TRV) or an Information Service Provider (ISP) (NIA Entity).

Narrative:

1. The subscriber determines the stop point(s) of interest. The subscriber sends a PiStopPointETASub message to the publisher with the subscription type indicating event.
2. The CAD/AVL system (publisher) validates the request and determines:
    A. The request is invalid, unauthorized or cannot be serviced. The publisher then generates a CptSubErrorNotice to the subscriber and the dialog ends.
    B. The request can be partially serviced (not all requested stops). The publisher downgrades the request to the stops that can be serviced, and continues with “C” below.
    C. The request is valid. The publisher sends a PiStopPointETA message to the subscriber providing next bus information for the requested stops.
3. The publisher sends new stop status information using PiStopPointETA messages based on updated estimates of arrival times
4. The dialog ends if the publisher generates a CptSubErrorNotice at any time for the subscription request, or it the subscription expires, or if the subscriber sends a PiStopPointStatusSub message with a request identifier matching the original request with a request type of cancel.

Message Sequence Diagram Page 2



Normal Execution of Event-Driven "Subscribe Stop Point ETA" Subscription Dialog

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Stop Point ETA

Business Area: PI

Dialog Pattern: Subscription - Event

Message Name	Message Identifier	Role
PiStopPointETASub	Pi 2050	Request ongoing arrival estimates for a specified group of stop points.
PiStopPointETA	Pi 2049	Provide arrival estimates for a specified group of stop points.
CptSubErrorNotice	Cpt 2000	End the dialog with an error notice from the publisher to the subscriber.

Notes:

Subscribe Nearest Stop List

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Nearest Stop List

Business Area: Pi

Dialog Pattern: Subscription

Purpose: Allow a subscriber to determine the closest stop or stops, meeting specified criteria, to a specified location.

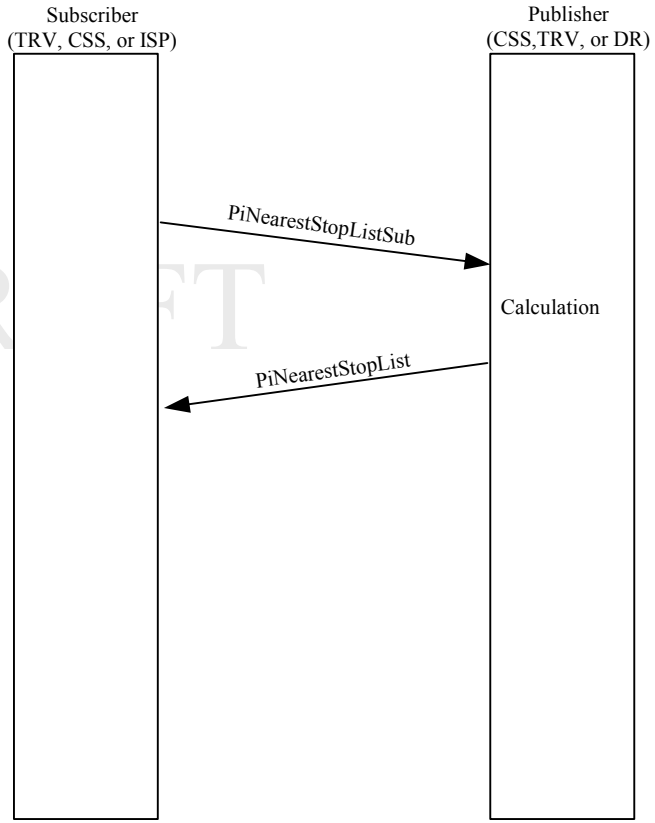
Assumptions:

1. This is a query subscription.
2. The interaction between the user and the user device (screen/display design) is outside of the scope of this dialog.
3. The publisher may be a Data Repository (DR) or a Traveler Information System (TRV).
4. The subscriber may be a Customer Service System (CSS), Information Service Provider (ISP) (NIA Entity) or a Traveler Information System (TRV).

Narrative:

1. The subscriber determines the location, and criteria for the request.
2. The subscriber sends a PiNearestStopListSub message to the publisher.
3. The publisher validates the request and determines:
   A. The request is invalid, or cannot be serviced. The publisher then generates a CptSubErrorNotice to the subscriber and the dialog ends.
   B. The request can be serviced. The publisher then generates a PiNearestStopList message to the subscriber and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the Query "Subscribe Nearest Stop List" Subscription Dialog.

TCIP Dialog Definition Page 3

Dialog Name: SubscribeNearestStopList

Business Area: Pi

Dialog Pattern: Subscription

Message Name	Message Identifier	Role
PiNearestStopListSub	Pi 2002	Request the identification of the closest stop(s) matching criteria from the subscriber to the publisher.
PiNearestStopList	Pi 2003	Provide the requested stop information from the publisher to the subscriber.
CptSubErrorNotice	Cpt 2000	End the dialog with an error notification from the publisher to the subscriber.

Notes:

Subscribe Stop Point Parking

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Stop Point Parking

Business Area: Pi

Dialog Pattern: Subscription

Purpose: Provide information about a parking facility or facilities associated with a transit stop point to a subscriber.

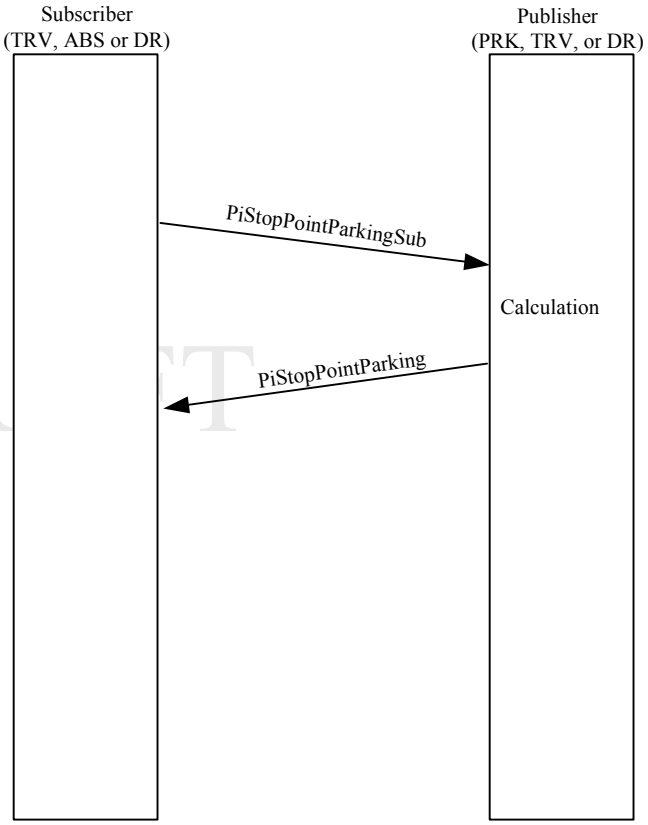
Assumptions:

1. The subscription type is query.
2. The interaction between the user and the user device (screen/display design) is outside of the scope of this dialog.
3. The publisher may be Parking Management (PRK), Traveler Information System (TRV), or a Data Repository (DR).
4. The subscriber may be Traveler Information System (TRV), Authorized Business System (ABS) or a Data Repository (DR).

Narrative:

1. The subscriber (subscriber) determines the facility id or stop point id of interest. This may involve interactions with the ATIS user and/or the use of the Subscribe Stop Point List dialog and/or use of the Subscribe Nearest Stop List Dialog.
2. The subscriber sends a PiStopPointParkingSub message to the publisher.
3. The publisher validates the request and determines:
   A. The request is invalid, unauthorized or cannot be serviced. The publisher then generated a CptSubErrorNotice to the subscriber and the dialog ends.
   B. The request can be serviced. The publisher then generated a PiStopPointParking message to the subscriber in response to the subscription request and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the Query "Subscribe Stop Point Parking" Subscription Dialog.

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Stop Point Parking

Business Area: Pi

Dialog Pattern: Subscription

Message Name	Message Identifier	Role
PiStopPointParkingSub	pi 2004	Request parking facility information from the subscriber to the publisher.
PiStopPointParking	pi 2005	Provide parking facility information from the publisher to the subscriber.
CptSubErrorNotice	cpt 2000	End the dialog with an error notification from the publisher to the subscriber.

Notes:

Subscribe Service Status

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Service Status

Business Area: Pi

Dialog Pattern: Subscription

Purpose: Allow a subscriber to obtain real-time status of service at a transit stop point or group of transit stop points from an agency business system (e.g. AVL).

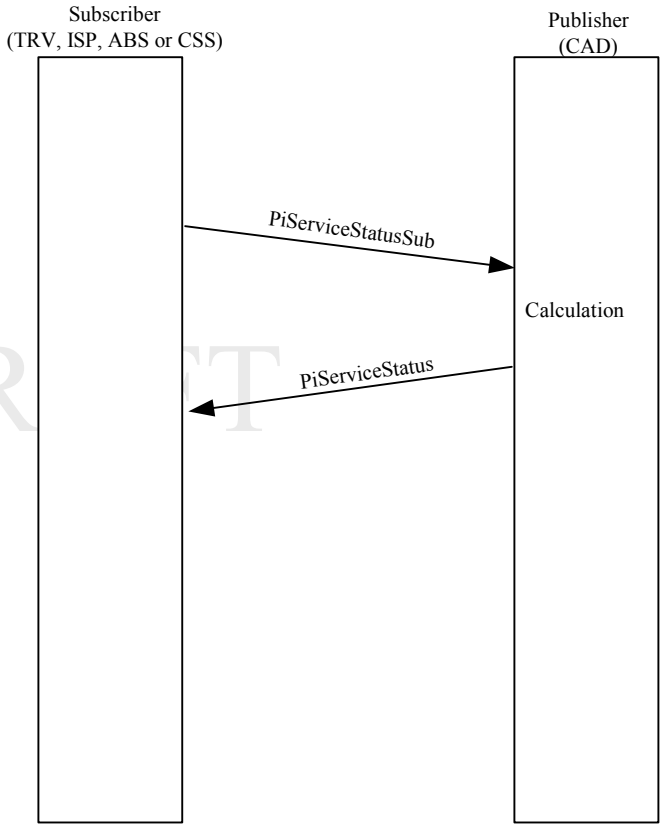
Assumptions:

1. This is a query type subscription.
2. The interaction between the user and the user device (screen/display design) is outside the scope of this dialog.
3. The publisher may be a CAD/AVL System (CAD).
4. The subscriber may be a Traveler Information System (TRV), Information Service Provider (ISP), Authorized Business System (ABS) or a Customer Service System (CSS).

Narrative:

1. The subscriber (subscriber) determines the parameters for the request(s) to be included. An ATIS subscriber may "buffer-up" requests for a short time interval to allow several requests to the real-time system to be included in one PiServiceStatusSub request message.
2. The subscriber sends a PiServiceStatusSub message to the publisher.
3. The publisher validates the request and determines:
   A. The request is invalid, unauthorized or cannot be serviced. The publisher then generates a CptSubErrorNotice to the subscriber and the dialog ends.
   B. The request can be serviced. The publisher then generates a PiServiceStatus message to the subscriber in response to the subscription request and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the Query "Subscribe Service Status" Subscription Dialog.

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Service Status

Business Area: Pi

Dialog Pattern: Subscription

Message Name	Message Identifier	Role
PiServiceStatusSub	pi 2006	Request real-time service status information from the subscriber to the publisher.
PiServiceStatus	pi 2007	Provide the requested real-time service status information from the publisher to the subscriber.
CptSubErrorNotice	cpt 2000	End the dialog with an error notification form the publisher to the subscriber.

Notes:

The subscriber may use the SubscribeStopList dialog and/or the SubscribeNearestStopList dialog to determine the stop point id prior to executing this dialog. The subscriber may use the SubscribeTextTimetable dialog to obtain the timetable for a stop point to determine when the transit vehicle is scheduled to arrive prior to executing this dialog.

Subscribe Text Timetable

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Text Timetable

Business Area: Pi

Dialog Pattern: Subscription

Purpose: Provide timetables in simple formatted text.

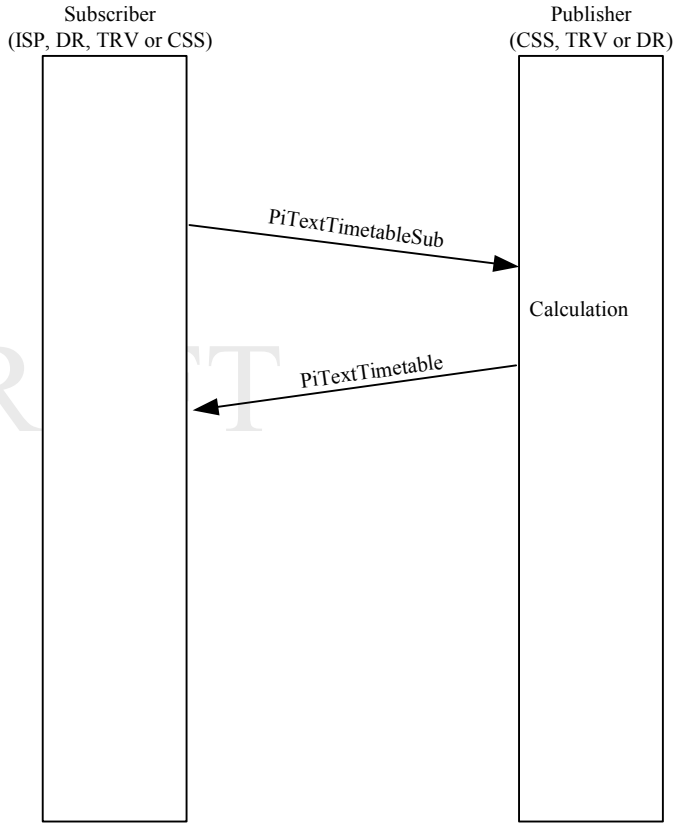
Assumptions:

1. This dialog is a query
2. The publisher may be a Customer Service System (CSS), Traveler Information System (TRV) or a Data Repository (DR) .
3. The subscriber may be an Information Service Provider (ISP), Data Repository (DR), Traveler Information System (TRV) or a Customer Service System (CSS) .
4. This dialog provides timetables in a simple format, some agencies with complex schedule formats will not be able to use this approach. Scheduling dialogs provide a more robust schedule transfer mechanism.

Narrative:

1. The subscriber determines the routes, and time periods of interest, and sends a PiTextTimetableSub message to the publisher
2. The publisher determines:
   A. The request is invalid, unauthorized or cannot be serviced. The publisher generates a CptSubErrorNotice to the subscriber and the dialog ends.
   B. The request can be serviced. The publisher generates a PiTextTimetable message to the subscriber in response to the request and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the Query "Subscribe Text Timetable" Subscription Dialog.

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Text Timetable

Business Area: Pi

Dialog Pattern: Subscription

Message Name	Message Identifier	Role
PiTextTimetableSub	Pi 2008	Request a text timetable from the publisher.
PiTextTimetable	Pi 2009	Provide a text timetable from the publisher to the subscriber.
CptSubErrorNotice	cpt 2000	End the dialog with an error notification from the publisher to the subscriber.

Notes:

Subscribe Service Bulletin List

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Service Bulletin List

Business Area: Pi

Dialog Pattern: Subscription

Purpose: Allows a subscriber to obtain the current service bulletins on specified route(s).

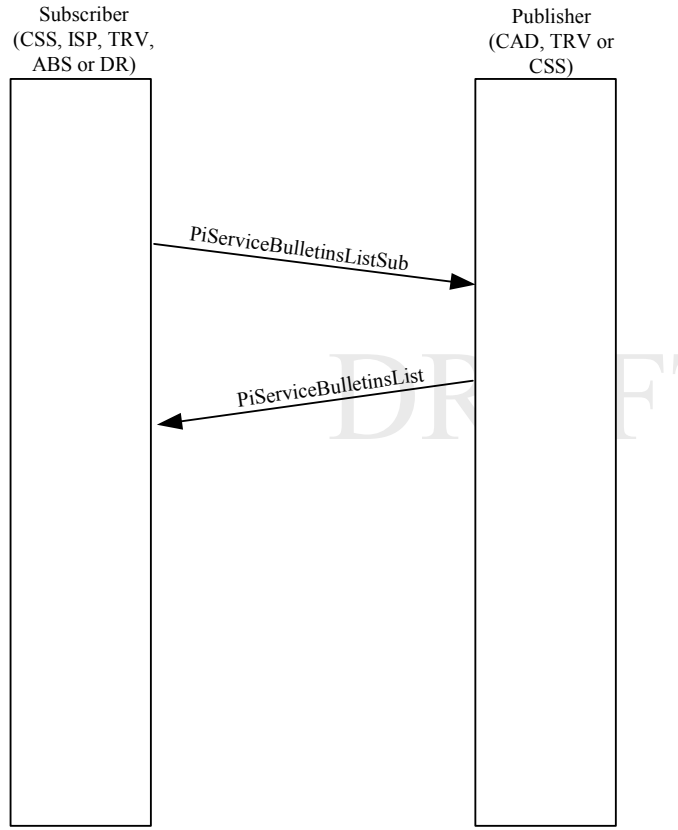
Assumptions:

1. This can be a query or event driven subscription.
2. The publisher may be a CAD/AVL System (CAD), Traveler Information System (TRV) or a Customer Service System (CSS)
3. The subscriber may be a Customer Service System (CSS), Information Service Provider (ISP), Traveler Information System (TRV), Authorized Business System (ABS) or a Data Repository (DR).

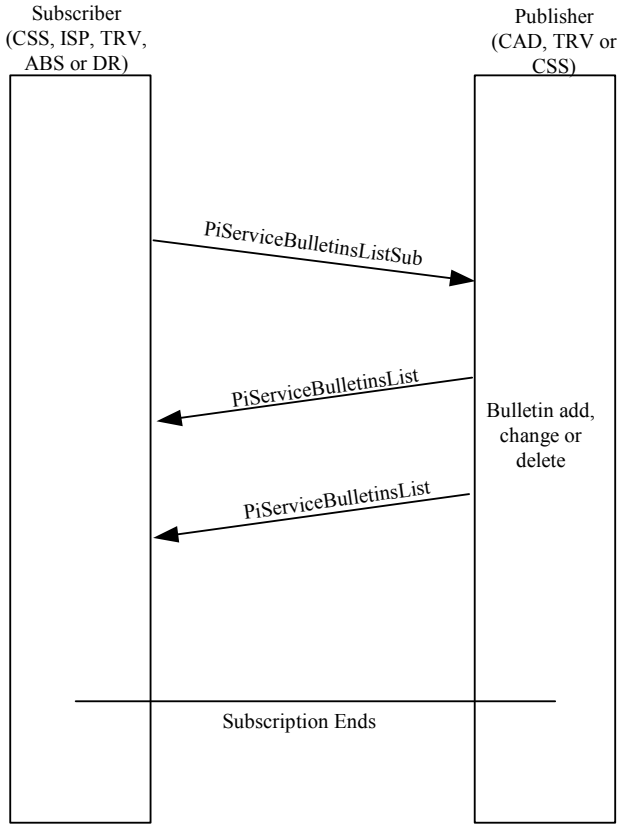
Narrative:

1. The subscriber determines the route(s) of interest and sends a PiServiceBulletinsListSub message.
2. The publisher determines if the request is valid and:
   A. If the request is invalid, the publisher sends a CptSubErrorNotice message to the subscriber and the dialog ends.
   B. If the request is valid, and the request type is query, the publisher sends a PiServiceBulletinsList message and the dialog ends.
   C. If the request is valid, and the request type is event, the publisher sends a PiServiceBulletinsList message, and resends the message when the bulletins change until the subscription expires.

Message Sequence Diagram Page 2



Normal Execution of the Query "Subscribe Service Bulletins List" Subscription Dialog.



Normal Execution of the Event Driven "Subscribe Service Bulletins List" Subscription Dialog.

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Service Bulletins List

Business Area: Pi

Dialog Pattern: Subscription

Message Name	Message Identifier	Role
PiServiceBulletinsListSub	pi 2044	Request the service bulletins in effect for specified route(s) from the subscriber to the publisher.
PiServiceBulletinsList	pi 2043	Provide the service bulletins in effect for specified route(s) from the publisher to the subscriber.
CptSubErrorNotice	cpt 2000	Notify the subscriber that the request was invalid.

Notes:

Command Send Mailing

TCIP Dialog Definition Page 1

Dialog Name: Command Send Mailing

Business Area: Pi

Dialog Pattern: Command Response

Purpose: Instruct a publisher (controlled device) to send a printed mailing to a customer.

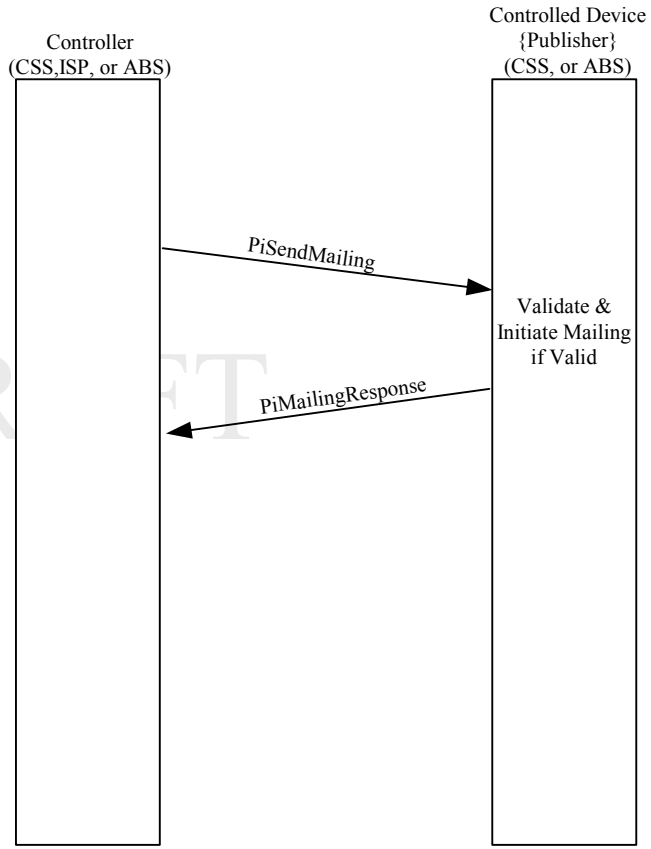
Assumptions:

1. The controller has previously determined the available printed mailings using the "Subscribe Available Mailings" dialog
2. The process for identifying traveler/mailing requested is vendor/agency defined.
3. The process for initiating the mailing activity is agency/vendor defined.
4. The controller may be a Customer Service System (CSS), Internet Service Provider (ISP) or an Authorized Business System (ABS).
5. The controlled device may be Customer Service System (CSS) or an Authorized Business System (ABS).

Narrative:

1. The controller obtains relevant information on the traveler and the requested mailing and sends a PiSendMailing message.
2. The publisher validates the message and if valid initiates the mailing activity and assigns a nonzero confirmation number.
3. The publisher sends a PiMailingResponse message indicating whether the request was processed, and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the "Command Send Mailing" Command Response Dialog.

TCIP Dialog Definition Page 3

Dialog Name: Command Send Mailing

Business Area: Pi

Dialog Pattern: Command Response

Message Name	Message Identifier	Role
PiSendMailing	pi 2045	Instruct the publisher to send mailing materials.
PiMailingResponse	pi 2046	Notify the controller of the result of the PiSendMailing command.

Notes:

Subscribe Available Mailings

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Available Mailings

Business Area: Pi

Dialog Pattern: Subscription

Purpose: Allows a subscriber to determine what printed mailing materials are available to transit customers for specified routes.

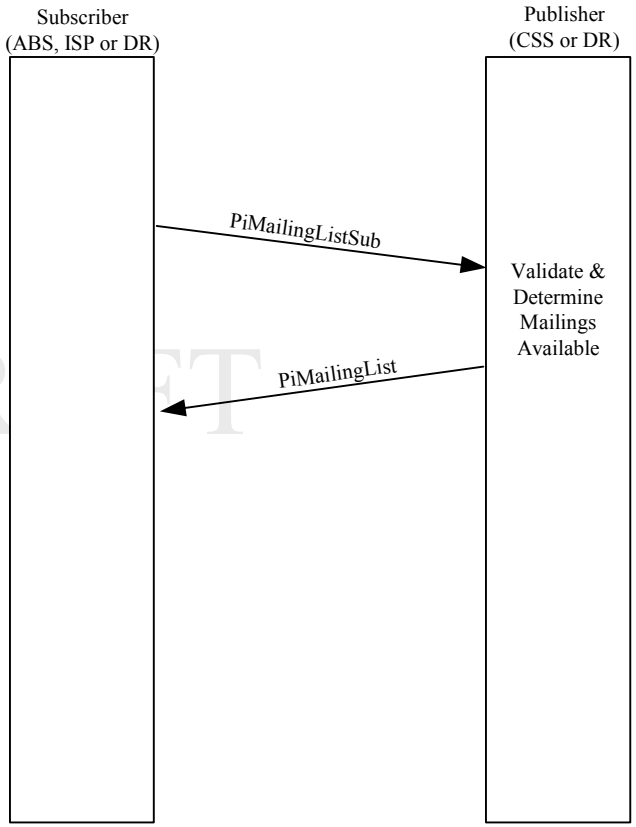
Assumptions:

1. This is a query subscription
2. The publisher may be a Customer Service System (CSS) or a Data Repository (DR).
3. The subscriber may be an Authorized Business System (ABS), Information Service Provider (ISP) or a Data Repository (DR).

Narrative:

4. The subscription determines the routes of interest and sends a PiMailingsListSub message.
5. The publisher validates the message and :
   A. If the request is invalid sends a CptSubErrorNotice message and the dialog ends.
   B. If the request is valid sends a PiMailingList message and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the Query "Subscribe Available Mailings" Subscription Dialog.

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Available Mailings

Business Area: Pi

Dialog Pattern: Subscription

Message Name	Message Identifier	Role
PiMailingsListSub	pi 2048	Request available printed mailing for specified route(s).
PiMailingsList	pi 2047	Provide a list of available printed mailing material to the subscriber from the publisher.
CptSubErrorNotice	cpt 2000	Notify the subscriber of an invalid request.

Notes:

Subscribe Landmarks List

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Landmarks List

Business Area: pi

Dialog Pattern: Subscription

Purpose: Obtain a list of landmarks within a specified distance of a specified location, or a list of all landmarks in an agency database.

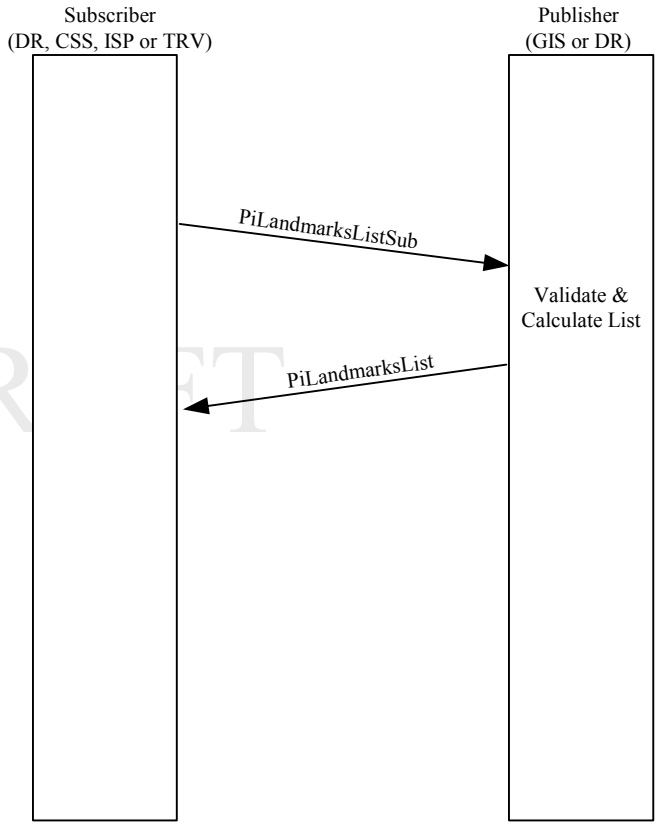
Assumptions:

1. This is a query subscription.
2. The publisher may be Geographical Information System (GIS) or a Data Repository (DR)>
3. The subscriber may be a Data Repository (DR), Customer Information System (CSS), Information Service Provider (ISP) or Traveler Information System (TRV).

Narrative:

1. Subscriber determines the area in which landmarks are requested, or all, and sends a PiLandmarksListSub message to the publisher.
2. Publisher validates the message and:
    A. If the message is invalid, the publisher returns a CptSubErrorNotice to the subscriber, and the dialog ends.
    B. If the message is valid, the publisher sends a PiLandmarksList message to the subscriber and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the Query "Subscribe Landmarks List" Subscription Dialog.

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Landmarks List

Business Area: Pi

Dialog Pattern: Subscription

Message Name	Message Identifier	Role
PiLandmarksListSub	pi 2042	Request a list of landmarks from the publisher.
PiLandmarksList	pi 2041	Provide a list of landmarks from the publisher to the subscriber.
CptSubErrorNotice	cpt 2000	Notify the subscriber that the list was invalid.

Notes:

1. The publisher may limit the maximum number of landmarks that a subscriber class (e.g. ISPs) may request and declare queries resulting in larger lists to be invalid.

2. The publisher may require some subscribers (e.g. ISPs) to specify a location and distance and declare 'all' queries from such subscribers invalid.

Subscribe Amenities

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Amenities

Business Area: Pi

Dialog Pattern: Subscription

Purpose: Allow a subscriber to obtain a list of amenities for a specified set to stoppoints, or transit facilities.

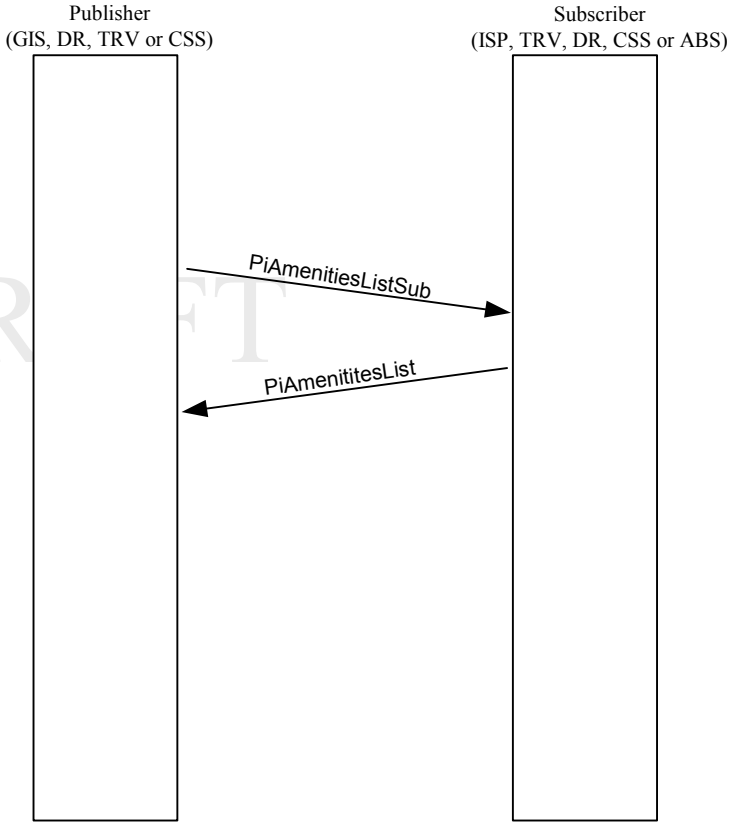
Assumptions:

1. The publisher may be any Geographic Information System (GIS), Data Repository (DR), Traveler Information System (TRV) or Customer Service System (CSS).
2. The subscriber may be a Information Service Provider (ISP), Traveler Information System (TRV), Data Repository (DR), Customer Service System (CSS) or an Authorized Business System (ABS).
3. This dialog may be used to obtain updates to a previously obtained list since a specified date/time (row updates).

Narrative:

1. The subscriber determines the routes, stops, or facilities or interest and sends a PiAmenitiesListSub message.
2. The publisher determines:
    a. The request is invalid or the subscriber is unauthorized and sends a CptSubErrorNotice, and the dialog ends.
    b. The request is valid, and sends a PiAmenitiesList message and the dialog ends.

Message Sequence Diagram Page 2



Normal Execution of the "Subscribe Amenities" Dialog

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Amenities

Business Area: PI

Dialog Pattern: Subscription Query

Message Name	Message Identifier	Role
PiAmenitiesListSub	PI 2051	Request a list of or updates to a previously obtained list.
PiAmenitiesList	PI 2052	Provide a list of or updates to a previously obtained list.
CptSubErrorNotice	CPT 2000	Notify the subscriber that the query was invalid.

Notes:

Subscribe Itinerary Fare

TCIP Dialog Definition Page 1

Dialog Name: Subscribe Itinerary Fare

Business Area: PI

Dialog Pattern: Subscription - Query

Purpose: Allows a subscriber to obtain the fare associated with a transit itinerary.

Assumptions:

1. The subscriber may be a Traveler Information System (TRV), Customer Service System (CSS), or other Authorized Business System (ABS).
2. The publisher is the Fare System (FAR) or other Authorized Business System (ABS).

Narrative:

1.The subscriber determines the itineraries for which the fare is required.. The subscriber sends a PiItineraryFareSub message to the publisher with the subscription type indicating query.

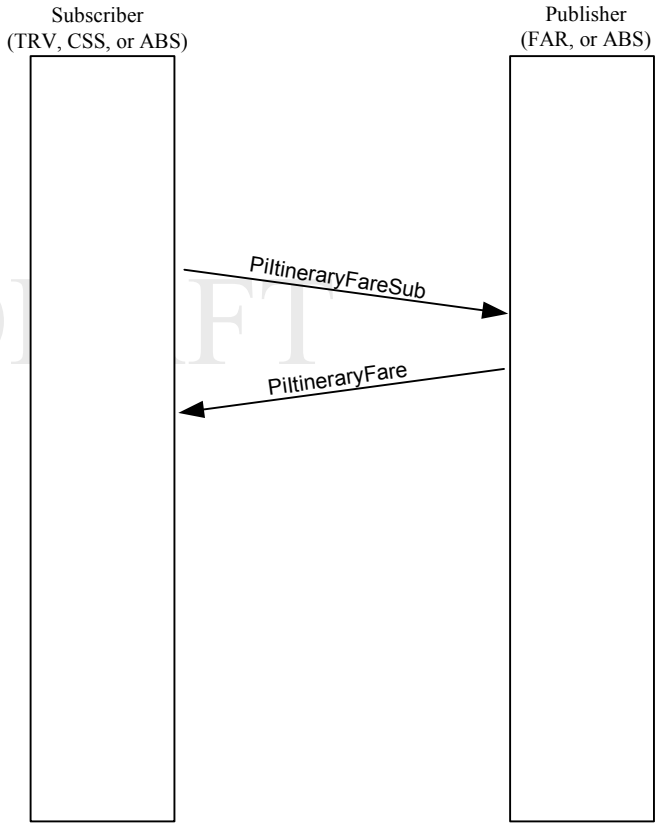
2. The publisher validates the request and determines:

A. The request is invalid, unauthorized or cannot be serviced. The publisher then generates a CptSubErrorNotice to the subscriber and the dialog ends.

B. The request can be serviced. The publisher prepares a PiItineraryFare message in response to the subscription request.

3. The dialog ends after the publisher generates a CptSubErrorNotice for the subscription request or a PiItineraryFare in response to the request.

Message Sequence Diagram Page 2



Normal Execution of the Query "Subscribe Itinerary Fare" Subscription Dialog

TCIP Dialog Definition Page 3

Dialog Name: Subscribe Itinerary Fare

Business Area: PI

Dialog Pattern: Subscription - Query

Message Name	Message Identifier	Role
PiItineraryFareSub	PI	Request fare(s) for specified itinerary(ies) subscription, from the subscriber to the publisher.
PiItineraryFare	PI	Provide requested fare information from the publisher to the subscriber.
CptSubErrorNotice	cpt 2000	End the dialog with an error notification from the publisher to the subscriber.

Notes:

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