

GPSTrack – A Low Cost Fleet Management System

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Mobile GPS Online

How to manage a fleet efficiently?

- Requirements: effective and efficient utilization of resources (vehicles & drivers)
- How to realize:
 - Optimize job dispatch
 - Track activities of the resources
 - Differentiate between legitimate and illegitimate activities
 - Control cost of labor, vehicle and fuel
- Goal: high productivity, low operating cost

Challenging Questions to Managers

- ❖ What are my drivers doing during the day?
- ❖ Are my drivers following the planned routes?
- ❖ Are the drivers delivering services or goods to customers on time?
- ❖ How much time do my drivers spend at customers?
- ❖ Where and how long have the drivers stopped?
- ❖ Are the drivers entering unauthorized zones during work time?
- ❖ Are the company vehicles being abused?
- ❖ How much time and fuel are lost for idling engines?
- ❖ Are my drivers speeding and where?
- ❖ Are they wasting gas and time in finding roads to customers?
- ❖ How can I estimate the labor and fuel cost more accurately?

System or Tools Needed

- ❖ An efficient customer management system
- ❖ An effective job dispatch and route optimization system
- ❖ A reliable drivers' performance tracking and management system
- ❖ An effective cost analysis and report system

System Overview

❖ GPS Tracking & Management Systems

➤ Passive tracking systems

- Use GPS data logger to record trip data and then download the data to the system for tracking and analysis
- Advantage: Low-cost, no monthly fee,
- Answer question: where have the vehicles been, but cannot tell where are the vehicles now?

➤ Real time tracking systems

- Use cellular network to transmit data on schedule or by request
- Advantage: Tells current vehicles' locations
- Monthly fee for the wireless data services

GPSTrack System

- ❖ A state of the art GPS passive and real time tracking system.
- ❖ Supports different hardware options available on the market.
- ❖ Can be set up according to manager's choice for passive and real time tracking as well as different hardware requirements.
- ❖ An independent system, the users have all control of the data, no internet access is required.
- ❖ **A very low cost and high benefit system**

Major Functions

- ❖ Plan and schedule efficient daily routes by optimizing customer stops for each vehicle.
- ❖ Track and monitor performance of drivers by checking adherence to the scheduled routes.
- ❖ Increase productivity and service quality by monitoring customer visits, deliveries and stops.
- ❖ Analysis and report detailed operation cost and efficiency.
- ❖ **Optional: In-vehicle navigation for drivers.**

What Problems does GPSTrack Solve?

- ❖ **Administrative complexity and high cost of controlling vehicles and drivers**
- ❖ **Uncertainty of what is happening in the field**
 - Driver productivity and vehicle utilization
- ❖ **Vehicle Abuse**
 - Unscheduled routes and deliveries
 - Unauthorized usages
 - Bad driving habits that may cause high maintenance cost and accidents

GPSTrack will answer all the questions:

- ❖ What are my drivers doing during the day?
- ❖ Are my drivers following the planned routes?
- ❖ Are the drivers delivering services or goods to customers on time?
- ❖ How much time do my drivers spend at customers?
- ❖ Where and how long have the drivers stopped?
- ❖ Are the drivers entering unauthorized zones during work time?
- ❖ Are the company vehicles being abused?
- ❖ How much time and fuel are lost for idling engines?
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How Does the System Work?

- ❖ Step 1: Set up the system by inputting all business data such as customers, vehicles, drivers, labor cost, fuel cost etc.
- ❖ Step 2: Use the system to plan daily work route for each vehicle or driver.
- ❖ Step 3: Use a GPS data logger to record trip data such as vehicle positions, speeds, moving direction and time etc. or use a GPS tracker to send such data back real time.
- ❖ Step 4: Track vehicles and do business analysis based on the collected trip data

GPS Data Logger Models

-- for passive tracking

MGL30U



USB Cable



GDL30

MMC Card



RBT1100

Bluetooth Wireless



RF Wireless



MGO-DL200

Prices of GPS Data Loggers

- ❖ **Different models of GPS data loggers are available from the market.**
 - GPS Trip Recorder using USB connection for data download (about US\$150 each)
 - GPS data logger using MMC to store the data (about US\$200 each)
 - GPS data recorder with Bluetooth wireless download within 10 meters (about US\$150 each)
 - GPS data logger with automatic wireless download function (about US\$420 each)

GPS Tracker Models

-- for real time tracking
(about \$300 ~ \$550 each)

G-19B



TrimTrac



iTrac

GSM SMS

GSM GPRS

GSM SMS

Satellite Com



DMR200D

Trip Profile & Map View

- ❖ GPSTrack uses Microsoft Mappoint® as route planning and mapping tools. It covers North America and West European Countries with detailed street level maps.
- ❖ Different symbols are used to differentiate activities of the driver during the trip.
- ❖ One mouse click on the symbol or pushpin will display time stamped information in detail.

Trip Profile & Map View

GPSTrack

Setup View Database Map Zone Trip Track History Track Current Report Tools Help

The trip of: Vehicle: Date: 2003/04/04

Speeding
2003/04/04 18:29:35
Speed: 119.9 km/h
Vehicle: V0002
Driver: D0002

Stop at: Kevin French
2003/04/04 18:43:42
Vehicle: V0002
Driver: D0002
Stop Tme: 0d 00:07:30

Moving
2003/04/04 19:04:12
Speed: 89.1 km/h
Vehicle: V0002
Driver: D0002

Stop at: Jogn Doe
2003/04/04 19:15:12
Vehicle: V0002
Driver: D0002
Stop Tme: 41d 21:31:41

View Trip Ended 21/07/2006 10:53 PM

Data Analysis & Reports

- ❖ **GPSTrack provides users with a wide variety of reports to answer different management questions:**
 - What are my drivers doing during the day?
 - Are the drivers delivering services or goods to customers on time?
 - How much time do my drivers spend at customers?
 - Are my drivers speeding and where?
 - Where have the drivers stopped for more than 5 minutes?
 - And many more...

Benefits of GPSTrack

- ❖ Better tracking and easier management of company's most expensive assets – vehicles and drivers
- ❖ Higher customer satisfaction resulting from reports on service stops and deliveries
- ❖ Immediate reduction in fuel, maintenance and insurances cost by controlling drivers activities including speeding
- ❖ More sales from more productive vehicles and drivers
- ❖ Quicker response to improve business efficiency

Case Study of Cost Saving

Assuming: A Canadian company has 10 vehicles

- average monthly driving kilometers per vehicle: 1500 km
- fuel cost per liter: \$0.69 and consumption (liters per 100 km): 15
- monthly maintenance cost per vehicle: \$100
- average driving time per km: 1.8 minutes
- monthly labor cost per driver: \$3000.00 for 21.25 days, 8 hours per day

Monthly fuel savings (wasted kilometers)	15%	\$232.88
Monthly maintenance savings (driving behaviors)	20%	\$200
Monthly savings in lost productivity (wasted km)		\$1191.18
Total monthly savings:		\$1624.06
Total annual savings:		\$19488.68
Savings over 5 years:		\$97443.39

Conclusion

- ❖ GPSTrack is a low cost yet powerful GPS tracking system for fleet management. The initial investment can be as low as \$200 per vehicle and no ongoing cost for passive tracking.
- ❖ GPSTrack provides fleet managers with all necessary tools for successful and efficient fleet management.
- ❖ It is very flexible for users to choose their GPS data loggers or real time trackers to meet their different requirements.

Thank You

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