

Histogram Gradient Boosting Regressor Metrics

Columns:

```
Index(['Journey_day_Monday', 'Journey_day_Saturday', 'Journey_day_Sunday',  
      'Journey_day_Thursday', 'Journey_day_Tuesday', 'Journey_day_Wednesday',  
      'Airline_AirAsia', 'Airline_AkasaAir', 'Airline_AllianceAir',  
      'Airline_GO FIRST', 'Airline_Indigo', 'Airline_SpiceJet',  
      'Airline_StarAir', 'Airline_Vistara', 'Class_Premium',  
      'Total_stops_2+-stop', 'Total_stops_non-stop', 'Arrival_6 AM - 12 PM',  
      'Arrival_After 6 PM', 'Arrival_Before 6 AM', 'Departure_6 AM - 12 PM',  
      'Departure_After 6 PM', 'Departure_Before 6 AM',  
      'Part of the month_End', 'Part of the month_Middle',  
      'Route_Ahmedabad to Chennai', 'Route_Ahmedabad to Delhi',  
      'Route_Ahmedabad to Hyderabad', 'Route_Ahmedabad to Kolkata',  
      'Route_Ahmedabad to Mumbai', 'Route_Bangalore to Ahmedabad',  
      'Route_Bangalore to Chennai', 'Route_Bangalore to Delhi',  
      'Route_Bangalore to Hyderabad', 'Route_Bangalore to Kolkata',  
      'Route_Bangalore to Mumbai', 'Route_Chennai to Ahmedabad',  
      'Route_Chennai to Bangalore', 'Route_Chennai to Delhi',  
      'Route_Chennai to Hyderabad', 'Route_Chennai to Kolkata',  
      'Route_Chennai to Mumbai', 'Route_Delhi to Ahmedabad',  
      'Route_Delhi to Bangalore', 'Route_Delhi to Chennai',  
      'Route_Delhi to Hyderabad', 'Route_Delhi to Kolkata',  
      'Route_Delhi to Mumbai', 'Route_Hyderabad to Ahmedabad',  
      'Route_Hyderabad to Bangalore', 'Route_Hyderabad to Chennai',  
      'Route_Hyderabad to Delhi', 'Route_Hyderabad to Kolkata',  
      'Route_Hyderabad to Mumbai', 'Route_Kolkata to Ahmedabad',  
      'Route_Kolkata to Bangalore', 'Route_Kolkata to Chennai',  
      'Route_Kolkata to Delhi', 'Route_Kolkata to Hyderabad',  
      'Route_Kolkata to Mumbai', 'Route_Mumbai to Ahmedabad',  
      'Route_Mumbai to Bangalore', 'Route_Mumbai to Chennai',  
      'Route_Mumbai to Delhi', 'Route_Mumbai to Hyderabad',  
      'Route_Mumbai to Kolkata', 'Booking_Category_Planned',  
      'Booking_Category_Short-notice'],  
      dtype='object')
```

Hyperparameters:

```
Best parameters found by RandomizedSearchCV: {'histgradientboostingregressor__min_samples_leaf':  
50, 'histgradientboostingregressor__max_leaf_nodes': 50, 'histgradientboostingregressor__max_iter': 500,  
'histgradientboostingregressor__max_depth': 10, 'histgradientboostingregressor__learning_rate': 0.05,  
'histgradientboostingregressor__l2_regularization': 0.01}
```

Cross validation (cv=3) R-squared mean:
(0.6491336877624683, 0.002165847239007797)

Mean Absolute Error:
(7514.396283620079, 7557.521290079536)