



GPS-Driven Data
Collection for
CPMM: Enhancing
Feasibility and
Efficiency

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ON
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GPS-Driven Data Collection for CPMM: Enhancing Feasibility and Efficiency

Objective: Refine methodology for CPMM project

Key Metrics: Stops, parking time, movement, and speed, fuel etc.

Purpose:

- Assess transport efficiency
- Identify bottlenecks in the corridor
- Develop responsive indicators to improve trade flow management





➤ Unit – BB000RB

➤ Interval beginning 2024-07-18 00:00:00

➤ Interval End 2024 08-11 23:59:59

➤ **Stops count – 183**

➤ Parking time - 21 days 23:53:38

Parking count – 57

➤ Move time - 3 days 0:02:26

➤ Mileage - 4948 km

➤ Average speed in trips - 69 km/h

➤ Max speed in trips - 104 km/h

➤ Engine hours - 3 days 15:02:42

How GPS Helps: GPS devices can track the exact time a vehicle enters and exits a border-crossing point. This provides precise data on the duration spent at the border.

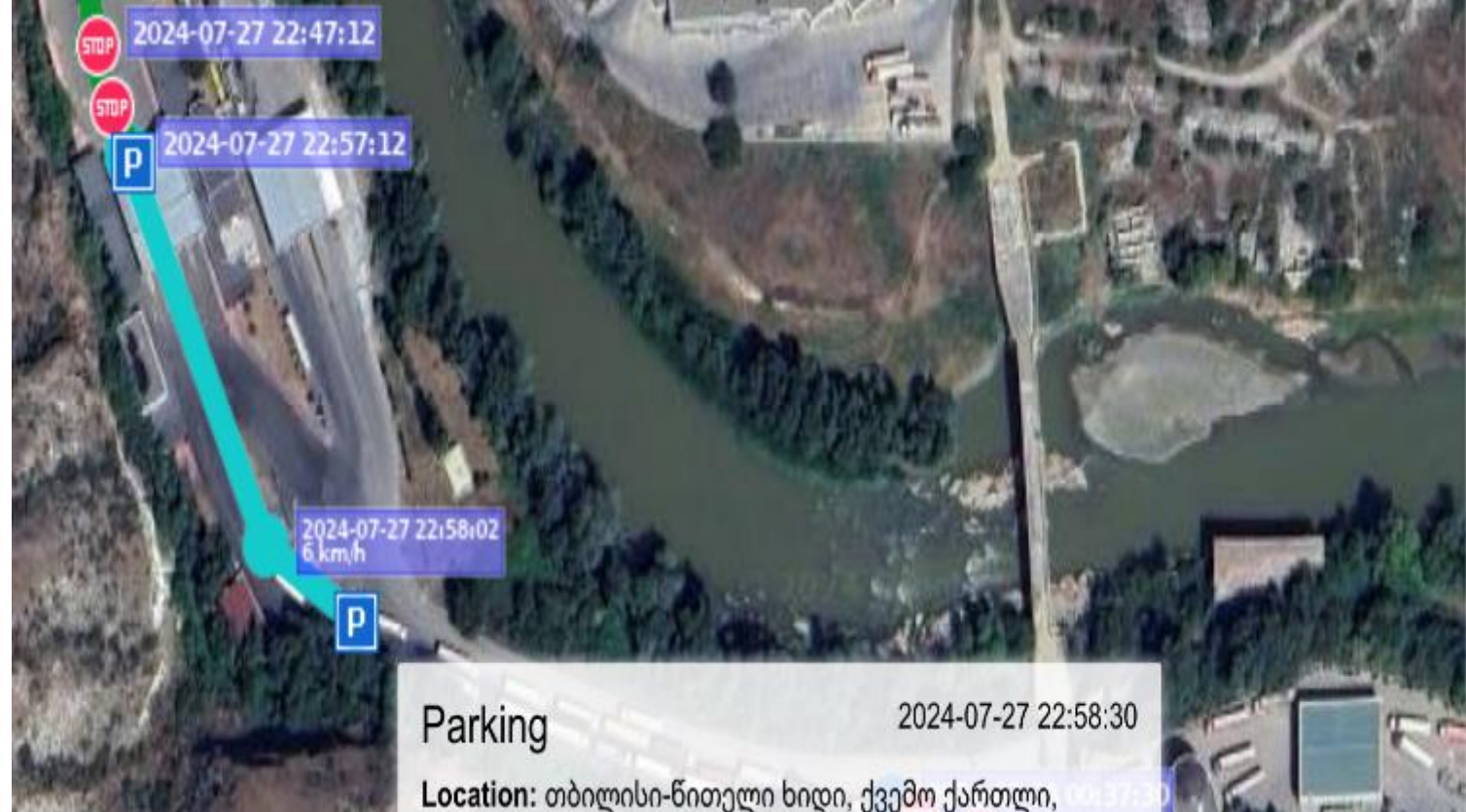


Stop – Duration less than 3 minutes



Parking - Duration more than 3 minutes

GEO – AZ Border Crossing



Red Bridge (Geo)

Beginning	End	Duration	Location
2024-07-27 22:50:14	2024-07-27 22:57:12	0:06:58	Red bridge
2024-07-27 22:58:30	2024-07-28 00:29:14	1:39:00	Red bridge

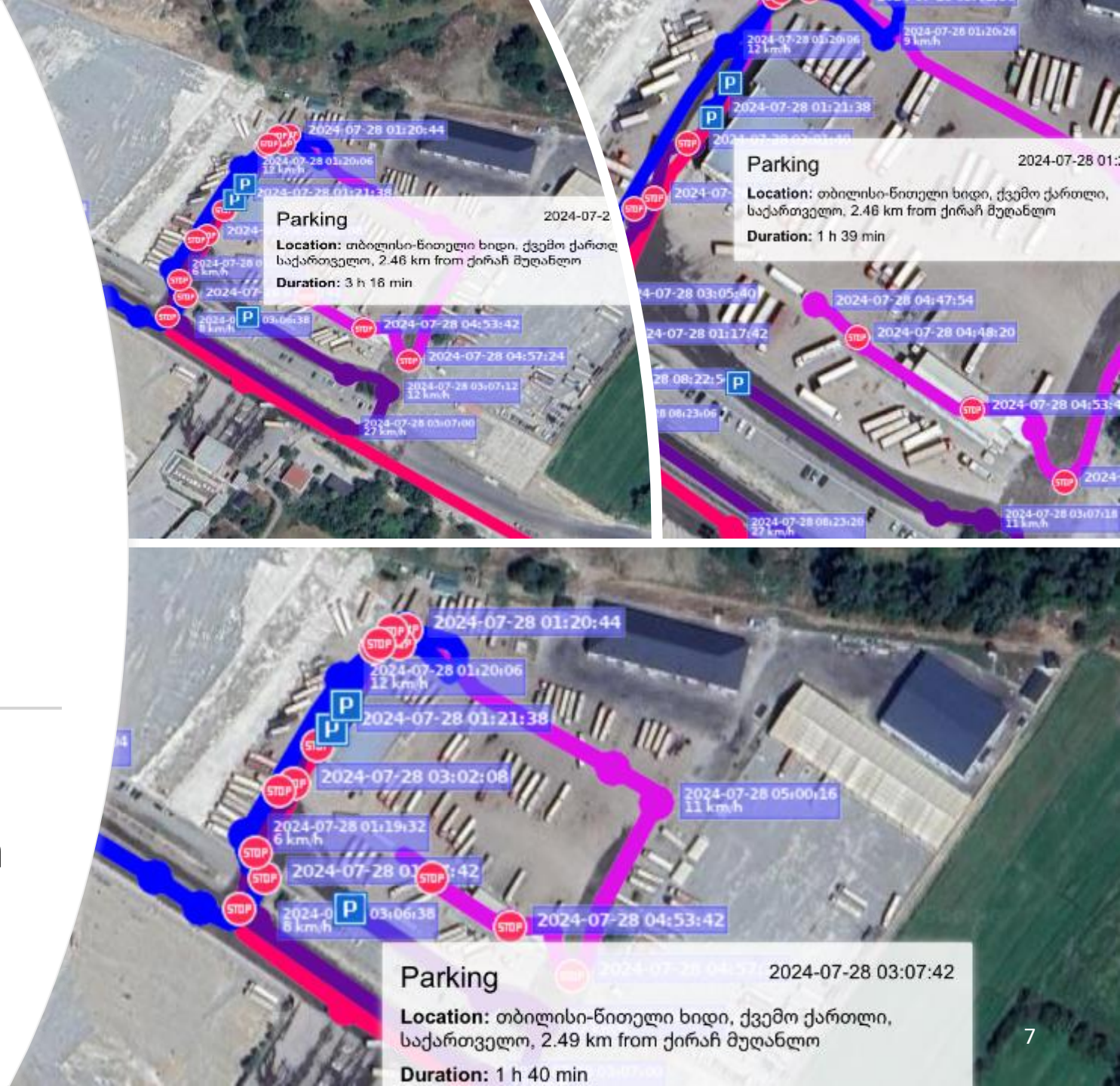


Qırmızı körpü (AZE)

Beginning	End	Duration	Location
2024-07-27 22:50:14	2024-07-27 22:57:12	0:06:58	Qırmızı körpü (AZE)
2024-07-27 22:58:30	2024-07-28 00:29:14	1:39:00	Qırmızı körpü (AZE)

Border Crossing Procedure

Total Parking Time for Paperwork: Crossing Azerbaijan Border – 6 Hours 36 Minutes



Live Tracking

The screenshot displays a live tracking application interface. At the top, a navigation bar includes menu items: Reports, Geofences, Routes, Drivers, Jobs, Notifications, Users, and Units. The main map area shows a satellite view of a coastal region with a multi-colored path (green, cyan, yellow, blue) representing a vehicle's route. A vehicle icon labeled 'BB944RB' is positioned on the path. Various icons like 'P' and 'E' are scattered along the route. On the left side, there is a 'Track player' panel with a dropdown menu set to 'BB944RB (Tracks)'. Below this, it shows the vehicle's current location in Georgian: 'თბილისი-წითელი ხედი, ქვემო ქართლი, საქართველო, 2.54 km fro...' and a speed of '0 km/h'. A timestamp '2024-04-14 19:48:10' is displayed. A progress bar and playback controls (play, stop, previous, next) are present, along with a '50x' zoom level. Below the track player is a 'Google Street View' inset showing a first-person perspective of a road. At the bottom left, a 'Parameters' section contains a table of technical data.

hdop: 1	odo: 0
adc2: 109.7499	adc12: 28653
c1: 0	c2: 659
c3: 0	c4: 100
mcc: 282	mnc: 2

At the bottom right, a playback control bar shows a play button, a progress bar, and a timestamp of '00:00.00'.

Information and Data that can be provided using GPS



REAL-TIME VEHICLE TRACKING:
CURRENT LOCATION, SPEED,
AND DIRECTION



ROUTE HISTORY: COMPLETE
HISTORY OF ROUTES TAKEN,
INCLUDING STOPS AND
DURATIONS



GEOFENCING ALERTS:
NOTIFICATIONS WHEN A
VEHICLE ENTERS OR LEAVES
SPECIFIC GEOGRAPHIC AREAS



DRIVER BEHAVIOR
MONITORING: INFORMATION
ON HARSH BRAKING, RAPID
ACCELERATION, AND OVER-
SPEEDING EVENTS



MILEAGE TRACKING: TOTAL
DISTANCE TRAVELED FOR
SPECIFIC TIME PERIODS



IDLE TIME TRACKING: TIME
SPENT IDLING OR WITH THE
ENGINE RUNNING WITHOUT
MOVEMENT



FUEL LEVEL MONITORING:
REAL-TIME FUEL LEVEL AND
ALERTS FOR UNUSUAL FUEL
USAGE PATTERNS OR THEFT

Information and Data that can be provided using GPS



TRIP PLANNING
OPTIMIZATION:
SUGGESTIONS FOR THE
MOST EFFICIENT ROUTES
BASED ON TRAFFIC OR
ROAD CONDITIONS



TIME SPENT PASSING
SPECIFIC CHECKPOINTS
AND FERRY TRAVEL TIME



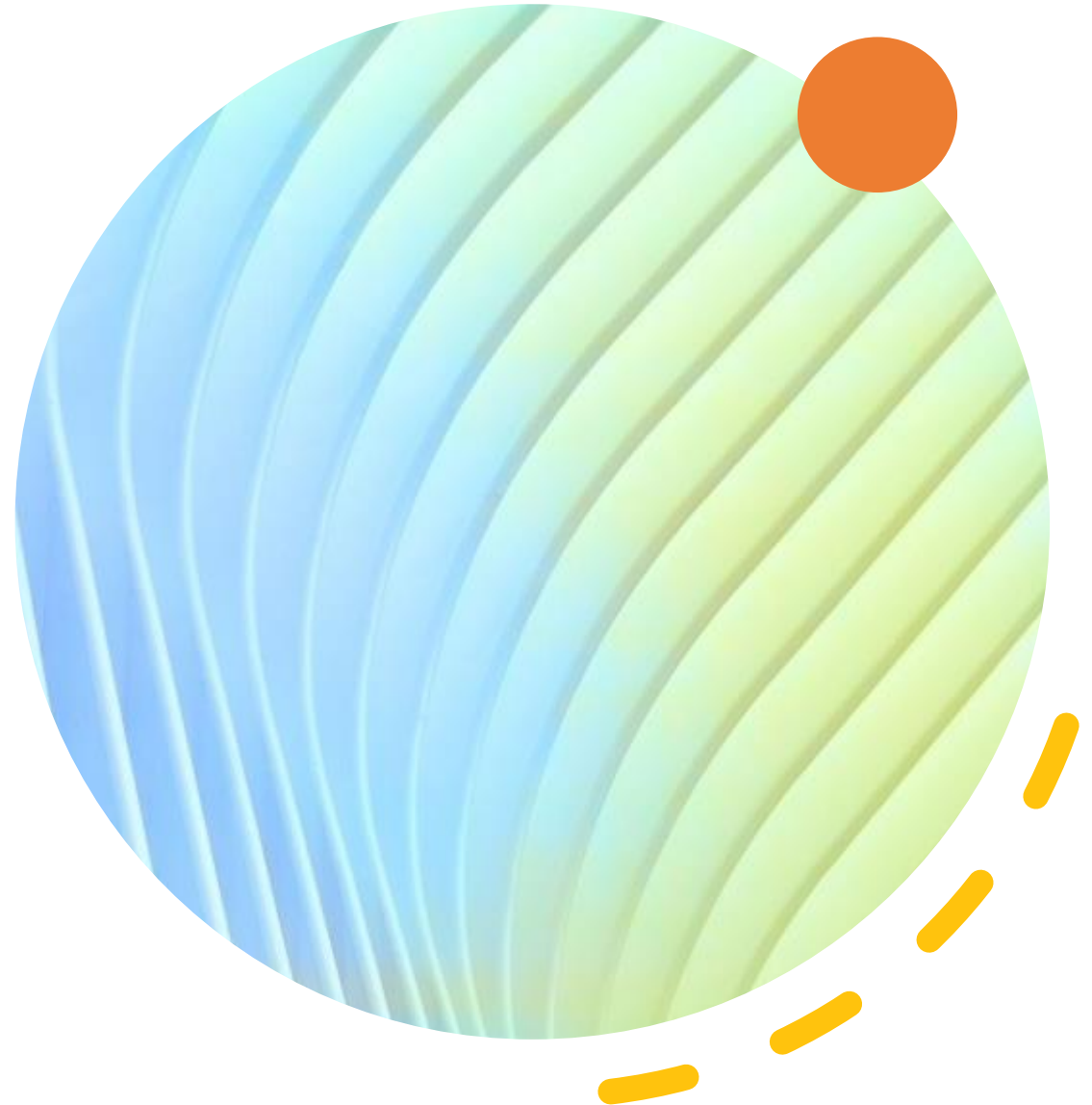
IDENTIFICATION OF
PARKING AREAS AND TIME
SPENT THERE



CALCULATION OF
MAXIMUM AND AVERAGE
SPEED



CALCULATION OF FUEL
CONSUMPTION



Refining Corridor Efficiency with GPS Data Insights



Truck ID & Time Interval:

Track performance over set periods to identify trends and bottlenecks
Focus on monthly or bi-weekly intervals for seasonal adjustments



Stops Count (149):

Identify delays (inspections, refueling, etc.) to improve journey efficiency
Pinpoint areas needing intervention to reduce delays



Parking Time (12d, 13:52:36):

Assess idle time to identify inefficiencies and optimize processes
Improve logistics by addressing excessive parking durations



Parking Count (49):

Analyze parking frequency to address logistical challenges
Suggest enhancements to parking/rest area provisions

Move Time (1d, 10:02:40):

- Increase active travel time for better transport efficiency
- Reduce overall journey duration

Mileage (1963 km):

- Measure corridor coverage and ensure reliable transit times
- Identify segments needing performance improvement

Average Speed (58 km/h):

- Assess movement efficiency and maintain speed standards
- Benchmark against international transport standards

Max Speed (99 km/h):

- Identify high-speed sections and ensure safety compliance
- Evaluate speed variations for better corridor reliability

Engine Hours (1d, 18:40:42):

- Monitor operational time for fuel efficiency and sustainability
- Support improved engine use optimization



Costs of GPS And Fuel Sensor

Installation and Service

DESCRIPTION	PRICE (USD)
GPS device price	\$74.00
GPS device installation cost at service center	\$11.10
GPS device installation cost outside service center	\$18.50
GPS device removal cost at service center	\$11.10
GPS device removal cost outside service center	\$18.50
Fuel sensor (with cable / Bluetooth)	\$148.00 / \$185.00
Fuel sensor installation cost at service center	\$18.50
Fuel sensor installation cost outside service center	\$37.00
Calibration at service center	\$18.50
Calibration outside service center	\$37.00
GPS and Fuel Sensor Maintenance	\$18.00

Final Report

THANK YOU!

