



# VigilManager

## White Paper

*Making agencies smarter, safer and more efficient*



September 2010

## MAKING KNOWLEDGE ACCESSIBLE

How many accidents or heartbreaking tragedies could be avoided if agencies and the departments within those organizations had a way to consolidate their combined knowledge and experience? Think 9/11. Agencies had collected information and facts, but it wasn't accessible - and it wasn't being shared. There was no process in place, no way to fit the pieces of the puzzle together to recognize the imminent danger.

The same kind of misfortune occurs on a much smaller scale every day because agencies lack the means to collect, analyze and act on the immense knowledge and experience in their workforce.

In transit this is evident when the operator involved in a severe accident had a history of risky behaviors that were never addressed. Often information about drivers is too scattered and doesn't raise a "red flag". Identifying high risk drivers - **before an incident occurs** - and ensuring compliance to standards requires people from different departments to **work together as a team**.

Unfortunately, the sharing of information and experience doesn't generally occur. There must be a process in place which consolidates data from several areas to make that data truly useful.

In addition, these processes must be inherent to the system while visible at every level of the organization to be effective. By embedding these data collection tools into the daily routine of operators, supervisors, risk personnel, and trainers, an agency's knowledge base grows naturally.

Once this repository is established, customized software programs can mine the data, looking for trends and identifying problems. Allowing appropriate actions to be taken - **before an accident or incident occurs**.



*"To identify high-risk drivers  
the departments within an  
agency must work together  
as a team"*

## REDUCING RISK

Accidents occur as a result of an unsafe act (such as following too closely) or an unsafe condition (glare). The way to reduce accidents is to identify and take appropriate steps to nullify these behaviors and conditions.

Identification requires data collection and analysis. The challenge is to pull together a variety of data from various sources that can be compiled and analyzed. With this repository of information that includes accident data, driver assessments and training records, a workflow may be established that searches for trends or “red flags” which trigger alerts. Alerts that will enable an agency to be proactive when it comes to **increasing safety and reducing liability**.

Once behaviors and conditions are identified, a course of action can be applied to alter the behavior. To achieve a change in risky behavior, it’s important that the person being counseled receives a consistent message. A major part of that message is a clear explanation of the actions he/she is expected to perform.

At Vigil, we refer to these actions as “**Core Skills**”. In reference to driving, Core Skills are those actions which will allow an operator to travel their route safely. Behaviors that when performed on a consistent basis will **lower the risk** of being involved in an accident.

In addition, managing driver risk requires ongoing measures of progress. What problems are particular drivers having? What are the most common problems within an organization or within a particular depot/garage? Are operators who have been identified as “risky” improving? When follow-up training has been completed, have the problems been resolved?



Figure 1: VigilManager Risk Analysis

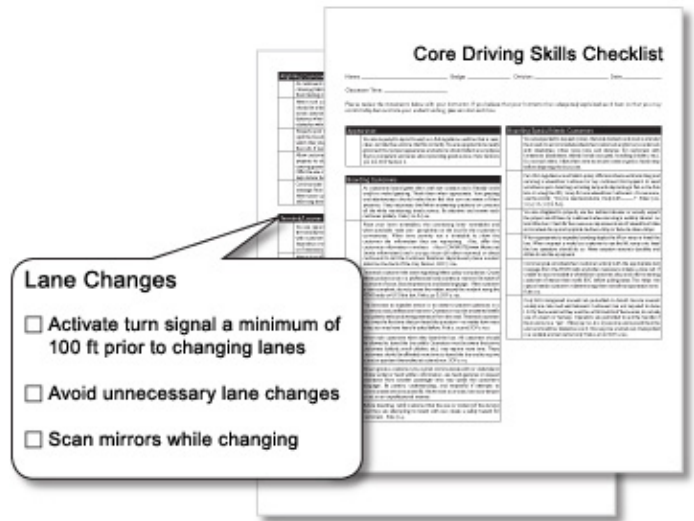


Figure 2: Core Driving Skills Checklist

## THE VIGIL APPROACH

The Vigil Solutions approach to managing risk is a powerful, flexible system called VigilManager. It's a system that has been designed specifically for and in consultation with the transit industry.

VigilManager is a secure, web-based “**Software as a Service**” (SaaS) database solution, offering fast access and retrieval of management information relating to operator performance and more. When integrated with other systems (HR, Incident, Fleet Management, Vigil products) this repository of agency knowledge will make an agency **smarter, safer and more efficient**.

The workflow below shows how this works.

### Data Collection – What is it and where does it come from?

The type of data that is collected includes behaviors (such as driving too fast, following too closely) and the results of actions (i.e. accidents). This data is collected from a number of sources such as:

- **Incident Data** - an operator sideswipes the bumper of a parked car pulling away from a stop. The details (operator, location, date, etc.) may be entered directly into VigilManager or synchronized with the organization's current incident management system.

- **In-Service Assessments** - A supervisor completes an in-service assessment on an operator who has received a number of customer complaints about his driving. This evaluation can be performed manually or by using technology such as VigilPassenger (see boxed text on next page) which can automatically upload the data to VigilManager.
- **New Operator On-vehicle Training** - Putting new operators behind the wheel of the bus and recording their performance with tools like VigilVanguard (see boxed text on next page) can establish a baseline rating of their ability. The data from the ride plus the Instructor's notes can be automatically uploaded into VigilManager.
- **Classroom Training** - Ensuring compliance with federal and agency training requirements can be greatly facilitated by the use of technology. Having a complete training record will add to a driver's history and profile.

Additionally, VigilManager can synchronize relevant data with a number of Enterprise data sources, including HR systems, Incident Management systems and fleet/route management systems.

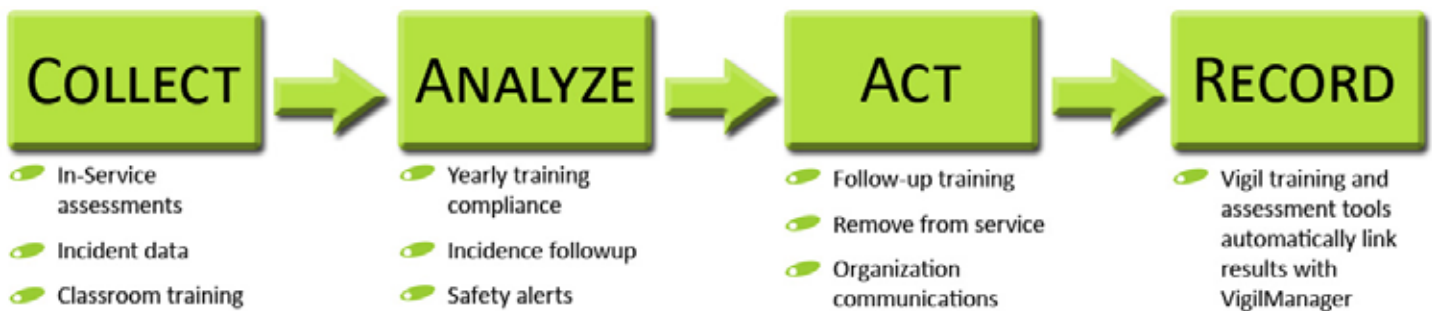


Figure 3: How it works

## ANALYZE & ACT – USING THE DATA

Once data from incidents, assessments and other sources has been captured, it can be utilized in a variety of areas such as planning, scheduling and resource allocation. When this data is correlated using the Core Skills, an agency can better define and **work together toward common goals.**

Giving departments a common vocabulary along with a central repository of information allows people to do their jobs, faster and more efficiently.

With VigilManager, analysis can be setup to occur automatically with corresponding alerts distributed according to established safety parameters. Timely alerts enable unsafe behaviors and conditions to be addressed in a proactive manner.

The following are examples of the types of analysis and follow-up actions that can be embedded in VigilManager.

### **Yearly Training Hours Compliance**

Operators in many states are required to complete a specified number of hours of training every 12 months, or in some cases a particular course must be delivered at regular intervals. VigilManager can be used to both schedule and track necessary training to ensure compliance.

### **Incident Follow-up**

When an incident is deemed **“avoidable”**, follow-up training is usually indicated. VigilManager can handle sending alerts to relevant parties as well as scheduling and tracking of the session. This ensures high risk drivers are handled immediately, resulting in reduced risk.

## VigilPassenger

### IN-SERVICE ASSESSMENTS

*VigilPassenger is a hand-held assessment tool which allows trainers to quickly and accurately capture observations and information. This includes logging GPS data so that the location of all observations is accurately recorded; providing increased oversight.*

*Tightly integrated with VigilManager, VigilPassenger facilitates the upload of assessments and the resulting reports to a central repository. Eliminating the need to store and file paper forms and reports.*

*Optionally, VigilPassenger includes a Vigil Comfort Sensor to objectively measure real vehicle dynamics such as speed and braking during the assessment.*

## VigilVanguard™

### ADVANCED ON-ROAD DRIVER TRAINING SYSTEM

*VigilVanguard is a unique driver training system that turns any vehicle into a virtual simulator. Agencies around the world have experienced significant improvement in their road safety record as a result of using VigilVanguard to train and assess their operators.*

*The system delivers simulator benefits without the structural confines or the cost. The VigilVanguard is self-contained, portable and can actually be installed on any vehicle in under 15 minutes.*

*With its combination of high tech devices and unique software, the VigilVanguard delivers a host of benefits beyond accident reduction. These include lowered liability, increased training productivity and effectiveness plus decreased time and cost spent on administrative record keeping.*

## Safety Alerts

Safety alerts are triggered when an operator is observed displaying unsafe behaviors through successive assessments and/or observations. These alerts can be customized by the agency based on rules embedded in the system. Addressing high risk drivers **quickly reduces the number and severity of incidents.**

## Refresher/Remedial Training On-Road/In-Classroom

VigilManager is used to manage all types of training. Training alerts may be triggered and classes scheduled, depending on organizational and compliancy requirements. The result is a more efficient use of resources, time and budget.

## In-Service Assessments

VigilManager gives agencies the ability to collect and analyze data from In-Service assessments. This feature can be utilized to ensure customers are receiving the quality of service and level of safety expected. Assessments may be performed randomly, regularly, or triggered in response to organizational requirements built into VigilManager.

Actions observed during the in-service assessment contribute to a driver's overall profile and risk rating along with recommendations for future training. Using the Core Skills to encourage modification of risky behaviors provides operators with a **clear and concise picture of what actions are expected.** When these same core skills are utilized in training and in other communications, operators receive a consistent message that facilitates the learning, comprehension and the transfer of knowledge.

Requirements for training and assessment may change over time due to state, federal laws or a change in an agencies workflow. VigilManager back-end business logic can easily be adapted to cope with these changes.

*“Addressing high risk drivers quickly reduces the number and severity of incidents”*

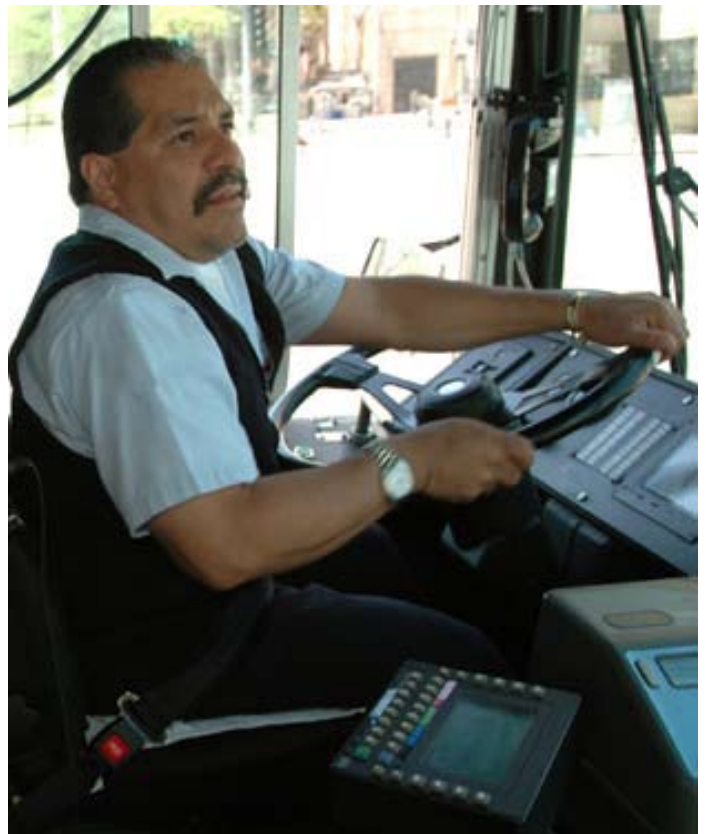


Figure 4: Data can be collected via In-Service Assessments

## FEATURES THAT INCREASE BUSINESS INTELLIGENCE

All of this data can be aggregated into a powerful Business Intelligence solution for management. Here are just a few of VigilManager's compelling features:

### Advanced Mapping

The Advanced Mapping feature allows management access to high level trend analysis results relating to where accidents and unsafe acts are occurring. This allows trouble-spots relating to unsafe conditions to be more easily identified and training to be focused on these areas.

The system also provides oversight by retaining information about exactly where and when an in-service check or line ride was conducted. VigilManager retains geographical information for all assessments and accidents including the route driven and the locations of unsafe acts.

All uploaded video evidence generated by tools such as VigilVanguard is also mapped and can be reviewed in the exact context of where it occurred.

### Learning Management System

The system includes a powerful Learning Management System that allows training to be scheduled, tracked and then analyzed to measure its effect on operator behavior.

Reducing paperwork and administrative record keeping, VigilManager does what Instructors and Supervisors have done in the past. The system just completes the task quicker while allowing access to the complete training history of an operator with a few key strokes.

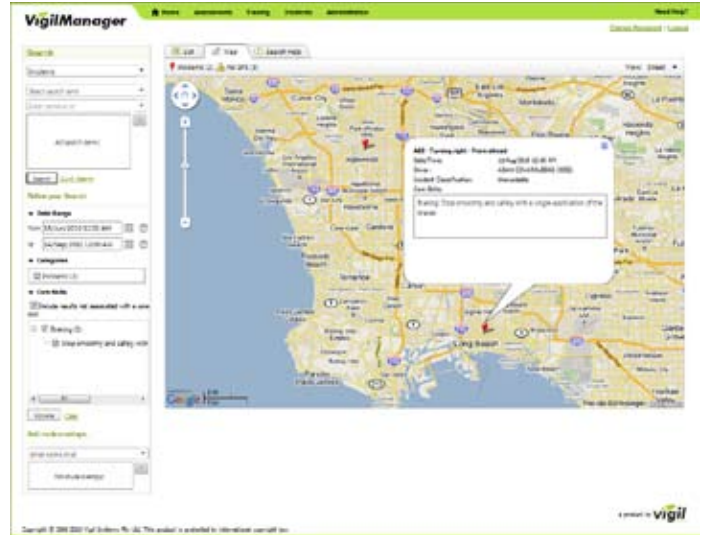


Figure 5: VigilManager Incident Screen

### Automated Alerts

VigilManager Alerts are used to pro-actively warn management when a driver may be becoming a safety risk. To achieve this, Administrators set certain safety thresholds that relate to assessment criteria.

Alerts are fully customizable – they can be turned on or off, calculated per evaluation or per item, the time frame used in the calculation can be altered, either management or administrators or both can be notified and emails can be sent to relevant parties. Safety weightings and repeat offence weightings for each item can be tailored based on per-evaluation calculations or per-item calculations. The content of alert emails sent to management or administrators can be fully customized as well.

## FEATURES THAT INCREASE BUSINESS EFFICIENCY

### The Information Required to keep your Organization Running Efficiently

Apart from giving management the information they need, personnel in other departments now have access to a centralized data system that will help them do their jobs more efficiently.

VigilManager provides the answers to tasks such as:

**Training Managers** – “Which drivers urgently need training to maintain compliance obligations?” “Which trainers are performing the most assessments, and are all trainers assessing drivers in a consistent manner?”

**Accident Investigators** – “Show me the complete training, assessment and incident history for an operator to help me determine whether this accident could have been avoided.”

**Operations** – “Where are most accidents occurring, and what are driving behaviors are most often a factor?”

VigilManager is a powerful solution to ensure you are doing all you can do to reduce incidents, improve efficiencies and increase compliance within your organization.

**This information is easy to find** – since all data can be quickly exported for further analysis in tools such as Microsoft Excel®. Having the right information securely accessible results in real benefits and a real return on investment.

*“With VigilManager, you can reduce incidents, improve efficiencies and increase compliance within your agency”*

☑ To-do List

Assessment Quality   Notifications   Required Training

Listed below are training tasks that need your attention, which were triggered by a particular event. Click "Schedule" on the right of each item to take action. ?

Filter by Due Date:    Filter by Reason:

Find Student:     [Export to Excel](#)

Student	Division	Date Due	Reason	Action Type	Action Status	
NILO GARDE (3452)	BUS DRIVERS	26/Sep/2010	(4HR) 1 Type 1 Incident	4Hr Accident Retrain	NEW	<a href="#">Schedule</a>
DEBRA KNUCKLES (8164)	UTILITIES	05/Aug/2010	(4HR) 2 Type 1 Incidents or 1 Type 2 Incident	4Hr Accident Retrain	NEW	<a href="#">Schedule</a>
ALFONSO JONES (8435)	UTILITIES	17/Sep/2010	(4HR) 2 Type 1 Incidents or 1 Type 2 Incident	4Hr Accident Retrain	NEW	<a href="#">Schedule</a>
EDGAR MORA (8610)	MECHANICS	04/Jul/2010	(4HR) 1 Type 1 Incident	4Hr Accident Retrain	NEW	<a href="#">Schedule</a>
Jeffrey Chappell (9363)	MECHANICS	31/May/2010	(4HR) 1 Type 1 Incident	4Hr Accident Retrain	NEW	<a href="#">Schedule</a>

Figure 6: VigilManager Required Training Screen

## SUMMARY – ORGANIZATIONAL BENEFITS

VigilManager delivers benefits across the entire organization. Most significantly:

**Reduction in the number and severity of incidents** as a result of identifying and addressing high risk drivers. This reduction in incidents is also due to VigilManager's ability to identify common driving mistakes, the locations where these mistakes occur, while providing automatic alerts to relevant personnel.

**Increased productivity of managers, supervisors and trainers** since many workflows are now automated by the technology - processes that once involved paper, data entry and making decisions using incomplete datasets.

**Reduced organizational risk** — Reduced incidents will lead to a reduction in insurance premiums and litigation costs

**Reduced employee turnover** – Embedding workflows in VigilManager results in a safer operating culture. Agencies with a fleet of skilled drivers who are given consistent training and communications stay with the organization, meaning lower recruitment and training costs.

**Improved efficiencies (and lower costs)** due to several factors:

- Less time spent tracking down paperwork (e.g. training records) and satisfying reporting requirements since all information is in a centralized database.
- The efficiency of training resources is improved, as the focus is on those drivers and those areas that most need attention.
- Training and assessment resources can be scheduled and optimized through the learning management system component of VigilManager.

**More customers, fewer customer complaints** – better drivers and reduced accidents result in a higher quality of service to our customers as well as a better reputation in the community (i.e. more customers and fewer customer complaints).

**Environmental benefits** resulting from safer, more efficient drivers.



## BRIEF TECHNICAL SUMMARY

### **Hosting**

- VigilManager is a hosted, Software as a Service (SaaS) solution.

### **Access**

- VigilManager is accessible through a secure website. (SSL / HTTPS)
- VigilVanguard and VigilPassenger access VigilManager through VigilReport software over a secure web service.

### **Potential Standard Integrations**

- HR System – Basic employee details.
- Incident Management System – Individual incident details / locations.
- Fleet Management System / Scheduling System - Vehicle numbers, routes.
- Integrations normally occur through a nightly transfer of data files.

### **User Access Security**

- Access to VigilManager is given only to approved users from an organization.
- Administration, Assessment and Management rights granted on a per-user basis.

### **Support**

- Being a SaaS solution means that support is provided remotely and the system is easily upgradeable as updates occur.

### **Customizations**

- Some customizations are user configurable, and others must be performed by Vigil Solutions experts.

### **Data Access**

- All organization data within the system remain the property of the organization.
- Automatic, regular backups are managed by Vigil Solutions.
- Results of most searches and reports are available for easy export to common software tools such as Microsoft Excel®.

A summarized version of VigilManager features is included in the diagram below. For more detailed information on the specific workflows and customizations available within VigilManager, please talk to your Vigil Solutions Sales Representative or consult the VigilManager Features Explanation document.

*For more information please  
contact us or visit our website:*

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