

# **TerritoryPro Module for DirectRoute**

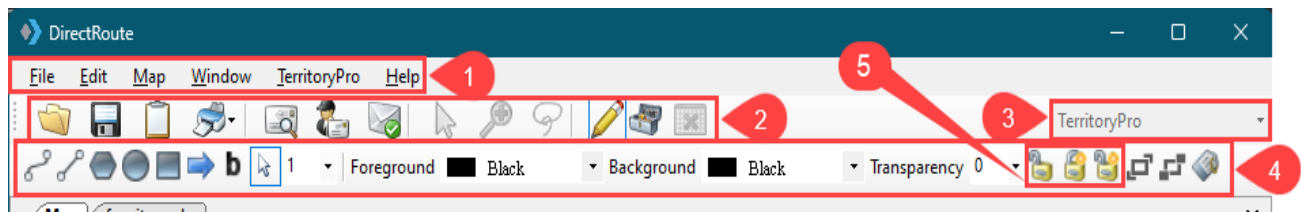
|                                                |           |
|------------------------------------------------|-----------|
| <b>About TerritoryPro.....</b>                 | <b>3</b>  |
| <b>Create a New TerritoryPro Project.....</b>  | <b>4</b>  |
| <b>Review Preference Settings.....</b>         | <b>5</b>  |
| <b>Create/Update TerritoryPro Files.....</b>   | <b>6</b>  |
| TerritoryPro Stop File.....                    | 6         |
| Create/Update the TerritoryPro Stop File.....  | 6         |
| TerritoryPro Stop File Fields.....             | 7         |
| TerritoryPro Truck File.....                   | 9         |
| Create/Update the TerritoryPro Truck File..... | 10        |
| TerritoryPro Truck File Fields Table.....      | 10        |
| TerritoryPro Distance File.....                | 13        |
| <b>Build New Territories.....</b>              | <b>13</b> |
| Build Parameters.....                          | 14        |
| <b>Build Days.....</b>                         | <b>16</b> |
| <b>Review and Modify Results.....</b>          | <b>18</b> |
| TerritoryPro Summary File.....                 | 18        |
| Territory/Day Colors.....                      | 19        |
| View Territories or Days.....                  | 20        |
| Redistribute Territories.....                  | 22        |
| Add Days to Territories.....                   | 23        |
| Move Stops to Another Territory.....           | 24        |
| Optimize Territory Stop Sequence.....          | 25        |
| Swap Territories or Days.....                  | 26        |

# About TerritoryPro

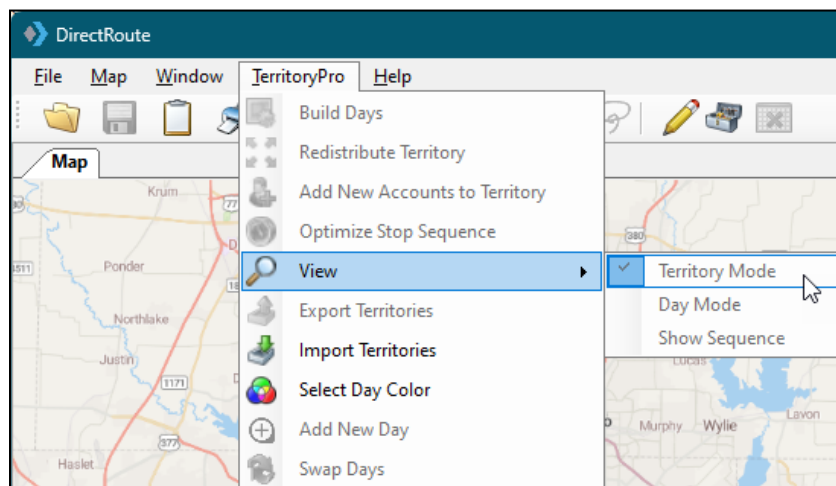
TerritoryPro is territory planning software that automatically builds territories that meet your criteria or allows you to review current territories with lasso-type editing for re-assignment and automatic updating of statistics. TerritoryPro adjusts and designs Route Territories based on constraints such as sales volume, service time, and/or coverage area.

With TerritoryPro, you can see different symbol displays for each representative's accounts with statistics for each area including sales volume and workload for servicing the accounts within each Territory.

The TerritoryPro (TP) module is incorporated within DirectRoute. To use, select TerritoryPro from the Module Menu in the top right corner of the screen.



All the basic DirectRoute menu and toolbar options remain available for use while working in TerritoryPro, in addition to a few items specific to this module. Also available is the ability to Undo/Redo an immediate previous action by using **Ctrl+Z**. If a menu or toolbar icon is gray and faded rather than colored and clear, it means the item is not accessible at that time. You may need to have specific files open, be in the routing mode, or it may be accessible only when using another module.



- **Build Days:** After the initial territories have been built, use Build Days to build subterritories by delivery day, within current territories.
- **Redistribute Territory:** Redistribute (move) all stops within one selected territory, to the next nearest (as determined by TerritoryPro) territory.
- **Add New Accounts to Territory:** New accounts added to the Stop File, that have not been assigned to a territory and/or are not reflected on the map, can be assigned to a Territory using this option.
- **Optimize Stop Sequence:**

- **View:** switches the map view and Summary Report view to show primary territory results only (Territory Mode), Day (Day Mode) results only, or Stop Sequence (only available if Optimize Stop Sequence has been performed).
- **Export Territories:**
- **Import Territories:**
- **Select Day Color:**
- **Add New Day:**
- **Swap Days:**

## Create a New TerritoryPro Project

Territories can be built using predetermined criteria or using previously assigned territories. The process to build territories is relatively quick, once the necessary files needed to build the Territories have been prepared.

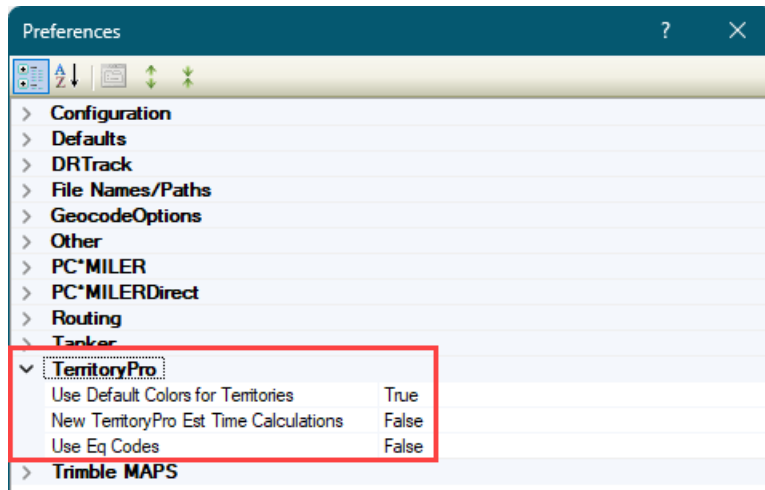
Each new TerritoryPro project consists of a few basic steps:

1. **Review Preference Settings:** Identify the location of files being used and select parameters that determine how the software should behave while creating a solution, as well as which constraints (work rules, travel restrictions, delivery windows, available equipment, etc.) should be followed.
2. **Create/Update TerritoryPro Files:** The three primary files used are Stop File, Truck File, and Distance File. These three files, sometimes referred to as the Route Files, will contain all the information needed by the software to build a territory schedule for each customer, including delivery requirements and volumes, addresses, fleet information, and distances between stops and the DC.
3. **Build New Territories:** The software utilizes the TP Files to create new territories.
4. **Build Days:** Break down the new territories into schedules for each day of the week.
5. **Review and Modify Results:** Review the new territory schedules and modify them as needed (i.e. redistribute stops, move stops, etc.).

## Review Preference Settings

Preferences are used to supply the software with necessary information about your routing environment and the type of results expected in the solution. These settings help the software identify specific data fields, volume types, and delivery windows used in the Truck File and Stop File and direct specific actions, behaviors, or special considerations that the software should perform or consider when building a solution.

The Routing Preferences and Options Table identifies and explains each setting and available options more completely. To review/update Preferences, click **File > Preferences** from the menu, then expand the **TerritoryPro** category:



- **Use Default Colors for Territory:** Set to FALSE to ensure the territories will pull color and symbol from the Truck File when viewing in Territory Mode; in Day Mode, the first Subterritory color will be pulled from the truck; the rest will be pulled from the color wheel.
- **New TerritoryPro Est Time Calculations:** When set to TRUE and a TP Solution is initialized, the Drive Time Between Stops will be calculated using the sequential order of stops to determine nearest neighbors; set to FALSE, the Drive Time Between Stops will be calculated using actual distance (geography).
- **Use Eq Codes:**

## Create/Update TerritoryPro Files

The Route Files are used to provide the software specifics concerning your customers and fleets. Creating and/or updating these files are key steps that must be done to initiate any scheduling project. The primary Route Files used in most projects are the Stop File, Truck File, and Distance File.

- **TerritoryPro Stop File:** The Stop File is normally a tab-delimited text file (.xlsx or .xls) or a comma-delimited file (.csv), typically created from a Daily Order File, and contains order information for each customer including address, time windows, and expected delivery days, order quantities, loading instructions, etc.
- **TerritoryPro Truck File:** The Truck File contains information relating to the delivery fleet, including driver and truck assignments, availability, start and end times, vehicle capacities, work rules, etc.
- **TerritoryPro Distance File:** The Distance File contains distances and drive times from each pickup point to each stop, and/or distances from stop to stop.

## TerritoryPro Stop File

The Stop File is a spreadsheet that contains the customers' order and delivery information. Key fields represented in the Stop File include order volume, required delivery dates, customer address, and any special delivery rules; all critical information the software needs to build the routes. Optional data fields can

also be used to manage customer schedules and territories, provide statistical data, generate reports, and/or generate additional Route Files.

If you already have one, or a spreadsheet with the required customer information, it can be used in the TerritoryPro project if it contains the required data columns. If you do not already have a Stop File, a new one can be created that will automatically populate the necessary header columns and allow manual input of all customer data. Use the TerritoryPro Stop File Fields Table below to assist in completing the required columns. Additional (optional) data fields can also be included if needed (ref. Stop File Fields and Descriptions Table).

## Create/Update the TerritoryPro Stop File

1. From the menu, select **File > Open > Stop**, or **File > New > Stop**.
2. Enter each customer's data directly into each column of the spreadsheet or double-click on each row to launch the Stop Dialog box and enter all the data for each customer in one window.
3. Geocode the Stop File to locate the correct Lat/Long for each record listed in the file (Ref. Geocoding Records).

When completed, the file should be saved in the project folder (DirectRoute Data Directory).

## TerritoryPro Stop File Fields

| FIELD        | DESCRIPTION                                                                                                                                     | REQUIRED, OPTIONAL, OR RECOMMENDED |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Account Name | Name of the Customer (Stop).                                                                                                                    | Required                           |
| ID1          | Primary unique identifier for the stop; Account#, Customer#, etc.                                                                               | Required                           |
| ID2          | Secondary unique identifier for the Stop; Order#, Store#, etc.                                                                                  | Recommended                        |
| Address      | Street Address of the stop; used to geocode, and by Address Cleanup.                                                                            | Required                           |
| City         | City where address is located; used to geocode, and in the Distance File.                                                                       | Required                           |
| State        | 2 letter state abbreviation for the address; used to geocode.                                                                                   | Required                           |
| Zip          | Zip Code of the address; used to geocode.                                                                                                       | Required                           |
| FixedTime    | Mandatory time that all vehicles must spend at the Stop; typical range is 15 to 45 (minutes).                                                   | Recommended                        |
| EqCode       | Alphanumeric code used to designate special equipment or requirements for the Stop (lift gate, refrig, etc.); used with Truck File field 'SpE'. | Optional                           |
| Volume1      | The quantity of volume to be delivered; can be any quantity type (weight, cube, pallets, cases, etc.).                                          | Required                           |

|                        |                                                                                                                                                                                                                                                                                                                                                        |             |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| UnldRate<br>(UnldVol1) | The amount of time it takes to unload Volume1 (hours). Example: Volume1 = cases (column 'UnldCases'). If it takes one hour to unload 1000 cases, and a truck can carry 2000 cases, then the unload rate would = 2 (2000 ÷ 1000/per hr.). Note: TerritoryPro will add UnldRate time to Fixed Time, to determine how long the truck will be at the Stop. | Recommended |
| Open1                  | Earliest time of day delivery can be made to the Stop (0000 - 2400).                                                                                                                                                                                                                                                                                   | Required    |
| Close1                 | Latest time of day a delivery can be made to the Stop (0000 - 2400).                                                                                                                                                                                                                                                                                   | Required    |
| Pattern1               | Days of the week the Stop can accept delivery (SMTWRFA); used with Open1 and Close1 to determine days/times that deliveries can be made.                                                                                                                                                                                                               | Required    |
| Rt ID                  | The route number to which the Stop is assigned; discovered during the build.                                                                                                                                                                                                                                                                           | Required    |
| Seq                    | The sequence in which the Stop is loaded on the route; discovered during the build.                                                                                                                                                                                                                                                                    | Required    |
| Longitude              | Longitude coordinate of the Stop, discovered during the geocode process.                                                                                                                                                                                                                                                                               | Required    |
| Latitude               | Latitude coordinate of the Stop, discovered during the geocode process.                                                                                                                                                                                                                                                                                | Required    |
| Symbol/Size/<br>Color  | The symbol (size/color) displayed on the map to represent the Stop. Symbols are chosen from the Stop File; double-click the customer record to open the dialog box; select the symbol, size and color, then select OK.                                                                                                                                 | Recommended |
| Day                    | Day of week. Territories can be divided into Days, representing days of the week that the Territory is serviced. If a Territory covers five days, then five Days may be created to reflect each day's Routes.                                                                                                                                          | Required    |
| OrgDay                 | Used to list previous Day designations, if already included in the data file. If not used, leave blank                                                                                                                                                                                                                                                 | Required    |
| Territory              | Name or Number designation of the Territory. When the Territories are built, TerritoryPro will assign the Territory designation based on the TrkID field in the Truck File.                                                                                                                                                                            | Required    |
| OrgTerritory           | Used to list previous Territory designations, if already included in the data file. If not used, leave blank.                                                                                                                                                                                                                                          | Required    |
| StemTm                 | Calculated value of Distance File field (FromDrvTm/To Dist/NumStops), Frequency, and Cycle; populated automatically when the Schedule is built                                                                                                                                                                                                         | Required    |
| EstTime                | The sum of StemTm, DrvBtwnStop, and ServTm; populated automatically when Territories are built                                                                                                                                                                                                                                                         | Required    |
| ServTm                 | Calculated sum of FixedTime, UnldRate, Frequency, and Cycle; populated automatically when Territories are built                                                                                                                                                                                                                                        | Required    |
| EQ Code                | An alphanumeric code (unlimited number of characters) used to designate the Territory assignment. This field will be populated automatically when the Territories are built                                                                                                                                                                            | Required    |

| Frequency   | <p>The number of times a stop is serviced in a week; enter # conversion for the frequency pattern.</p> <table border="1"> <thead> <tr> <th>#Conversion</th><th></th><th>Frequency Pattern</th></tr> </thead> <tbody> <tr> <td>1</td><td>=</td><td>1x a week</td></tr> <tr> <td>2</td><td>=</td><td>2x a week</td></tr> <tr> <td>3</td><td>=</td><td>3x a week</td></tr> <tr> <td>5</td><td>=</td><td>5x a week (daily, weekdays)</td></tr> <tr> <td>0.5</td><td>=</td><td>1x every 2 weeks (14 day cycle)</td></tr> <tr> <td>0.33</td><td>=</td><td>1x every 3 weeks (21 day cycle)</td></tr> <tr> <td>0.25</td><td>=</td><td>1x every 4 weeks (28 day cycle)</td></tr> <tr> <td>0.125</td><td>=</td><td>1x every 8 weeks (56 day cycle)</td></tr> </tbody> </table> | #Conversion                     |  | Frequency Pattern | 1 | = | 1x a week | 2 | = | 2x a week | 3 | = | 3x a week | 5 | = | 5x a week (daily, weekdays) | 0.5 | = | 1x every 2 weeks (14 day cycle) | 0.33 | = | 1x every 3 weeks (21 day cycle) | 0.25 | = | 1x every 4 weeks (28 day cycle) | 0.125 | = | 1x every 8 weeks (56 day cycle) | Required |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--|-------------------|---|---|-----------|---|---|-----------|---|---|-----------|---|---|-----------------------------|-----|---|---------------------------------|------|---|---------------------------------|------|---|---------------------------------|-------|---|---------------------------------|----------|
| #Conversion |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Frequency Pattern               |  |                   |   |   |           |   |   |           |   |   |           |   |   |                             |     |   |                                 |      |   |                                 |      |   |                                 |       |   |                                 |          |
| 1           | =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1x a week                       |  |                   |   |   |           |   |   |           |   |   |           |   |   |                             |     |   |                                 |      |   |                                 |      |   |                                 |       |   |                                 |          |
| 2           | =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2x a week                       |  |                   |   |   |           |   |   |           |   |   |           |   |   |                             |     |   |                                 |      |   |                                 |      |   |                                 |       |   |                                 |          |
| 3           | =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3x a week                       |  |                   |   |   |           |   |   |           |   |   |           |   |   |                             |     |   |                                 |      |   |                                 |      |   |                                 |       |   |                                 |          |
| 5           | =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5x a week (daily, weekdays)     |  |                   |   |   |           |   |   |           |   |   |           |   |   |                             |     |   |                                 |      |   |                                 |      |   |                                 |       |   |                                 |          |
| 0.5         | =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1x every 2 weeks (14 day cycle) |  |                   |   |   |           |   |   |           |   |   |           |   |   |                             |     |   |                                 |      |   |                                 |      |   |                                 |       |   |                                 |          |
| 0.33        | =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1x every 3 weeks (21 day cycle) |  |                   |   |   |           |   |   |           |   |   |           |   |   |                             |     |   |                                 |      |   |                                 |      |   |                                 |       |   |                                 |          |
| 0.25        | =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1x every 4 weeks (28 day cycle) |  |                   |   |   |           |   |   |           |   |   |           |   |   |                             |     |   |                                 |      |   |                                 |      |   |                                 |       |   |                                 |          |
| 0.125       | =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1x every 8 weeks (56 day cycle) |  |                   |   |   |           |   |   |           |   |   |           |   |   |                             |     |   |                                 |      |   |                                 |      |   |                                 |       |   |                                 |          |

## TerritoryPro Truck File

The Truck File is a spreadsheet that contains all the information about the fleet that will be used to make deliveries. Each row in the file represents a Truck on which the stops can be loaded. Key fields represented in the Truck File include Capacity, Availability, and Costs. Use the TerritoryPro Truck File Fields Table to assist in completing the required columns. Additional (optional) data fields can also be included if needed (ref. Truck File Fields and Descriptions Table).

### Create/Update the TerritoryPro Truck File

1. From the menu, select **File > Open > Truck**, or **File > New > Truck**.
2. Update or enter each vehicle's data directly into each column of the spreadsheet; or double-click on each row to open the Truck Dialog box and update/enter all the data for each vehicle in one window.
3. Geocode the Truck File to locate the correct Lat/Long for each record listed in the file (Ref. Geocoding Records).

When completed, the file should be saved in the project folder (DirectRoute Data Folder).

## TerritoryPro Truck File Fields Table

| FIELD | DESCRIPTION                                                                     | REQUIRED, OPTIONAL, OR RECOMMENDED |
|-------|---------------------------------------------------------------------------------|------------------------------------|
| TrkID | Truck ID may be a number, a name, or whatever is used to identify each vehicle. | Required                           |

|                   |                                                                                                                                                                                                                                                                                                                                                                                                |          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| TerritoryID       | The Territory ID represents the name of each territory, and can be any number, alpha name, or alphanumeric name. When territories are built, this ID will be passed to the Stop File column named Territory, to identify the territory that each stop has been assigned. The number of unique Territory IDs used in the Truck File will determine how many territories will actually be built. |          |
| Available         | This must be set to TRUE in order to make the vehicle available for use in the route build.                                                                                                                                                                                                                                                                                                    | Required |
| OneWay            | Set to TRUE for vehicle which will routed out, but not returned to the depot. Set to FALSE if the vehicle will return to the depot upon completion of the route.                                                                                                                                                                                                                               | Required |
| SpEq              | Special Equipment Codes, along with Equipment Codes in the Stop File, are used to identify special designations for the vehicle; Lift Gate, Refrig. compartment, etc.                                                                                                                                                                                                                          | Optional |
| Volume1           | The maximum quantity of Volume1 (Stop File) that the vehicle can carry; the Vehicle Capacity. Use the same Volume1 type used in the Stop File.                                                                                                                                                                                                                                                 | Required |
| MiCost            | Mileage Cost is cost per mile to operate this vehicle.                                                                                                                                                                                                                                                                                                                                         | Required |
| HrCost            | Hourly Cost is the hourly cost of the driver for this vehicle.                                                                                                                                                                                                                                                                                                                                 | Required |
| OTCost1           | Overtime Costs is the cost per hour added if the time to complete the route exceeds the time set for WorkDay. Example: If the cost for the first two hours of overtime is \$5, then OTCost1 = 5.                                                                                                                                                                                               | Optional |
| OTHrs1            | The level at which overtime hours are calculated; used with OTCost1. Example: If OT costs are paid in 2hr increments, then OTHrs1 = 2.                                                                                                                                                                                                                                                         | Optional |
| FixedCost         | Costs that do not change; tractor rental, maintenance, etc.                                                                                                                                                                                                                                                                                                                                    | Optional |
| Origin            | Name of the Depot                                                                                                                                                                                                                                                                                                                                                                              | Optional |
| Address           | Address where the vehicle (Depot) is located.                                                                                                                                                                                                                                                                                                                                                  | Required |
| City              | City where address is located; used to geocode, and used in the Distance File.                                                                                                                                                                                                                                                                                                                 | Required |
| State             | 2 letter state abbreviation for the address; used to geocode.                                                                                                                                                                                                                                                                                                                                  | Required |
| Zip               | Zip Code of the address; used to geocode.                                                                                                                                                                                                                                                                                                                                                      | Required |
| Longitude         | The Depot's longitude coordinate, discovered during the geocode process.                                                                                                                                                                                                                                                                                                                       | Required |
| Latitude          | The Depot's latitude coordinate, discovered during the geocode process.                                                                                                                                                                                                                                                                                                                        | Required |
| Symbol/Size/Color | The symbol (size and color) that is displayed on the map, represents the Stop. Symbols are chosen from the Stop File; double-click the customer record to open the dialog box; select the symbol, size and color, then select on OK.                                                                                                                                                           | Optional |
| EarStart          | The earliest time a vehicle may leave the terminal to begin a route; enter in military time format (2400).                                                                                                                                                                                                                                                                                     | Optional |
| NormalStart       | The normal daily start time of the vehicle                                                                                                                                                                                                                                                                                                                                                     | Required |
| LatStart          | The latest time a vehicle can leave out of the terminal; enter in military time format (2400).                                                                                                                                                                                                                                                                                                 | Optional |

|                   |                                                                                                                                                                                          |          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| LatFinish         | The latest time a vehicle must return to the depot; enter in military time format (2400).                                                                                                | Optional |
| WorkDay           | The number of hours in a normal workday; OTCosts are incurred if the Workday hours are exceeded to complete the route (required if OTCost1 is used)                                      | Optional |
| Brk1Start         | How far into the shift/route a mandatory break should start; if the driver should take a break four hours into the route, then Brk1Start = 4. Note: Up to five break fields can be used. | Optional |
| Brk1Duration      | The duration of the break; entered in decimal or whole number format (30 min = .5, 15 minutes = .25, etc.).                                                                              | Optional |
| MaxWorkTm         | The max time a vehicle can be out before returning to the depot.                                                                                                                         | Required |
| TargetWrkTm       | The target work time for each vehicle.                                                                                                                                                   | Optional |
| MaxDriveTm        | The max drive time per shift on a route before a layover is implemented; entered in hours.                                                                                               | Optional |
| MinLayover        | The minimum number of hours a vehicle can layover.                                                                                                                                       | Optional |
| MaxLayover        | The maximum number of hours a vehicle can layover.                                                                                                                                       | Optional |
| MaxDrvTmB4Layover | Used to determine how long a vehicle must drive before a layover can be implemented.                                                                                                     | Optional |
| MaxLayovers       | The maximum amount of layovers allowed per route.                                                                                                                                        | Optional |
| PreTrip           | In accordance with DOT rules; time added at the start of each route.                                                                                                                     | Optional |
| PostTrip          | In accordance with DOT rules; time added at the end of each route.                                                                                                                       | Optional |

## TerritoryPro Distance File

The Distance File contains a record of distances and drive times between the pick-up point (terminal, DC, etc.) and every city in the Stop File (stem distance), and/or pick-up point to every stop, and from stop to stop. When a Distance File is used in the routing process, DirectRoute will calculate the distances and drive times between each stop location based on the entries in this file.

If a Distance File is not used, DirectRoute will calculate distances and drive times using an adjusted straight-line distance (as the crow flies) between locations. When there is a Distance entry for a pair of Stops, the software will use the Distance and Drive Time listed in the file, instead of calculating distances based on Lat/Long Coordinates, or other barriers that may be present. A Distance File can also be generated to record Stem mileage, the Distance between the terminal and each city listed in the Stop File.

Before beginning any type of routing project, or generating a new Distance File, it is a good idea to review and edit, if necessary, the current Distance File settings in use by the software.

1. From the menu, select File > Preferences > PreProcess > Generate Distance File.
2. Use the Distance File Settings Table to assist in updating each item, as necessary.
3. Select the OK button when all selections are completed.

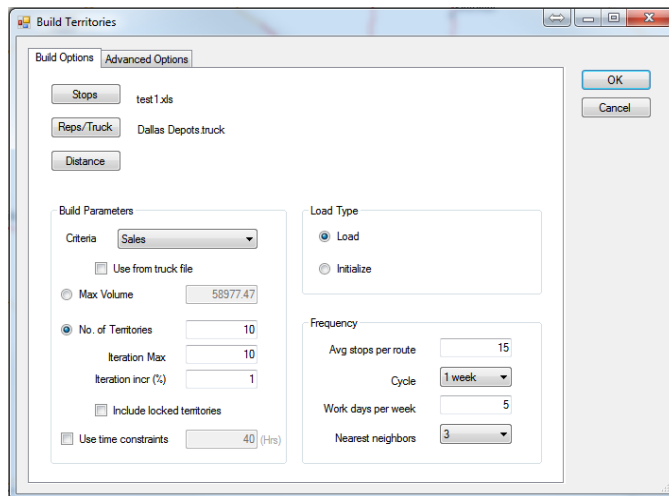
For more information or instructions on generating a Distance File, see Generate a Distance File.

# Build New Territories

Once all the files have been updated, the territory build process can start.

From the menu, select **File > New > Territory**.

1. Click Stop and select the Stop File name.
2. Click Truck to select the Truck File name.
3. Edit and/or select the appropriate Build Parameters.
4. Select Advanced Options and complete as necessary.



## Build Parameters

### BUILD PARAMETERS

- **Criteria:** Select the volume type to use. Only the volume types previously defined in Routing Preferences (File > Preferences > Configuration > Volumes) will be available to choose.
- **Use From Truck File:** Build Territories using Max Vehicle Capacity/MaxWorkTm allowed for each vehicle in the Truck File.

Use when vehicle Capacity and/or MaxWorkTm will vary by vehicle.

When selected, set Max Volume and Use Time Constraints to zero; if not set to zero, will be applied to ALL vehicles, regardless of constraints listed in the Truck File.

**Example:** Vehicles listed in the Truck File have varied Max Volume capacity. Three vehicles can carry a Max Volume of 40000 lbs., while three others can carry a Max Volume of 25000 lbs. Territories will be built until the Max Volume and/or MaxWorkTm is reached for each vehicle. As a result, some stops may not load.

- **Max Volume:** Build territories equal to the max volume determined by the Cycle Period; adds the values from the volume/criteria column until it reaches the maximum value.

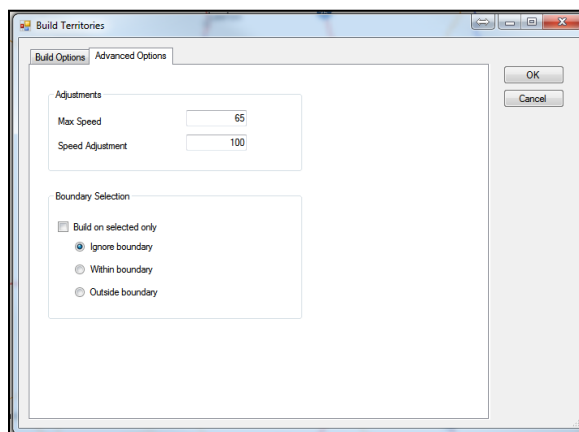
- **No. of Territories:** Build territories equal to the number of vehicles available in the Truck File. If more Stops exist than can be loaded on the available trucks/territories, the stops will be returned as Unloaded Stops.
- **Iteration Max:** The number of times to run the solution for optimal performance
- **Iteration Incr (%):** The incremental percentage of Max Volume (Truck) per Iteration considered when building each route (sum of the volume divided by the number of territories).
- **Include Locked Territories:** Including locked territories allows you to see your existing locked Territories and build new territories for new stops that lay outside of these Boundaries.
- **Time Constraint:** Select if the territories have a max time constraint (MaxWorkTm); enter the Max Hours for the cycle being built (40 hrs. a week, 80 hrs. in two weeks, etc.).

#### LOAD TYPE

- **Load:** Select to build new territories for all stops.
- **Initialize:** Select if the Stop File has predetermined territories.

#### FREQUENCY

- **Avg Stops Per Route:** Enter the average number of stops that should be considered on a route within a territory.
- **Cycle:** Select the number of weeks to build (1–4 Weeks).
- **Workdays per Week:** Select the number of workdays in a week (1–7).
- **Nearest Neighbors:** Select the number of nearest stops to consider in the build; used to calculate Drive Time (default = 3).
- **Advanced Options:** Click to select additional adjustments and boundary options.



- **Max Speed:** (Optional, use with a Distance File) Enables override of speed limit settings on specific road segments; setting is provided if company/ regulatory policies exist to prevent vehicles loaded with certain types of cargo from exceeding a set speed limit.

**Example:** Setting the speed at 45 mph will cause the mileage system to calculate all road segments that are greater than 45 mph to only go 45 mph.

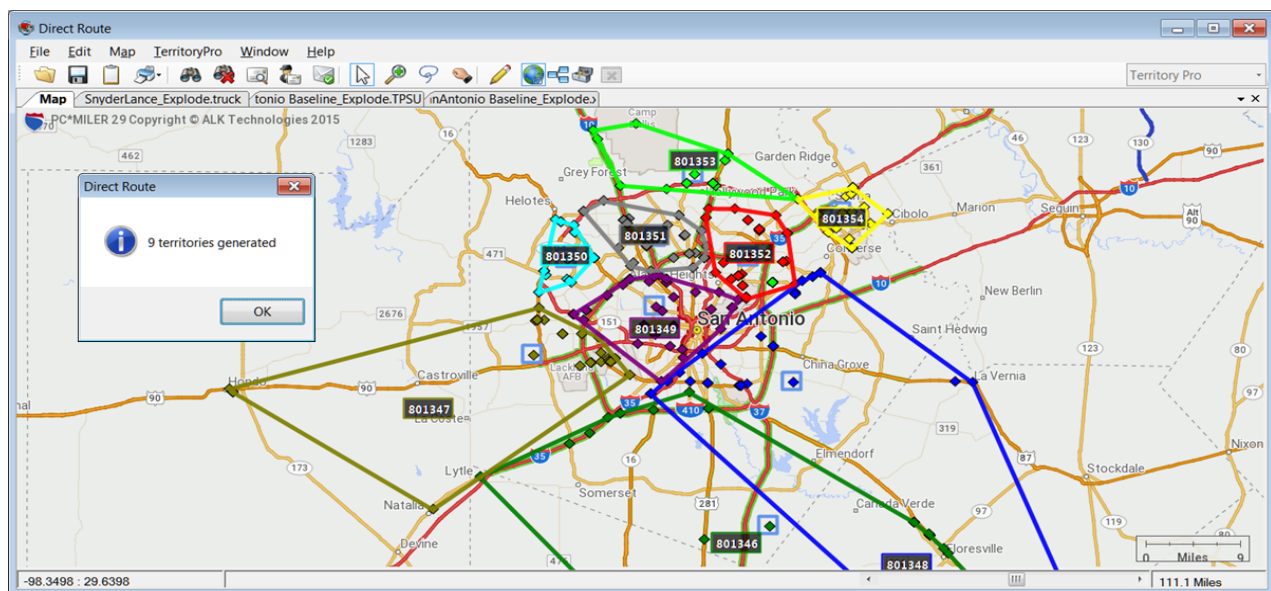
- **Speed Adj:** (Optional, use with a Distance File) Enables adjustment of normal speed limits assigned to each road segment by a percentage to increase or decrease drive times, dependent

on the percentage adjustment; default is 100% (normal rate of speed) (increase to 110 would decrease speed 10%, increasing drive time by 10%; a decrease to 90 would increase speed by 10%, decreasing drive time by 10%).

**Tip:** Any Speed Adj made here will supersede any Speed Adj settings used in Preferences (Routing/General).

- If a Boundary has been defined using Drawing Tools, the following options will also be available on the Advance Options tab.
  - **Build on Selected Only:** Builds territories based only on selected boundaries (from Drawing File), and Ignore/Within/Outside Boundary selection options.
  - **Ignore Boundary:** Searches all records, regardless if they are inside/outside the selected boundary.
  - **Within Boundary:** Searches only records in the selected boundary.
  - **Outside Boundary:** Searches only records out of the selected boundary.

After selecting all build parameters, click OK to start the build process. When complete, the territories will be displayed on the map with each territory number displayed.

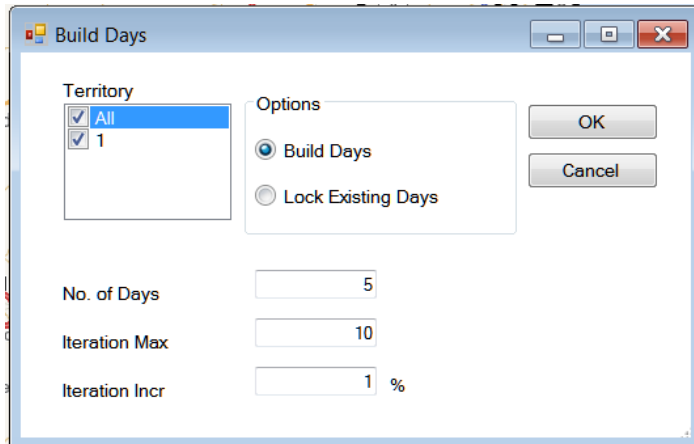


## Build Days

Build Days enables additional breakdown of one or more built territories into days of the week. If a current territory build covers a planning period of five days, then five separate schedules can be created to reflect the routes for each of those five days.

Build Days can be initiated immediately after a new territory build has been completed (Step 3).

From the menu, select TerritoryPro > Build Days.



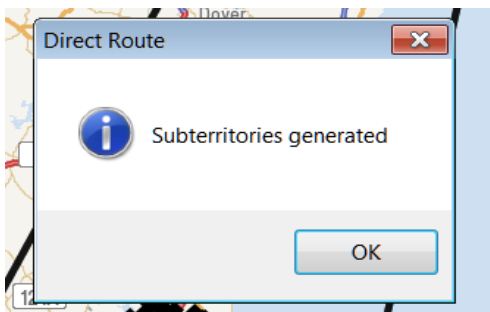
Select each build option that should be applied:

- **Territory:** Select a territory (one or more) to use.
- **Options:** Select either or both:
  - **Build Days:** Builds separate routes for each day of the week, for each territory chosen
  - **Lock Existing Days:** Existing days already listed in the Stop File will not be altered.
- **No. of Days:** The number of days of the week to build for the selected territories.
- **Iteration Max:** The number of times to calculate routes, using the Iteration Incr (to reach optimal results).
- **Iteration Incr:** Value used to increase the Max Volume (Truck) per iteration, when calculating routes (allows several attempts at a routing solution to return best results).

When all options have been reviewed and chosen, click OK.

**Example:** Suppose Iteration Max was set at 10, and Iteration Incr was set at 1%. The software constructs routes ten times using increasing Max Volume by an additional 1% each time, to calculate a solution that yields the best results.

When route construction is completed successfully, the software will return an info box indicating that Subterritories have been generated.



# Review and Modify Results

The new routes will be displayed on the map, with a number tag indicating the day# of the week. Additionally, the Stop File column Days will be populated with the assigned day of the week, and the Route Summary Report will reflect the updated summary data for the new routes.

Drawing Tools can be used to highlight routes, territories, vehicles, and/or drivers, and the map and/or files with drawings can be saved, printed, and/or edited (Ref. Drawings and Boundaries).

## TerritoryPro Summary File

The Summary File (StopFileName.TPSum.xls) contains a summary of data totals from key fields used in the Stop File to help build the territories and is created each time a new territory build is completed.

To view the Summary File, click the StopFileName.TPSum.xls tab at the top of the map screen.

| Territory Summary          |     |      |          |       |       |         |         |          |              |               |             |          |  |
|----------------------------|-----|------|----------|-------|-------|---------|---------|----------|--------------|---------------|-------------|----------|--|
| Filter Options: Remove All |     |      |          |       |       |         |         |          |              |               |             |          |  |
| Territory                  | Day | Lock | Volume   | Util% | #Cust | #Visits | EstTime | ServTime | EstTime/Week | ServTime/Week | ServiceViol | Latitude |  |
| 00                         | 0   |      | 36743    | 2500  | 375   | 248.25  | 98.78   | 77.66    | 98.78        | 77.66         | 0           | 35.208   |  |
| 01                         | 0   |      | 36673    | 2500  | 211   | 168.25  | 88.34   | 62.93    | 88.34        | 62.93         | 0           | 34.953   |  |
| 02                         | 0   |      | 36679.5  | 2500  | 189   | 135.5   | 76.53   | 61.22    | 76.53        | 61.22         | 0           | 35.070   |  |
| 03                         | 0   |      | 36403.75 | 2500  | 362   | 267.5   | 98.19   | 76.34    | 98.19        | 76.34         | 0           | 35.201   |  |
| 04                         | 0   |      | 36745.75 | 2500  | 278   | 179.25  | 89.02   | 69.13    | 89.02        | 69.13         | 0           | 35.264   |  |
| 05                         | 0   |      | 36763.25 | 2500  | 226   | 127     | 72.9    | 64.37    | 72.9         | 64.37         | 0           | 35.313   |  |
| 06                         | 0   |      | 36672.5  | 2500  | 329   | 211.75  | 88.53   | 72.92    | 88.53        | 72.92         | 0           | 35.385   |  |
| 07                         | 0   |      | 36785.5  | 3000  | 252   | 195.75  | 95.37   | 67.42    | 95.37        | 67.42         | 0           | 35.371   |  |
| 08                         | 0   |      | 36668    | 2500  | 320   | 234.25  | 95.36   | 73.28    | 95.36        | 73.28         | 0           | 35.459   |  |
| 09                         | 0   |      | 16936.25 | 3000  | 108   | 81.25   | 43.56   | 29.56    | 43.56        | 29.56         | 0           | 35.601   |  |

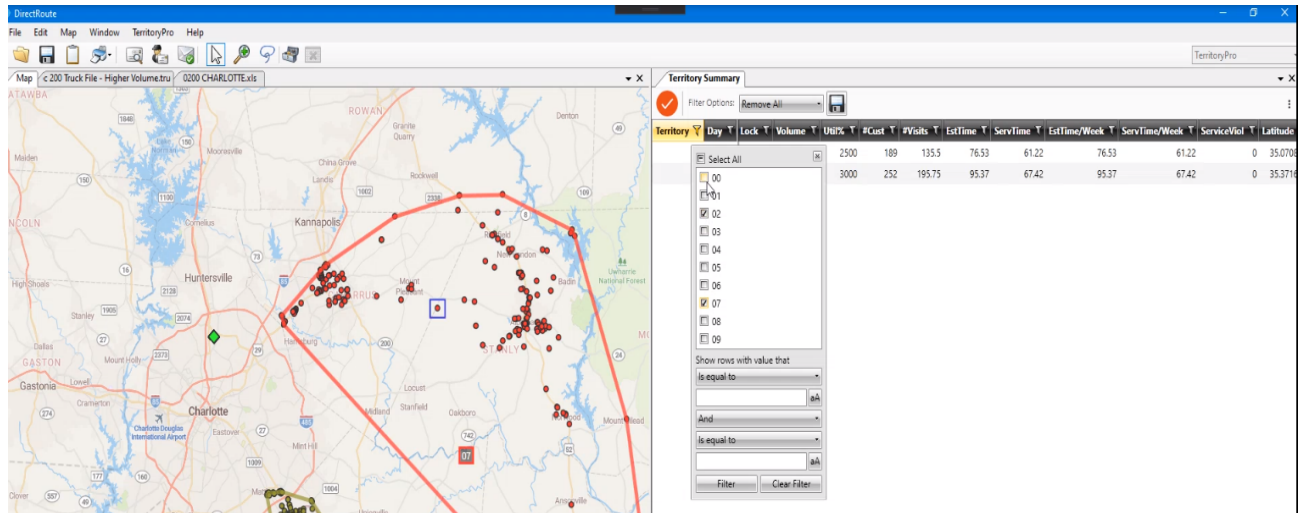
Some of the more common data fields used are:

- Volume: Total volume of each territory, using the criteria selected to build territories
- Util%: Total volume divided by Max Volume.
- EstTime: Estimated time to service the territory for the entire cycle.
- ServTm: Service time for the territory for the entire cycle.
- EstTime/Week: Estimated time to service the territory by week.
- ServTm/Week: Service time for the territory by week.
- Stop User Fields: Stop User Fields contained in the Stop File, summed at each level (week/cycle).

Within the TerritoryPro Summary File, you can:

- Filter all the items in the grid.
- When the grid is filtered, it will remove the territories/days from the map if it is not on the grid.

- If you have days on the map and you filter by day but want to still see the territory boundary, there is another option to always show the territory boundary.
- Show/Hide territories/days.
- You can save the new TerritoryPro Summary as a .csv, .tab, or .xls file.
- When you double-click the grid, it will open the TerritoryPro Summary info Box for the selected territory summary.
- The columns can be organized, and the order saved when closing, and in the same order when reopening.



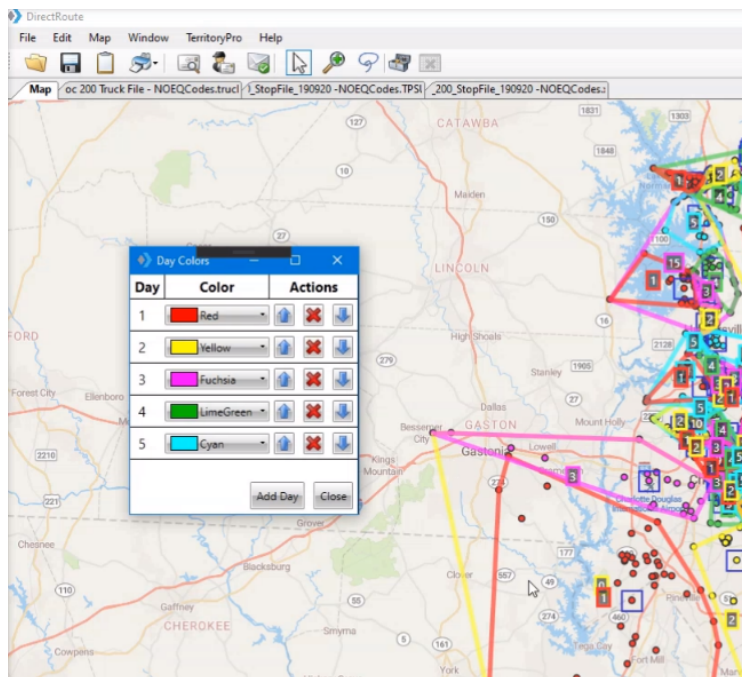
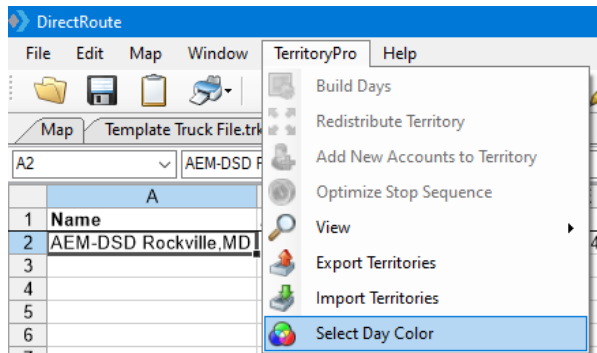
## Territory/Day Colors

If **Preferences > TerritoryPro > Use Default Colors for Territories** = TRUE, DirectRoute will use the color palette defined in Preferences > Routing > General > Route Colors (Collection). The shape defaults to a circle, and the size defaults to 12.

If **Preferences > TerritoryPro > Use Default Colors for Territories** = FALSE, DirectRoute will use the colors, shapes, and sizes defined in the truck file. If no colors are defined, the color will default to Lime, the shape will default to diamonds, and the size will default to 24.

When viewing Day Mode, the first Subterritory color will be pulled from the truck; the rest will be pulled from the color wheel.

To change/edit the colors or add/delete a day, select TerritoryPro > Select Day Color.

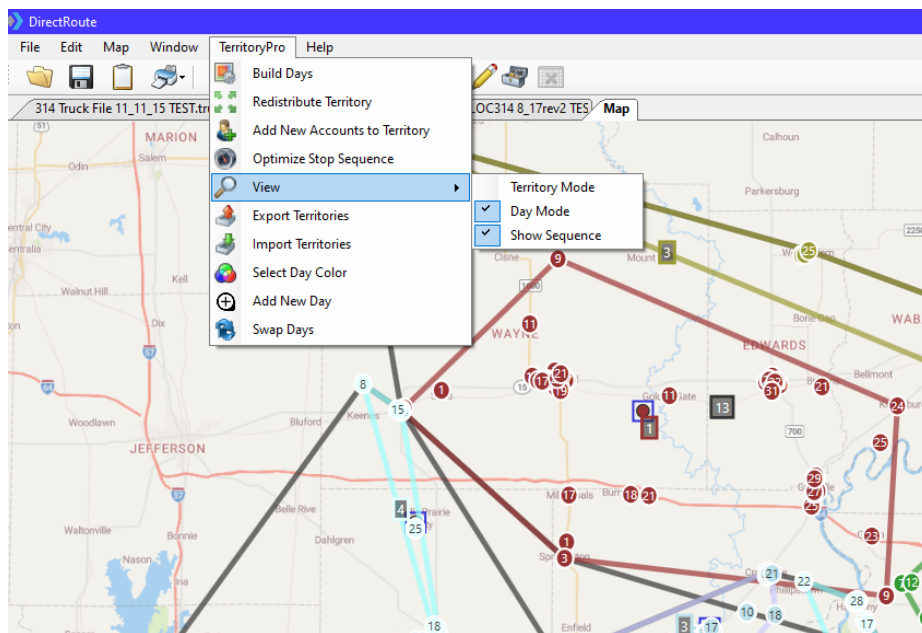
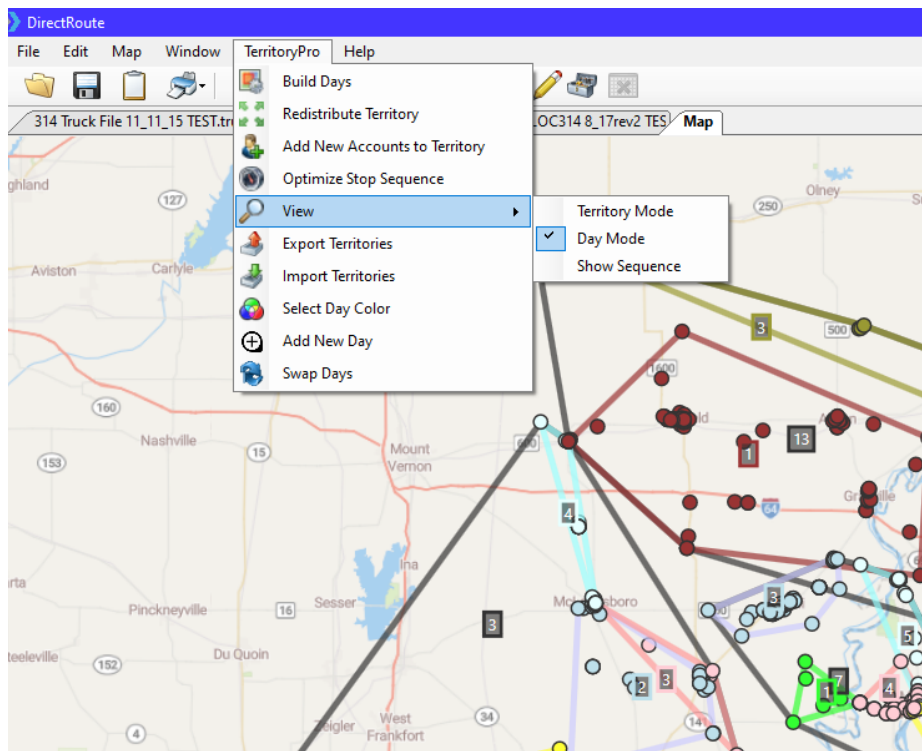


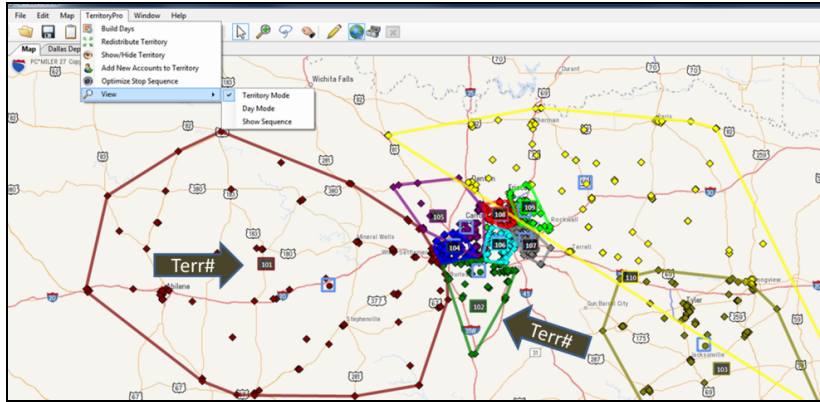
## View Territories or Days

Territory results can be displayed on the map by the Day that stops are scheduled, or by Territory. Territory Mode will display the stops within the assigned territory, with each territory designated by a colored outline and matching territory tag number and stop color. Day Mode will display the stops within the assigned Day and Territory. Days are outlined in a different color within each territory and designated by a matching Day# tag and the same color stops.

You can change the view to focus on either Territories or Days. Or, choose to view both at the same time. You can also choose to show the sequence of all stops for each Territory and Day by choosing Show Sequence.

1. From the menu, click Territory > View.
2. Select Territories, Days, and/or Show Sequence.
3. Click on each item to activate it and show it on the map or click on the item again to deactivate and hide it.

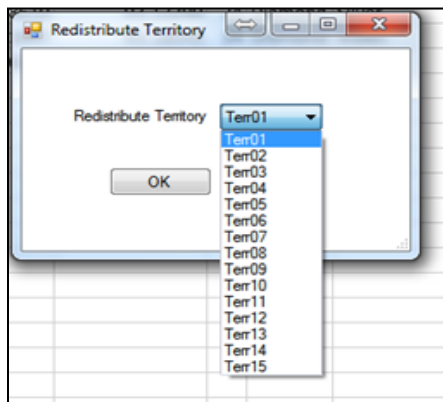




## Redistribute Territories

Use Redistribute Territories to select a less utilized territory then redistribute to the next nearest territory without any constraints.

1. From the menu, select TerritoryPro > Redistribute Territory.
2. From the dropdown menu, select the territory to redistribute.
3. Click OK.



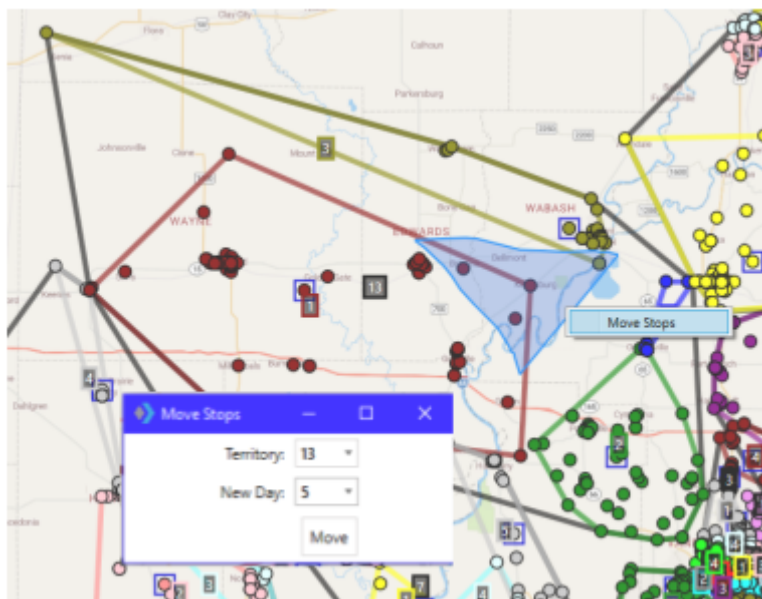
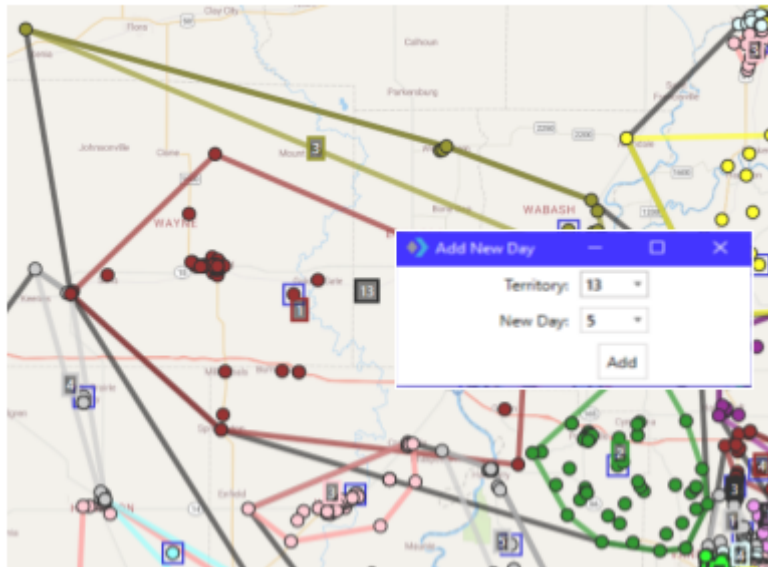
The newly revised territories will be displayed on the map, and the Route Summary File will reflect the newly updated summary data.

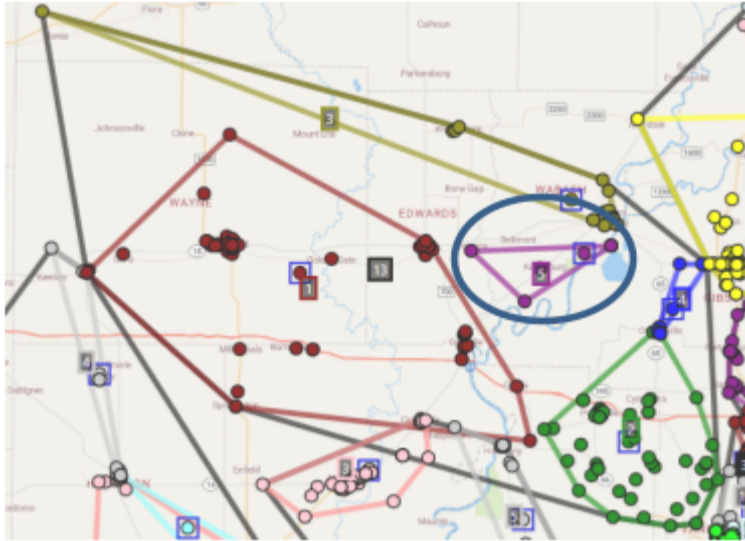
## Add Days to Territories

You can easily add a new Day to any Territory while working on the map. Stops can be selected and moved to the new Day using the Lasso Tool. When stops are moved to a new day, all info for the affected stops is automatically updated. The account(s) for the moved stops are added to the new Day, the Stop File is updated with the changes, and the new Territory will appear on the map.

1. Click Territory > Add New Day from the menu.
2. Select the Territory and the new Day number and click Add.
3. Lasso the stop(s) that you want to move/add to the new day.

4. Right-click the lassoed area and click Move Stops.
5. Select the Territory and new Day number to which the stops are going and click Move.





## Move Stops to Another Territory

Stops can be moved several ways from one territory to another. Regardless of the method used, each option will update the Stop File and Summary File to reflect the new data.

Lasso Move (most common):

1. Click the Lasso tool on the toolbar.
2. Hover over the stop(s) to be moved, then drag to draw a box around the stops to be moved.
3. Alt+Click inside the freshly-drawn territory.

Click-and-Drop Move:

1. Ctrl+Click the stop to be moved.
2. Alt+Click inside the territory the stop will be moved to.

Stop File Move:

1. In the Stop File, scroll to the row and Territory column for the selected stop.
2. Type the new territory number in the column.
3. Press F9.

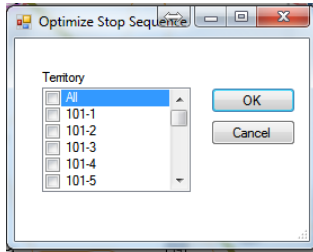
Info Box Move:

1. Ctrl+Click to select the stop on the map and open the Stop Info box.
2. From the Stop Info box, scroll down to the line that displays the current Territory number, type in the new Territory and Day number (if applicable), and then click anywhere outside of the data field.
3. Press F9.

# Optimize Territory Stop Sequence

Optimize Stop Sequence will sequence all stops within the selected Territory/Day. Each stop will be displayed on the map with a sequence number tag, and the Stop File column Seq will be updated automatically to reflect the sequence number assigned to each of the Stops.

1. From the menu, click Territory > Optimize Stop Sequence.
2. Select the Territory # and Day (what to optimize) or click ALL.
3. Click OK.



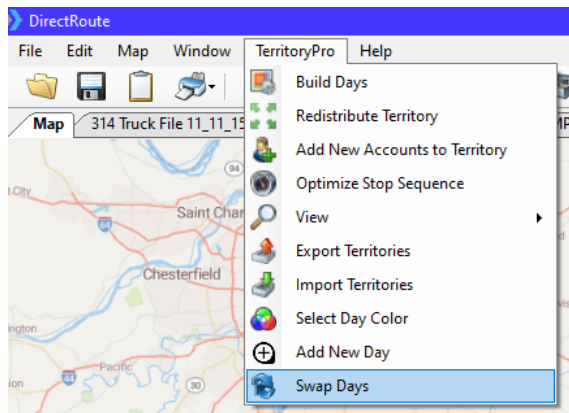
Tip: If selected territories contain a large quantity of Stops, Optimizing Stop Sequence may take an extended time to complete.

| D         | E      | F   | G                           | H        | I          | J     | K          | L        | M           | N         | O  | P   | Q             | R       | S      |
|-----------|--------|-----|-----------------------------|----------|------------|-------|------------|----------|-------------|-----------|----|-----|---------------|---------|--------|
| Customer# | Order# | ID3 | Address                     | Address2 | City       | State | Zip        | MoSales  | WeeklySales | FixedTime | Rt | Seq | SzRestriction | EqCode  | Sales  |
| 5831      |        |     | 205 E Main St               |          | Olney      | TX    | 76374-1923 | 1,415.63 | 353.91      | 10        | 18 |     |               | @101-DC | 353.91 |
| 10756     |        |     | 4025 Old Denton Rd          |          | Carrollton | TX    | 75007-1021 | 3,801.80 | 950.45      | 15        | 5  |     |               | @108-DC | 950.45 |
| 10905     |        |     | 1801 W Parker Rd            |          | Plano      | TX    | 75023-7502 | 1,673.01 | 418.25      | 10        | 5  |     |               | @109-DC | 418.25 |
| 11422     |        |     | 1200 E Davis St             |          | Mesquite   | TX    | 75149-4874 | 1,874.13 | 468.53      | 15        | 9  |     |               | @107-DC | 468.53 |
| 11821     |        |     | 1000 W. HIGHWAY 287 STE 209 |          | MIDLOTHIAN | TX    | 76065      | 1,398.61 | 349.65      | 10        | 5  |     |               | @102-DC | 699.30 |

# Swap Territories or Days

You can move all accounts in bulk from any Day or Territory to another Day or Territory using Swap Days and Swap Territories. When swaps are completed, all affected accounts are updated automatically; all statistics are updated in the Territory Summary, and all corresponding fields are updated in the Stop File.

From the menu, click TerritoryPro > Swap Days.



1. In the From boxes, select the Territory and Day that you want to move.
2. In the To boxes, select the new Territory and Day.
3. Click Swap.

Use the Compare boxes to see how the change will affect the statistics for each Territory/Day. The metrics displayed are from the statistical user Stop Fields, used in the Stop File.

