

Mapping and Geofencing

Map display of Vehicles, Drivers, Geofences with Landmarks and Vehicle/Driver Geofence Events

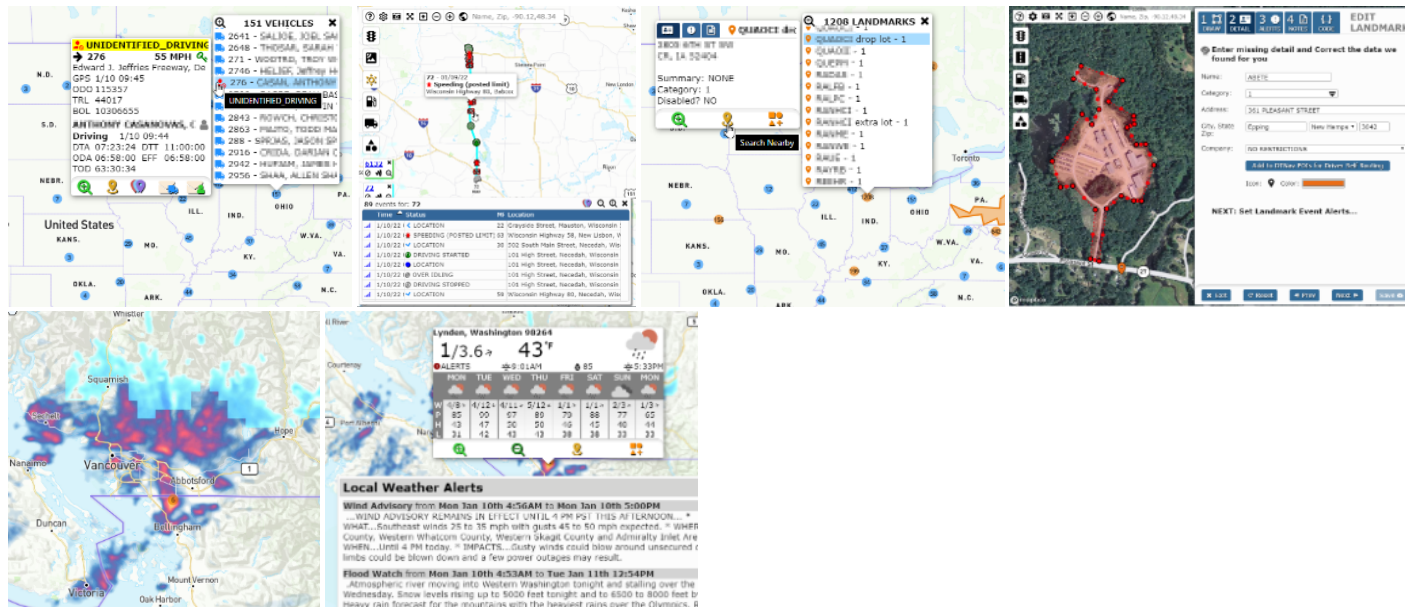
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Mapping and Geofencing

◦ [See Also](#)

Asset Tracking with Geofences and Routing to Landmarks

DriverTech Mapping provides the ability to view Vehicles, Vehicle/Driver Event History, Geofences, Fueling Locations, Weather Radar, Weather Forecast and perform interactive actions on these items:








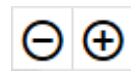


Requirements

Geofence Events will only be generated from ELD running v6.08+
All other Mapping features are supported across all current versions of ELD

Map Assistance Controls

Map assistance control bar is located at the Top-Left corner and provides the following capabilities



							
Help	Settings	Screensh ot	Fullscreen	Tilt and Rotate	Zoom Out/In	Zoom to Features	Location or Place Search
Opens up this page in a window.	Provides ability to override default settings on the Vehicles/Geofences/Fuel layers: <ul style="list-style-type: none">Satellite view ON /OFF by defaultMarker Icon SizeMarker Icon ColorMarker Text display ON/OFFDefault Icon Image (for Geofence creation)Toggle layer ON /OFF by defaultCluster Radius (more or fewer clusters)	Saves an image of the current view of map.	Toggle the image of the current view of map.	Click+Hold button to Tilt and Rotate Map. You may also right-click+hold over the Map to perform this action. TO RESET THE VIEW: Click this button	Decrease/Increase view level of map. This can also be accomplished by using the mouse scroll wheel.	Adjust zoom level of map to display all available items on map.	Search for an arbitrary location or place. Results of search text will be constrained to the current map view (i.e. results prioritized to nearest center of map within the visible area)

Mapping and Geofencing

Toggle Controls

Toggles provide a rapid way to Show/Hide/Change specific layers and data on the Map
The Search Control provides an alternate way to Show or Filter Vehicles/Drivers, Geofences, or Fuel



Traffic layer toggle

Toggles display of Traffic On/Off.

Traffic provides congestion information that is constantly updated every 5 minutes, with road geometries originating from OpenStreetMap.

- Traffic will only be visible when zoomed in to an appropriate detail level (i.e. city)



Weather Radar toggle

Toggles Weather Radar On/Off



Satellite/Street layer toggle

Toggles the background rendering between Street and Satellite

- Satellite view will automatically be enabled when zoomed in to an appropriate detail level (i.e. city block)



Fuel layer toggle

Toggles display of Fuel Stops On/Off



Vehicle layer toggle

Toggles display of Vehicles/Drivers On/Off.

When toggled ON a timer will display when the new auto-refresh will occur. You may click on the timer to refresh immediately

- Hovering the over the Icon will display a tooltip which provides details about how many items are currently populated



Geofence layer toggle

Toggles display of Geofences On/Off

- Hovering the over the Icon will display a tooltip which provides details about how many items are currently populated

Search and Results Controls

Search, Results and Geofence Creation Controls are located at the Top Right of the Map View



Search Panel

Allows for searching/filtering of specific Vehicles/Drivers or Geofences.

When a search/filter is active, the Vehicle and Geofence Toggle Controls will indicate accordingly:



RED Left Border Indicates the Vehicle layer is being filtered. You may hover your mouse over the Icon to view a tooltip which provides details about how many items are currently populated.



RED Left Border Indicates the Geofence layer is being filtered. You may hover your mouse over the Icon to view a tooltip which provides details about how many items are currently populated.

Mapping and Geofencing



Results Panel - **the best** way to locate an item on the Map

Displays records currently loaded on the map by either Toggle or Search for Vehicles/Drivers, Geofence and Fuel Stops, split into three separate tabs each with filtering and custom actions:

Vehicles Tab



	Vehicle	Driver	CoDriv	BOLS	Trailer	Alerts
	940					391,39 UNII
	946	BENNET				321 UNII
	839	CINDY I				423 UNII
	943					395,39 UNII
	927					380,27 UNII
	918	SIGEFR				202,45 UNII
	920	CURTIS				230,30
	920	TRAM				

Geofences Tab



	Name	Category	Disab	City	Region	Zip
	315TST	checkpol		Ogden	UT	84401
	ANTELOPE	checkpol		Layton	UT	84041
	East Midia	checkpol		West Haver	UT	84401
	115PEN	checkpol		Ogden	UT	84401
	Kaysville	checkpol		Kaysville	UT	84037
	MIDLAND	checkpol		Ogden	UT	84401
	MYGODD	checkpol		Ogden	UT	84401
	Riverdale	checkpol		Ogden	UT	84405
	Brine? Ala	pharmol		Calhoun	LA	71225

Fuel Stations Tab



	Name	City	Region	Zip
	1 Stop	Archbold	OH	43502
	10 & 45 Citgo	Greenville	WI	54942
	101 Travel Plaza	Calhoun	LA	71225
	101 Travel Stop	Cedar Grove	TN	38321
	104 Store	Red Creek	NY	13143
	105 Quik Stop	Lebanon Junction	KY	40150
	117 T J Fuel	Williamston	MI	48895
	127 Party Store	Hudson	MI	49247

Geofence Create/Edit Panel



Allows for Creating and Editing Geofence detail and its associated Geofence

[Click here for detail on how to Add/Edit Geofences](#)

Viewing Vehicle, Geofence and Fuel Detail

Items on the map which can be selected include Vehicles, Geofences and Fuel locations, a
When Clicked or Touched a callout will appear providing information and available actions
The following provides detail on what each type of marker provides. See [General Controls](#) (below) for information

Vehicle Markers and Clusters



Indicates a Moving Vehicle and  Indicates a Stationary Vehicle

Clicking on a Vehicle Marker will open a window with further details/options for the Vehicle:

4332

55 MPH

The Yellow Brick Road, Liberal,
GPS 1/7 12:57
ODO 48746
TRL 8167
BOL 2021NES2800298

KULMED

LABDOR

Driving

1/7 12:57

DTA 07:02:19 DTT 11:00:00
ODA 09:30:53 EFF 06:17:52
TOD 24:09:35

Geofence Markers and Clusters



Indicates the Routing point of the Geofence as a Landmark.
Icon may vary depending on the icon chosen when the Geofence was created.

Clicking on a Geofence Polygon or a Landmark Marker will open a window with further Geofence:

1960 S Milestone Dr

Salt Lake City, UT 84104

Summary: Pride Vehicle has arrived

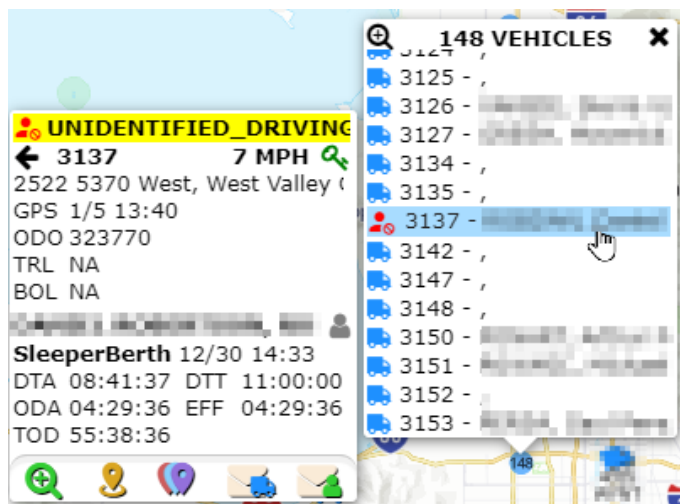
Category: tech startup, office

Disabled? NO

Mapping and Geofencing

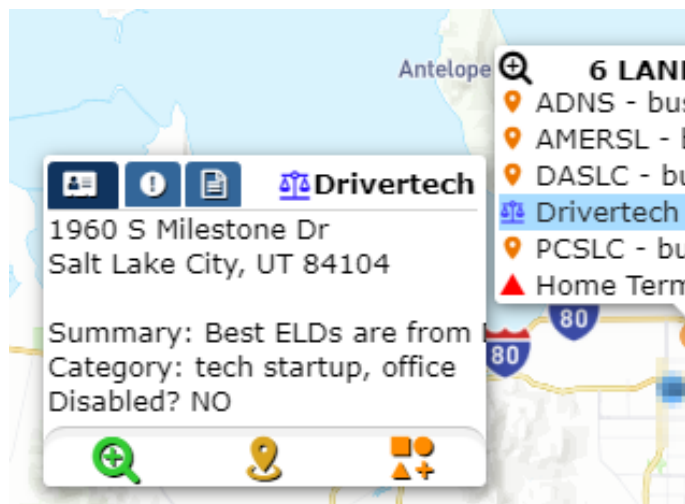
35

Indicates a Cluster of Vehicles.
Clicking or Hovering a Cluster will open a List of selectable Vehicles:



2

Indicates a Cluster of Geofences.
Clicking or Hovering a Cluster will open a List of selectable Geofences:



Vehicle/Driver Events Control

Historical vehicle events can be displayed on the map with a specific icon and color for each event type for easy visual identification of Driver/Vehicle activity, route and direction over your desired date range.

Currently available events that can be selected are:

General Events

- Unassigned Driving
- Speeding
- Over Idle
- Over RPM
- Deceleration
- Emergency
- Power Loss
- Sensor Jump
- Coasting
- Hook/Drop
- Driving Start
- Positions

HOS Events

- Violations
- Warnings
- Yard Move
- Personal Use

Geofence Events

- Entry
- Duration
- Exit

Searching for and Interacting with Vehicle/Driver Events

FIRST

NEXT

FINALLY

Mapping and Geofencing

To View the Vehicle/Driver Events locate this Icon using one of the following

scenarios:

1. Click on a Vehicle or Driver Icon
2. Click on a Cluster and select a Vehicle or Driver
3. Click on the 'Results' icon at the top right, then click on the Vehicle Tab if not already selected

Clicking this icon for a vehicle will bring up the Vehicle Events search pane (click to enlarge):

SEARCH EVENTS ✕

Date Range

Today

Select ALL Select NONE

General Events

Unassigned Driver

Speeding

Over Idle

Over RPM

Deceleration

Emergency

Power Loss

Sensor Jump

Coasting

Hook/Drop

Driving Start

Positions

HOS Events

HOS Violation

HOS Warning

HOS Yard Move

HOS Personal Use

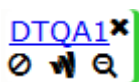
Landmark Events

Entry

Duration

Exit

Upon clicking [Get Results], the following control will be added to the map for that particular vehicle which can be used to navigate and view the events provided:



[DTQA1](#)

Vehicle Name - Click to open list of events for vehicle (shown below on next row)

hide/show events for vehicle on the map

hide/show lines connecting each event for vehicle

zoom to events for vehicle

remove events for vehicle from the map

89 events for: 72

	Time	Status	MPH	Location
	1/10/22	LOCATION	22	Grayside Street, Mauston, Wisconsin
	1/10/22	SPEEDING (POSTED LIMIT)	63	Wisconsin Highway 58, New Lisbon, Wisconsin
	1/10/22	LOCATION	30	502 South Main Street, Necedah, Wisconsin
	1/10/22	DRIVING STARTED		101 High Street, Necedah, Wisconsin
	1/10/22	LOCATION		101 High Street, Necedah, Wisconsin
	1/10/22	OVER IDLING		101 High Street, Necedah, Wisconsin
	1/10/22	DRIVING STOPPED		101 High Street, Necedah, Wisconsin
	1/10/22	LOCATION	59	Wisconsin Highway 80, Necedah, Wisconsin

zoom to events

zoom to vehicle

close list of events

Geofences with Landmarks

Geofences represent various points of interest on the map which include the Landmark (a routing point) and a Geofence Polygon.

👍 New and Modified Geofences are synchronized with your ELDs within only a few minutes of being created or edited.

👍 Geofence Entry, Duration and Exit events are detected on the ELD itself (not via a backend server process using historical position data) which ensures near-realtime notification to Drivers, Managers and API Integrations!

Requirements

Geofence Events will only be generated from ELD running v6.07+
All other Mapping features are supported across all current versions of ELD

Limitations and Restrictions

- Companies cannot create more than 30,000 Geofences
- Geofence Polygons cannot contain more than 3,000 vertices
- Geofences cannot be immediately deleted but can be "marked for deletion" (soft delete) and will be pruned from the system after an appropriate amount of time has passed.

Mapping and Geofencing

Use Cases

Anything which is of interest to capture Entry of, Duration within, Fuel consumed within, Miles moved within and Exit has potential for creating a Geofence.

For Example:

- **Customer Locations**
- **Customer Location sub-divided by Loading Dock** to allow Driver Routing to the a specific area of the Customers Yard
 - You may want to create a Geofence for each Dock area at very large distribution centers or yards
- **Company Terminals**
 - Allows tracking of Miles and Fuel to enable deductions of movement within your own yards
- **Counties which maintain their own Fuel Tax regulations**
 - Some counties offer Fuel Tax breaks which can be beneficial for companies to take advantage of. We recommend that you create a Geofence for each that you utilize often in order to gather the data required for filing with the State/County.
 - It is not necessary for you to create Geofences for Each State or Province because DriverTech automatically includes these and provides the data within the [State Mileage](#), [Regional Crossing](#) and [Trip Detail](#) reports.
- **Oil Field Pumps or Pump Groups**
 - Allows for routing AND confirmation that a Vehicle/Driver was in an area of an Oil Field for necessary amount of time to perform duties
- **Toll Roads**
 - You may want to alert the Driver if he is approaching a point of no-return toward a Toll Road
- **Shipping Lanes**
 - Creating a Geofence around a shipping lane will provide you with the data required to analyze how well the lane moves at various times of the Day, Week, or Year.
These could be retained but simply 'disabled' when tracking is not desired.
- **Hazmat Prohibited Roads or Areas**
 - To provide an alert to the Driver and Management
- **Unauthorized as determined by company policy or agreements (i.e. Unauthorized Fuel Stations)**
 - To provide an alert to the Driver and Management
- **Low Bridges and Weight Restricted Bridges**
 - To provide an alert to the Driver upon approach
- **Fuel Station and Travel Centers not already included in our global data set**
 - Please inform our Support of any additional Fuel Stations you want included in our global dataset used for the [Fuel Purchases](#) and [Mapping](#) features
- **Various Preferred Locations for:**
 - Drug Testing
 - Maintenance and Repair
 - Weigh Stations
 - Truck Washes
- **Driver Favorites such as:**
 - Home
 - Restaurants
 - Motel and Hotels

Do you have a unique idea? Let Support know as we would love to help you accomplish it!

Creating and Editing Geofences

Creating New Geofences and configuring Landmarks

Geofence Creation can be initiated in the following ways:

1. Right Click on the map and select the create/edit geofence Icon
2. Click on the create/edit Geofence Icon on the Right side of the map view
3. Click on the green [+] at the top of the Geofence Results list



Geofence Add/Edit Icon:

Editing Existing Geofences and Landmarks

Geofence Editing can be initiated in the following ways:

1. From the Map: Click on a Cluster or the Geofence Icon or within the Geofence to view the Detail *then* click the Geofence add/edit Icon near the bottom
2. From the Results List of Geofences on the Right of the Map: Click on the create/edit Geofence Icon which appears at the left of the Row you are interested in editing



Geofence Add/Edit Icon:

Drawing the Geofence

Mapping and Geofencing



Search for a Location OR right-click on map:

(1)

Zoom and Pan the map to Center the desired area in view, then:

Create Landmark at Center of View Area

[Click here for Important Information and Tips for d](#)

(1) Search for a Location around which to create the Geofence. Click on the location in the map to create the Geofence.

(2) Click the button **Create Geofence at Center of View**

and select the icon from the menu.

(3) Adjust the Geofence area to fit the location as needed.

Move Vertex: [Click to Select Vertex 'dot' t](#)

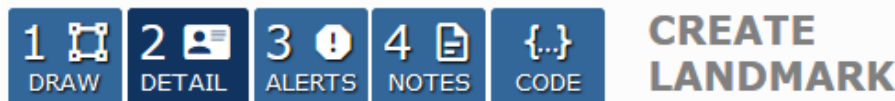
Add Vertex: [Click to Select 'dot' on the L then Drag](#)

Move Polygon: [Click to Select the shaded a](#)

(4) Move the Routing Point icon to the location that will be routed to for the Geofence.

Move Routing Point: [Click to Select move to an a 'Destination' Driver Routin](#)

Adding Detail to the Geofence



Enter missing detail and Correct the data we found for you

Name: (1)

Category: (2)

Address: (3)

City, State Zip:

Company: (4)

(5) [Add to Address book](#)

(6) Icon: Color:

(1) **Name:** Enter a unique name that will be used to identify the Geofence.

(2) **Category:** Enter term(s) that will be used to categorize the Geofence. Use comma or space.

(3) **Address:** Enter the address of the Geofence.

(4) **Company:** Leave BLANK to allow ALL VEHICLES to use the Geofence. Restrict Geofence availability to only the Vehicles assigned to the Company.

- LEAVE THIS BLANK IF UNSURE as Associating a Geofence with a Company makes it private and usable ONLY by the Vehicles assigned to the Company.

(5) **Add to DTNav POIs for Driver Self Routing:** Checkmark to add the Geofence to the DTNav POI database, allowing the Driver to find and self route to the Geofence.


- Requires ELD v6.08+ and DTNav v1.04+

(6) **Color of Geofence and Landmark Icon:** Select the color of the Geofence and the color to use for the Landmark Icon.

Note - the only field required to be filled out when creating a Geofence is the Name. All other fields are optional and will default to the first company in the list.

Adding Alerts for Geofence

Mapping and Geofencing

<div> <div> <div>1</div> <div>DRAW</div> </div> <div> <div>2</div> <div>DETAIL</div> </div> <div> <div>3</div> <div>ALERTS</div> </div> <div> <div>4</div> <div>NOTES</div> </div> <div> <div>{...}</div> <div>CODE</div> </div> <div>CREATE LANDMARK</div> </div> <div> <div>Alert Summary Text:</div> <div>(1) Text which will be populated in Driver ELD and Email Notifications</div> </div> <div> <div>Entry Alert to Driver:</div> <div>(2) <div>None</div> <div>Information</div> <div>Critical</div></div> </div> <div> <div>Entry Alert to Driver Message:</div> <div>Notification Text which Driver will see on the ELD</div> </div> <div> <div>Entry Alert Emails:</div> <div>me@my.com; them@other.com</div> </div> <div> <div>Duration Alert After:</div> <div>(3) <div>minutes</div> Repeat Every: <div>minutes</div></div> </div> <div> <div>Duration Alert Emails:</div> <div>me@my.com; them@other.com</div> </div> <div> <div>Exit Alert Emails:</div> <div>(4) me@my.com; them@other.com</div> </div>	<div>(1) Alert Summary Text: Value which will be provided in</div> <div> <div>(2.a) Entry Alert to Driver: Enables an alert to be triggered. Select either Information or Critical to enable the Entry Alert displayed to the driver upon triggering.</div> <div> <ul style="list-style-type: none"> None: No Alert will be displayed on the ELD when V Information: Alert will be displayed on the ELD using  <ul style="list-style-type: none"> Critical: Alert will be displayed on the ELD using th Entry Message: The text which will be presented in </div> </div> <div>(2.b) Entry Alert Emails: Enter email addresses for those This is Independent of the settings for Entry Alert to Driver is set to 'none'</div> <div>(3) Duration Alert Minutes and Notification Emails: En remained inside the Geofence area for X amount of minutes the vehicle has continually remained in the Ge who will be notified upon an alert triggering.</div> <div>(4) Exit Alert Emails: Enables an alert to be triggered after email addresses for people who will be notified upon an al</div>
Notes for the Geofence	
<div> <div> <div>1</div> <div>DRAW</div> </div> <div> <div>2</div> <div>DETAIL</div> </div> <div> <div>3</div> <div>ALERTS</div> </div> <div> <div>4</div> <div>NOTES</div> </div> <div> <div>{...}</div> <div>CODE</div> </div> <div>CREATE LANDMARK</div> </div> <div> <div>Comments:</div> <div>(1) Information useful for Administration and Configuration</div> </div> <div> <div>Last Edited By:</div> <div></div> </div> <div> <div>Last Edited On:</div> <div></div> </div> <div> <div>DriverTech PK: (id)</div> <div></div> </div> <div> <div>Customer PK: (idCc)</div> <div>(2) <div></div></div> </div> <div> <div>(3) <div>DISABLE LANDMARK</div></div> </div> <div> <div>(4) <div>DELETE LANDMARK</div></div> </div>	<div>(1) Comments: Enter any comments or details to be noted. These are shown in the  tab of the window that appears when you click on the Landmark icon on the map.</div> <div>(1.b) Last Edited By: Manager name who either created or last edited the Geofence.</div> <div>(1.c) Last Edited On: DateTime of the creation or last edit of the Geofence.</div> <div>(2) Customer Primary Key: Primary key reference for the Geofence.</div> <div>(3) Disable Geofence: Disabling the Geofence will prevent the Geofence from being visible on the map.</div> <div>(4) Delete Geofence: Deleting a Geofence is a 'Deferred' action. The Geofence will remain in the system until a minimum of 30 days. A previously Deleted Geofence can be restored by Selecting the Geofence from the 'Deleted Geofences' list and clicking on the 'Restore' option to view the geofence and allow editing to un-check the 'Deleted' checkbox.</div>
Restoring a Deleted Geofence	

Mapping and Geofencing

Vehicles

Landmarks

SEARCH X

Leave blank for All

Name:

Landmark Name

Category:

Landmark Categories

City/Region/Zip:

Company:

Enter Company Settings Group Name

Additional Filters

Deleted

Is

TRUE

-

+

-

+

-

+

-

+

View All

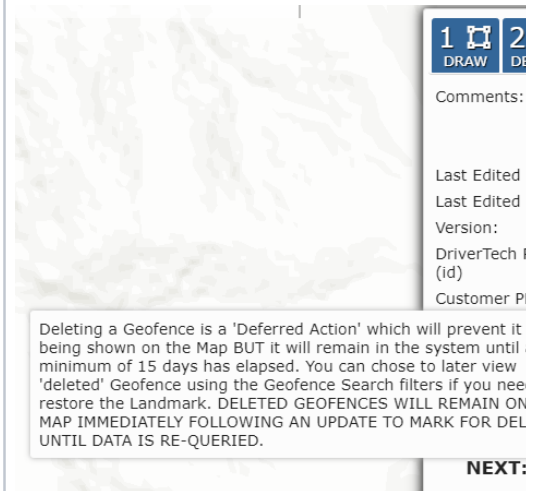
Reset

Search

Deleting a Geofence is a 'Deferred Action' which will prevent it from being shown on the Map BUT it will remain in the system until a minimum of 15 days has elapsed.

A previously Deleted Geofence can be restored by

1. Searching for Geofence using the *Deleted* filter option on the Map
2. Select the Geofence on the Map, or locate in the Results
3. Select the "NOTES" tab and click on "Delete Geofence"
4. Save the change



Geofence Creation Detail and Tips

Important Details which pertain to every Geofence



The following specifications **MUST ALL** be considered when creating or editing a Geofence to ensure successful and reliable Entry and Exit detection around various Geofence types

Due to the GPS Selective Availability combined with GPS Triangulation you **MUST** account for where Entry and Exit will occur based upon the Geofence Polygon.

ENTRY events will be triggered approximately 33' (10 meters) within the Geofence and EXIT events will be triggered approximately 66' (20 meters) outside of the Geofence.

1. Geofence Entry: **The vehicle must be at least 33' (10 meters) inside of the Geofence to trigger Entry ¹**
2. Geofence Exit: **The vehicle must be at least 66' (20 meters) outside of the Geofence to trigger Exit**
3. Time Required: **The vehicle must spend at least 10 seconds on either side of the Geofence in order to trigger entry or exit (in motion or not)**

¹ **Workflow Jobs with Location** of either Lat/Lon/Rad or Geofence require that the *Vehicle MUST ALSO* cease motion after entering the Geofence to trigger Auto Arrival.

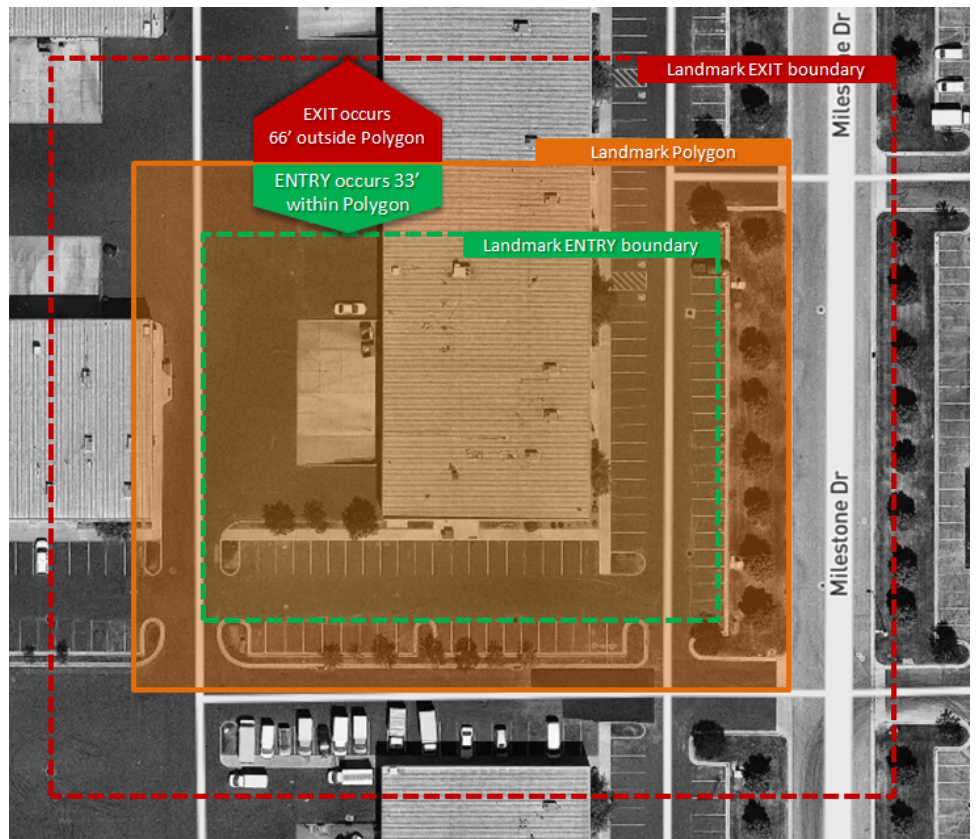
Example 1: Basic Building, Lot, Dock Geofence

Mapping and Geofencing

This Geofence is designed to trigger when a vehicle has entered and stopped moving within the parking lot or loading dock in back of the building.

In the example to the right:

- The area colored in **ORANGE** is the drawn polygon for the Geofence
- The dashed **GREEN** line illustrates the area within the Geofence where **ENTRY** will be detected once vehicle has crossed and remains inside for at least 10 seconds
- The dashed **RED** line illustrates the area outside the Geofence where **EXIT** will be detected once vehicle has crossed and remains outside for at least 10 seconds



Example 2: Geofence with Smaller Entry Way

Ensure that Entry Ways are wide enough to support a minimum of 15' in entry area PLUS 33' on each side to ensure that the Driver triggers entry when moving onto the Entry Road prior to entering the larger part of the fence (i.e. the lot).



Mapping and Geofencing

See Also

[Geofence Events](#)

Map display of Vehicles, Drivers, Geofences with Landmarks and Vehicle/Driver Geofence Events

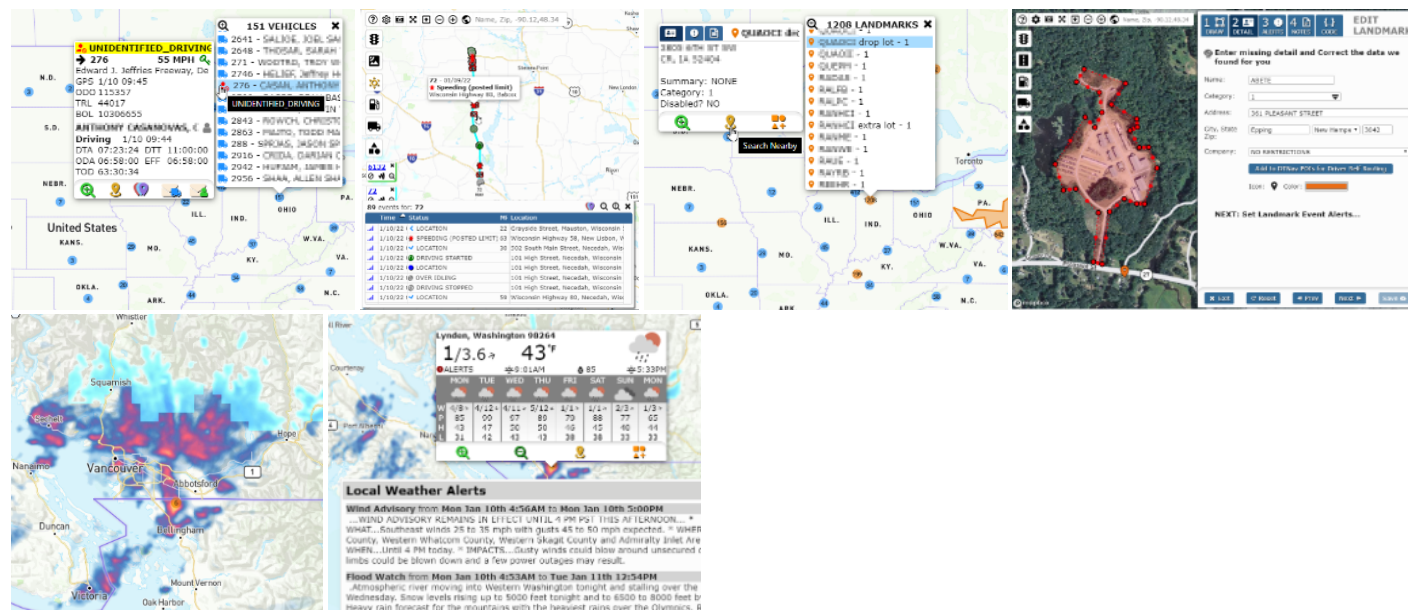
- [Asset Tracking with Geofences and Routing to Landmarks](#)
 - [Requirements](#)
 - [Map Assistance Controls](#)
 - [Help](#)
 - [Settings](#)
 - [Screenshot](#)
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 - [Search Panel](#)
 - [Results Panel](#) - *the best* way to locate an item on the Map
 - [Geofence Create/Edit Panel](#)
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Mapping and Geofencing

- Use Cases
- Creating and Editing Geofences
 - Creating New Geofences and configuring Landmarks
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 - Example 1: Basic Building, Lot, Dock Geofence
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Asset Tracking with Geofences and Routing to Landmarks

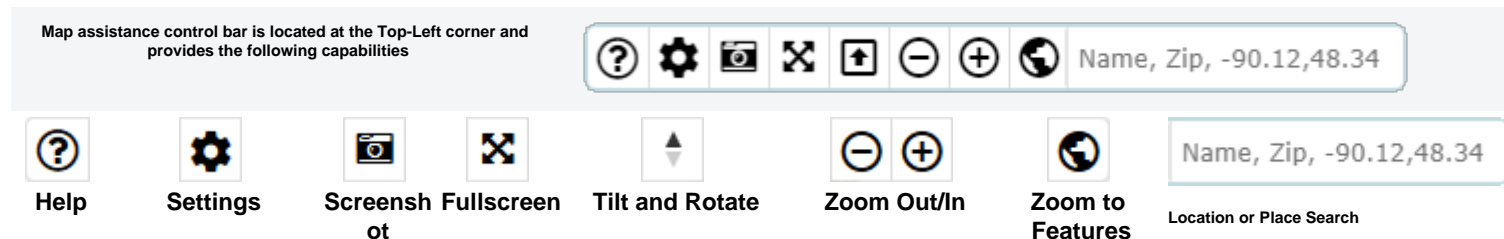
DriverTech Mapping provides the ability to view Vehicles, Vehicle/Driver Event History, Geofences, Fueling Locations, Weather Radar, Weather Forecast and perform interactive actions on these items:



Requirements

Geofence Events will only be generated from ELD running v6.08+
All other Mapping features are supported across all current versions of ELD

Map Assistance Controls



Mapping and Geofencing

Opens up this page in a window.	Provides ability to override default settings on the Vehicles/Geofences/Fuel layers: <ul style="list-style-type: none">• Satellite view ON /OFF by default• Marker Icon Size• Marker Icon Color• Marker Text display ON/OFF• Default Icon Image (for Geofence creation)• Toggle layer ON /OFF by default• Cluster Radius (more or fewer clusters)	Saves an image of the current view of map.	Toggle the map to completely fill the screen.	Click+Hold button to Tilt and Rotate Map. You may also right+click+hold over the Map to perform this action. TO RESET THE VIEW: Click this button	Decrease/Increase view level of map. This can also be accomplished by using the mouse scroll wheel.	Adjust zoom level of map to display all available items on map.	Search for an arbitrary location or place. Results of search text will be constrained to the current map view (i.e. results prioritized to nearest center of map within the visible area)
---------------------------------	---	--	---	---	--	---	--

Toggle Controls

Toggles provide a rapid way to Show/Hide/Change specific layers and data on the Map
The Search Control provides an alternate way to Show or Filter Vehicles/Drivers, Geofences, or Fuel



Traffic layer toggle

Toggles display of Traffic On/Off.

Traffic provides congestion information that is constantly updated every 5 minutes, with road geometries originating from OpenStreetMap.

- Traffic will only be visible when zoomed in to an appropriate detail level (i.e. city)



Weather Radar toggle

Toggles Weather Radar On/Off



Satellite/Street layer toggle

Toggles the background rendering between Street and Satellite

- Satellite view will automatically be enabled when zoomed in to an appropriate detail level (i.e. city block)



Fuel layer toggle

Toggles display of Fuel Stops On/Off



Vehicle layer toggle

Toggles display of Vehicles/Drivers On/Off.

When toggled ON a timer will display when the new auto-refresh will occur. You may click on the timer to refresh immediately

- Hovering the over the Icon will display a tooltip which provides details about how many items are currently populated



Geofence layer toggle

Toggles display of Geofences On/Off

- Hovering the over the Icon will display a tooltip which provides details about how many items are currently populated

Search and Results Controls

Search, Results and Geofence Creation Controls are located at the Top Right of the Map View

Mapping and Geofencing



Search Panel

Allows for searching/filtering of specific Vehicles/Drivers or Geofences.

When a search/filter is active, the Vehicle and Geofence Toggle Controls will indicate accordingly:



RED Left Border Indicates the Vehicle layer is being filtered. You may hover your mouse over the Icon to view a tooltip which provides details about how many items are currently populated.



RED Left Border Indicates the Geofence layer is being filtered. You may hover your mouse over the Icon to view a tooltip which provides details about how many items are currently populated.



Results Panel - **the best* way to locate an item on the Map*

Displays records currently loaded on the map by either Toggle or Search for Vehicles/Drivers, Geofence and Fuel Stops, split into three separate tabs each with filtering and custom actions:

Vehicles Tab



	Vehicle	Driver	CoDriv	BOLS	Trailer	Alerts
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
940						391,39 UNII
946		BENNET				321 UNII
839		CINDY :				423 UNII
943						395,39 UNII
927						380,27 UNII
918		SIGEFR				202,45 UNII
920		CURTIS				230,30

Geofences Tab



	Name	Category	Disab	City	Regio	Zip
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
315TST	checkpol	Ogden	UT		84401	
ANTELOPE	checkpol	Layton	UT		84041	
East Midla	checkpol	West Have	UT		84401	
115PENN	checkpol	Ogden	UT		84401	
Kaysville	checkpol	Kaysville	UT		84037	
MIDLAND	checkpol	Ogden	UT		84401	
MYGOODR	checkpol	Ogden	UT		84401	
Riverdale	checkpol	Ogden	UT		84405	

Fuel Stations Tab



	Name	City	Region	Zip
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1 Stop	Archbold	OH	43502	
10 & 45 Citgo	Greenville	WI	54942	
101 Travel Plaza	Calhoun	LA	71225	
101 Travel Stop	Cedar Grove	TN	38321	
104 Store	Red Creek	NY	13143	
105 Quik Stop	Lebanon Junction	KY	40150	
117 T J Fuel	Williamston	MI	48895	
127 Party Store	Hudson	MI	49247	



Geofence Create/Edit Panel

Allows for Creating and Editing Geofence detail and its associated Geofence

[Click here for detail on how to Add/Edit Geofences](#)

Viewing Vehicle, Geofence and Fuel Detail

Items on the map which can be selected include Vehicles, Geofences and Fuel locations, a When Clicked or Touched a callout will appear providing information and available actions. The following provides detail on what each type of marker provides. See [General Controls](#) (below) for information.

Vehicle Markers and Clusters

Geofence Markers and Clusters

Mapping and Geofencing

 Indicates a Moving Vehicle and  Indicates a Stationary Vehicle






Clicking on a Vehicle Marker will open a window with further details/options for the Vehicle:


4332 **55 MPH**

The Yellow Brick Road, Liberal,
GPS 1/7 12:57
ODO 48746
TRL 8167
BOL 2021NES2800298




KULMED **LABDOR**

Driving 1/7 12:57
DTA 07:02:19 DTT 11:00:00
ODA 09:30:53 EFF 06:17:52
TOD 24:09:35

 Zoom to Vehicle
 Search nearby Vehicle
 Search for Vehicle and Driver Events
 Send Message to Vehicle
 Send Message to Driver




 Indicates the Routing point of the Geofence as a Landmark.
Icon may vary depending on the icon chosen when the Geofence was created.







Clicking on a Geofence Polygon or a Landmark Marker will open a window with further details for the Geofence:

   **Drivertech**

1960 S Milestone Dr
Salt Lake City, UT 84104

Summary: Pride Vehicle has arrived
Category: tech startup, office
Disabled? NO

 General Information
 Alert Information
 Miscellaneous Information
 Zoom to Geofence
 Search nearby Geofence
 Edit Geofence details

35 Indicates a Cluster of Vehicles.

Clicking or Hovering a Cluster will open a List of selectable Vehicles:




148 VEHICLES

UNIDENTIFIED_DRIVING
3137 **7 MPH**
2522 5370 West, West Valley
GPS 1/5 13:40
ODO 323770
TRL NA
BOL NA
SleeperBerth 12/30 14:33
DTA 08:41:37 DTT 11:00:00
ODA 04:29:36 EFF 04:29:36
TOD 55:38:36

3125 -
3126 -
3127 -
3134 -
3135 -
3137 -
3142 -
3147 -
3148 -
3150 -
3151 -
3152 -
3153 -




2 Indicates a Cluster of Geofences.

Clicking or Hovering a Cluster will open a List of selectable Geofences:

   **Drivertech**

1960 S Milestone Dr
Salt Lake City, UT 84104

Summary: Best ELDs are from
Category: tech startup, office
Disabled? NO

6 LANI
ADNS - bus
AMERSL - t
DASLC - bu
Drivertech
PCSLC - bu
Home Term

Vehicle/Driver Events Control

Historical vehicle events can be displayed on the map with a specific icon and color for each event type for easy visual identification of Driver/Vehicle activity, route and direction over your desired date range.

Currently available events that can be selected are:

General Events

HOS Events

Geofence Events

Mapping and Geofencing

- Unassigned Driving
- Speeding
- Over Idle
- Over RPM
- Deceleration
- Emergency
- Power Loss
- Sensor Jump
- Coasting
- Hook/Drop
- Driving Start
- Positions
- Violations
- Warnings
- Yard Move
- Personal Use
- Entry
- Duration
- Exit

Searching for and Interacting with Vehicle/Driver Events

FIRST

To View the Vehicle/Driver Events locate this Icon using one of the following

scenarios:

1. Click on a Vehicle or Driver Icon
2. Click on a Cluster and select a Vehicle or Driver
3. Click on the 'Results' icon at the top right, then click on the Vehicle Tab if not already selected

NEXT

Clicking this icon for a vehicle will bring up the Vehicle Events search pane (click to enlarge):

SEARCH EVENTS

Date Range

Today

Select ALL

Select NONE

General Events

Unassigned Driving

Speeding

Over Idle

Over RPM

Deceleration

Emergency

Power Loss

Sensor Jump

Coasting

Hook/Drop

Driving Start

Positions

HOS Events

HOS Violation

HOS Warning

HOS Yard Move

HOS Personal Use

Landmark Events

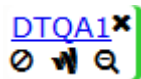
Entry

Duration

Exit

FINALLY

Upon clicking [Get Results], the following control will be added to the map for that particular vehicle which can be used to navigate and view the events provided:



DTQA1

Vehicle Name - Click to open list of events for vehicle (shown below on next row)

hide/show events for vehicle on the map

hide/show lines connecting each event for vehicle

zoom to events for vehicle

remove events for vehicle from the map

89 events for: 72

Time	Status	MPH	Location
1/10/22	LOCATION	22	Grayside Street, Mauston, Wisconsin
1/10/22	SPEEDING (POSTED LIMIT)	63	Wisconsin Highway 58, New Lisbon, WI
1/10/22	LOCATION	30	502 South Main Street, Necedah, Wisconsin
1/10/22	DRIVING STARTED		101 High Street, Necedah, Wisconsin
1/10/22	LOCATION		101 High Street, Necedah, Wisconsin
1/10/22	OVER IDLING		101 High Street, Necedah, Wisconsin
1/10/22	DRIVING STOPPED		101 High Street, Necedah, Wisconsin
1/10/22	LOCATION	59	Wisconsin Highway 80, Necedah, Wisconsin

zoom to events

zoom to vehicle

close list of events

Geofences with Landmarks

Geofences represent various points of interest on the map which include the Landmark (a routing point) and a Geofence Polygon.

Mapping and Geofencing

👍 New and Modified Geofences are synchronized with your ELDs within only a few minutes of being created or edited.

👍 Geofence Entry, Duration and Exit events are detected on the ELD itself (not via a backend server process using historical position data) which ensures near-realtime notification to Drivers, Managers and API Integrations!

Requirements

Geofence Events will only be generated from ELD running v6.07+
All other Mapping features are supported across all current versions of ELD

Limitations and Restrictions

- Companies cannot create more than 60,000 Geofences
- Geofence Polygons cannot contain more than 1,000 vertices
- Geofences cannot be immediately deleted but can be "marked for deletion" (soft delete) and will be pruned from the system after an appropriate amount of time has passed.

Use Cases

Anything which is of interest to capture Entry of, Duration within, Fuel consumed within, Miles moved within and Exit has potential for creating a Geofence.

For Example:

- **Customer Locations**
- **Customer Location sub-divided by Loading Dock** to allow Driver Routing to the a specific area of the Customers Yard
 - You may want to create a Geofence for each Dock area at very large distribution centers or yards
- **Company Terminals**
 - Allows tracking of Miles and Fuel to enable deductions of movement within your own yards
- **Counties which maintain their own Fuel Tax regulations**
 - Some counties offer Fuel Tax breaks which can be beneficial for companies to take advantage of. We recommend that you create a Geofence for each that you utilize often in order to gather the data required for filing with the State/County.
 - It is not necessary for you to create Geofences for Each State or Province because DriverTech automatically includes these and provides the data within the [State Mileage](#), [Regional Crossing](#) and [Trip Detail](#) reports.
- **Oil Field Pumps or Pump Groups**
 - Allows for routing AND confirmation that a Vehicle/Driver was in an area of an Oil Field for necessary amount of time to perform duties
- **Toll Roads**
 - You may want to alert the Driver if he is approaching a point of no-return toward a Toll Road
- **Shipping Lanes**
 - Creating a Geofence around a shipping lane will provide you with the data required to analyze how well the lane moves at various times of the Day, Week, or Year.
 - These could be retained but simply 'disabled' when tracking is not desired.
- **Hazmat Prohibited Roads or Areas**
 - To provide an alert to the Driver and Management
- **Unauthorized as determined by company policy or agreements (i.e. Unauthorized Fuel Stations)**
 - To provide an alert to the Driver and Management
- **Low Bridges and Weight Restricted Bridges**
 - To provide an alert to the Driver upon approach
- **Fuel Station and Travel Centers not already included in our global data set**
 - Please inform our Support of any additional Fuel Stations you want included in our global dataset used for the [Fuel Purchases](#) and [Mapping](#) features
- **Various Preferred Locations for:**
 - Drug Testing
 - Maintenance and Repair
 - Weigh Stations
 - Truck Washes
- **Driver Favorites such as:**
 - Home
 - Restaurants
 - Motel and Hotels

Do you have a unique idea? Let Support know as we would love to help you accomplish it!

Creating and Editing Geofences

Creating New Geofences and configuring Landmarks

Geofence Creation can be initiated in the following ways:

1. Right Click on the map and select the create/edit geofence Icon
2. Click on the create/edit Geofence Icon on the Right side of the map view
3. Click on the green [+] at the top of the Geofence Results list



Geofence Add/Edit Icon:

Editing Existing Geofences and Landmarks

Geofence Editing can be initiated in the following ways:

1. From the Map: Click on a Cluster or the Geofence Icon or within the Geofence to view the Detail *then* click the Geofence add/edit Icon near the bottom

Mapping and Geofencing

2. From the Results List of Geofences on the Right of the Map: Click on the create/edit Geofence Icon which appears at the left of the Row you are interested in editing

Geofence Add/Edit Icon: 

Drawing the Geofence



Search for a Location OR right-click on map:


(1)

Zoom and Pan the map to Center the desired area in view, then:

Create Landmark at Center of View Area

 [Click here for Important Information and Tips for d](#)

(1) Search for a Location around which to create the Geofence. Click on the area where you would like to create the Geofence.

(2) Click the button **Create Geofence at Center of View** and select the  icon from the menu.

(3) Adjust the Geofence area to fit the location as needed.

Move Vertex: [Click to Select Vertex 'dot' t](#)

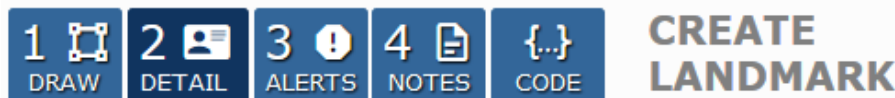
Add Vertex: [Click to Select 'dot' on the L then Drag](#)

Move Polygon: [Click to Select the shaded a](#)


(4) Move the Routing Point icon to the location that will be routed to for the Geofence.

Move Routing Point: [Click to Select move to an a 'Destination' Driver Routin](#)

Adding Detail to the Geofence



Enter missing detail and Correct the data we found for you

Name: (1) 

Category: (2)

Address: (3)

City, State Zip:

Company: (4)

(5) [Add to Address book](#)

(6) Icon:  Color:

(1) **Name:** Enter a unique name that will be used to identify the Geofence.

(2) **Category:** Enter term(s) that will be used to categorize the Geofence.

(3) **Address:** Enter the address of the Geofence.

(4) **Company:** Leave BLANK to allow ALL VEHICLES to use the Geofence. Restrict Geofence availability to only the Vehicles assigned to this Company.

- LEAVE THIS BLANK IF UNSURE as Associating a Geofence with a Company makes it private and usable ONLY by the Vehicles assigned to that Company.

(5) **Add to DTNav POIs for Driver Self Routing:** Check this box to add the Geofence to the DTNav POI database, allowing the Driver to find and self route to the Geofence.

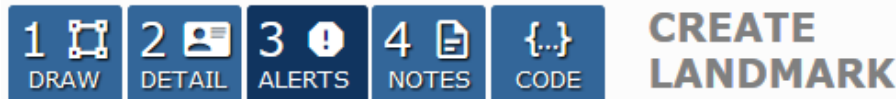
- Requires ELD v6.08+ and DTNav v1.04+

(6) **Color of Geofence and Landmark Icon:** Select the color to use for the Geofence and the map, along with the color to use for the Geofence.

Note - the only field required to be filled out when creating a Geofence is the Name. All other fields are optional and will default to the first company in the list.

Mapping and Geofencing

Adding Alerts for Geofence



Alert Summary Text: (1)

Entry Alert to Driver: (2) None Information Critical

Entry Alert to Driver Message:

Entry Alert Emails:

Duration Alert After: (3) Repeat Every:

Duration Alert Emails:

Exit Alert Emails: (4)

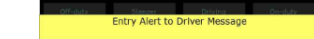
(1) **Alert Summary Text:** Value which will be provided in

(2.a) **Entry Alert to Driver:** Enables an alert to be triggered. Select either Information or Critical to enable the Entry Alert to be displayed to the driver upon triggering.

- **None:** No Alert will be displayed on the ELD when V
- **Information:** Alert will be displayed on the ELD using



- **Critical:** Alert will be displayed on the ELD using the



- **Entry Message:** The text which will be presented in

(2.b) **Entry Alert Emails:** Enter email addresses for those who will be notified upon an alert triggering. This is Independent of the settings for Entry Alert to Driver. If set to 'none'.

(3) **Duration Alert Minutes and Notification Emails:** Enter the number of minutes the vehicle has continually remained in the Geofence area for X amount of minutes. The vehicle who will be notified upon an alert triggering.

(4) **Exit Alert Emails:** Enables an alert to be triggered after the vehicle exits the Geofence area. Enter email addresses for people who will be notified upon an alert triggering.

Notes for the Geofence



Comments: (1)

Last Edited By:

Last Edited On:


DriverTech PK: (id)

Customer PK: (2)

(3) DISABLE LANDMARK

(4) DELETE LANDMARK

(1) **Comments:** Enter any comments or details to be noted about the Geofence.

These are shown in the  tab of the window that appears when you click the Landmark Icon on the map.

(1.b) **Last Edited By:** Manager name who either created or last edited the Geofence.

(1.c) **Last Edited On:** DateTime of the creation or last edit of the Geofence.

(2) **Customer Primary Key:** Primary key reference for the Customer.

(3) **Disable Geofence:** Disabling the Geofence will prevent it from being visible on the map.

(4) **Delete Geofence:** Deleting a Geofence is a 'Deferred Action' which will remain in the system until a minimum of 15 days has elapsed. A previously Deleted Geofence can be restored by selecting the 'Deleted' filter option in the Map.

Restoring a Deleted Geofence

Deleting a Geofence is a 'Deferred Action' which will prevent it from being visible on the map until a minimum of 15 days has elapsed.

A previously Deleted Geofence can be restored by

1. Searching for Geofence using the *Deleted* filter option in the Map

Mapping and Geofencing

Vehicles

Landmarks

SEARCH X

Leave blank for All

Name:

Landmark Name

Category:

Landmark Categories

City/Region/Zip:

Company:

Enter Company Settings Group Name

Additional Filters

Deleted

Is

TRUE

-

+

-

+

-

+

-

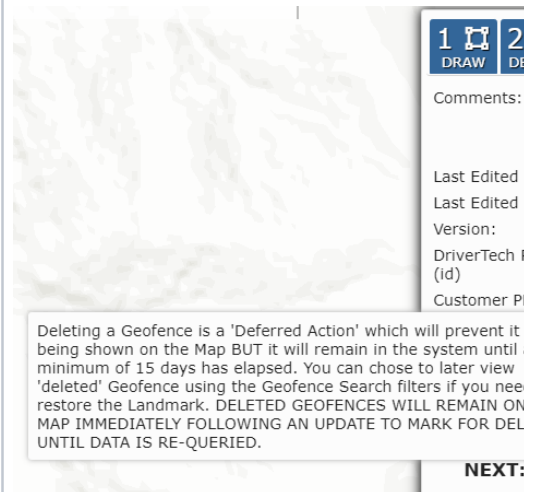
+

View All

Reset

Search

2. Select the Geofence on the Map, or locate in the Res
3. Select the "NOTES" tab and click on "Delete Geofen
4. Save the change



Geofence Creation Detail and Tips

Important Details which pertain to every Geofence



The following specifications **MUST ALL** be considered when creating or editing a Geofence to ensure successful and reliable Entry and Exit detection around various Geofence types

Due to the GPS Selective Availability combined with GPS Triangulation you **MUST** account for where Entry and Exit will occur based upon the Geofence Polygon.

ENTRY events will be triggered approximately 33' (10 meters) within the Geofence and EXIT events will be triggered approximately 66' (20 meters) outside of the Geofence.

1. Geofence Entry: **The vehicle must be at least 33' (10 meters) inside of the Geofence to trigger Entry ¹**
2. Geofence Exit: **The vehicle must be at least 66' (20 meters) outside of the Geofence to trigger Exit**
3. Time Required: **The vehicle must spend at least 10 seconds on either side of the Geofence in order to trigger entry or exit (in motion or not)**

¹ [Workflow Jobs with Location](#) of either Lat/Lon/Rad or Geofence require that the *Vehicle MUST ALSO cease motion after entering the Geofence to trigger Auto Arrival.*

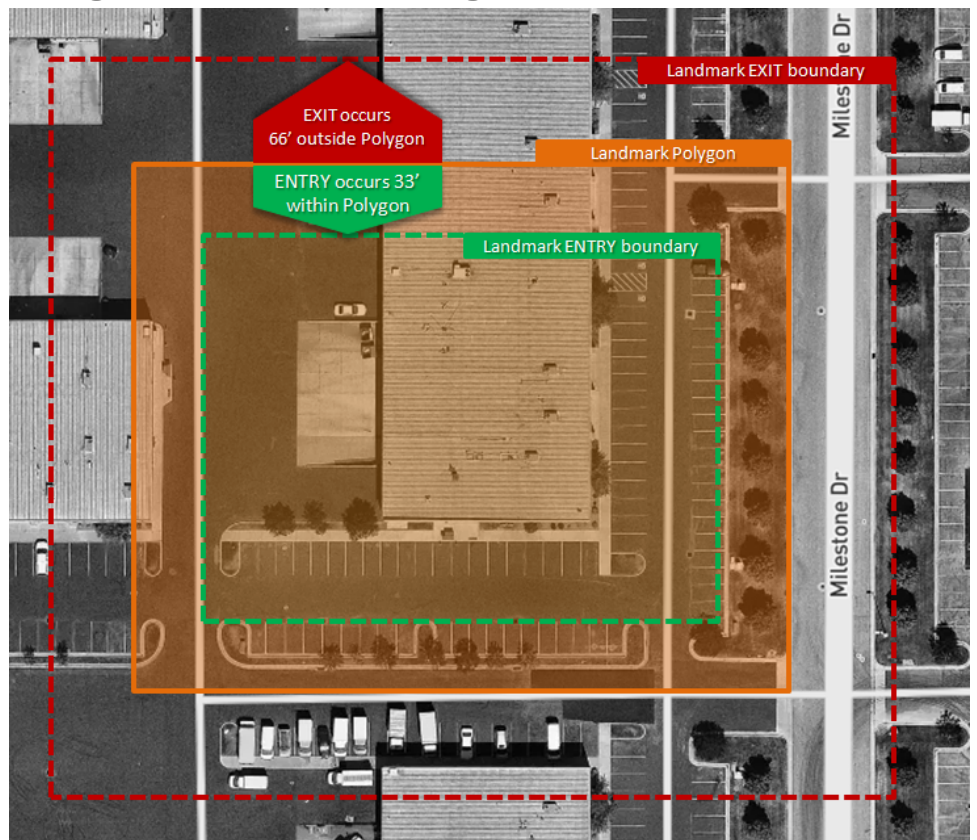
Example 1: Basic Building, Lot, Dock Geofence

This Geofence is designed to trigger when a vehicle has entered and stopped moving within the parking lot or loading dock in back of the building.

In the example to the right:

- The area colored in **ORANGE** is the drawn polygon for the Geofence
- The dashed **GREEN** line illustrates the area within the Geofence where ENTRY will be detected once vehicle has crossed and remains inside for at least 10 seconds
- The dashed **RED** line illustrates the area outside the Geofence where EXIT will be detected once vehicle has crossed and remains outside for at least 10 seconds

Mapping and Geofencing



Example 2: Geofence with Smaller Entry Way

Ensure that Entry Ways are wide enough to support a minimum of 15' in entry area PLUS 33' on each side to ensure that the Driver triggers entry when moving onto the Entry Road prior to entering the larger part of the fence (i.e. the lot).



Mapping and Geofencing

See Also

[Geofence Events](#)