

# ATD-2 TTP Flight Data Messages

Flight Data Messages are published as two flows: steady state and resync.

Steady State messages are sent as there are additions, updates, and removals of flights within TFDM. **Flight Add** messages contain all known information about the flight. **Flight Update** messages will only contain the fields needed for flight matching and the fields that have been updated. **Flight Delete** messages only contain the flight matching fields. (See [Flight Data FIXM Information](#) for details). **Flight Notification** messages are sent as needed. They include fields for flight matching and specific notification information (See [Flight Notification FIXM Information](#) for details). **Heartbeat** messages are sent every 4.5 minutes and contain only header information.

Resyncs consist of flight add messages being sent for every current flight in TFDM. They are preceded and succeeded by **Periodic Start** and **Periodic End** messages to distinguish themselves from the steady state messages. The resync is intended to be used by systems during startup or error recovery.

A **System Start** message is sent out during the TTP system startup that will immediately be followed by a resync message. Resyncs will continue to be sent out every 15 minutes.

Message	System Start	Steady State	Resync
Flight Add	✓	✓	✓
Flight Update		✓	
Flight Delete		✓	
Flight Notification		✓	
Heartbeat		✓	
System Start	✓		
Periodic Start	✓		✓
Periodic End	✓		✓

# TTP Message Headers

Messages published by the TTP Flight Data Service are JMS Text Messages, containing a standard JMS header augmented with TTP specific information.

System start and resync start/end messages will consist of only a header. They can be distinguished by the DATA\_GROUP and MESSAGE\_TYPE values in the header.

Add, Update, and Delete messages also include a message body consisting of a FIXM formatted NasMessage containing flight data (See [Flight Data FIXM Information](#) for details). They can be distinguished by the DATA\_GROUP and MESSAGE\_TYPE values in the header.

Message	Data Group	Body	Message Type
Flight Add	FlightData	NasMessage	AddFlight
Flight Update	FlightData	NasMessage	UpdateFlight
Flight Delete	FlightData	NasMessage	DeleteFlight
Flight Notification	FlightData	NasMessage	FlightNotification
Heartbeat	FlightData		Heartbeat
System Start	FlightData		SystemStart
Periodic Start	FlightData		PeriodicStart
Periodic End	FlightData		PeriodicEnd

## Message Specific Header Properties

Property Name	Description
PRIVACY_LEVEL	PRIVACY_LEVEL indicates what is included in the message content from a sensitive data and privacy standpoint to help ensure the message is directed to the appropriate consumer.

	<p>1) SFD - Sensitive Flight Data - Message contains SFD, that is, information about a sensitive flight.</p> <p>2) CDM - Collaborative Decision Making - Message pertains to a non-sensitive flight. And, it contains CDM data, that is, it contains data elements that are considered CDM data elements.</p> <p>3) CDM-omit - Message pertains to a non-sensitive flight. And, the CDM data has been omitted from this version of the message, that is, this is a copy of a message that was originally created with CDM data elements and non-CDM data elements. (If there were no data elements in the original message that were considered "non-CDM" and then all the CDM elements were removed, there would be no reason to publish the message.)</p> <p>4) NoSFD_NoCDM - Message pertains to a non-sensitive flight. And, it contains no CDM data elements.</p> <p>The current ATD-2 implementation will only be sending SFD and NoSFD_NoCDM messages.</p> <p>This property is only included with flight specific messages (add, update, delete, notification).</p>
AERODROME	ID of the aerodrome the system applies to (e.g., KCLT)
AIRLINE	<p>ID of the airline associated with the flight.</p> <p>Format: LLL (e.g., SWA, DAL) If the airline information is not applicable for the flight (such as GA flights), the value is XXX. If the airline information is not available for the flight, the value is ---.</p> <p>This property is only included with flight specific messages (add, update, delete, notification).</p>
SYNC	<p>Indicates whether the message is a synchronization or flight data message.</p> <p>System start/sync message: sys</p> <p>Resync message: per</p> <p>Steady state message (add, update, delete): rtm</p>
DATA_GROUP	Identifies the TTP Service. Will always be set to FlightData for this service.
MESSAGE_TYPE	<p>Used along with the SYNC header to determine the message type and content.</p> <p>Various combinations of MESSAGE_TYPE and SYNC:</p>

	<ul style="list-style-type: none"> <li>- SYNC= “sys”; MESSAGE_TYPE= “SystemStart” - Restart of the TTP service.</li> <li>- SYNC= “per”; MESSAGE_TYPE= “PeriodicStart” - Beginning of a sync event.</li> <li>- SYNC= “per”; MESSAGE_TYPE= “FlightAdd” - Flight data sent during a periodic sync event.</li> <li>- SYNC= “per;” MESSAGE_TYPE= “PeriodicEnd” - End of a sync event.</li>   <li>- SYNC= “rtm”; MESSAGE_TYPE= “FlightAdd” - Real time message about a flight that has been added.</li> <li>- SYNC= “rtm”; MESSAGE_TYPE= “FlightUpdate” - Real time message about a flight that has been updated.</li> <li>- SYNC= “rtm”; MESSAGE_TYPE= “FlightNotification” -Real time message about a flight notification.</li> <li>- SYNC= “rtm”; MESSAGE_TYPE= “FlightDelete” - Real time message about a flight that has been removed.</li>   <li>- SYNC= “rtm”; MESSAGE_TYPE= “Heartbeat” - Heartbeat message to confirm to consumers that the service is still active.</li> </ul>
TFDM_RELEASE	<p>TFDM Release version providing this message (e.g. 12_1_B8_2P2).</p> <p>This property is currently not implemented for ATD-2. Value will be null.</p>
SCHEMA_VERSION	FIXM US Extension Schema Version (e.g. 4.1.1).
TIME_STAMP	Date and time of the message in Zulu time (e.g. "yyyy-mm-ddThh:mm:ssZ")
UUID	Universally unique identifier for the message. This should not be used by the consumer and is only intended for TFDM debug purposes.

## Flight Data FIXM Information

This table includes which FIXM fields may be included in flight add, update, and delete messages.

The **Ext** column indicates whether this field is in core, denoted by a 'C' in the cell, or US extension, denoted by 'US' in the cell.

The **FM Data** column below indicates that the field is included for the purposes of flight matching.

<b>Data Element</b>	<b>Xpath In FIXM</b>	<b>Ex t</b>	<b>FM Data</b>	<b>Details</b>
MessageType	NasMessage/metadata/@messageType	US		Possible values: FlightAdd, FlightUpdate
AircraftIdentification	NasMessage/flight/flightIdentification/@aircraftIdentification	C	✓	
DeparturePoint	NasMessage/flight/departure/@departurePointText	C	✓	Can be an airport, nas lat/long, fix, or a fix radial distance. Examples: Airport: KDFW Nas Lat/Long: 3500N/04000 W Fix: ATOKA Fix Radial Distance: SHP090015
DestinationPoint	NasMessage/flight/destination/@destinationPointText	C	✓	Can be an airport, nas lat/long, fix, or a fix radial distance. Examples: Airport: KDFW Nas Lat/Long: 3500N/04000 W Fix: ATOKA

				Fix Radial Distance: SHP090015.
InitialGateTimeOfDeparture	NasMessage/flight/departure/offBlockTime/@initial	US	✓	
EramGufi	NasMessage/flight/flightPlan/@identifier	US	✓	
ComputerId	NasMessage/flight/flightIdentification/@computerId	US	✓	
CidCreatorUnit	NasMessage/flight/flightIdentification/IdCreatorUnit	US	✓	
TfdmId	NasMessage/flight/additionalFlightInformation	US	✓	Name="TFDM ID"; Value=Internal TFDM ID or ATD-2 GUFU for the flight.
TfdmIdCreatorAirport	NasMessage/flight/additionalFlightInformation	US	✓	Name="TFDM IDCreator"; Value=the airport where the TFDM ID was created. Example: KCLT
FlightCreationDateTIme	NasMessage/flight/tfdmFlightCreationTime	US		
InitialInBlockTime	NasMessage/flight/destination/inBlockTime/@initial	US		
ScheduledOffBlockTIme	NasMessage/flight/departure/offBlockTime/@scheduled	US		
ScheduledInBlockTIme	NasMessage/flight/destination/inBlockTime/@scheduled	US		
ActualTakeOffTime	NasMessage/flight/departure/runwayDepartureTime/actual	US		

ActualLandingTime	NasMessage/flight/arrival/actualRunwayArrivalTme	US		
ActualMovementAreaEntryTime	NasMessage/flight/departure/movementAreaActualEntryTime	US		
ActualMovementAreaExitTime	NasMessage/flight/arrival/movementAreaActualExitTime	US		
ActualOffBlockTime	NasMessage/flight/departure/offBlockTime/actual	US		
ActualInBlockTime	NasMessage/flight/arrival/actualInBlockTime	US		
EarliestOffBlockTime	NasMessage/flight/departure/offBlockTime/earliest	US		
DepartureStandDesignator	NasMessage/flight/departure/standInformation	US		
ArrivalStandDesignator	NasMessage/flight/arrival/standInformation	US		
AerodromeDepartureFix	NasMessage/flight/departure/departureFix	US		
AerodromeArrivalFix	NasMessage/flight/destination/arrivalFix	US		
DepartureRunwayDesignator	NasMessage/flight/departure/runwayDirection	C		
DepartureRunwayStatus	NasMessage/flight/departure/runwayInformation	US		
ArrivalRunwayDesignator	NasMessage/flight/destination/runwayDirection	C		
ArrivalRunwayStatus	NasMessage/flight/destination/runwayInformation	US		
AircraftRegistrationMark	NasMessage/flight/aircraft/@registration	C		

Airline	NasMessage/flight/additionalFlightInformation	US		Name="AIRLINE"; Value=The identification of the airline associated with the flight. If the flight is not associated with an airline, the value is XXX. Examples: SWA, DAL
DepartureSpot	NasMessage/flight/departure/intendedDepartureSpot	US		
ArrivalSpot	NasMessage/flight/destination/intendedArrivalSpot	US		
EstimatedTimeOfDeparture	NasMessage/flight/departure/runwayDepartureTime/estimated	US		
EarliestFeasibleTakeoffTime	NasMessage/flight/departure/runwayDepartureTime/earliest	US		
TargetedTakeOffTime	NasMessage/flight/departure/runwayDepartureTime/target  NasMessage/flight/additionalFlightInformation	US		Name="TTOT"; Value=Formatted targeted take off time. Example: 2018-05-04T22:21:03.000Z
TargetedOffBlockTime	NasMessage/flight/additionalFlightInformation	US		Name="TOBT"; Value=Formatted targeted off block time. Example: 2018-05-04T22:21:03.000Z



TargetMovementAreaEntryTime	NasMessage/flight/departure/movementAreaTargetEntryTime	US		
EstimatedTimeOfArrival	NasMessage/flight/destination/runwayArrivalTime/eestimated	US		
ActualDepartureRampTransitTime	NasMessage/flight/departure/taxiOperationsMetrics/ outboundRampTaxiTimeDuration	US		
ActualArrivalRampTransitTime	NasMessage/flight/arrival/taxiOperationsMetrics/ inboundRampTaxiTimeDuration	US		
EstimatedDepartureRampTransitTime	NasMessage/flight/additionalFlightInformation (Used for departures only)	US		name="EST_DEP_RTT"; value=The duration of the RTT
EstimatedArrivalRampTransitTime	NasMessage/flight/additionalFlightInformation (Used for arrivals only)	US		name="EST_ARR_RTT"; value=The duration of the RTT
EstimatedSpotToQueueTaxiOutTime	NasMessage/flight/additionalFlightInformation (Used for departures only)	US		name="EST_SPOT_Q_TAXI_OUT"; value=The duration of the taxi
EstimatedArrivalMovementAreaTransitTime	NasMessage/flight/additionalFlightInformation (Used for arrivals only)	US		name="EST_ARR_AMA_TRAN_TME"; value=The duration of the taxi
ExpectedDeicingLocation	NasMessage/flight/departure/deicing/deicingLocation	US		
EstimatedDepartureQueueWaitingTime	NasMessage/flight/additionalFlightInformation (Used for departures only)	US		name="EST_DEP_Q_WAIT_TME";

				value=duration
PredictedDepartureSpot	NasMessage/flight/additionalFlightInformation (includes provenance) (Used for departures only)	US		name="PREDICTED_DEP_SPOT"; value=region ID
ActualDepartureSpot	NasMessage/flight/additionalFlightInformation (Used for departures only)	US		name="ACTUAL_DEP_SPOT"; value=region ID
PredictedArrivalSpot	NasMessage/flight/additionalFlightInformation (includes provenance) (Used for arrivals only)	US		name="PREDICTED_ARR_SPOT"; value=region ID
ActualArrivalSpot	NasMessage/flight/additionalFlightInformation (Used for arrivals only)	US		name="ACTUAL_ARR_SPOT"; value=region ID
DepartureRunwayPredicted	NasMessage/flight/additionalFlightInformation (Used for departures only)	US		name="DEP_RUNWAY_PREDICTED"; value=runway designator
DepartureRunwayAssigned	NasMessage/flight/additionalFlightInformation (Used for departures only)	US		name="DEP_RUNWAY_ASSIGNED"; value=runway designator
DepartureRunwayActual	NasMessage/flight/additionalFlightInformation (Used for departures only)	US		name="DEP_RUNWAY_ACTUAL"; value=runway designator
ArrivalRunwayPredicted	NasMessage/flight/additionalFlightInformation (Used for arrivals only)	US		name="ARR_RUNWAY_PREDICTED"; value=runway designator
ArrivalRunwayAssigned	NasMessage/flight/additionalFlightInformation (Used for arrivals only)	US		name="ARR_RUNWAY_ASSIGNED"; value=runway designator

ArrivalRunwayActual	NasMessage/flight/additionalFlightInformation (Used for arrivals only)	US		name="ARR_R WY_ACTUAL"; value=runway designator
DiversionRecoveryStatus	NasMessage/flight/@diversionRecoveryIndicator	US		
ApprovalRequestReleaseTime	NasMessage/flight/departure/approvalRequestReleaseTime	US		
MajorCarrierIdentifier	NasMessage/flight/flightIdentification/@majorCarrierIdentifier	US		
TmiIdentifiers	NasMessage/flight/departure/departureDelay/@tmiIdentifier	US		Contains a comma delimited list of TMI IDs, one per TMI associated with the flight. A TMI ID is int32+ICAO code for this airport.

## Flight Notification FIXM Information

This table includes which FIXM fields may be included in flight notification messages.

The **Ext** column indicates whether this field is in core, denoted by a 'C' in the cell, or US extension, denoted by 'US' in the cell.

The **FM Data** column below indicates that the field is included for the purposes of flight matching.

Data Element	Xpath In FIXM	Ext	FM Data	Details
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MessageType	NasMessage/metadata/@messageType	US		Possible values: FlightNotification
AircraftIdentification	NasMessage/flight/flightIdentification/@aircraftIdentification	C	✓	
DeparturePoint	NasMessage/flight/departure/@departurePointText	C	✓	Can be an airport, nas lat/long, fix, or a fix radial distance. Examples: Airport: KDFW Nas Lat/Long: 3500N/04000 W Fix: ATOKA Fix Radial Distance: SHP090015
DestinationPoint	NasMessage/flight/destination/@destinationPointText	C	✓	Can be an airport, nas lat/long, fix, or a fix radial distance. Examples: Airport: KDFW Nas Lat/Long: 3500N/04000 W Fix: ATOKA Fix Radial Distance: SHP090015.
InitialGateTimeOfDeparture	NasMessage/flight/departure/offBlockTime/@initial	US	✓	

EramGufi	NasMessage/flight/flightPlan/@identifier	US	✓	
ComputerId	NasMessage/flight/flightIdentification/@computerId	US	✓	
CidCreatorUnit	NasMessage/flight/flightIdentification/IdCreatorUnit	US	✓	
TfdmId	NasMessage/flight/additionalFlightInformation	US	✓	Name="TFDM ID"; Value=Internal TFDM ID or ATD-2 GUFU for the flight.
TfdmIdCreatorAirport	NasMessage/flight/additionalFlightInformation	US	✓	Name="TFDM IDCreator"; Value=the airport where the TFDM ID was created. Example: KCLT
MissedTobtNotification	NasMessage/flight/additionalFlightInformation	US		name="MISSED_TOBT"; value=MISSED_TOBT
MissedTmatNotification	NasMessage/flight/additionalFlightInformation	US		name="MISSED_TMAT"; value=MISSED_TMAT

## TTP WSRD to ATD2

The table below includes the flight data elements as described in the TTP Web Service Requirements Document (WSRD). It also gives an indication of which TFDM build the element will be included in and if it is intended to be implemented by ATD-2.

<b>WSRD</b>	<b>Definition</b>	<b>TFDM Build 1</b>	<b>TFDM Build 2</b>	<b>ATD-2</b>
ActualAirportMovementAreaHolding EndTime	The actual time when a flight exited the holding area in the airport movement area.			
ActualAirportMovementAreaHolding StartTime	The actual time when a flight entered the holding area in the airport movement area.			
ActualArrivalRampTransitTime	The actual taxi time from the entry point in the ramp area to the stand.		✓	✓
ActualDepartureRampTransitTime	The actual taxi time from the stand to the entry point in the airport movement area.		✓	✓
ActualInBlockTime	The time at which a flight arrives at the stand (source = AU).	✓	✓	✓
ActualLandingTime	The actual time at which the aircraft lands on a runway (source = TFMS, STDDS, AU).	✓	✓	✓
ActualMovementAreaEntryTime	The actual time at which the aircraft lands on a runway (source = TFMS, STDDS, AU).	✓	✓	✓
ActualMovementAreaExitTime	The actual time when the flight exits the airport movement area (source = STDDS).	✓	✓	✓

ActualOffBlockTime	The time at which the flight departs from the stand (source = AU).	✓	✓	✓
ActualRunwayEntryTime	The actual time when the flight enters the runway.	✓	✓	✓
ActualRunwayQueueEntryTime	The actual time when the flight enters the runway queue.	✓	✓	✓
ActualTakeOffTime	The actual time at which a flight takes off from the runway (source = TFMS, STDDS, AU).	✓	✓	✓
AerodromeArrivalFix	The point on the route of flight at which the responsibility for control of the flight is transferred from the En Route Air Traffic Control unit (Centre, ARTCC) to the Terminal Air Traffic Control unit.	✓	✓	✓
AerodromeDepartureFix	The point on the route of flight at which the responsibility for control of the flight is transferred from the Terminal Air Traffic Control unit to the En Route Air Traffic Control unit (Centre, ARTCC).	✓	✓	✓
AircraftIdentification	Name used by ATS units to identify and communicate with an aircraft.	✓	✓	✓

AircraftMovementFlightState	Provides the actual status for a flight in relation to its movement phase	✓	✓	✓
AircraftRegistrationMark	A unique, alphanumeric string that identifies a civil aircraft and consists of the Aircraft Nationality or Common Mark and an additional alphanumeric string assigned by the state of registry or common mark registering authority.	✓	✓	✓
ArrivalAerodrome	The ICAO designator or the FAA Location Identifier for the aerodrome at which the flight is scheduled, expected to arrive or has arrived at.	✓	✓	✓
ArrivalRunwayActual	Complex data item for the actual arrival runway for the flight	✓	✓	✓
[ArrivalRunwayActual]RunwayDesignator	The runway designator	✓	✓	✓
ArrivalRunwayAssignment	Complex data item for the assigned arrival runway for the flight	✓	✓	✓
[ArrivalRunwayAssignment]RunwayDesignator	The runway designator	✓	✓	✓
ArrivalRunwayPredicted	Complex data item for the predicted arrival runway for the flight	✓	✓	✓
[ArrivalRunwayPredicted]RunwayDesignator	The runway designator	✓	✓	✓



ArrivalSpot	The location on the surface where the aircraft will exit the airport movement area after arrival at the airport	✓	✓	✓
ArrivalStandAvailability	The availability status for a stand assigned for the arriving flight			
ArrivalStandDesignator	The stand at which an aircraft arrives at the destination aerodrome on completion of the flight	✓	✓	✓
ATCFlightState	Provides the status for a flight from an ATC perspective	✓	✓	✓
ClearanceDeliveryTime	The time at which a flight received route clearance.	✓	✓	✓
ComputerId	A unique identification assigned by ERAM to each flight plan	✓	✓	✓
DepartureAerodrome	The ICAO designator or the FAA Location Identifier for the aerodrome from which the flight departs	✓	✓	✓
DepartureManagementProcedureExemptionStatus	Exemption status from a departure management procedure			
DepartureReadyStatus	Indicates if the flight is ready for departure or not			
DepartureRunwayActual	Complex data item for the actual departure runway for the flight	✓	✓	✓

[DepartureRunwayActual]RunwayDesignator	The runway designator	✓	✓	✓
DepartureRunwayAssignment	Complex data item for the assigned departure runway for the flight	✓	✓	✓
[DepartureRunwayAssignment]RunwayDesignator	The runway designator	✓	✓	✓
DepartureRunwayPredicted	Complex data item for the predicted departure runway for the flight	✓	✓	✓
[DepartureRunwayPredicted]RunwayDesignator	The runway designator	✓	✓	✓
DepartureSpot	The location on the surface where the aircraft will enter the airport movement area for departure	✓	✓	✓
DepartureStandDesignator	The stand from which an aircraft departs on commencement of the flight	✓	✓	✓
DiversionRecoveryStatus	Indicates if a flight is a diversion recovery or not		✓	✓
EarliestFeasibleTakeoffTime	The earliest time a flight can takeoff based on its EOBT and any impacting traffic management initiatives	✓	✓	✓
EarliestOffBlockTime	Earliest possible time at which the flight could depart from the stand.	✓	✓	✓
EstimatedTimeOfArrival	The most reliable estimated landing time (source = TFDM).	✓	✓	✓

EstimatedTimeOfDeparture	The most reliable estimated take-off time (source = TFDM)	✓	✓	✓
EstimatedAirportMovementAreaHoldingEntryTime	The predicted time when a flight will enter the holding area in the airport movement area			
EstimatedAirportMovementAreaHoldingExitTime	The predicted time when a flight will exit the holding area in the airport movement area			
EstimatedArrivalMovementAreaTransitTime	The predicted taxi time from the arrival runway exit to the ramp area entry point		✓	✓
EstimatedArrivalRampTransitTime	The predicted taxi time from the entry point in the ramp area to the stand		✓	✓
EstimatedDepartureQueueWaitingTime	The predicted length of time for the flight in a departure queue		✓	✓
EstimatedDepartureRampTransitTime	The predicted taxi time from the stand to the entry point in the airport movement area		✓	✓
EstimatedSpotToQueueTaxiOutTime	The predicted taxi time from the entry point in the airport movement area to the departure queue entry		✓	✓
ExpectedDeicingLocation	The expected location where the flight will be de-iced		✓	✓
ExpectedHoldingLocation	The expected location where the flight will be holding			

FlightCreationDateTime	The date and time at which a flight was originally created in the TFDM system.			
FlightOperator	The FAA-approved three-letter organizational code under which the flight is operating. Applied only if the flight identifier contains a three-letter code	✓	✓	✓
FlightRemoved	Indicates if the flight has been removed from the demand list			
FlightRemovedReason	Indicates the reason for the flight removal from the demand list			
FlightSuspensionWarningNotification	Notification indicating that the flight has been suspended in the system			
Gufi	Globally Unique Flight Identifier that uniquely identifies a specific flight and is independent of any particular system.	✓	✓	✓
InitialGateTimeOfDeparture	The date and time at which a flight was originally planning to depart the stand.	✓	✓	✓
InitialInBlockTime	The original stand arrival time of the flight when the flight is first created.	✓	✓	✓

MajorCarrierIdentifier	The identification of the carrier who has contracted out the operation of the flight to a sub-carrier.		✓	✓
MissedTmatNotification	Notification indicating that the flight missed the Target Movement Area Entry Time		✓	✓
MissedTobtNotification	Notification indicating that the flight missed the Target Off Block Time		✓	✓
ProvenanceAttributes	Complex data item providing the original producer for each data field and the timestamp associated.	✓	✓	✓
ReasonForDepartureManagementProcedure	The reason for the departure management procedure exemption			
ScheduledInBlockTime	Scheduled gate time of arrival for a flight, as provided by the OAG (Official Airline Guide).	✓	✓	✓
ScheduledOffBlockTime	Scheduled gate time of departure for a flight, as provided by the OAG (Official Airline Guide).	✓	✓	✓
TargetMovementAreaEntryTime	The movement area entry time agreed upon between the flight operator and ATC as a result of a departure management procedure.		✓	✓

TargetMovementAreaEntryTimeStatus	The status for the Target Movement Area Entry Time		✓	✓
TargetMovementAreaHoldStatus	The hold status for the Target Movement Area Entry Time			
TargetOffBlockTime	The departure stand time agreed upon between the flight operator and other interested parties (such as between the Flight Operator and Air/Ground Services Providers, Airport Authority)		✓	✓
TargetTakeOffTime	The runway departure time agreed upon between the flight operator and other interested parties, or directly derived from such a time		✓	✓
TotalEstimatedTaxiInTime	The total estimated taxi in time from the arrival runway exit to the stand		✓	
TotalEstimatedTaxiOutTime	The total estimated taxi out time from the stand to take-off			
AcceptableDepartureRunway	Complex data item for the departure runways acceptable by the flight			
[AcceptableDepartureRunway]RunwayDesignator	The runway designator			

UnacceptableDepartureRunway	Complex data item for the departure runways unacceptable by the flight			
[UnacceptableDepartureRunway]RunwayDesignator	The runway designator			

## Example TTP Flight Data Message

### HEADERS:

"AERODROME":"KCLT"  
 "AIRLINE":"AAL"  
 "DATA\_GROUP":"FlightData"  
 "MESSAGE\_TYPE":"FlightAdd"  
 "PRIVACY\_LEVEL":"NoSFD\_NoCDM"  
 "SCHEMA\_VERSION":"4.1.1"  
 "SYNC":"rtm"  
 "TFDM\_RELEASE":"null"  
 "TIME\_STAMP":"2018-05-23T18:07:32Z"  
 "UUID":"c18e5c11-a571-445f-9156-e4544b53e8b7"

```

<nas:NasMessage xmlns:nas="http://www.faa.aero/nas/4.1"
xmlns="http://www.fixm.aero/messaging/4.0" xmlns:base="http://www.fixm.aero/base/4.0"
xmlns:fx="http://www.fixm.aero/flight/4.0">
  <nas:flight xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:type="nas:TfdmFlightType">
    <fx:aircraft />
    <fx:arrival xsi:type="nas:TfdmArrivalType" />
    <fx:departure xsi:type="nas:TfdmDepartureType" departurePointText="KCLT">
      <nas:offBlockTime>
        <nas:scheduled>2018-05-24T23:50:00.000Z</nas:scheduled>
      </nas:offBlockTime>
      <nas:runwayDepartureTime />
      <nas:standInformation standName="B12" />
    </fx:departure>
    <fx:destination xsi:type="nas:NasDestinationType" destinationPointText="KSAN">
      <nas:inBlockTime>
  
```

```
<nas:scheduled>2018-05-25T04:52:00.000Z</nas:scheduled>
</nas:inBlockTime>
<nas:runwayArrivalTime />
<nas:standInformation standName="28" />
</fx:destination>
<nas:additionalFlightInformation>
  <nas:nameValue name="TFDMID" value="AAL470.CLT.SAN.180523.1750.0023.AIRLINE" />
  <nas:nameValue name="TFDMIDCreator" />
  <nas:nameValue name="AIRLINE" value="AAL" />
</nas:additionalFlightInformation>
<nas:flightIdentificationPrevious aircraftIdentification="AAL470">
  <nas:idCreatorUnit xsi:type="base:IcaoUnitReferenceType" />
</nas:flightIdentificationPrevious>
<nas:flightPlan />
<nas:interimAltitude xsi:nil="true" />
</nas:flight>
<nas:metadata messageType="FlightAdd" />
</nas:NasMessage>
```