

MDS WORKING GROUP

PASSENGER SERVICES

FIELD MAPPING

June 2022 - WORKING DRAFT



OVERVIEW

For the new mode 'Passenger Services' in MDS 2.0, the Working Group is consolidating and aligning existing data requests by agencies into standard fields within MDS. Many jurisdictions have shared details about the data fields they are already sending and receiving from operators as comments in [pull request #763](#) which is the source for this document. The goal is to ensure that MDS for Passenger Services supports a diverse range of use cases and makes migration from bespoke data integrations straightforward and desirable.

COMMON DATA FIELDS

Common categories of data include information needed by law for regulating fleets and services, and may include data from trips, vehicle properties, accessibility, drivers, payments and fees, location, and anonymized passenger info. Updates will be made to this [feature branch](#).

The data fields below seem to fall into these categories:

1. Obvious direct mapping to current MDS 2.0 proposal
2. Derivable from MDS data in some fashion
3. Could be included as optional fields e.g. trip_attributes
4. Information about drivers
 - a. LA uses disconnected systems for driver ID
 - i. Overtime driving
 - ii. Pattern of bad behavior

- b. SF uses drivers-license ID for linkage
 - c. One-way hash of DL info?
 - d. Need more info from diverse cities
5. Information about compensation
- a. SF adds incentives for e.g. wheelchair, outer neighborhoods, odd hours (underserved communities)
 - b. Can/must all comp be linked to trips? Or is some outside of trips?
 - c. Priority access to good routes (e.g. airport) is another form of comp
 - d. Should tips be visible?
6. Completely outside current MDS 2.0, e.g. trips that didn't happen

The Working Group will attempt to incorporate as much of this feedback as possible while not bloating the spec into trying to solve every problem in every context. Optional fields will play a large role in providing flexibility to each city to describe their data needs in the Terms of Service issued to Providers.

DATA MAPPING

MDS Data Area	Proposed MDS field/value name	<i>San Francisco (Alex Demisch)</i>	<i>Portland (Jacob Sherman)</i>	<i>Chicago (Nick Lucius)</i>	<i>DC (Stephanie Dock)</i>	<i>NYC TLC (Philip Wong)</i>
MDS Base	provider_id	ProviderID				
Trip Attribute	journey_id			Shared Trip ID		
Trip Type	Values: Private, shared			Requested mode: private/shared, Shared Trip Authorized	Whether a private or shared service was requested, and if a shared service was requested	
Trip attribute	Hail_type: street_hail, phone, text, or name of app used (3rd party or native app)	HailType				
Trip attribute	App_name	HailType - app name				
Trip attribute	passenger_count	PassengerCount		Number of Passengers		The total number of passengers picked up and dropped off
Trip Attribute	payment_type	PaymentType				
Trip Attribute	fare_type	FareType				
MDS Base	start_time	StartTimeMilliseconds			The date and time of pick-up	The date and time of the passenger pick-up
MDS Base	end_time	EndTimeMilliseconds			The date and time of the drop-off	The date and time of the passenger drop-off

Trip Attribute	quoted_trip_start_time				The date and time of the requested pick-up	The date and time the Passenger requested the trip
Trip Attribute		PickupLocationAddresses				
Trip Attribute	reservation_method			Method column in trips csv		
MDS Base	standard_cost in Provider, quoted_cost in Agency	TotalFare		Trip Price Quote Private Ride, Trip Price Quote Shared Ride		
MDS Base	actual_cost	MeterFare			Average fare	
Trip Attribute	fare properties	FareType / Tolls / SFOExitFee / FlagDropAmount / OtherFees / Tip / ExtraAmount / PaymentType / Rate_code_id		Tip, Taxes and fees, Other charges, Tolls, Government Taxes and Fees, TNP Fees		The itemized fare for the trip including the amount of the fare, any toll, surcharge, commission rate, other deduction and any gratuity and a breakdown of the amount such passenger paid for the trip
Trip Attribute?		UpfrontPricing				
Trip Attribute				Driver Trip Pay		The payment the Driver received for the trip or the Driver's hourly paid rate
				Shared Trip Match		

Trip Attribute?		PromoRate				An indicator as to whether the trip was administered as part of the MTA's Access-A-Ride program.
Trip Attribute?		FareTimeMilliseconds		Time in Transit Chicago		The total trip time, as calculated as the time between when the Passenger entered the vehicle and when the Passenger exited the vehicle
Trip Attribute?		WaitTimeMilliseconds	Trip wait time			
State Machine				Outcome (passenger hailing attempt did not succeed)		
State Machine	Trip_start, trip_end, reservation_cancelled			Outcome (passenger hailing attempt resulted in a successful trip, passenger canceled, passenger no-showed)		
State Machine	reservation_start			Initiation Date and time, get timestamp of reservation_start VehicleEvent		
Trip attribute	permit_licence_nu					The TLC License

	mber					number of the For-Hire Base that dispatched the Vehicle The TLC License number of the For-Hire Base affiliated to the dispatched Vehicle
Vehicle Attribute	vin	VehicleID		Vehicle Identification Number		
Vehicle Attribute	placard_number	VehiclePlacardNumber				
Vehicle attribute	make			Vehicle make		
Vehicle attribute	model			Model		
Vehicle attribute	year			year		
Vehicle attribute	color			Vehicle color		
Vehicle attribute	inspection_date			Vehicle Inspection Date		
MDS Base	vehicle_id	LicensePlate				The dispatched Vehicle's License number
Trip Attribute & Vehicle Attribute	accessibility_options	IsWheelChairTransported		Requested mode, WAV		
Propulsion Type	propulsion_types					
Vehicle State	vehicle_state	Vehicle_Status				
Event Type	event_type					

AGENCY						
Trip attribute	MDS Agency `trip_end_time` - `trip_start_time`, MDS Provider `trip_duration`	TripDurationMilliseconds		Fare Start Date and Time Fare Start Location Fare End Location Fare Start Latitude Fare Start Longitude Fare End Latitude Fare End Longitude		
	MDS Agency `distance`, MDS Provider `trip_distance`	TripDistanceMeters		Distance, Miles Traveled in Chicago (could crunch distance between `elsewhere` events)	Total miles driven	Total trip mileage
	trip_id	trip_id	Unique transaction ID corresponding to the passenger's receipt	Trip ID		
TBD			Number/date/tim			No Driver accepted

			<i>e of unable-to-fulfill requests</i>			the trip after the trip was requested.
TBD			<i>Number/date/time of trips declined by driver or company</i>			The Driver canceled the request, the Date, time and Vehicle location when the Driver canceled the request
TBD			<i>Number of canceled-by-custo mer rides</i>			The Passenger canceled the request, the Date, time and Vehicle location when the passenger canceled the request
						The Passenger failed to show up for the requested trip, the Date and time at which the Driver canceled the request due to lack of passenger at pick-up location
Vehicle Event	trip_start event location in Agency, or first point in route in Provider	PickupLocationLatitude / PickupLocationLongitude	Origin lat/lon		Origin lat/lon, 3 decimals of precision	Location of passenger pickup
Vehicle Event	trip_end event location in Agency, or last point in route in Provider	DropoffLocationLatitude / DropoffLocationLongitude	Destination lat/lon		Destination lat/lon, 3 decimals of precision	Location of passenger dropoff
Vehicle Event						The date and time at which the Vehicle became available to

						accept dispatches from the High-Volume For-Hire Service The date and time at which the Vehicle became unavailable to accept dispatches from the High-Volume For-Hire Service
			<i>#/% internal combustion engine, hybrid vehicle, and zero emission vehicles</i>			
Trip attributes	driver_id	operator_id		Driver's license number		The Driver's TLC Driver License number
Driver attributes				Driver's license state,		
Driver attributes				Driver Name		
Driver attributes				Driver's start date , driver's end date, Employee or Independent Contractor, Inactive Reason,		
Driver session				Session start date and time, Session end date and time,		

				Miles Traveled Total, Miles Traveled with Passenger, Session End Reason,		
Telemetry				Vehicle latitude, longitude, Location Date and Time		The geographic position of the Vehicle during the entire time the Vehicle is available to accept dispatches from the High-Volume For-Hire Service at intervals no less frequent than every sixty (60) seconds
Driver compensation				Total Fares, Hourly Pay, Trip Pay, Tips		
Drive compensation				Deductions for gas, cleaning, other		
Provider to driver communication				Provider to driver communication		

USE CASES

Specify certain fields and enumerate use case(s) for needing the data, and list cities who are using that field/use cases.

Eg, for 'license_plate' - to support pay by plate models in our jurisdiction - SFMTA

Issues to discuss

- Trips that never happened with no vehicle/device ID - PS only or all of MDS?
- Drivers license ID used, but tracked across providers, cities already getting it, UUID could still track a driver around city
- Remote driver vs autonomous vs in vehicle