

Reliable buses, safer children
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Schools Transport Automatic Register

Reliable buses, safer children



Realising the potential of school transport

What is STAR?

Schools Transport Automatic Register (STAR) is a transport communication system to enhance the safety, increase the productivity and drive out costs for school bus and Special Education Needs (SEN) transport operations – whether contracted out or not.

STAR is not just a tracking or routing system. It combines the technologies of GPS vehicle tracking with personal RFID smartcards as the basis for an innovative way of delivering home to school transport services to parents, schools, bus companies and local authorities.

Each child has a personalised smartcard referencing their details including a photo which is recognised and validated by the STAR system. The card acts as a reference point to details, including a photograph, held on a server.

The smartcard registers on the bus console when passengers board and exit the vehicle. This information is recorded on a secure online server within seconds.

The bus console now holds a live manifest of passengers.

The STAR bus driver's console contains a GPS tracking device. The bus and its whereabouts are registered on the STAR website in real time.

The system provides the basis for:

- Keeping a live manifest of passengers onboard the bus via the driver console and consequently online and in real time
- Allowing automatic travel validation on board the bus
- Generating reports to be sent to authorised users across organisations
- Allowing parents to check the progress of their child's journey online
- Allowing the driver to identify individuals via the bus console's manifest and report incidents immediately from the console
- Two way voice and text communication between the driver and base.

Why STAR?

Star is based upon mature technologies – GPS tracking and RFID smartcards. It delivers value by combining their uses through the dedicated STAR website and the STAR bus driver's console.

The bus driver's console comes in two models – a larger screen, permanent fixture or a mobile, Tom Tom-like console.

STAR allows authorised users to discover a host of operational and strategic information.

Operational information would include validating travel, identifying misbehaviour on the vehicle, the ability to immediately check whether primary school children are exiting at the correct stops, notifying passengers or their carers in advance of delays or the imminent arrival of the vehicle and offering parental access to online, real time information on their bus's whereabouts – pre-empting telephone calls and disputes about punctuality.



Alerts can also be configured if the bus deviates from a route, is running particularly late or early or displays sudden stops or impacts.

Strategic benefits would include automatically generating pre-configured reports to those organisations who need them – thus eliminating layers of data processing and reporting. Also – there is less dependence on manual on board verification.

STAR is designed to encourage parents to use the home to school system by offering them a service where they can check where their children are on the bus and where the bus is online and in real time.

User access is configurable; parents will be able to only view their own child's journey details.

Smartcards do not contain personal details themselves. They act as a reference to details held on a secure server.

Benefits

We believe STAR offers five key benefits.

Safety

- Buses and children's whereabouts can be checked by parents.
- For primary school children, a warning can be given to the driver if a child gets off at the 'wrong' stop.
- Bullies can be identified by the driver who scrolls through photographs of students on the bus and uses a menu to identify a type of behaviour. The child and incident is communicated to authorities via the console.

Operation

- STAR backs up the driver with instant information and alerts on each pupil's validity to travel. STAR alerts the driver if a card is used twice.
- STAR should speed up boarding time.
- The system can alert students of delays via mobile messages.
- STAR sends the same statistics and reports to bus companies and local authorities therefore eliminating conflict over information.

Planning

- The system provides statistics on who uses the bus and patterns of use. This helps with capacity planning.
- Stops can be allocated to pupils. 'Unscheduled' behaviour (e.g. getting off at early stops on Fridays to go to the cinema) is compensated for.

Economy

- Better and immediate statistics allows for optimal planning.
- STAR provides electronic rather than manual monitoring.
- Transport Officers at local authorities can access and collate information more quickly as the level of manual data collation is reduced.
- The same reports are sent to bus companies and authorities – reducing layers of data processing and conflicts over varying information.

Environment

- STAR should incentivise parents to let their children use school buses rather than make school-runs themselves. This may result in reduced carbon emissions, less congestion and less road accidents.



Special Education Needs (SEN)

STAR can easily be configured for use for SEN transport whether using smartcards or not. SEN transport departments at local authorities have advised us of the most pressing criteria regarding SEN travel. These are:

- Confirming who is on board the vehicle at any time
- Verifying who should be getting off at what stops.
- Explaining why a passenger has not been collected
- Verification of the driver and escort's journey log
- Alert if the vehicle diverts from a route
- Reporting of challenging behaviour on board
- Assisting the driver and escort with reporting
- Allowing parents and carers to see where the vehicle is
- Confirming the driver's journey log.

Passenger details on a SEN route can be pre-loaded onto the console before beginning a journey. STAR will tell drivers who will be boarding at every stop and will display their name and photo. If not appropriate – smartcards will not be used for travel. The driver themselves will log each passenger boarding on their console. If a passenger does not use the service – the driver can log the reasons why from a pre-set menu.

The console will report when a vehicle arrived at each stop, how long it waited and when it departed. STAR can alert base if a vehicle deviates from prescribed routes. Texts can be sent to passengers notifying them in advance of the arrival of their bus – reducing waiting times and delays.

Parents can check punctuality on line. The transparency of this information should reduce calls to call centres and disputes about service levels.



GEP Tec and STAR

GEP Tec is an IT Communications company well versed in engineering, IT and communications technology.

STAR offers many benefits but GEP Tec understands each organisation will be focusing on select key areas where they would like to upgrade their service offering.

STAR may well offer an organisation increased functionality. It may offer an organisation the same level of functionality it already enjoys but with greatly reduced manual reporting and less management time.

Our engagements start with understanding an organisation's KPI's and its particular set of requirements.



GEP Tec

Gep Tec delivers innovative solutions in the Education and Transport markets. These solutions use a common Smartcard technology platform and are designed so that customers can use the same smartcard to access different GEP Tec solutions.

In development are:

- A cashless school meal system
- Internet 'hot spots' on buses and trains.