Synovia Solutions Proposal for
Oregon CUSD 220

K-12 GPS
Student Ridership & Here Comes the Bus

Here Comes the Bus

Synovia™ Solutions
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"Synovia Solutions asset tracking technology located $100,000 worth of stolen equipment within 24 hours. The cost of the solution has more than paid for itself."

Streamline Irrigation, Kingsburg CA

About Synovia™

Synovia Solutions was founded in 2001, and provides the tools fleet managers need to improve safety, savings, and service. We have GPS tracking systems in over 105,000 vehicles across North America, tracking fleets as large as 5,000 vehicles. For customers we work with, our goal is to build tracking solutions that revolutionize how they manage their vehicle fleet.

It is not just industry-leading technology that does that. It's training and support that ensure your solutions work every day, and you know how best to use them. It is innovation across industries. It is the commitment of our people to do what it takes to help every single fleet that we work with succeed.

Synovia Solutions, LLC is the result of the merger between Synovia, Inc. and Everyday Solutions, Inc. in September 2012. Both firms opened for business in 2001. We have merged the strengths and resources of both companies. The resulting company continues to grow in terms of functionality and vehicles supported. Our proven flagship software product is Silverlining. We currently support approximately 105,000 vehicles for approximately 700 customers.

Synovia currently employees approximately 100 individuals located through-out the United States and Canada. We have the staff, hardware, software, support and training to make any project successful. Our staff is highly skilled and committed to success. The company divides into the following teams:

- Technology
  - Hardware
  - Software
- Operations
  - Implementation
    - Hardware Sourcing, Configuration and Shipping
    - Project Management
    - Installation
  - Support
    - Hardware
    - Software
    - Customer Portal
  - Training
    - Customer Required Training
    - Monthly Training Classes
    - Customer Requested Training
- Sales and Marketing
  - Sales
    - Inside Sales
    - Outside Sales
  - Marketing
- Administration
  - Office of CEO
  - Human Resources
- Finance
  - Controller
  - Accounting

Synovia is currently licensed and doing business in the following states:

Alabama	Massachusetts	Nevada
Arkansas	Maryland	Ohio
Arizona	Maine	Oklahoma
California	Michigan	Oregon
Colorado	Minnesota	Pennsylvania
Connecticut	Missouri	Rhode Island
Florida	Mississippi	South Carolina
Georgia	Montana	South Dakota
Idaho	North Carolina	Tennessee
Illinois	North Dakota	Texas
Indiana	Nebraska	Utah
Kansas	New York	Virginia
Kentucky	New Hampshire	Washington
Louisiana	New Jersey	Wisconsin

Synovia is currently licensed and doing business in the following Canadian Provinces:

Ontario	Quebec	Saskatchewan

Synovia Solutions, LLC is a financial stable, growing and expanding company based in Indianapolis, IN. Our primary focus is providing GPS based transportation management systems for school districts, cities and counties. We are slowly expanding into private transportation management software systems.

Synovia currently works with numerous customers that have multiple locations. Some operate as a single company while others operate each location as a separate entity. Synovia supports both in terms of business management and in terms of visibility in the software.

Synovia's Management Team

Jon W. King

President and CEO
Following college and a stint in the military, Mr. King began his business career at Xerox Corporation. Starting in sales, his tenure there afforded him a variety of managerial jobs. After Xerox, Mr. King became a minority shareholder in an office technology company, which was subsequently sold to Ikon Office Solutions. He stayed on with Ikon, ultimately becoming the worldwide CMO.

The entrepreneur in him resulted in returning to the Midwest and becoming CEO of a distribution company marketing high-end water purification equipment business to business. The company developed, sourced, and manufactured its own products. A roll-up was completed utilizing private equity assistance. King ultimately transitioned out and was principal in a consulting company prior to joining Synovia.

Thomas C. Polan

Vice President, Technology
Thomas is responsible for defining the technology roadmap and managing hardware research and development. Prior to his current role, Thomas designed and developed Synovia's first AVL application in 2002. The application has been adopted by the largest school systems in the country, including Houston Independent School District, Fairfax County Public Schools and Charlotte-Mecklenburg Schools.

Thomas graduated with BS in Computer Science from Emory University and University College London.

Bev Noblitt

Vice President, Procurement/Systems Implementation
Bev Noblitt oversees Operations for Synovia Solutions. Prior to joining Synovia Solutions, she was involved in school transportation for 31 years. In that capacity, she successfully supervised a diverse group of 200 plus people while overseeing the transportation for 16,500 students.

Bev graduated Summa Cum Laude with a Bachelor of Science degree in Business Administration from Saint Mary-of-the-Woods College in Indiana.

Bill Westerman

Senior Vice President, Marketing and Sales Support
Bill has over 20 years of experience in high-tech marketing and product management. He has helped launch new start-up companies and led marketing teams at industry leading software companies like Computervision and PTC. Before joining Everyday Solutions, Bill was a consultant at MIDIOR Consulting, a product management-consulting firm based in Cambridge, MA.

He received a BA in Architecture and a BS in Construction Science from Kansas State University. Bill sits on the board of Wellesley Youth Soccer and Wellesley Educational Foundation and is the VP of Marketing for the New England Chapter of the Product Development Management Association (PDMA).

For more information about Synovia Solutions, please visit www.synoviasolutions.com .

Current Challenges

Current Challenges	Consequences
Route efficiency	Excess mileage and potential service issues
Student Tracking	Unhappy parents; possible liability concerns
Dispatch & resident communication	Delayed or inaccurate information
Idling, fuel usage & fleet management	Overspending on fuel
Safety & accountability	Delayed response time, and potential unsafe driving conditions
Customer service	Unhappy parents

Solution & Benefits

Proposed Solution	Capabilities	Benefits
Core GPS	• Real-time GPS tracking • Stop arrival information • Live dispatch • Monitor True idling • Speeding & mileage • Extensive reporting • Sharing GPS data with other systems • Driver ID/job/route tracking • Web-based software • Hosted with Synsurance℠	• Route management • Cost containment in routing • Improved customer service to district and community • On-time performance management • Savings in fuel usage
Engine Diagnostics	• Vehicle identification number (VIN) • Odometer • Fuel used • Engine hours • Fault codes	• Real-time maintenance alerts • Ability to prevent maintenance issues • Avoid unexpected & costly repairs
Comparative Analysis	• Route data integration • Plan vs. actual route review • On-time performance management	• Comparison of planned vs. actual snow plowing • Total visibility into all routes to provide better service
Here Comes the Bus™	• Real-time location of student's bus • Schedule and actual arrival times • Push and email alerts when bus is near	• Push notifications to alert parents & students of bus arrival • Real-time location information via GPS maps

		• Confirm bus arrival at school or home.
Student Ridership Student Verification	• Real-time student ridership • Load counts on routes • Plan vs. actual ridership reporting	• Know where & when students board/exit the bus • Compare planned and actual capacity
Time and Attendance	• Automate payroll • Manage drive assignments to avoid unplanned overtime	• Collect Driver Log-in/Log-outs on the vehicle • Collect Job Type and Route ID information • Web-based Time Card • Plan versus Actual Reporting • Integration into Payroll Systems • Export in multiple formats • Driver/Employee Portal

Synovia™ Advantages

1. Extensive service & support
2. Live GPS with mapping/reporting/alerting
3. Time & attendance with payroll integration
4. Monthly financial model with no upfront costs
5. Lifetime warranty

6. All-inclusive service model
7. Comprehensive GPS solution
8. Large fleet references with 700+ customers
9. Ongoing and guaranteed service and support program
10. Expansive product depth
11. Over 15 years' experience successfully implementing GPS technology
12. Large install base with over 105,000 vehicles in service
13. Partnership with Verizon Wireless
14. Powerful, yet simple to implement software, to address real-world challenges
15. Continuous innovation with ongoing product enhancements
16. Risk-free Synsurance™ program to ensure project success
17. US based (Indianapolis) customer support team
18. Signal Point of contact throughout

System Training

Synovia Solutions provides **unlimited instructor lead** on-line user training classes throughout the term of the agreement at no additional cost. Our training team consists of full time professional staff. These individuals provide training in all aspects of the various Software Modules. Instructor lead on-line training is included at no additional cost and only needs to be scheduled. On-line training videos are also easily accessible to customer staff. These subject matter videos are imbedded in the Software Help section and can be accessed at any time. A Regular monthly training schedule is emailed to every user to ensure they are aware of the general classes available during the month. There is no cost to any of these training classes, now or in the future.

Synovia Solutions is more than prepared to provide instructor lead on-site user and system administration training upon implementation of the system and on an on-going basis for a fee.

Training Overview

Overview of Session
- Software Admin Topics
- Software User Topics
- Questions

Goals and Planned Outcomes of Training
- Admin Users have the ability to add GPS Inventory, add Vehicles and assign GPS ESN to Vehicle in Software – All in attendance see and understand process
- Admin Users have the ability to add users to Software – All in attendance see and understand process

- Users understand how to use Hardware Page to locate the vehicles not reporting to Software
- Users understand how much valuable information they can get by using Fleet Tracking – Map Fleet
- Users understand basic troubleshooting concepts on units in vehicles.
- Users have the ability to track buses historically and live in Fleet Tracking.
- Users have the ability to run and schedule Reports.

Silverlining Admin Topics
- Adding GPS Units to Software
- Adding Vehicles to Software
- Connecting Vehicles and GPS Units in Software
- Adding Users to Software
- Discussion of Non-Reporting GPS Units
- General Software Admin
- Yards
- Fleets
- Vehicles
- Inventory
- Users
- Roles
- Groups
- Landmarks

Software User Topics
- Software Overview – discuss browsers, pop-ups, trusted sites, compatibility view
- Introduction – discuss GPS equipment if pertinent and database interaction
- Screen Layout – discussion of all major areas of the screen and respective functionality
- Dashboard Overview
- Screen Tools
- Managing Screens
- Help – discuss online help screens, videos and other training documents
- Core AVL
    - Fleet Tracking
        - Map History
        - Live Tracking (Watch)
    - Reports-Drill Down Concept
    - Find Location
    - Zones
    - Hardware
        - Hardware Page Usage
        - Hardware Diagnostic Report
- Search

Customer Service

Customer support is coordinated from the Synovia Solutions Corporate Office in Indianapolis, IN. The Customer Support Department is managed by Andy Gall and he is backed up by a strong hardware and software support team.

The Customer Support offices are staffed from 7 AM to 6 PM, Monday through Friday with off times as needed. All support staff have the authority to escalate a support issue by simply pushing it up the ladder to a higher support level.

GPS Hardware and Software live Customer Support is available during the normal working day. An off hours Support contact is provided with the support contact having all necessary authority to escalate an issue. The support staff will assist customer staff with hardware and software questions and related issues. The Support Team at Synovia Solutions has doubled staffing levels over the last year to ensure that our service is at the highest level. We field questions from customers via phone, email, go-to-meeting and Skype.

Because Synsurance is included, if a piece of hardware fails, simply notify the Support Department, ship it to Indianapolis and it will be replaced immediately at no additional cost.

The new Customer Support Portal is a Web based software tool that allows customers to report and monitor hardware and software questions/issues. The portal is accessible 24 hours per day and every day of the year.

Fleet Advisors – Synovia Solutions now provides a Fleet Advisor who is a dedicated individual assigned to your account. If you need any customer support issue you call you Fleet Advisor who will know your account and history. No more call an 800 number and tell your story multiple time.

Synsurance℠ – All-inclusive Service

Synsurance℠ is our commitment that our solutions will work seamlessly for the life of our partnership. It is our long-term strategy to ensure you have the best product backed with unmatched service and support.

The following is a summary of Synsurance℠:

- No upfront costs
- Includes hardware, installation (up to 3 locations), software, updates, implementation, project management, hosting, and support
- Price protection - service fee will not increase over lifetime of agreement
- No overage charges
- Unlimited user licenses and online training
- First occurrence – we fix, or we pay
- Lifetime warranty for hardware replacements
- Spare hardware for 2% of fleet with active Verizon data plans
- Hosted solution with live data with managed back-ups and permanent archival
- Software-as-a-Service with guaranteed 99% uptime
- Automatic quarterly software updates with new features, map data, patches, and hot fixes
- First class software support
  - Help Desk – 6:30AM-5PM EST with rolling on-call after hours
  - Toll Free # – (877-SYNOVIA)
  - Email – (support@synovia.com)
  - Receive a response within 4 business hours
  - Online customer portal

Solution Overview

Core GPS/AVL

Key Capabilities of Core AVL:

1. Live and real-time map tracking
2. Live and historical reporting
3. Drill-down and scheduled reporting
4. Real-time alerts via text messages, email or computer pop-up message with link to map location
5. Unlimited geofence creation and reporting
6. Configurable subfleet
7. Find nearby vehicle
8. Hardware health report
9. Maintenance scheduler
10. Excessive speed and engine idle time
11. Harsh acceleration, braking or turning
12. Low battery alerts
13. Find location (address or zone)
14. Incident history
15. Maps with weather forecast, satellite and current traffic overlays
16. Training videos and on-line help
17. Mobile version that can be displayed on a smart phone or web-enabled tablet
18. Location updates every 30 seconds, every right and left turn, every event, every alert.
19. Verizon data services included (no overage charges)
20. Report on the pre/post trip inspection
21. Yard Monitor – Real Time
22. Mobile software that runs on any web-enabled device, smart phone or tablet and empowers you to:
    a. Search by vehicle name and rename vehicle
    b. Show current location
    c. Map vehicle history
        i. Events:
            1. Snow Plow Usage
            2. Diagnostics message
            3. Entrance door close/open
            4. Harsh acceleration
            5. Harsh braking
            6. GPS update
            7. Harsh turning
            8. Hi-res GPS event
            9. Idle alert
            10. Ignition on/off

11. Impact hi-res event
12. Manual hi-res event
13. Reverse on/off
14. Running low battery
15. Speeding
16. Static low battery
17. Auxiliary lights
18. Zone speeding

23. Includes documented Application Programming Interface (API)
    1. Provides GPS data to other systems used by customer such as Fleet Management (Element Fleet Management) and Fuel Management (WEX) systems.

Comparative Analysis

With Comparative Analysis, you can compare the actual path driven with the planned routes in your routing system. Synovia supports all of the major transportation route planning applications on the market including Trapeze (SQL or Oracle), Edulog NT, BusPlanner (our own route planning application), Versatrans, Transfinder, BusFinder, BusBoss and our own Route Builder.

At company specified times each day, a copy of the Route data is inserted into the Silverlining database. Reports or trip replays will compare the plan of record for the specified day with the actual path driven on that day.

Comparative Analysis can be used for many purposes including finding more efficient ways to configure a route or to ensure that drivers are executing as planned.
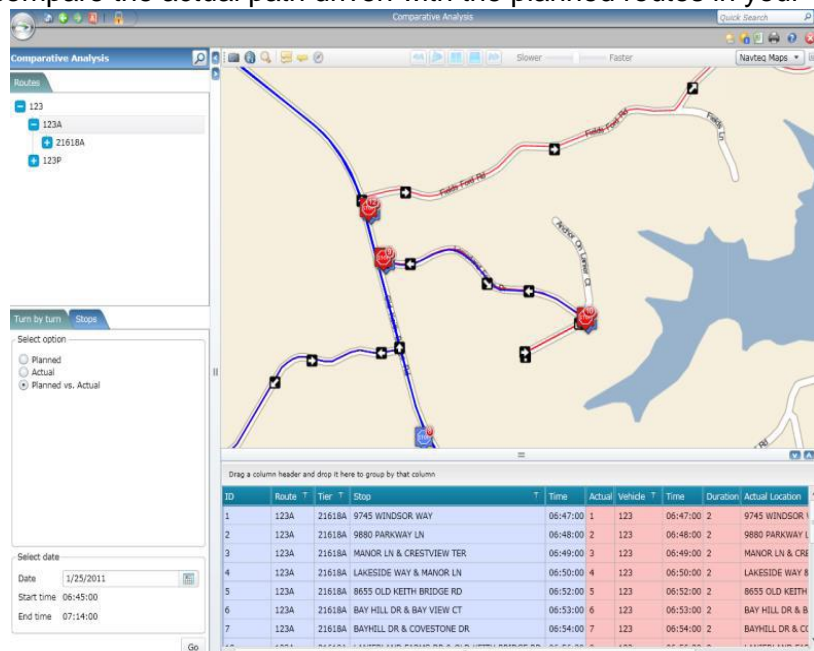
Here Comes the Bus

Here Comes the Bus® and Student Ridership are a great way for school districts to help build better communication and goodwill between parents and administrators.

Now, parents won't have to call the district wondering where the bus is, or worried that their child didnt get on it. They will receive notifications that the bus is near, and that their child safely boarded the bus. In the afternoon, parents will know that their child got off at the right stop. Putting information in your parents' hands has never been easier.

Here Comes the Bus is powered by Synovia Solutions software. It's the same software that tracks over 90,000 vehicles a day. It provides school transportation directors the ability to receive real-time data on the location of each of their school buses. They can then use the information about the whole fleet to compare planned and actual routes, while improving on-time compliance and route compliance.

Here Comes the Bus Delivers

- Bus tracking and/or student tracking – all in one
- Increase safety for your students
- Improve communication with your parents
- Decrease bus-related call volume
- Scheduled and actual arrival times for AM, Mid-day and PM stops
- Push and email alerts when bus is near or has been substituted
- Real-time location of their child's bus
- Confirm the bus's arrival
- Supports multiple children within one account
- Available in three languages (English, Spanish and French)
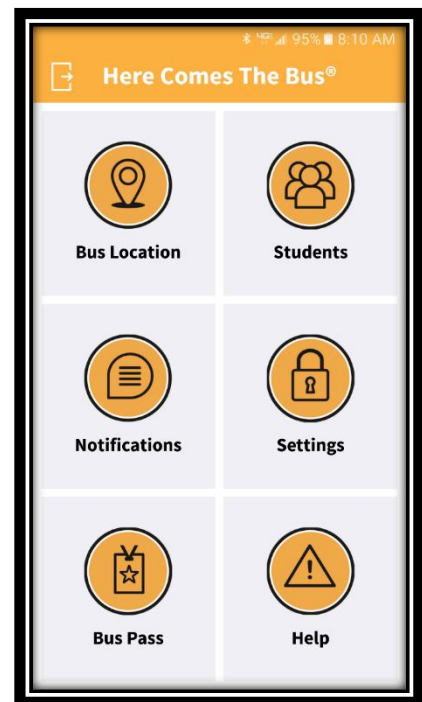
Student Ridership

With Synovia Solutions' Student Ridership, you can see in real-time if any student has boarded or exited the bus. Did they get picked up this morning? Were they dropped off at their assigned stop? Which students are on bus 32 right now? Answer all these questions and more with our Student Ridership Solution. Student Ridership can:

- Locate students on buses in real-time
- Determine where and when they were dropped off
- Enhance passenger safety
- Review actual ridership by bus or route
- Analyze Plan versus Actual Loads
- Submit accurate ridership for Medicaid reimbursement

Student Verification

When Student Ridership is used with the AIO A317 Tablet Synovia can provide Student Verification! Student Ridership with the MDT Tablet:

- Allows a driver to mark a student on/off the bus when they board/exit the vehicle
- Specifically geared for Special Needs routes where there are only a few students riding the bus
- No RFID/barcode cards to manage
- Requires Comparative Analysis module
- Alerts the driver in real-time if a student is boarding the wrong vehicle or exiting at the wrong stop
- Requires barcode reader connected to the MDT*
- Requires Comparative Analysis module

Select Stop	All Off	Navigate To	Students		Select Student(s)	Number of Visitors		
SCHOOL IN THE WOODS BUS CURB				🟠	Allison, Graham			☐
EDITH WOLFORD ELEMENTARY BUS LOT				⚪	Amelia, Moser			☐
					Anna, Boone			☐
Back			∨ ∧		Back	Send	Include Tier ⚪	∨ ∧

Student Verification – continued

Imagines from the AIO A317 Tablet

Student Scan – Right Stop; Right Bus
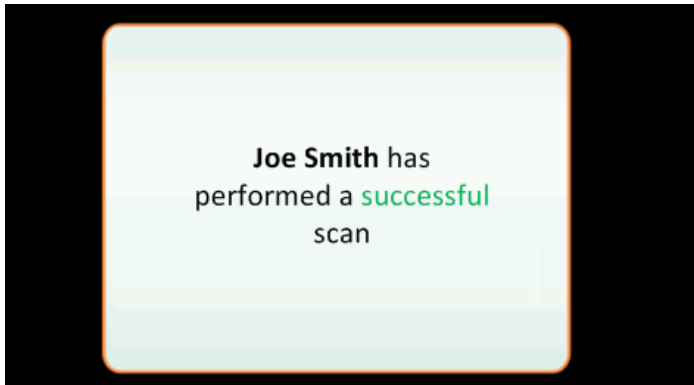
Student Scan – Wrong Bus
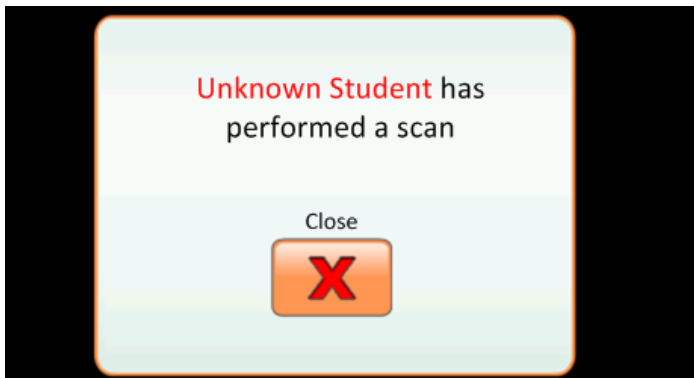
Student Scan – Right Bus; wrong bus stop

Ridership Reporting:

Vehicle	Date	Timestamp	Student	Location
1010	10/30/2014	7:25 AM	Jadeisha Lewis	14443 SW 170th St [Cr-241], Archer, FL 32618
1010	10/30/2014	7:40 AM	Eleanor Schauer	4595 SW 91st St, Gainesville, FL 32608
1010	10/30/2014	7:40 AM	Hailey Barker	4595 SW 91st St, Gainesville, FL 32608
1010	10/30/2014	7:41 AM	Jordan Marks	4595 SW 91st St, Gainesville, FL 32608
1010	10/30/2014	7:41 AM	Jordan Revels	4595 SW 91st St, Gainesville, FL 32608
1010	10/30/2014	7:41 AM	Lydia Beason	4595 SW 91st St, Gainesville, FL 32608
1010	10/30/2014	7:41 AM	Mitchell Beason	4595 SW 91st St, Gainesville, FL 32608
1010	10/30/2014	7:44 AM	Jenny Miranda	3001 SW 91st St, Gainesville, FL 32608
1010	10/30/2014	8:04 AM	Jada Clark	2098 Fort Clarke Blvd, Gainesville, FL 32606
1010	10/30/2014	8:04 AM	Chelsea Bell	2098 Fort Clarke Blvd, Gainesville, FL 32606
1010	10/30/2014	8:27 AM	Jackson Kirkland	25859 SW 2nd Ave, Newberry, FL 32669
1010	10/30/2014	8:27 AM	Erica Rooney	25859 SW 2nd Ave, Newberry, FL 32669
1010	10/30/2014	8:28 AM	Joyce Montalvo-Rivera	25859 SW 2nd Ave, Newberry, FL 32669
1010	10/30/2014	8:28 AM	Marissa Fountain	25859 SW 2nd Ave, Newberry, FL 32669
1010	10/30/2014	8:49 AM	Lydia Beason	Santa Fe
1010	10/30/2014	8:49 AM	Mitchell Beason	Santa Fe

Time and Attendance

Automate payroll with our Software that is used for managing Driver Time and Attendance. We support multiple input options that include the optional Operator Panel and the Optional Color Tablet.

- Collect Driver Log-in/Log-outs on the vehicle
- Collect Job Type and Route ID information
- Web-based Time Card
- Plan versus Actual Reporting
- Integration into Payroll Systems
- Export in multiple formats
- Driver/Employee Portal

Time and Attendance is includes with the lease of either the Operator Panel or 317A MDT licenses for drivers and aids; additional licenses for other staff members are available and can be accessed through an online portal.

Vehicle Inspection

An inspection check list is downloaded by vehicle type over-the-air to the on-board MDT. After performing the pre or post trip inspection, the driver checks off the items on the on-screen menu that need maintenance or repair.

- Tablet retains the last inspection for review by state officials/police
- Silverlining UI allows Transportation to create inspection forms and transmit them to Tablets wirelessly
- Inspection data is available in Silverlining reports or the API

Emergency Button

If there is an issue on the bus, the driver can press the emergency/panic button and a message will be sent immediately over the reliable Verizon network to any number of managers in your organization. The alert can be in the form of an SMS text message, email or computer pop-up message that can activate Silverlining zoom in on the location for the vehicle with the issue.

Implementation

Synovia's experience performing implementations on all fleet sizes is unsurpassed in the industry. This experience has taught us that planning is the key (on our part and the customers) to success. Synovia provides a Project Manager (PM) for all projects. The PM appointed will be one of the experienced, full time PMs employed by Synovia. The PM is responsible for all planning and implementation with the customer prior to installation. On projects over 100 vehicles, the PM will actually be on-site during the hardware installation and manage/coordinate the effort.

Complete implementation ranges between 4 and 6 weeks (longer on very large projects) from the date of agreement finalization. On large projects, a larger group of install techs work on the project (the PM is very important on larger projects). Our techs will spend about 45 minutes per man per vehicle. Depending upon the location and availability of the vehicles, our install team can complete upward of 20 – 45 vehicles per day. The complete installation time will not be pre-planned, it will be a based on discussions with the customer. Our installation teams are very experienced with the Synovia installation process and do not cut corners. We have found that if the installation is not of top quality, the system will

never function as planned. For that reason, we use the same install crews throughout the county. They are not green to our process.

The following is a sample project plan. A final Project Plan will be developed by the PM after award and in-depth discussions with the customer. We have executed several hundred projects using this as a template (some as large as 1,500 vehicles). Customer input is always used to develop the final process plan. Upon receiving the award, we will work with your team to create a detailed plan that is specific to all of your requirements.

Our implementation plans are divided into four components:
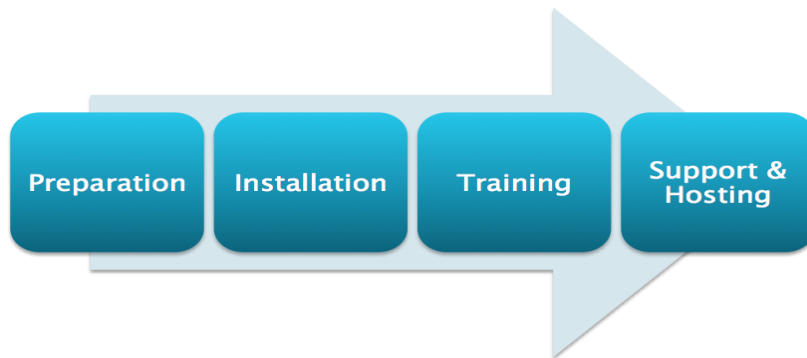
PHASE DESCRIPTION & DELIVERABLES	TIMELINE TO COMPLETION

Phase 1 – Preparation
• Identify stakeholders for project
• Review & confirm all contractual requirements
• Identify potential project risks and mitigation strategies
• Review Change Order process
• Schedule status meetings with stakeholders
• Create Master Scope of Work with all appropriate information
   o Customer contact information
   o Shipping/installation locations
   o Training locations
   o GPS Event Profile
   o Bus list with details
• Outline all software requirements
   o Usernames/passwords
   o Privilege group assignments
   o Routing integration requirements
• Routing system type
• Access to data
• Outline all training requirements
   o Staff to train on-site
   o Staff to train via webinar
   o Training tracks to complete
• Outline all service and support requirements
• Create formal timeline for deployment
   o Hardware installation
   o Software training
   o Support access
• Sign-off on Master Scope of Work
• Prepare hardware kits
   o Inventory assignment to customer
   o Activation on selected carrier
   o Programming based on GPS event profile
   o Testing and labeling of units
   o Kit assembly
   o Shipping/tracking to specified locations
	2-4 Weeks

Phase 2 – Installation	**4 Days**
• Install AVL/GPS hardware on fleet 　o Installation based on customer priority of designated locations and vehicles 　o Average of 20 - 40 vehicles per day • Test all hardware functionality at local sites • Track and document all progress relative to stakeholder objectives • Confirm all resources required for training	
Phase 3 – Training –Web-based	**Personalized Web Training**
• Prepare training materials 　o Review Training Tracks required • Review software configuration for turnkey deployment 　o Fleet hierarchy 　o Privilege groupings • Train customer staff on software functionality 　o Instructor led Web-based training 　o Web-based training • Provide hands-on application of data relative to business objectives	**Monthly Synovia Web Training Classes** **Web Training**
Phase 4 - Synsurance Support	
• Review help desk support process 　o Regular hours of operation 　o Support protocols 　o Severity levels 　o Alternate contact points 　o After hours support process • Provide support documentation as required • Provide additional documentation as identified during installation and training phases • Recommend additional training, consulting, and/or analysis based on user feedback • Monitor and measure system performance • Provide as-needed support and consulting assistance for the application, database, hardware troubleshooting, professional development, and end-user support areas • Train users in use of Customer Portal. • Fleet Analysis active with customer	**Immediate and Ongoing**

The Synovia Brand

Synovia's brand promise is **"Don't Ask. Know."** Gain the insights you need to take control of your fleet and maximize your budget with Synovia Solutions™. As a company of problem solvers, we're constantly developing leading-edge tools and analytics.

Our proof points support this, making it believable and differentiating us include:

1. **Safety** – We provide a real-time, clear view of what's happening with your vehicles.

2. **Service** – All-inclusive service model with no upfront costs. You're covered - no matter what.

3. **Savings** – We'll help you select the right solutions, and structure the terms and payments in a way that suits you.

The following is a price summary for the proposed solution based on 5-year term with ==THE FIRST YEAR FREE:==

TOTAL LIST COST:

Solutions	Unit Price/Month	Quantity	Monthly Cost	First year FREE savings
School Buses	$ 54.00	22	$ 1,188.00	$ 14,256.00
Van Fleet	$ 24.00	4	$ 96.00	$ 1,152.00

Core GPS with Student Ridership & Her Comes the Bus:

Solution	
Hardware • AIO A317 Tablet	Included
Software • Core Track & Trace – GPS • Comparative Analysis • Here Come the Bus • Student Ridership | Student Verification • Time & Attendance	Included
Removal and re-installation on new buses – Synovia will remove and re-install equipment onto your buses when they are replaced during your lease. ($300 value per bus)	Included
Training	Included
Software Hosting and Updates	Included

Wireless Connectivity	Included
Installation	Included
Project Management	Included
Hardware Warranty	Included
2% Spare Hardware	Included

Van Fleet

Solution	
Hardware • TTU 2830	Included
Software • Core Track & Trace – GPS	Included
Training	Included
Software Hosting and Updates	Included
Wireless Connectivity	Included
Installation	Included
Project Management	Included
Hardware Warranty	Included
2% Spare Hardware	Included

Includes a non-appropriation clause

References

Meridian Community Unit School District 223
Jen Hagemann - jhagemann@mail.meridian223.org
207 W MAIN ST
Stillman Valley, IL 61084

Winnebago Community Unit School District 323
Mike Reinders - reindersm@winnebagoschools.org
304 E McNair Rd
Winnebago, IL 61088

Schiller Park School District 81
Pasquale Maranto - pmaranto@sd81.org
9760 SORENG AVE
Schiller Park, IL 60176

Brooklyn Center Community Schools
Dan Krekelberg - dkrekelberg@brookcntr.k12.mn.us
6300 Shingle Creek Pkwy,
Ste. 286,
Brooklyn Center, MN 55430

Synovia Solutions Hardware, Software Overview

Synovia's hardware and software will allow you to track vehicles in a live environment, manage dispatch, monitor and manage driver performance, and create real-time or historical reports on all vehicle activity.

Hardware Overview

The components of the Synovia Solution system will send a multitude of information, based on the requirements of the customer.

The data can be categorized into three sections: GPS information, Basic Electrical Inputs and Additional Electrical Inputs. The following is a summary:

1) GPS Information
- Location
- Speed
- Heading (Direction)
- Mileage
- Idling
- Zone Entry/Exit
- Hard Braking
- Rapid Acceleration
- Harsh Turning
- Left/Right Turns

2) Basic Electrical Inputs
- 12V or 24V Power (includes Low Battery Voltage readings for a stopped and moving vehicle)
- Ground
- Ignition On/Off

3) Additional Electrical Inputs (up to 7 are included):
- Amber Flashers
- Entrance Door Open/Close
- Emergency (Panic) Button
- Driver Door
- PTO, Siren
- etc.

Synovia's GPS hardware uses a 50 channel GPS receiver, which translates into a high degree of accuracy. The hardware also supports "Store and Forward Technology" to accommodate potential "dead-zones" in cellular coverage.

White Fleet Vehicles
Vehicles without the need for sensor connections can be best served by an ODB-II based unit.
Light Duty Vehicles
This GPS unit is generally used in White Fleet Vehicles with an ODBII port and do not require external sensor connections. It is a plug and play unit requiring no professional installation. Engine Diagnostics is built in.

Heavy Duty Vehicles
This type LMU is generally used for vehicles that require external sensor connections. Professional installation by Synovia is normally included. The unit can be provided with or without Engine Diagnostics.

Engine Diagnostics
Synovia Solutions offers Engine Diagnostics. This module allows for monitoring of the engine parameters. The GPS unit is connected directly to the vehicle engine (J-Bus) with a cable or plugged directly into the ODBII port. The cable resembles the following.

The following are some additional data points available with this option:
o   VIN
o   Fault codes
o   Odometer reading
o   Fuel Consumption

DON'T ASK. KNOW.

Note: while manufacturers generally adhere to specifications as set forth by the SAE, not all parameters may be available on every engine.

- Engine Protocols & Ports – Heavy Duty vs. Light Duty
- Hardware Requirements
- Current Functionality
- Future Capabilities
- Considerations

Engine Protocols

Heavy Duty   Light Duty
(J1939 or J1708/J1587)   (OBD-II)

Ports

Heavy Duty   Light Duty
(J1939 or J1708/J1587)   (OBD-II)
(6 or 9 pin Deutsch connector)
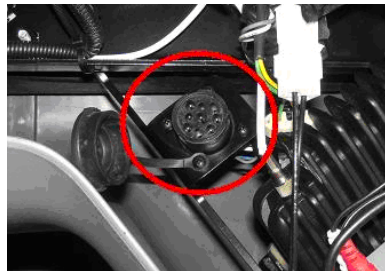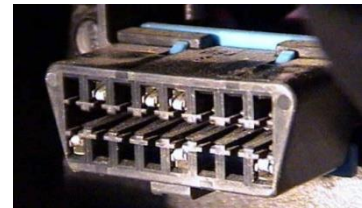
Synovia Software Overview

We released Silverlining, our flagship software product in 2012. Since that time, advancements in WEB based programming have been made that allow faster and more feature rich development. For that reason, Synovia has embarked on an enhancement/redevelopment of Silverlining. All modules are being rewritten in HTML5. Synovia will replace Silverlining during 2017. HTML5 will provide the following benefits:

- Improved performance
- Ad hoc reporting engine
- Customizable dashboard
- Ability to use on a tablet
- Ability to use on all modern browsers including Chrome, Firefox, Safari, Internet Explorer, Edge, etc.
- Search on object properties rather than just the name (VIN, phone number, etc.)
- Vehicles can now belong to more than one fleet

- Ability to map more than one vehicle's history at a time
- Ability to create and print turn-by-turn directions
- New map engine from ALK
- Maps more up-to-date
- Maps faster to load
- Determine ETAs using real-time traffic data
- Built-in customer service features
- Create a case
- View open case(s)
- Create RMAs

Synovia can include the following modules based on customer preference:

- CORE AVL & Reports
- Comparative Analysis & Reports
- Time & Attendance & Reports
- Here Comes the Bus & Reports
- Student Ridership Tracking & Verification and Reports

- Vehicle Maintenance Scheduling & Reports
- Remote Access App
- Engine Diagnostics & Reports

Every Synovia System includes CORE AVL. This module provides Track and Trace capabilities in real time. The default Startup Screen for Synovia is Fleet Tracking, and it will display a map of your area.
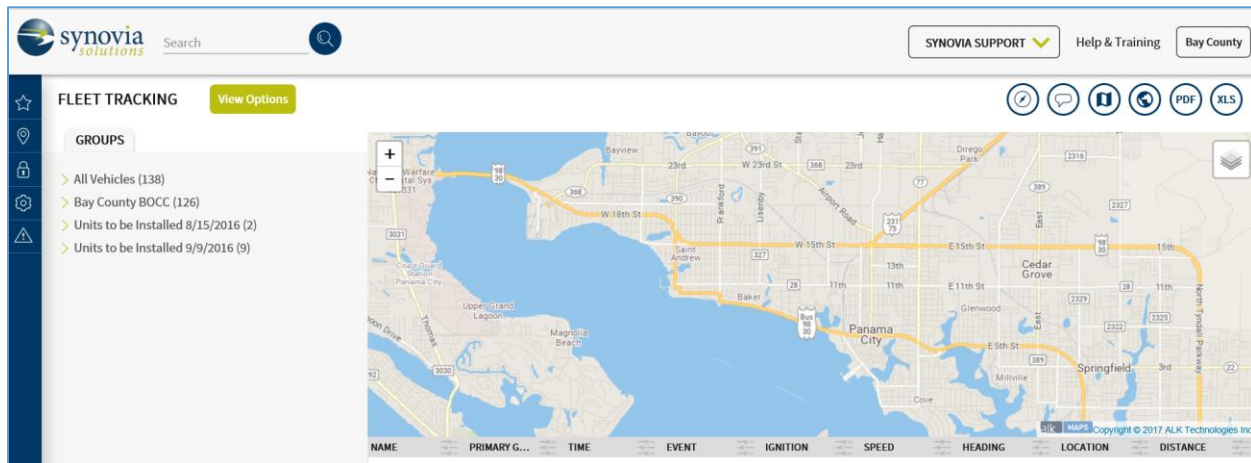
At the top of the site, you will see the banner, which contains the following:
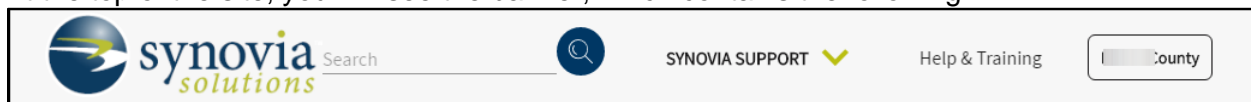
Synovia logo: Click this to return to your default Synovia startup screen.

Search: Type a search term and click to find something on the Synovia site, such as an entity property.

Username drop-down list: Click the down arrow to the right of your username ("Synovia Support" in the preceding figure) to access the user settings or to log out.

Help & Training: Click this to be taken to the Synovia Knowledge Base (which contains may articles and videos).

Customer account name: Your organization's name will appear at the far right of the banner.

When you hover your cursor over the icons on the left of the screen, the accordion menu appears.
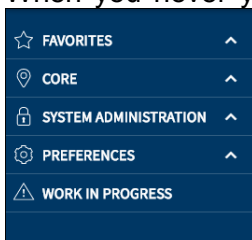
These are the options on the menu:

 Favorites: You can now mark your most commonly used Synovia screens as favorites so that you can access them quickly.

 Core: The Core menu is where you will find much of the fundamental Synovia functionality, including Fleet Tracking, Reports, and Vehicle History.

System Administration: The System Administration menu contains many utilities that your system administrator will use, including options for managing your fleet's groups, users, roles, vehicles, and zones.

Preferences: The Preferences menu includes options for customizing various Synovia features, such as events, vehicle types, and account settings.

Work in Progress: Anything you are working on in Synovia will be saved here, in the middle of the process, so that you can start a task at one time and come back later to complete it. If you have work in progress, the icon will become yellow, and the number of items to be finished will appear in parentheses after "Work in Progress."

The features of the Fleet Tracking screen are as follows:
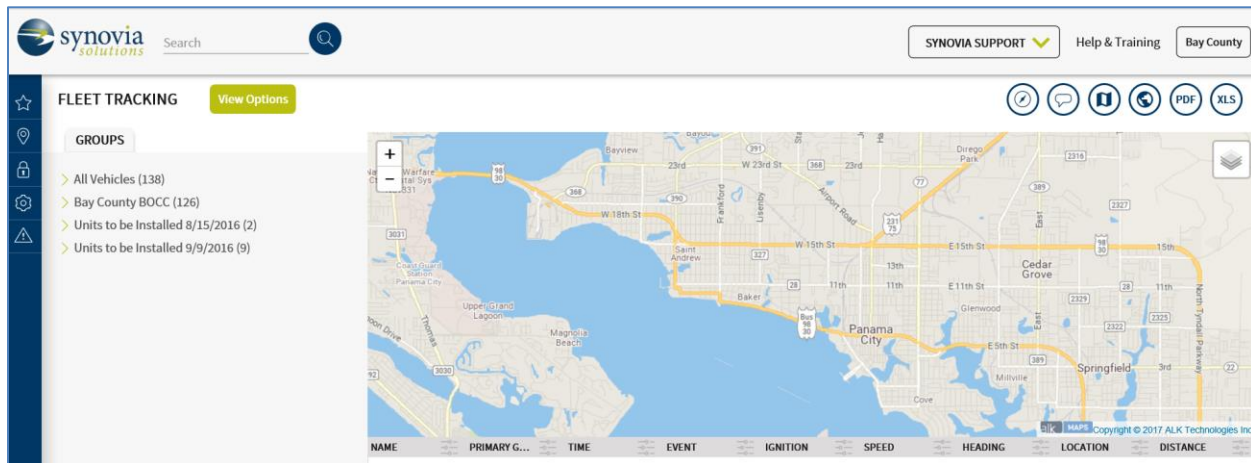
A user may access this screen by clicking [icon] >> Fleet Tracking.

View Options, to the right of "Fleet Tracking" at the top left, toggles the options to the left of the map on and off. By default, the options are visible; click View Options to hide them and see a larger view of the map. Click View Options again to restore the options to the screen, which are as follows:

Note: Additional tabs may appear beside the FLEET TRACKING Tab if additional modules are licensed by the customer. The Drivers, Vehicle Maintenance, Schools and Itineraries Tabs are displayed if the appropriate modules have been licensed.

- **Groups:** Lists all the fleet groups in your organization. When you click [>] to the left of a group's name, all the vehicles assigned to that group will appear.

    Note: All your vehicles must be assigned to a primary group, separated as best fits your organization's needs. For example, they may be assigned to groups named for the schools or area serve. A vehicle can belong to more than one group, but it can have only one primary group.

- **Drivers:** (Requires Time & Attendance) Lists all the departments of drivers in your organization, as designated in Time and Attendance. When you click [>] for a department, all the driver employees in that department will appear. If a driver is currently clocked in, their name will appear in bold.

- **Schools:** (Requires Comparative Analysis) Lists all of your schools. When you click [>] for a school, the route times of day will appear (such as AM, MID, and PM). You can click a time of the day, all the routes for that time period will appear on the map and in its information grid. If you click [>] for a time period, a list of drivers assigned to those routes will appear. You can select a driver's name to see the vehicle they are driving on the map and its GPS data in the grid.

- **Itineraries:** (Requires Comparative Analysis) Lists your vehicle's routes, sorted by itinerary number. You may need to click [>] for your main organization name to see all the itineraries. Click an itinerary number to see the associated vehicle on the map and its GPS data.

The Map Toolbar

At the top right, a toolbar displays the following options:

⚙ : Brings up settings in which you can choose to display event icons or vehicle type icons.

⬚ : Displays the map full-screen.

🧭 : Centers the map on the selected vehicle or fleet.

💬 : Turns on or off the labels on the vehicles.

📍 : Enables you to search for a specific address or zone.

🌐 : Enables you to show zones in your area.

☰ : Displays a legend that explains what the map icons stand for.

PDF : Saves the map and grid data as a PDF you can print.

XLS : Enables you to export the grid data to an Excel spreadsheet.

Other Map Options

You can use the ⊞ buttons to zoom in and out on the map.

When you hover your cursor over ⬚ on the right of the map, the following options appear:

- **Streets:** Shows the default map view, with street names.

- **Satellite:** Brings up a satellite view, showing a raw, aerial image of the map.

- **Traffic:** Displays the current traffic conditions, coded by color, as follows:

  - o **Green:** Light traffic

  - o **Yellow:** Moderate traffic

  - o **Red:** Heavy traffic

- **Weather Satellite:** Overlays a weather satellite view, such as cloud coverage.

- **Weather Radar:** Displays the current weather radar indicators.

You can right-click any location on the map and select Location Details. The address and latitude/longitude coordinates will appear in a pop-up at the bottom left of the map. Click ⊗ to close the pop-up.
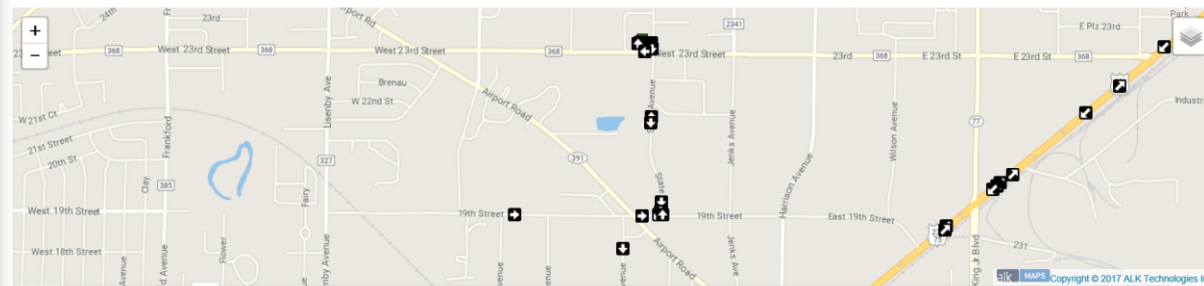
To track a vehicle, follow these steps:

1. Click 🅟.

2. Click Fleet Tracking.

3. On the Groups tab, click [>] of the fleet group containing the vehicle you want to track.

   Note: To track an entire group, click the group's name instead of [>].

4. Click the vehicle number.

The vehicle will appear on the map on the right, and its tracking information will appear in the grid beneath the map.

The grid column headings are as follows:

- **Name:** The identifier for the vehicle, usually the vehicle number.

- **Primary Group:** The main fleet group the vehicle belongs to.

  Note: A vehicle can belong to more than one group, but it can have only one primary group.

- **Employees:** The current employees on the vehicle, such as the driver.
- **Route:** The route the vehicle is driving.

- **Time:** The date and time of the last event reported to Synovia by the vehicle's GPS device.

- **Event:** The last event reported to Synovia by the vehicle's GPS device.

- **Ignition:** The current state of the vehicle's ignition, such as OFF.

- **Speed:** The vehicle's current speed in miles per hour.

- **Heading:** If the vehicle is in motion, the direction it is heading.

- **Location:**   The vehicle's current address (or zone).

- **Distance:** The number of miles the vehicle has traveled today.

Filtering is only a mouse click away for any column in the vehicle results grid.

Note: If you want to make the map bigger, you can click View Options to hide the options on the left. Click View Options again to restore them to the screen.

Mapping a Vehicle's History
To map where a vehicle has driven for a given period of time, follow these steps:

1. Click .

2. Click Vehicle History.

3. On the Vehicles tab, click the [>] for the group containing the vehicle to expand it.

4. Select the check box to the left of the vehicle number.

5. Click the Options tab.
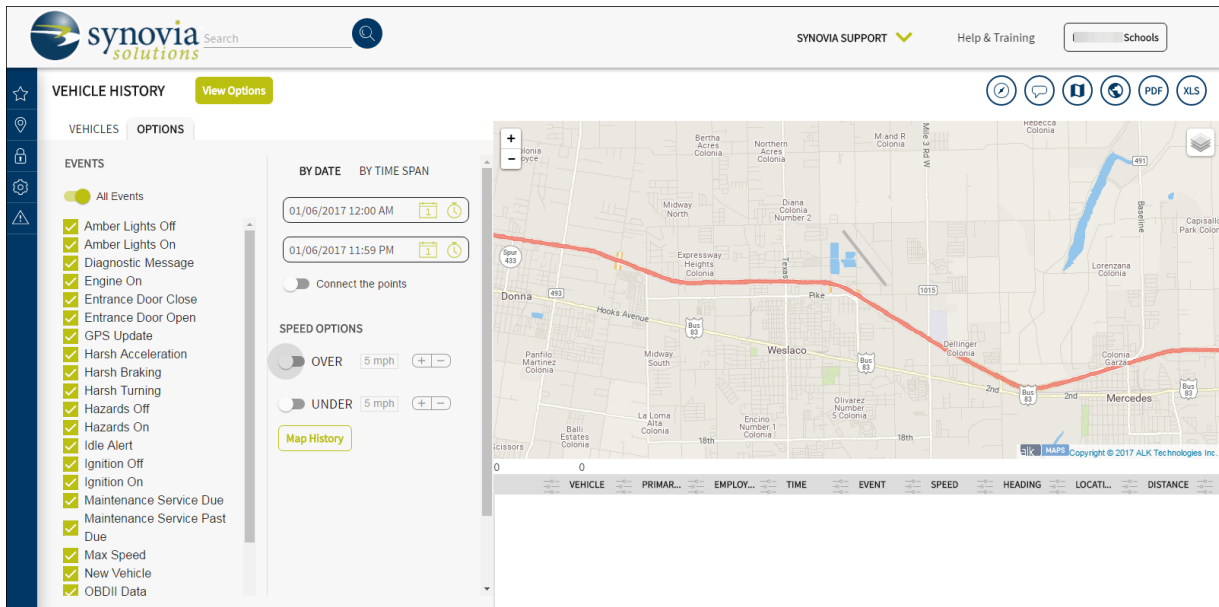
By default, all vehicle events will be selected.

6. Optionally, to choose just a few events, deselect All Events and click the check boxes of just the ones you want to map.

7. Select the date range that the history will display by specifying start and end dates on the By Date tab. You can also specify a time span, such as between 7:00 and 9:00 a.m., on the By Time Span tab.

8. Optionally, you can select Connect the Points for a feature that draws a line between each point on the map.

9. Optionally, you can specify a speed range in the Speed Options area by selecting Over and/or Under and entering the miles per hour values.

   Note: This is useful if you've had speeding complaints about a vehicle and want to see if and when speeding has occurred.

10. Click Map History.

The events for the time period you selected will appear on the map, and the data for the events will appear in the grid below the map, listed in chronological order. See Tracking a Vehicle for a description of the grid's column headers.

Watching a Vehicle Live

A vehicle or vehicles can be watched in real time by selecting this option when it appears on screen

Reports Module for CORE AVL

The standard reports that are available will vary, depending on what Synovia components the customer

has chosen and your user role. To see your reports, click [icon] >> Reports.

Your available reports will appear on a new tab, in a list on the left. The list is organized by category, such as Core and Engine Diagnostics in the following figure.
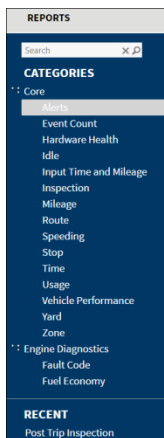
Below your list of reports will be the most recent reports you've run.

The Core Reports

The following table contains descriptions of the Core reports.

Report Type	Description	Note
Alerts	Provides information about event alerts and the associated vehicles	
Event Count	Provides a detailed count of events	
Hardware Health	Provides information about units that have not reported to the database	
Input Time & Mileage	Provides information about input events, including duration and mileage	
Inspection	Provides data about pre/post inspections or indicated defects	The Defect Inspection report requires tablet hardware on the vehicle
Maintenance	Provides information about vehicle services	
Mileage	Provides mileage data as calculated by GPS distances	

Route	Provides general data about vehicle route activity	This report is limited to preserve system resources
Speed Graph	Provides a graph of all the speeds a vehicle has gone over a specified time period	This report is limited to preserve system resources
Speeding	Provides speeding event data compared to posted speed limits	
Stop	Provides stop data, including duration and distance between the amber activation and the stop	
Student	Provides student first and last names, the school they attend, and a specified property (such as import district ID)	
Time	Provides information about pre/post trip inspection times	
Usage	Provides information about Synovia user use	
Vehicle Performance	Provides a summary of performance-related events	
Vehicle Summary	Provides a summary of vehicle event information, including which vehicles are underutilized	
Yard	Provides vehicle activity associated with designated yards	
Zone	Provides vehicle activity associated with designated zones	

Various reports are available for a report category, each at a different data level.

To run a standard report (one that is included with the software), follow these steps:

![synovia solutions logo]

1. Click ⊙.

2. Click Reports.
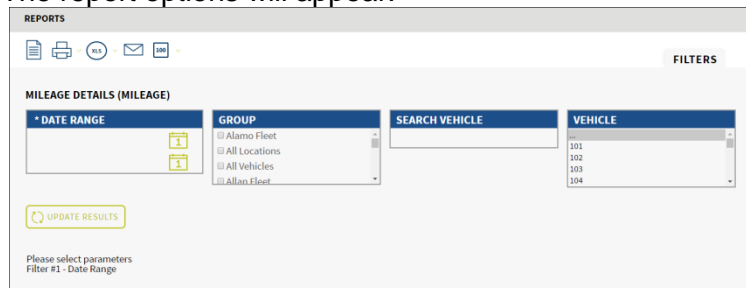
   The Reports screen will appear on its own tab, with the included reports listed by category on the left.

3. Click the name of the type of report you want to run.

   The specific reports available for that report type will appear on the right, with image previews of what each report will look like.

4. On the right, click the report you want to run.

   The report options will appear.

These are the options at the top left:

📄 **Report List:** Returns you to the list of reports.

🖶 **Print:** When you click its down arrow, offers these options:

   Print HTML: Prints the report from your browser.

   HTML-Powered PDF: Compiles all the pages of the report to a one-page PDF.

🆇🆂 **Export to Excel:** When you click its down arrow, offers these options:

   Export to Excel: Exports the report to Excel.

   Word Document: Exports the report to Word.

   CSV: Exports the report to a text file of tabular data (of comma-separated values).

   XML: Exports the report to an XML text file, which is both human-readable and machine-readable.

✉ **Send Report:** Opens an email message with a link to the report in the body of the message, which you can send to any recipient necessary.

Results: Offers different options for the number of results to return — 1; 10; 100 (the default); 1,000; 10,000; or all the results (which you need to use carefully if very many results will be returned, as that could overload your browser).

5. Select the first Date Range and the beginning date of the time period for which you want to run the report.

6. Select the second Date Range and the ending date of the time period.

7. In the Group box, select the fleet group(s).

   Note: If you don't select any groups, the report will be run for all your groups.

8. If the report has a search option, such as Search Vehicle in the Mileage Details report, you can click in the Search box, type your search text, and press Enter.

   Note: You can remove the search criteria by clicking .

9. Enter any other necessary parameters for the report.

   Note: For the Mileage Details report, you can specify a vehicle. If you don't, all the vehicles will be included in the report.

10. Click Update Results.

The report results will appear below.

PRIMARY GROUP ▲	VEHICLE ▲	DATE ▲	TOTAL MILES
Building Maintenance	341	1/25/2017	36
Building Maintenance	341	1/26/2017	28
Building Maintenance	341	1/27/2017	0
Building Maintenance	348	1/25/2017	41
Building Maintenance	348	1/26/2017	57
Building Maintenance	348	1/27/2017	0
Fire Department	FDL0007	1/25/2017	69
Fire Department	FDL0007	1/26/2017	66
Fire Department	FDL0007	1/27/2017	46
Fire Department	FDLF04	1/25/2017	71
Fire Department	FDLF04	1/26/2017	81
Fire Department	FDLF04	1/27/2017	0
Stormwater Maintenance	PW6	1/25/2017	23
Stormwater Maintenance	PW6	1/26/2017	25
Stormwater Maintenance	PW6	1/27/2017	0
Stormwater Maintenance	PW803	1/25/2017	0
Stormwater Maintenance	PW803	1/26/2017	38
Stormwater Maintenance	PW803	1/27/2017	49
TOTAL			**630.00**

Each report can be saved and scheduled to run automatically on the schedule set by the user.

Mapping Vehicles near a Vehicle

You might need to find fleet vehicles that are near a vehicle — for example, if a vehicle is in an accident and you need a close-by vehicle to assist.

To do so, follow these steps:

1. Track the vehicle you want to search near as shown in Tracking a Vehicle.

2. In either the group list on the Groups tab or the grid beneath the map, right-click the number of the vehicle and select Map Nearby Vehicle on the menu.

The Map Nearby screen will appear.
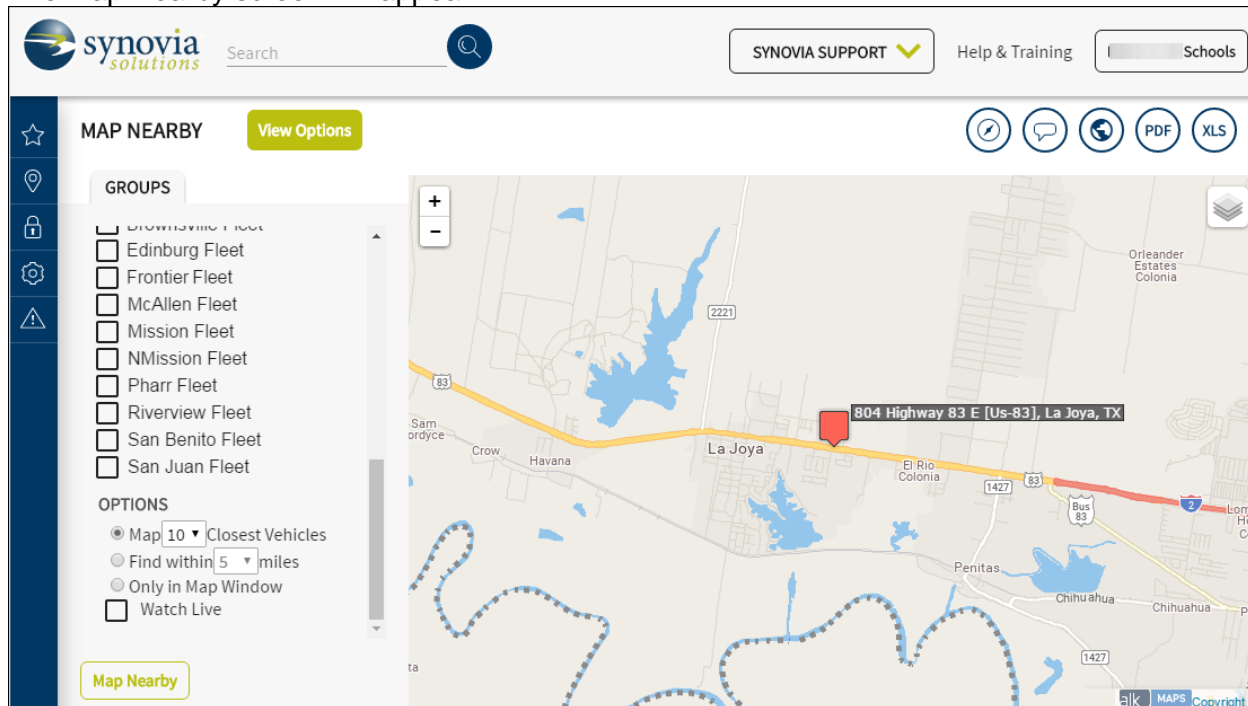
3. Optionally, in the Groups area, you can select the group whose vehicles you want to find by checking the box to the left of the group name.

   Note: If you don't select a group, all vehicles in all your groups will be searched for.

4. Select from these choices in the Options area:

   Map Closest Vehicles: You can choose a number of vehicles to locate using the drop-down menu.

   Find Within Miles: You can choose a certain radius, from 1 to 50 miles, in which to search.

   Only in Map Window: This displays only vehicles within the boundaries of the map.

   Watch Live: If you select this check box, you can watch the found vehicles in real time.

5. Click Map Nearby.

All nearby fleet vehicles that meet your criteria will be displayed on the map, and their data will appear in the grid beneath the map.
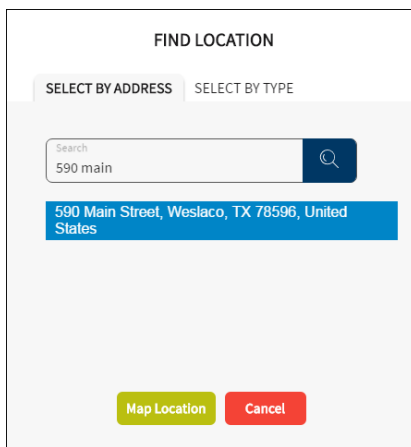
Mapping Vehicles near an Address

If you need to find fleet vehicles that are near a specific address, follow these steps:

1. Click [icon].

2. Click Map Nearby.

3. In the Find Location dialog box, type the address you want to search near.

   As you type, possible matching addresses in your area will appear in the box below.

4. Click the correct address.

5. Click Map Location.

   The Map Nearby screen will display the address on the map.

6. Optionally, in the Groups area, you can select the group whose vehicles you want to find by checking the box to the left of the group name.

   Note: If you don't select a group, all vehicles in all your groups will be searched for.

7. Select from these choices in the Options area:

   Map Closest Vehicles: You can choose a number of vehicles to locate using the drop-down menu.

   Find Within Miles: You can choose a certain radius, from 1 to 50 miles, in which to search.
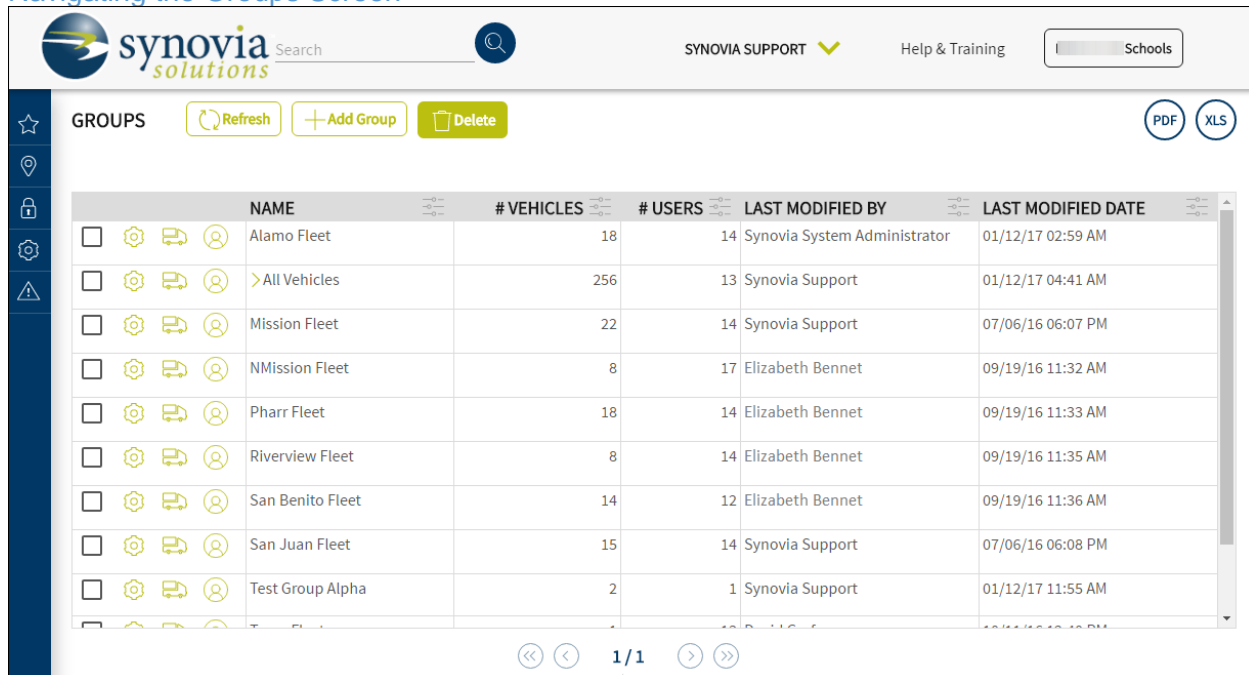
   Only in Map Window: This displays only vehicles within the boundaries of the map.

Watch Live: If you select this check box, you can watch the found vehicles in real time.

8. Click Map Nearby.

All nearby fleet vehicles that meet your criteria will be displayed on the map, and their data will appear in the grid beneath the map. The column headers are the same as those listed in Tracking a Vehicle, with one addition: **ETA**, which is how long it would take the vehicle to reach the specified address.

Navigating the Groups Screen

Groups are the basic organizational units of the overall fleet (what were called *fleets* in the legacy website). All vehicles should belong to at least one group.

Note: The new Synovia has added the capability to add vehicles to more than one group. For example, say the fleet services assisted living facilities, and each vehicle's primary group is named for the housing complex they are assigned to. You may want to create an additional group that includes only vehicles that are both wheelchair accessible and air conditioned.

The following describes the various features of the Groups screen, which are accessed by clicking 🔒 >> Groups.

These are the options along the top of the screen:
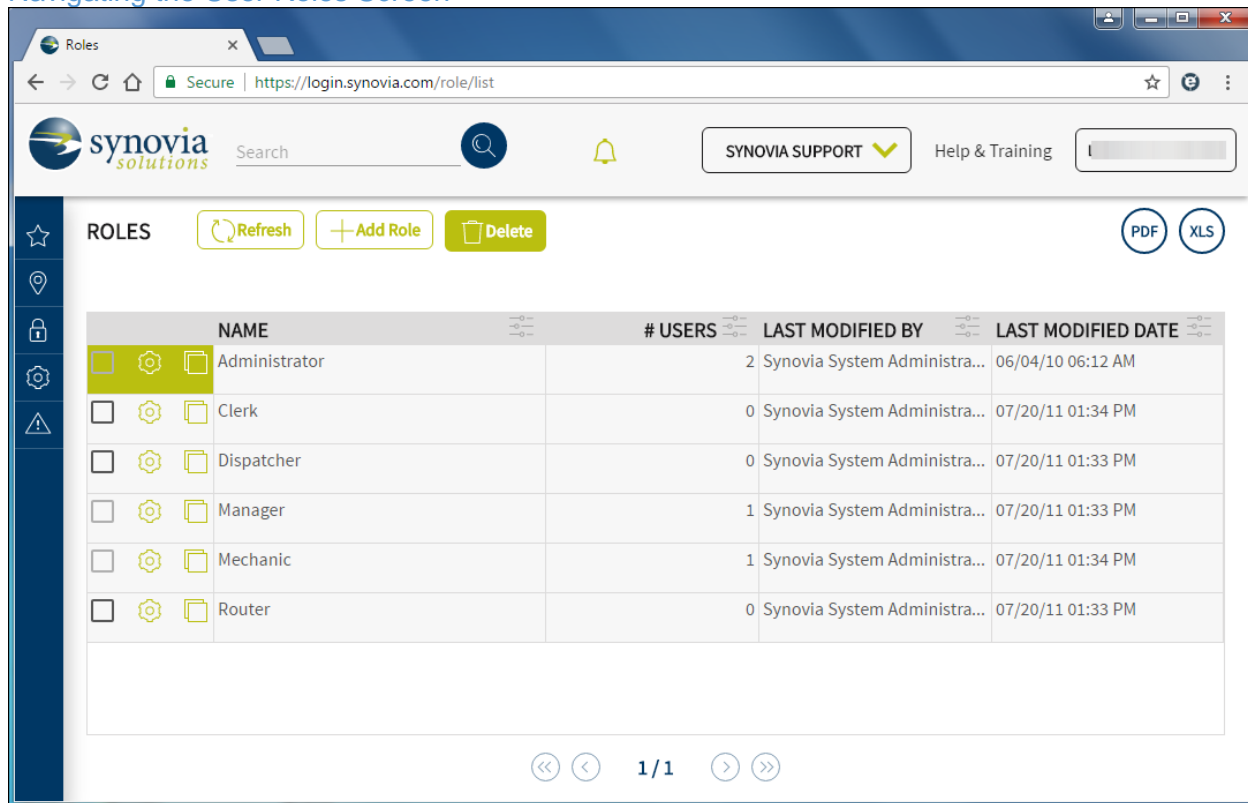
- **Refresh:** Refreshes the data on the screen (which can be especially useful if other users are making changes to your organization's groups).

- **+ Add Group:** Begins the process of creating a new group.

- **Delete:** Deletes a group.

- : Saves the Groups data as a PDF you can print.

- : Exports the grid data to an Excel spreadsheet.

Here is an explanation of the grid options and column headers:

- : Opens the Edit Group screen, on which you can modify the group's properties.

- : Opens the Assign Vehicles screen, on which you can add or delete vehicles and change whether the group is a vehicle's primary group.

- : Opens the Assign Users screen, on which you can add or remove users who can view the group's vehicles.

- **Name:** The name of the group.

- **# Vehicles:** The number of vehicles in the group.

- **# Users:** The number of users assigned to the group (who can therefore see the group's vehicles).

- **Last Modified By:** The user who last made a change to the group, such as updating the group's properties, adding a vehicle, or adding a user.

- **Last Modified Date:** The date and time of that last change.

Along the bottom of the screen are icons that enable you to navigate through the pages of data.
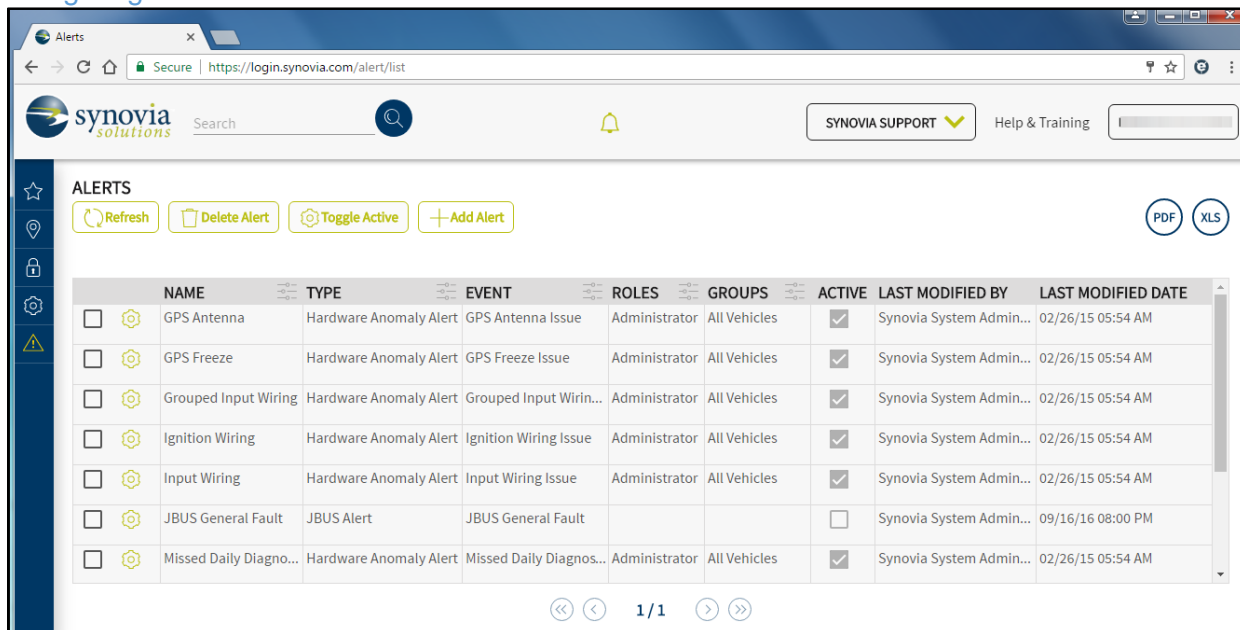
Navigating the User Roles Screen

This following describes the various features of the Roles screen, which are access by clicking 🔒 >> Roles. Roles control which screens users can view and change.

These are the options along the top of the screen:
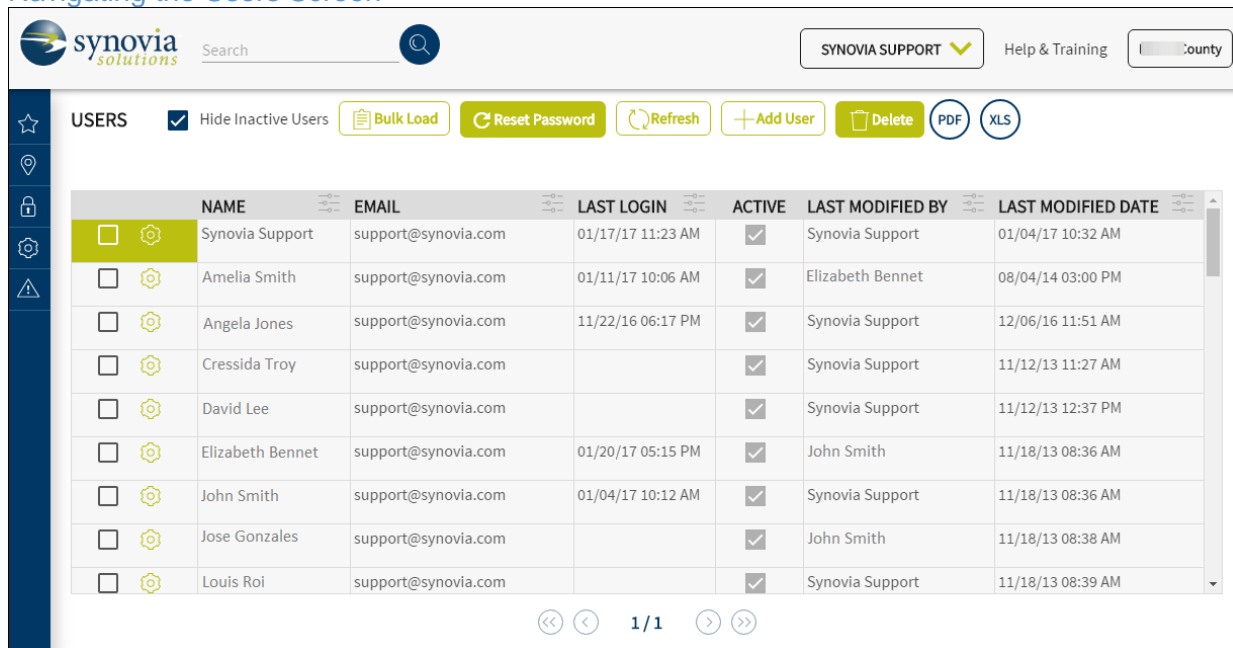
- **Refresh:** Refreshes the data on the screen (which can be especially useful if other users are making changes).

- **+ Add Role:** Begins the process of creating a new role.

- **Delete:** Deletes the selected role.

- 🔘 PDF : Saves the data as a PDF you can print.

- 🔘 XLS : Exports the grid data to an Excel spreadsheet.

Here is an explanation of the grid icons and column headers:

- : Opens the Edit Role screen, on which you can modify the role's privileges.

- : Begins the process of duplicating the role, a quick way to add a role if you want one that has similar privileges.

- **Name:** The name of the role.

  Note: Synovia is shipped with the default roles shown in the preceding figure.

- **# Users:** Displays the number of users in your organization assigned to the role.

- **Last Modified By:** The user who last made a change to the role's name or privileges.

- **Last Modified Date:** The date and time of that last change.

Along the bottom of the screen are icons that enable you to navigate through the pages of data (if you have many pages of roles).

Navigating the Users Screen

The following describes the various features of the Users screen, which are accessed by clicking >> Users.

Note: By default, the software includes a **Synovia Support** user (shown at the top of the preceding figure). Make sure that you never delete this user because we use it to help you with your system whenever you request it.

These are the options along the top of the screen:

- **Hide Inactive Users:** When checked, makes users who do not have access to your Synovia information not appear in the list. When unchecked, displays all users, both with and without access.

- **Bulk Load:** Begins the process of adding multiple users to your Synovia account. (We recommend guidance when bulk loading users. Please contact your Synovia project manager for details.)

- **Reset Password:** Resets the selected user's password.

- **Refresh:** Refreshes the data on the screen (which can be especially useful if other users are making changes).

- **Add User:** Begins the process of adding an individual user to your Synovia account.

- **Delete:** Removes the selected user from the system.

- [PDF]: Saves the data as a PDF you can print.

- [XLS]: Exports the grid data to an Excel spreadsheet.

Here is an explanation of the grid icon and column headers:

- [gear]: Opens the Edit User screen, on which you can modify the user's profile.

- **Name:** The user's first and last name.

- **Email:** The email address they use to access Synovia.

- **Last Login:** The most recent day and time the user logged in to Synovia.

- **Active:** If this check box is selected, the user has access to your Synovia data.

- **Last Modified By:** The user who last made a change to this user's profile.

- **Last Modified Date:** The date and time of that last change.

Along the bottom of the screen are icons that enable you to navigate through the pages of data.

Locations and Zones (Geofences)

We're now using the terms *location* and *zone* slightly differently. *Locations* now are the important areas in your organization, and there are three types: schools, landmarks, and yards. A *zone* is the geofence or polygon drawn on the map. Zones are drawn around your designated locations. A Zone or Geofence is a polygon specifying an area on the map that is used to monitor vehicle activity. The following are the types of zones you designate in Synovia:

- School: The area where the students will be dropped off and picked up at school — not around the school itself, but around the actual parking and unloading space.

- Yard: Where the vehicles will park when they are not in use, often some kind of depot — in other words, where they'll be when they're done driving for the day. This zone can tell you what time a vehicle has left the yard to start a route, for example.

- Landmark: Any other type of specified area that you need — something pertinent to your drivers or organization, such as a construction job site, frequent field trip destination, speeding-complaint location, or non–state-maintained road.

Synovia provides unlimited locations and zones created by customers.

Navigating the Alerts Screen

This following describes the various features of the Alerts screen, which you access by clicking [lock icon] >> Alerts.

These are the options along the top of the screen:

- **Refresh:** Refreshes the data on the screen (which can be especially useful if other users are making changes).

- **Delete Alert:** Removes the selected alert from the system.

- **Toggle Active:** Changes the active state for the selected alert (see the "Active" bullet below).

- **Add Alert:** Begins the process of adding a new alert for your organization.

- [PDF]: Saves the data as a PDF you can print.

- [XLS]: Exports the grid data to an Excel spreadsheet.

Here is an explanation of the grid icon and column headers:

- [⚙]: Opens the Edit screen, on which you can modify the alert's properties.

- **Name:** The name of the alert.

- **Type:** The type of activity the alert is notifying you about, such as a certain event occurring or the need for vehicle maintenance.

- **Event:** The GPS event that triggers the alert.

- **Roles:** The roles that receive the alert.

- **Groups:** The vehicle groups the alert applies to (often All Vehicles).

- **Active:** If this check box is selected, the alert is active and is sending out notifications as it's set up to do. When this is deselected, the alert isn't on — it's not looking for the triggering alert and is not sending out notices.

- **Last Modified By:** The user who last made a change to the alert's properties.

- **Last Modified Date:** The date and time of that last change.

Along the bottom of the screen are icons that enable you to navigate through the pages of data.
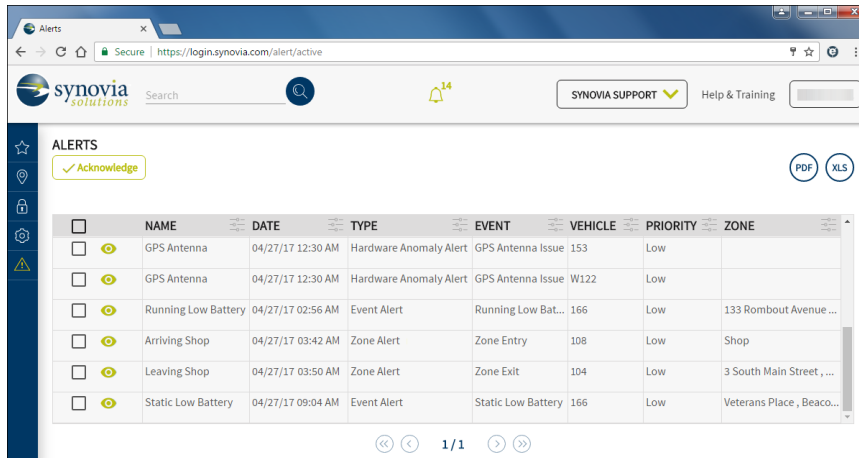
Checking Current Alerts

Alerts are messages sent from your system to inform certain users of situations, such as a vehicle sending out a diagnostic message or a warning about a low battery.
To see a list of your organization's current alerts, follow these steps:

1. In the site banner, click [🔔14].

Note: The number in the icon indicates how many unacknowledged alerts you have.
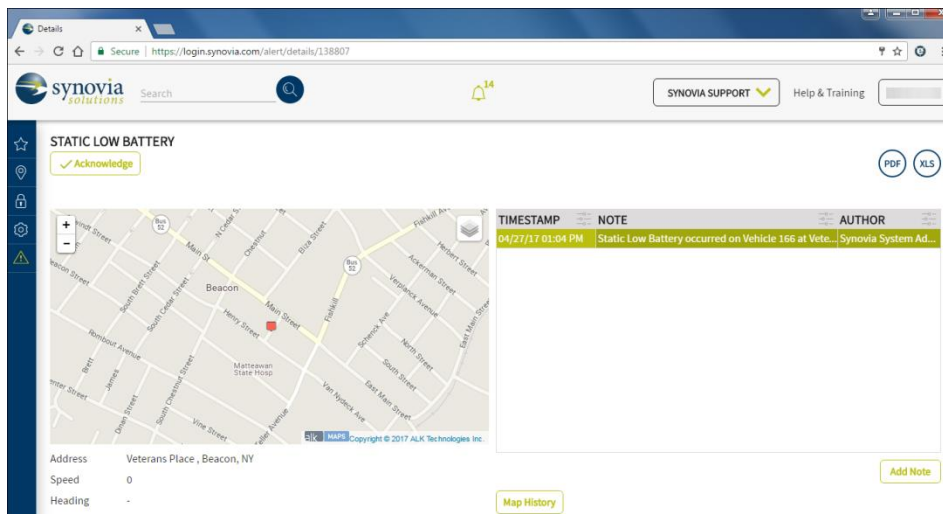
A list of your current alerts (those that haven't been acknowledged yet) will appear.

2.   Here is an explanation of the grid icons and column headers:

- ⊙ **:** Opens a screen with details about the alert, including a map showing where it occurred.

- **Name:** The alert name.

- **Date:** The date and time the triggering event was reported to Synovia.

- **Type:** The kind of alert it is (what it is designed to alert about), such as a Zone alert, which notifies users about certain zone activity.

- **Event:** The GPS event that triggers the alert, such as Ignition On.

- **Vehicle:** The name of the vehicle (usually a number) the alert applies to.

- **Priority:** The level of importance of the alert: Low, Medium, or High.

  Note: You can apply a filter to see just the alerts with a High priority, for example.

- **Zone:** If applicable, in which zone the alert occurred.

3. To acknowledge an alert, select its check box and click Acknowledge at the top of the screen.

   Note: You can acknowledge multiple alerts by clicking all of their check boxes before clicking the Acknowledge button. To select *all* the unacknowledged alerts, click the check box at the top left of the grid.

All alerts can be delivered via pop-up window, email or text message and are user definable. Non users (Data Consumers) of the customers Silverlining system can also be included in Alert Notifications. Silverlining also includes an Alerts Page that provides the user the considerable flexibility to manage Alerts.
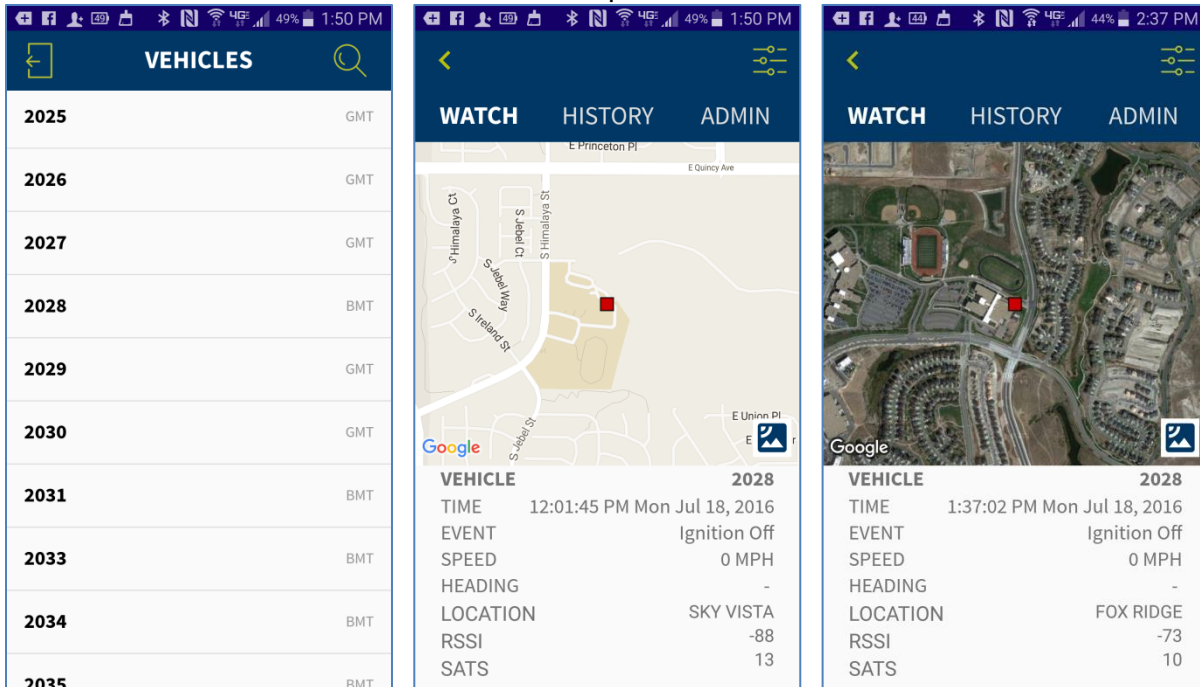
Synovia Mobile Access

Mobile devices can be used by customers to view their Synovia vehicle activity. This site is written in HTML5, therefore it is compatible with all mobile devices to include for the first time iOS, i.e. iPhone, iPad.

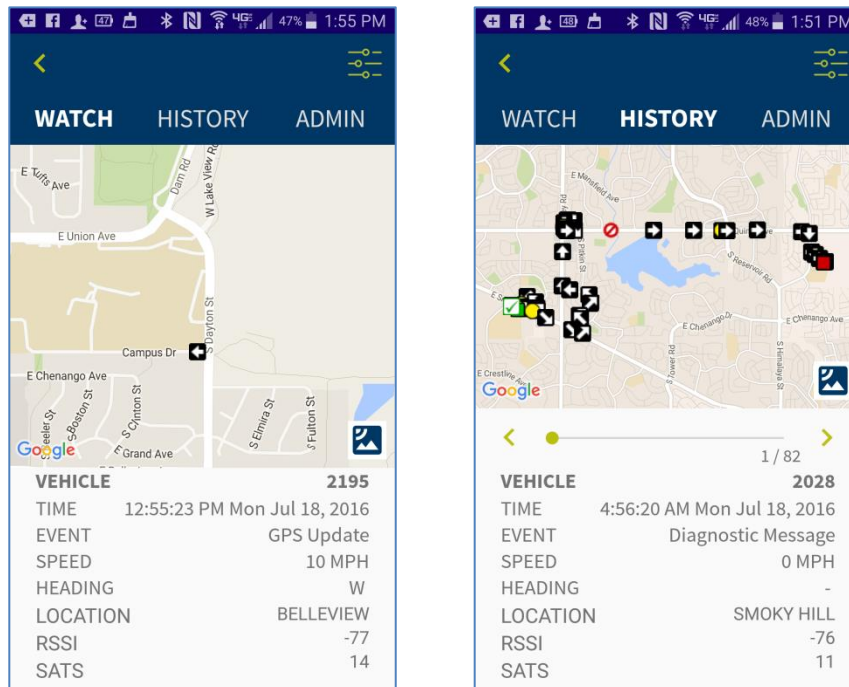App is available for Smartphone/Tablet – IOS and Android Operating Systems

- The APP provides the ability to view live or historical vehicle activity while the user is away from the office.
- Uses the same log in credentials as Silverlining.
-
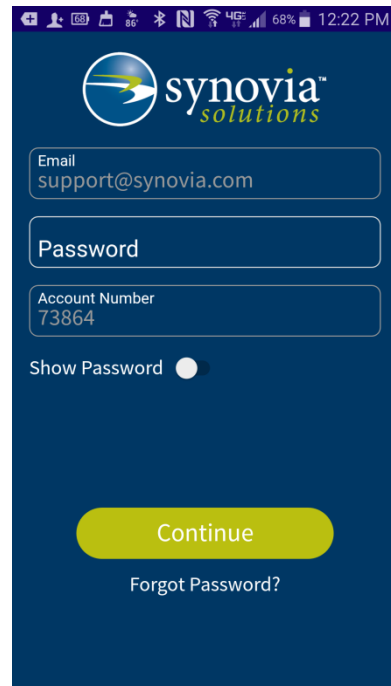
- A vehicle list from Silverlining with the assigned fleet is displayed.
- Scroll down the list and press vehicle ID to display the vehicle location.
- Click on the icon to switch from map to satellite view.

- The user may select WATCH or HISTORY mode to view the vehicle activity in real time or historical.

- The user may refine their vehicle activity selection by adjusting the Event Type, Date or Speed. This process is very similar to Silverlining.

Screen 1:

CANCEL   DONE

EVENT TYPE   ⌄
DATE   ⌄
SPEED   ⌄

Screen 2:

CANCEL   DONE
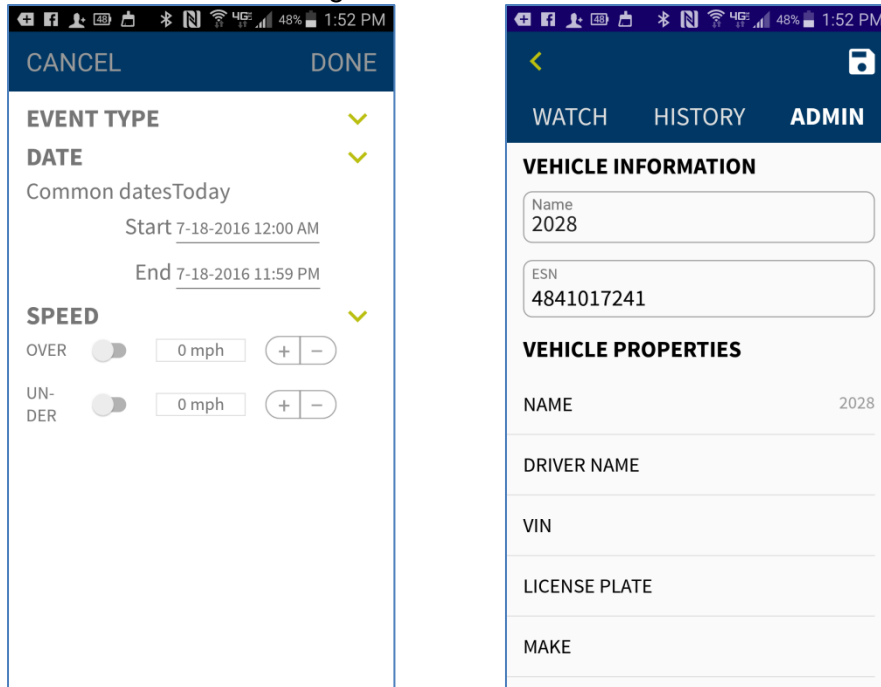
EVENT TYPE   ⌄

☐ All events

☐ Engine On

☐ Ignition On

☐ Ignition Off

☐ GPS Update

☐ Power Up

☐ Stop Arm Violation

☐ Idle Alert

☐ Max Speed

☐ Stop Arm Close

☐ Stop Arm Open

Screen 3:

CANCEL   DONE

EVENT TYPE   ⌄
DATE   ⌄
Common datesToday
    Start 7-18-2016 12:00 AM
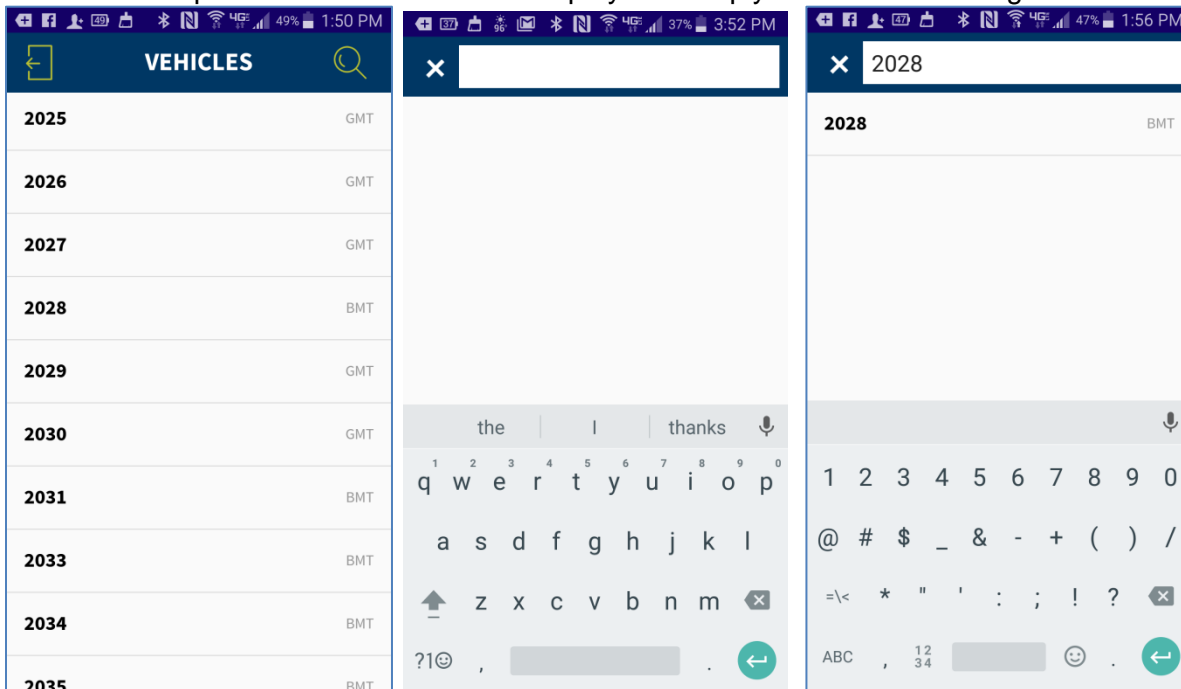   End 7-18-2016 11:59 PM
SPEED   ⌄

- Various vehicle info from Silverlining is available in ADMIN mode.

- A user may move directly to a specific vehilce by touching the icon. A new screen opens and allows the user to enter the vehicle ID.
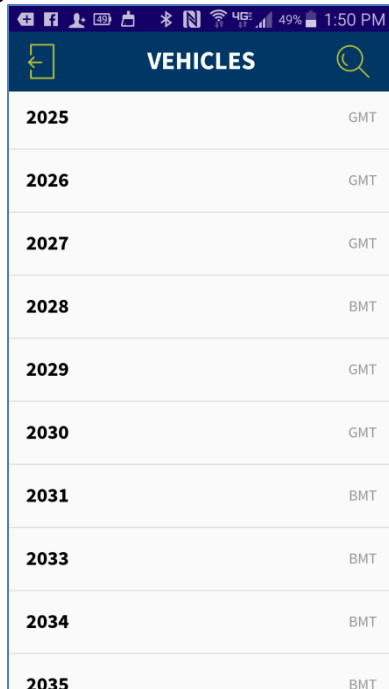- The requested vehicle ID will be displayed. Simply select it for viewing.

To exit the Synovia APP press on the icon.

- Press Log Out.
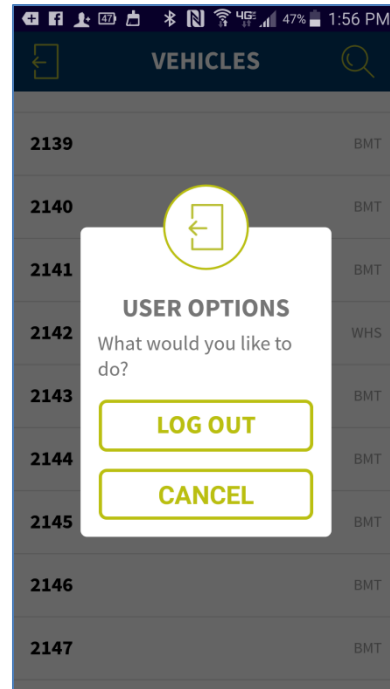
ESRI Shapefile Integration

Street Centerline Shapefile

o A street centerline shapefile can be imported into Silverlining
o A "local" map is generally more accurate than a commercial map
o Keep the local map up-to-date within Silverlining by uploading (FTP) to Synovia's datacenter on a regular basis
o Track, dispatch and route vehicles using the local map in Silverlining
o Create posted speeding reports based on local map street speeds
o Quickly toggle between local map and Synovia's nationwide map
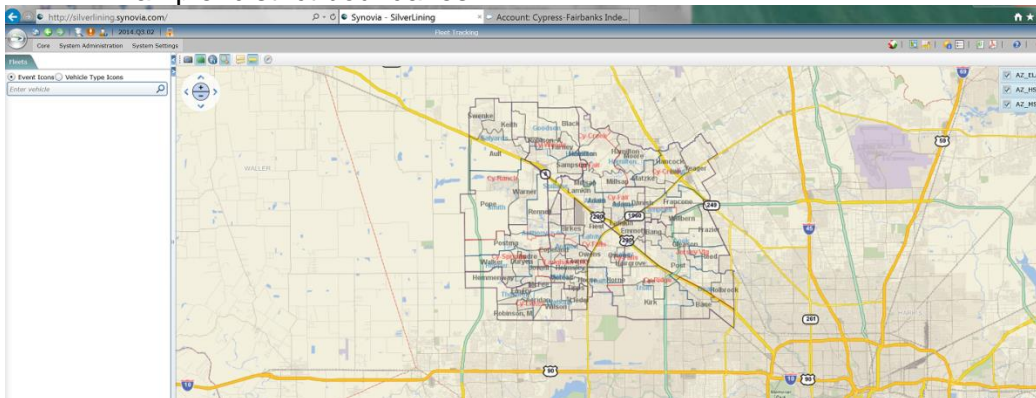
Shapefile Overlay

o Overlay custom data on any Silverlining screen with map to more quickly locate, dispatch or route the correct vehicle
o Upload unlimited number of shapefiles or connect to a URL
o Use cases include sewer lines, snow plow routes, parcel data, district boundaries and more

➢ Example: municipal snow plow routes
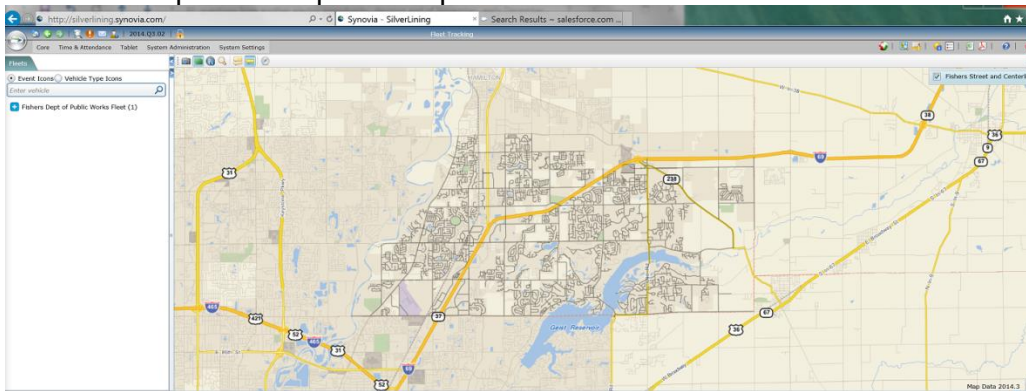
➢ Example: district boundaries

Engine Diagnostics
(Requires Engine Diagnostics Hardware)
Synovia Engine Diagnostics Software Features

Fault code email and/or text alerts

Properties

Name	JBUS General Fault
Alert Type	JBUS Alert
Role	Viewer
Group	All Vehicles
Event	JBUS General Fault
Priority	Medium
Days Of Week	☑ Su ☑ Mo ☑ Tu ☑ We ☑ Th ☑ Fr ☑ Sa
Start Time	12:00 AM
End Time	11:59 PM
Show	☑
Email	☑
SMS	☑
Alert Message	<F> <V> <E> <T> <A> <S> <H> <N> <L> Select from a template

JBUS fault occurred on Vehicle <V> at <A> @ <T> --- <FAULTNO>
(<FMINO>); <FAULTDESC>(<FMIDESC>)

-----Original Message-----
From: noreply@synovia.com [mailto:noreply@synovia.com]
Sent: Thursday, November 21, 2013 10:42 AM
To: Wolfe, Steve
Subject: J1708/J1939 Fault Code

JBUS fault occurred on Vehicle 4842001583 at 358 Bluebird Blvd [Ga-49], Fort Valley, GA @ 11/21/2013
10:40:18 AM --- 111(3); Engine Coolant Level(Voltage Above Normal or Shorted to High Source)

Fault Code Reports

Result description for Fault Code Detail by Vehicle

Parameter: Fleet Hierarchy - Value: City of College Station Sanitation, Midwest Region, Missoula, MT, West Region, East Region, ARC of Rockland, South Region
Parameter: Date Range - Value: 10/1/2013 - 12/20/2013

Drag a column header and drop it here to group by that column

Fleet	Vehicle	Date	Fault Code	Fault Description
Sub-Fleet Two	S06 Winter Park	10/23/2013	P0979	Shift Solenoid "C" Control Circuit Low
East Region	Goat 3	11/04/2013	P0171	System Too Lean
Sub-Fleet Two	S06 Winter Park	11/13/2013	P0926	Gear Shift Reverse Actuator Circuit Low
Sub-Fleet Two	S06 Winter Park	11/19/2013	P0950	Auto Shift Manual Control Circuit
Sub-Fleet Two	S06 Winter Park	11/22/2013	P0982	Shift Solenoid "D" Control Circuit Low
Sub-Fleet One	S03 - Cheatham	12/04/2013	P0171	System Too Lean
Sub-Fleet One	S03 - Cheatham	12/04/2013	P0174	System Too Lean
Sub-Fleet Two	S07 Coral Springs	12/05/2013	P0401	Exhaust Gas Recirculation Flow Insufficient Detected

Fuel Economy Reports

Result description for Fuel Economy Daily Summary by Vehicle

Parameter: Date Range - Value: 12/1/2013 - 12/20/2013
Parameter: Fleet Hierarchy - Value: City of College Station Sanitation, Midwest Region, Missoula, MT, West Region, East Region, ARC of Rockland, South Region

Drag a column header and drop it here to group by that column

Fleet	Vehicle	Date	Distance	Total Fuel	MPG	Idle Time
East Region	E05	12/01/2013	28.35	2.64	11.67	01:16:36
East Region	E05	12/08/2013	2.86	0.24	11.67	00:00:00
East Region	E05	12/09/2013	46.40	3.17	14.35	00:00:00
East Region	E05	12/10/2013	27.87	1.86	14.73	00:00:00
East Region	E01	12/02/2013	192.04	13.38	14.40	00:45:52
East Region	E01	12/03/2013	149.51	16.18	15.08	00:00:00

![synovia solutions logo]

Silverlining Vehicle Maintenance Module

- o Schedule preventative maintenance activities in Silverlining
- o Incorporate accurate mileage and engine hours from GPS hardware
- o Quickly determine when vehicles are approaching, due or
- o overdue for service
- o Store and report on historical vehicle service records
- o Kick-start by importing service history from 3rd party systems
- o Multiple Schedule as Needed
    - ➢ Create unlimited number of schedules
    - ➢ Set different thresholds based on vehicle type

Maintenance Scheduler

The Maintenance menu allows the user to create and maintain service records for vehicles.

- Service Schedule Manager
- Service History

Maintenance Service Reports
There are a number of Maintenance Reports to accompany this functionality.

A KPI for Services Past Due is included. This KPI will give the user ready access to the Service History screen so the services due can be viewed and/or logged in the system. Below is an example of the Service Maintenance KPI.

Service intervals can be established based on the following thresholds:

- Mileage (the GPS calculated mileage based on accumulated travel for the vehicle).

- Engine Hours - calculated based on the engine hours accumulated based on the Engine Diagnostics data. (Requires Synovia Engine Diagnostics hardware and license).
- Days - calculated based on days since last service date.

If a Service has more than one service interval, the service due is triggered by the threshold that is reached first. For example, if an Oil Change has 3000 miles and 90 days listed as the service thresholds and the mileage threshold (minus the Alert Threshold) is exceeded before the time threshold, the alert will be triggered and vice versa.

CAD Integration

- Synovia GPS hardware connects to in-vehicle laptop with serial cable
- Synovia hardware sends GPS data once a second using NMEA format
- NMEA formats GGA, GLL, GSA, GSV, RMC, VTG and ZDA supported
- Laptop transmits position, speed and heading of vehicle to CAD system

Fuel Card Integration

- Fuel card data is automatically uploaded to Synovia's datacenter
- An algorithm reviews fuel card purchases on a daily basis
- Alerts/reports in Silverlining notify management of unauthorized use
- Support for Wright Express (WEX) today
- New fuel card interfaces will be developed based on customer demand

- Types of unauthorized use include:
  - Instances where fuel is purchased and the vehicle was not near the fueling station
  - Instances where the amount of fuel purchased is greater than the capacity of the vehicle's fuel tank
  - If a card has been used multiple times within a specified time frame

Fuel Card Alerts

Fuel Card Reports

Fuel Card

Fuel Charge Summary by Fleet

Create a report summarizing the fuel charges by fleet over a period of time

Fuel Charge Summary by Vehicle

Create a report summarizing the fuel charges by vehicle over a period of time

Fuel Charge Detail by Vehicle

Create a report displaying the fuel charge details by vehicle

Fuel Charge by Unknown Vehicle

Create a report detailing the fuel charges by unknown vehicles over a period of time

Suspicious Fuel Charge Detail by Vehicle

Create a report detailing the suspicious fuel charges by vehicle over a period of time

Fuel Card MPG by Vehicle

Create a report calculating the MPG by vehicle over a period of time