



# Guided Tour



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## ***Take a Guided Tour Through PC\*MILER®!***

The Tour on the following pages will enable you to experience the functionality, speed, ease of use, and accuracy of PC\*MILER. Please take a little time to become comfortable with the basic features of PC\*MILER by following the instructions step by step.

Be aware that this Tour uses Highway Only road data. Local street address data is available as an add-on, along with many other add-on data modules and related products including subscription licenses for PC\*MILER|Traffic for real-time traffic information, PC\*MILER|Weather for weather reporting and alerts, and PC\*MILER|TripDirect for sending PC\*MILER routes to ALK's CoPilot Truck navigation software on a device in the cab.

For more information at any point, click on a help button  where available in the PC\*MILER application, or press the <F1> key on your keyboard to open the *PC\*MILER User's Guide*.

Now on to the Guided Tour, welcome aboard and we hope you enjoy the ride!



***This Way for the Guided Tour...***

# Stops on the Tour

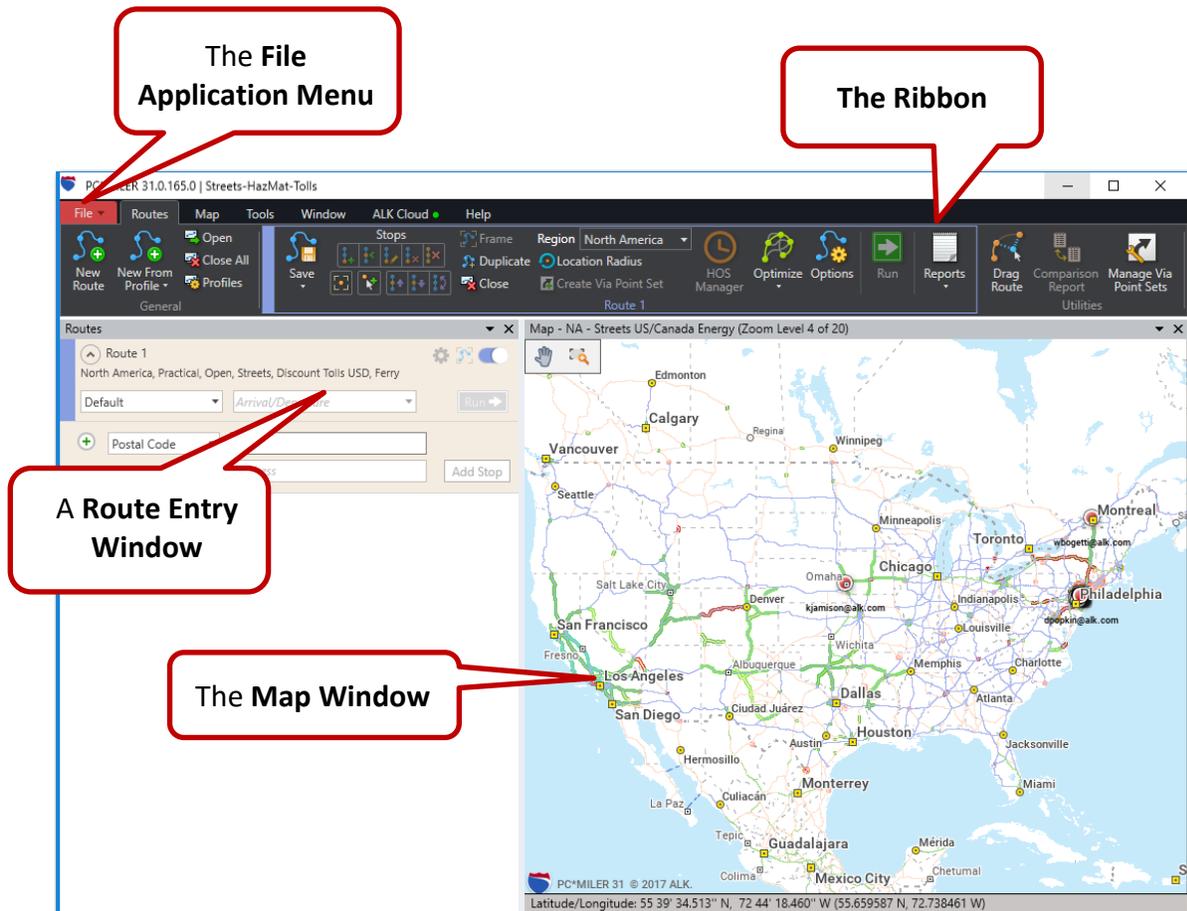
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## PC\*MILER 31 Application Window Overview

To begin the Tour, double-click on the PC\*MILER icon on your desktop to open the program, or click the Windows **Start** menu and select **All Programs** (or the equivalent for your version of Windows) > **PCMILER 31** > **PCMILER 31**.

When you first open PC\*MILER, you'll see an active route window on the left, the PC\*MILER map window on the right, and a Ribbon toolbar at the top. The Ribbon contains layered toolbars organized in tabs like a set of file folders. When you click a tab, the attached toolbar becomes visible. Users of Microsoft Office Word® or Excel® 2007 and higher will already be familiar with the Ribbon format.

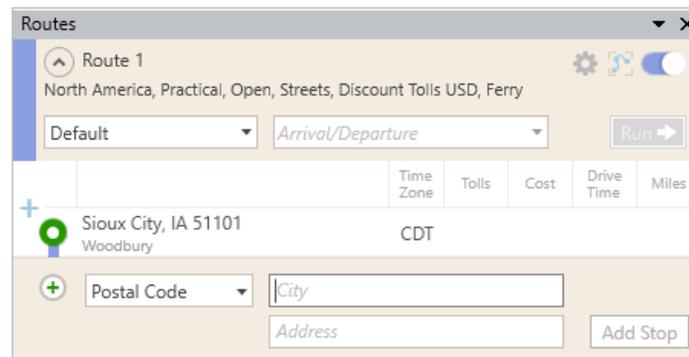
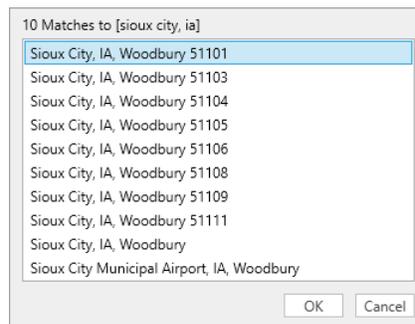
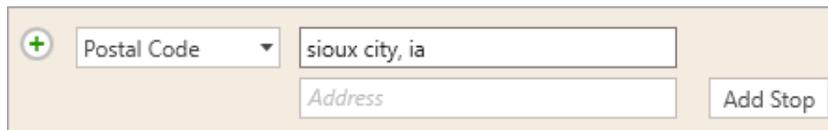
The options in each toolbar on the Ribbon pertain to tasks that are related to each other. For example, all tools in the Map tab perform tasks related to the map window. The screenshot below shows your initial view of PC\*MILER, with the Routes toolbar visible.



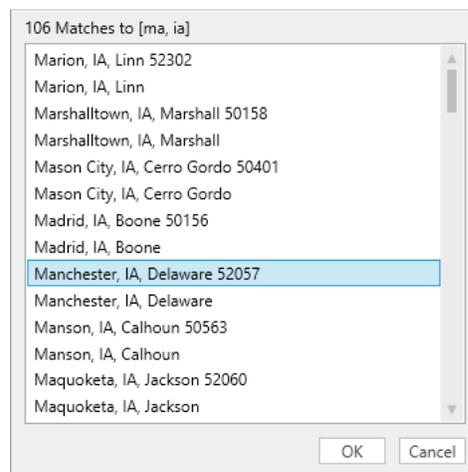
## Getting Started: First Run a Route

To generate a route, you need to enter at least two stops (an origin and a destination). We will enter an origin, a destination, and three intermediate stops. Your cursor should be in the Route 1 window, in the **City** field. (If you don't see this window, click *New Route* in the Routes tab.) For now, we'll ignore the *Arrival/Departure* setting that is available in the route window.

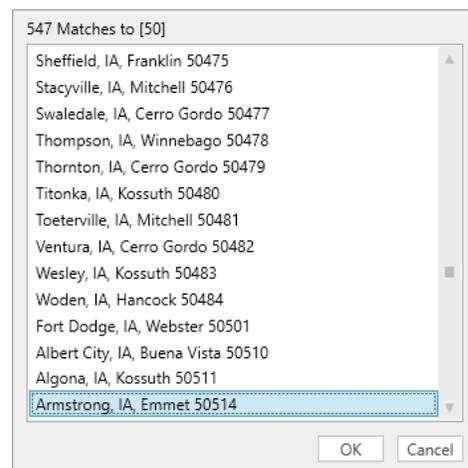
1. As the first step, select the red File application menu (upper left corner of the PC\*MILER window) > *Application Settings* > *Geocoding* and make sure **Provide Pick List** is checked. This option displays a pick list when there's more than one possible match in the PC\*MILER database for a location you enter. Click **Save** to close the window.
2. In the **City** field of the route window, enter the trip origin as a city/state: type "**sioux city, ia**" (a space and/or comma can be used between the city and state) and click **Add Stop** or press <Enter>. Click **OK** in the pick list that pops up to enter the first match on the list. You entered "**51101 Sioux City, IA, Woodbury**". The **Time Zone** column to the right of the stop name tells us that the time zone at this location is Central Daylight Time (**CDT**).



3. Next, type “**urbandale, ia**” and click **Add Stop**. With “**Urbandale, IA, Polk 50322**” selected in the pick list, click **OK** or press <Enter> to add this stop.
4. Enter “**52585**” in the **City** field and choose “**Richland, IA, Keokuk 52585**” from the pick list as the next stop.
5. Get help with spelling when you enter a third stop: type “**ma <space> ia**” and click **Add Stop**. In the pick list, highlight “**Manchester, IA, Delaware 52057**” then click **OK**. (The cities at the top of the pick list are not in alphabetical order – this is because with multiple matches, PC\*MILER will list the most densely populated and popular locations first, with an alphabetical listing of other potential matches underneath.)



6. Use the ZIP Code Helper to enter the last destination on the route: type **50** and click **Add Stop**. In the pick list, locations are sorted by postal code. You can scroll down the list to find “**Armstrong, IA, Emmet 50514**” or use the type-ahead search feature to find it more quickly: click the pick list and type “**ar**”. Click **OK** to enter your selection.



**TIP:** All stop entry pick lists have the type-ahead feature. With the pick list open, start typing a location name and the pick list will bring you to a match.

7. Click the **Run** button or press the <F10> key to generate your route.

PC\*MILER will calculate the mileage for each leg of the trip, along with cost and time estimates, and cumulative totals below the stop list. If PC\*MILER|Tolls is licensed and installed, toll costs will be calculated as well. The route will also be drawn and framed in the map window.

The screenshot shows the 'Routes' window in PC\*MILER. It displays a route starting at Sioux City, IA 51101 and ending at Armstrong, IA 50514. The route includes three intermediate stops: Urbandale, IA 50322; Richland, IA 52585; and Manchester, IA 52057. The table below the route list provides details for each stop, including time zone, tolls, cost, drive time, and miles. The cumulative totals for the entire route are \$0.00 in tolls, \$771.85 in cost, 11:58 in drive time, and 654.4 miles.

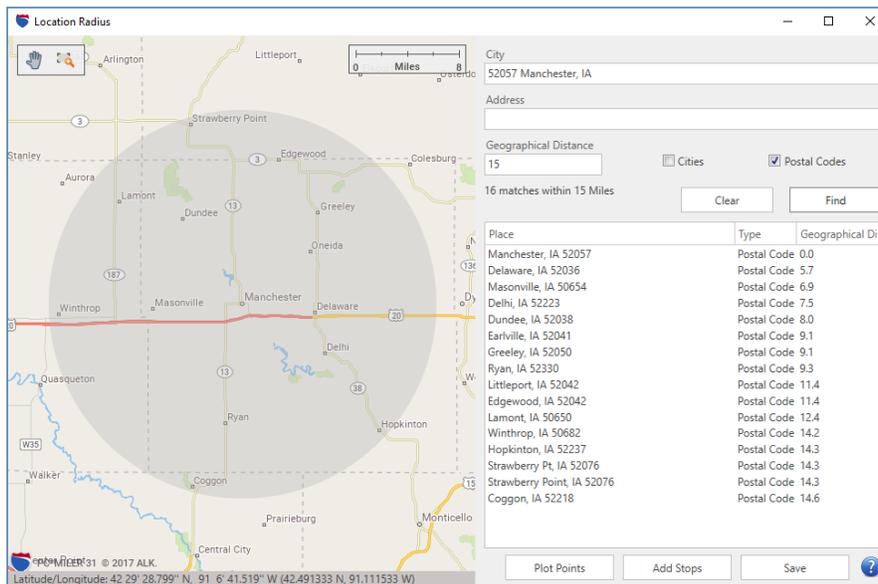
	Time Zone	Tolls	Cost	Drive Time	Miles
Sioux City, IA 51101 Woodbury	CDT				
1 Urbandale, IA 50322 Polk	CDT	\$0.00	\$224.75	3:26	194.5
2 Richland, IA 52585 Keokuk	CDT	\$0.00	\$138.99	2:15	111.3
3 Manchester, IA 52057 Delaware	CDT	\$0.00	\$151.41	2:23	126.0
Armstrong, IA 50514 Emmet	CDT	\$0.00	\$256.70	3:54	222.5
<b>Cumulative Totals</b>		<b>\$0.00</b>	<b>\$771.85</b>	<b>11:58</b>	<b>654.4</b>



## Search a Location Radius

The Location Radius tool can help with rate determination and pre-operations planning. We'll just take a quick look at it.

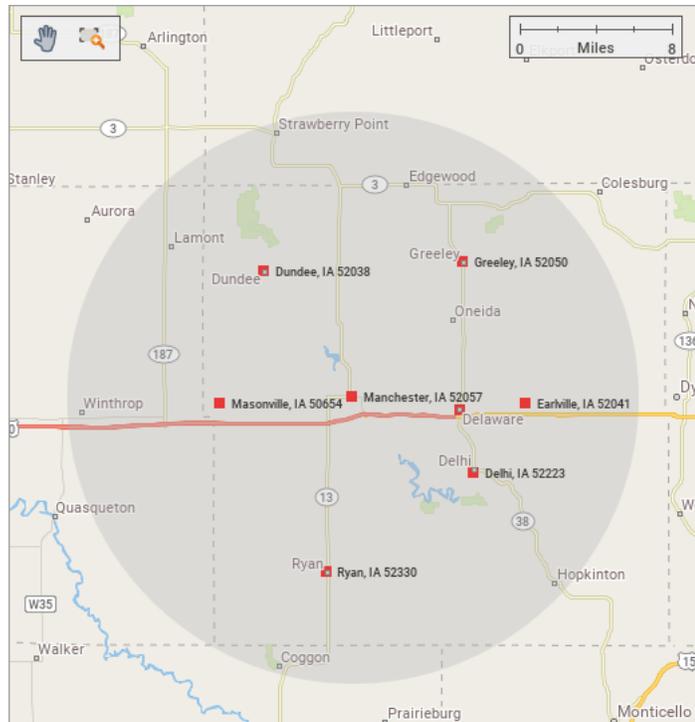
1. Click **Manchester, IA** to highlight it on the stop list for the route you just ran.
2. In the Routes tab, click *Location Radius* to open the Location Radius dialog box. You'll see Manchester entered in the **City** field. Any valid PC\*MILER location can be entered for a location radius search.
3. Enter "15" as the number of miles for a **Radius** around Manchester, uncheck **Cities** and check **Postal Codes** instead.
4. Click **Find**. All postal codes within 15 miles of Manchester will be listed:



5. Now we'll select some points on the list to plot on the map: holding the **Shift** key down, click the first location on the list (Manchester) then click **Ryan, IA 52330** to select it and all the postal codes in between:

Place	Type	Geographical Di
Manchester, IA 52057	Postal Code	0.0
Delaware, IA 52036	Postal Code	5.7
Masonville, IA 50654	Postal Code	6.9
Delhi, IA 52223	Postal Code	7.5
Dundee, IA 52038	Postal Code	8.0
Earlville, IA 52041	Postal Code	9.1
Greeley, IA 52050	Postal Code	9.1
Ryan, IA 52330	Postal Code	9.3
Littleport, IA 52042	Postal Code	11.4

6. Click **Plot Points**. You'll see the points plotted on the map, represented by small red squares. At this point you could also **Save** the highlighted points in a text file, or click **Add Stops** to add them as stops in the active route window, replacing Manchester.



7. Now we'll close the Location Radius window without saving the search results: click the "X" in the upper right corner of the window.

## MORE SEARCH OPTIONS

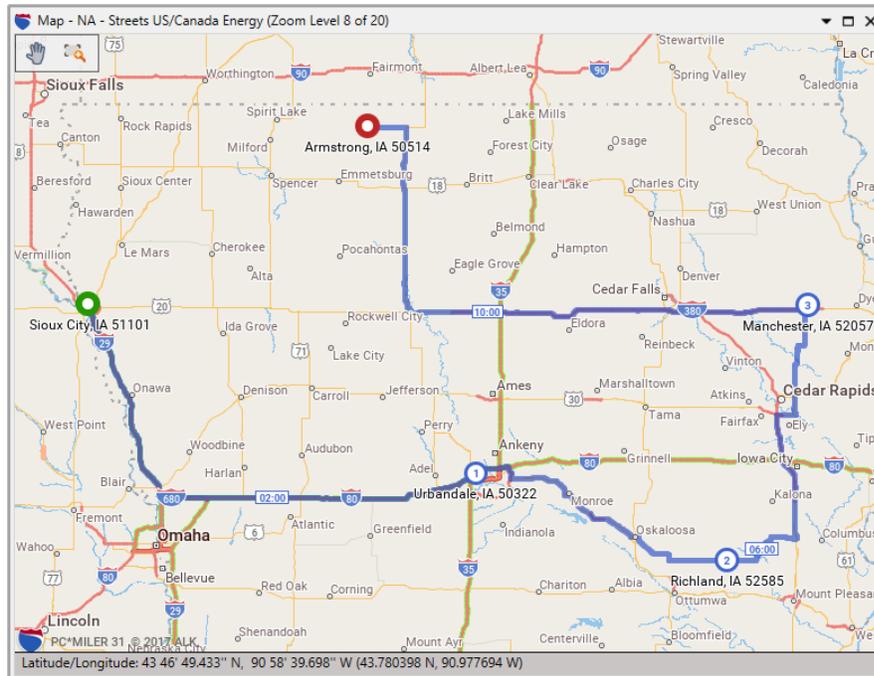
In addition to the Location Radius tool, PC\*MILER enables you to search for points of interest (POI) such as fuel stops (including fuel prices where available), rest areas, and truck services from a route window, either within a specified radius around a location or along a corridor on a route.

In the route window, use the stop type drop-down and select **Place of Interest**, from there use the fields provided to search for POIs. For more on this feature including detailed instructions, see the *PC\*MILER User's Guide*. (*PC\*MILER/Streets address data must be licensed and installed to use this feature.*)

## Take a Closer Look at the PC\*MILER Map Window

Next, let's look at your route framed in the PC\*MILER map window:

1. The map window can be floated as a separate window – right click on the gray title bar and select *Float*. The window now appears with a dark border and can be resized and dragged to any position on your screen.



2. Select the Map tab > *Legends* menu to control which legends appear on the map. Check/uncheck a legend in this menu to display/hide it. Legends can be positioned anywhere on the map: place your cursor on a legend, hold down the left mouse button and drag it to another spot.
3. To define an area to zoom to, select the Map tab > *Box Zoom* then click and drag a rectangle around the area. Choose *Drag Map* to return to navigation by dragging, then hold down the mouse button and drag the cursor (now shaped like a hand) to move your view to a new location. You can use the icons on the map to toggle these options.

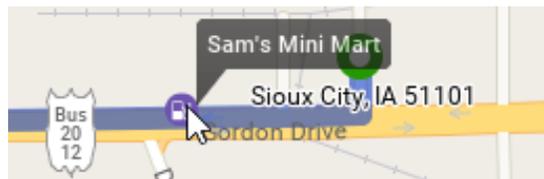


4. To zoom your map view in or out, right click on the map to open the right mouse menu and choose *Zoom In* or *Zoom Out*; or use your mouse scroll wheel.

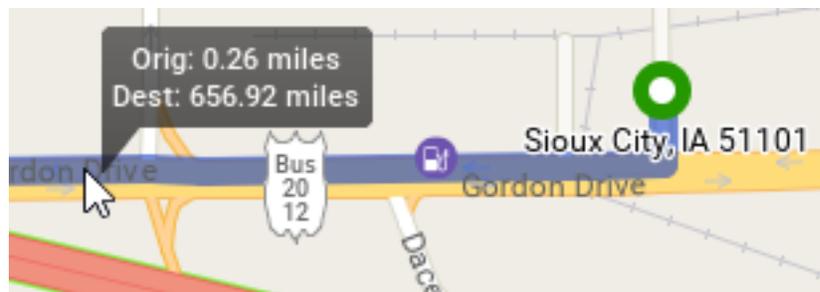
- Another way to shift the map view is to use the hidden scroll bars. To activate a scroll bar, place your cursor near any edge of the map window. Click on the scroll bar to move the map incrementally in the direction indicated by the arrow, or click and hold to pan the view quickly:



- In the Route 1 window, double-click Sioux City on the stop list to zoom in on it. Notice the zoom level – **16 of 20** – in the title bar of the map window.
- When you zoom in closer, points of interest (POI) will appear. At higher zoom levels, you can place the cursor over any POI to see its name:

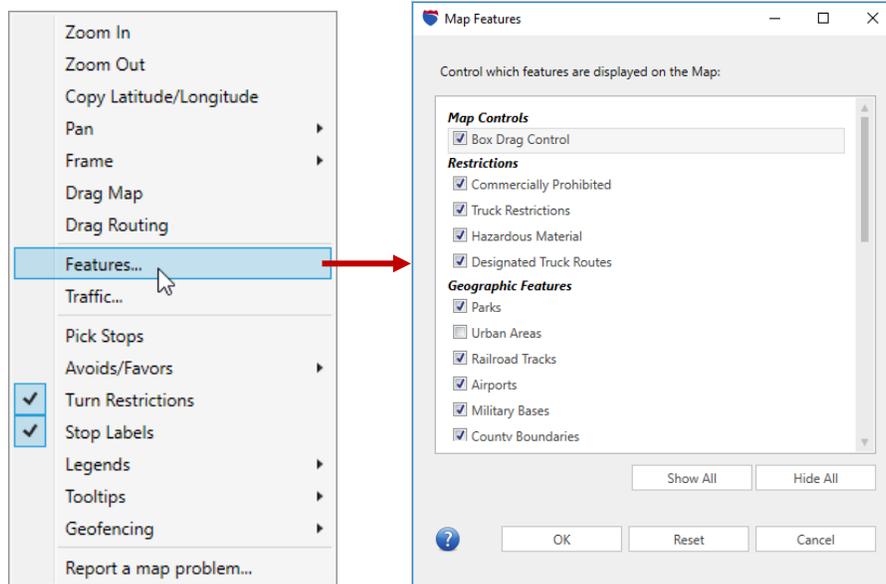


- Right click the map and select *Tooltips > Route Distance*. With this feature turned on, place the cursor at any point on a generated route to see a tool tip that displays the distance from the origin and destination at that point:



9. Now right click the map again and select *Features...* .

In the Map Features dialog, all the listed features can be displayed or hidden. Features that are checked will be displayed.

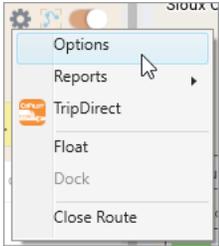


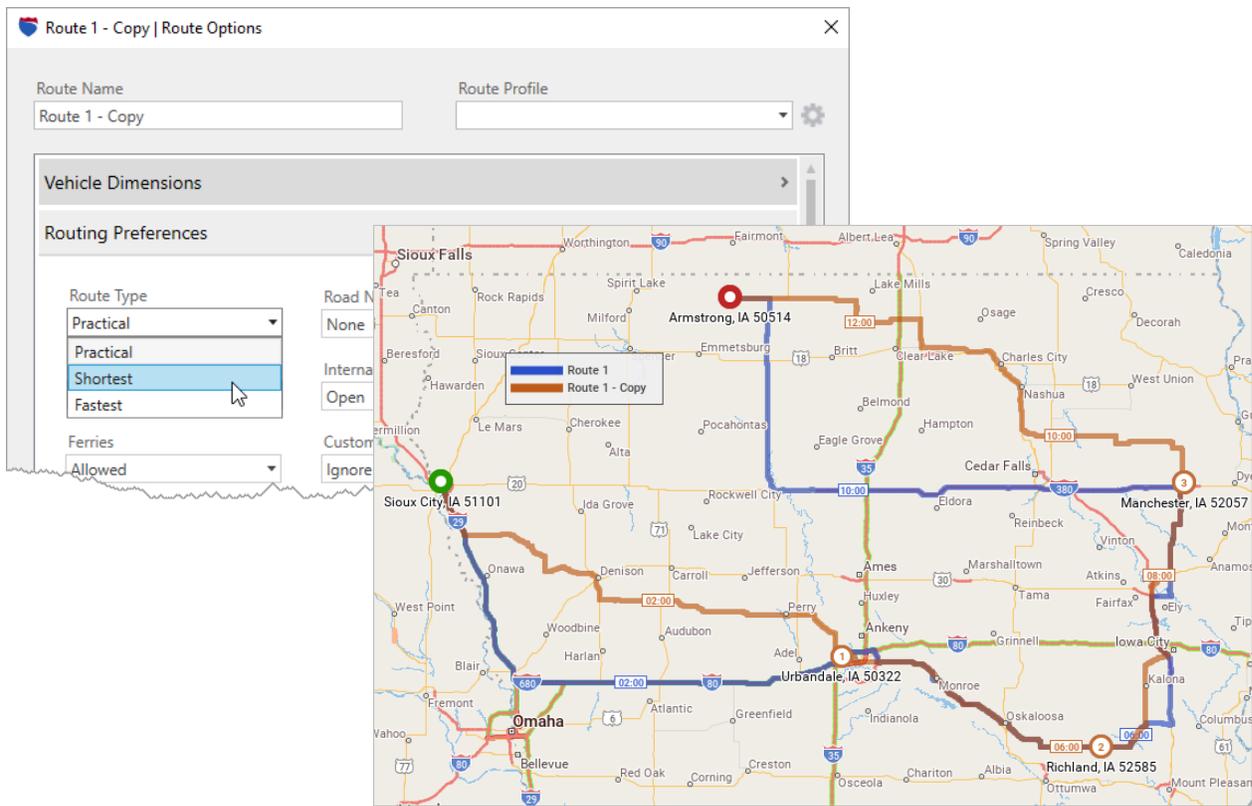
10. We won't change the default settings in the Map Features dialog. Click **Cancel**, then right mouse click on the title bar of the map window and select *Dock*.

## Duplicate a Route and Change the Route Type

We are now going to open a second route by duplicating Route 1:

1. Click on the **Route 1** window to activate it.
2. Click the Minimize/Maximize button in the upper left corner to minimize the route window.  

3. Select the Routes tab > *Duplicate*. A duplicate route will open.
4. In the **Route 1 - Copy** window, click the gear button > *Options* in the upper right corner to open the Route Options dialog.  

5. Under *Routing Preferences*, select **Shortest** in the **Route Type** drop-down, then click **Save**.
6. Look at the two routes on the map to see how the route from Sioux City to Armstrong has been altered because you changed the route type.

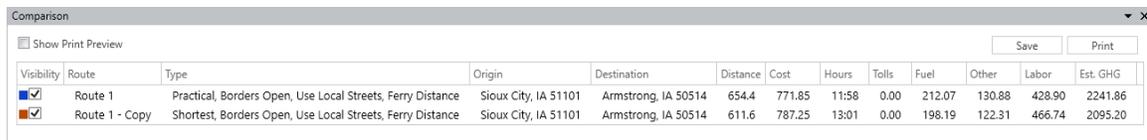


## View the Comparison Report

The Comparison Report includes a summary of the total mileage, cost estimates, and time estimates for all currently open routes. It helps you clearly see the differences between your generated routes.

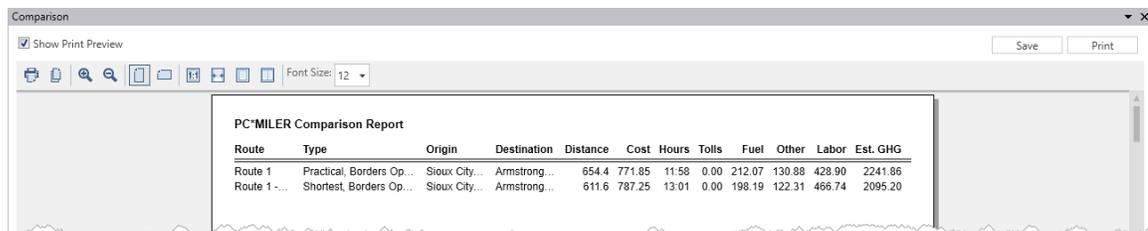
1. To view the Comparison report, either click *Comparison Report* in the Routes toolbar or press the **<F4>** key. In this report it's easy to see that the Shortest route covers fewer miles, but has a longer drive time. You may need to scroll the report to the right to see additional cost estimates (Other cost, Labor cost, and Estimated Green House Gas emissions). You can use the check boxes in the first column, labeled "**Visibility**", to control whether each route is drawn on the map.

All cost estimates are calculated using default trip costs that can be customized in the Application Settings dialog > *Route Costs*. Road speeds used in time estimate calculations can also be customized in this dialog. (Time estimates may also be affected by traffic considerations if PC\*MILER | Traffic is licensed.)



Visibility	Route	Type	Origin	Destination	Distance	Cost	Hours	Tolls	Fuel	Other	Labor	Est. GHG
<input checked="" type="checkbox"/>	Route 1	Practical, Borders Open, Use Local Streets, Ferry Distance	Sioux City, IA 51101	Armstrong, IA 50514	654.4	771.85	11:58	0.00	212.07	130.88	428.90	2241.86
<input checked="" type="checkbox"/>	Route 1 - Copy	Shortest, Borders Open, Use Local Streets, Ferry Distance	Sioux City, IA 51101	Armstrong, IA 50514	611.6	787.25	13:01	0.00	198.19	122.31	466.74	2095.20

2. To see the Comparison report in a printable format, check **Show Print Preview** in the upper left corner. The tool bar above the printable version allows you to change the font size and layout, zoom in and out, and copy and print the report.



PC\*MILER Comparison Report

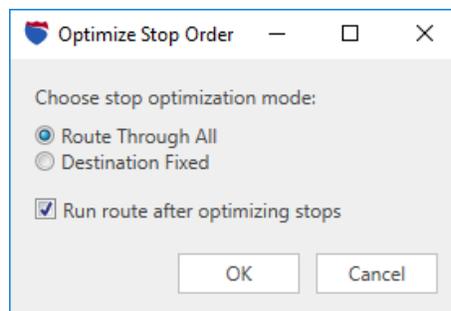
Route	Type	Origin	Destination	Distance	Cost	Hours	Tolls	Fuel	Other	Labor	Est. GHG
Route 1	Practical, Borders Op...	Sioux City...	Armstrong...	654.4	771.85	11:58	0.00	212.07	130.88	428.90	2241.86
Route 1 ...	Shortest, Borders Op...	Sioux City...	Armstrong...	611.6	787.25	13:01	0.00	198.19	122.31	466.74	2095.20

3. Click the "X" in the upper right corner of the Reports window to close this report and continue the Tour.

## Optimize a Route

PC\*MILER can reorder the stops on a route, thereby optimizing trip time, cost and mileage. Let's optimize **Route 1**:

1. Close the **Route 1 - Copy** window: click the gear button and choose *Close Route*. 
2. In the **Route 1** window, click the Minimize/Maximize button in the upper left corner to maximize the window. 
3. Duplicate Route 1 again (Routes tab > *Duplicate*).
4. With the new route window active, select the Routes tab > *Optimize* > *Optimize Stops*.
5. The **Run route after optimizing stops** option should be checked and **Destination Fixed** should be unchecked, meaning the last stop can be reordered if necessary.



6. Click **OK** to optimize the stops in the new window.
7. Press the **<F4>** key to generate a new Comparison Report.

As you can see, PC\*MILER determined that the optimal route would have Manchester as its destination and Armstrong as the second stop. The optimized route is significantly different from the version of the same route we entered earlier: it saves almost **115 miles** and **over 80 minutes** of driving time, plus the additional trip costs!

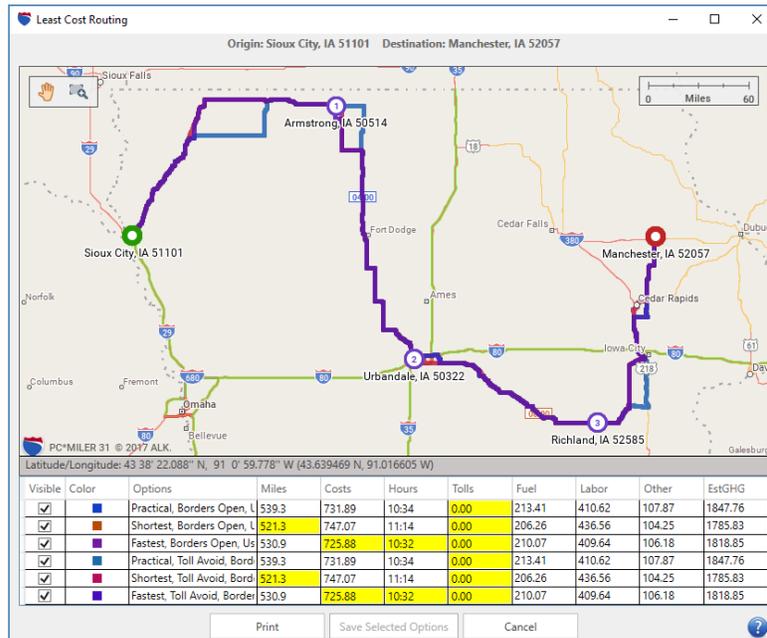
Visibility	Route	Type	Origin	Destination	Distance	Cost	Hours	Tolls	Fuel	Other	Labor	Est. GHG
<input checked="" type="checkbox"/>	Route 1	Practical, Borders Open, Use Local Streets, Ferry Distance	Sioux City, IA 51101	Armstrong, IA 50514	654.4	733.80	10:54	0.00	212.07	130.88	390.86	2241.86
<input checked="" type="checkbox"/>	Route 1 - Copy	Practical, Borders Open, Use Local Streets, Ferry Distance	Sioux City, IA 51101	Manchester, IA 52057	539.3	624.11	9:31	0.00	174.79	107.87	341.45	1847.76

## Generate Least Cost Routing

PC\*MILER includes a Least Cost routing feature that considers user-specified values for miles per gallon, cost per gallon, fuel cost per mile, other costs per mile, labor cost per hour, and stop costs – and includes a parameter for a greenhouse gas emission estimate. Least Cost routing generates a series of alternative routes with distance, time and cost estimates, letting the user choose an optimal route.

We will run Least Cost Routing for the duplicate route, which already has an optimized stop order:

1. Activate the **Route 1 - Copy** window, then select the Routes tab > *Optimize > Least Cost Routing...* . Six different routes will be generated and displayed in a separate window. You'll see the most efficient calculated totals for distance, costs, hours and tolls\* highlighted in yellow below the map.



2. Select one of the Fastest routes and click **Save Selected Options** to save that route in the active route window (Route 1 - Copy), replacing the current trip. The route and the open Comparison Report will be recalculated.
3. Close the Least Cost Routing, Comparison Report, and Route 1 - Copy windows to continue the Tour.

\* PC\*MILER|Tolls must be licensed and installed and toll cost calculation must be enabled. In the above example, all toll costs are \$0.00 because tolls calculation is disabled.

## Generate a Route in Hub Mode

PC\*MILER's Hub Routing feature allows you to generate routes and mileages from one origin to unlimited destinations. Let's rerun Route 1 in Hub mode. The origin (**Sioux City, IA**) will become the hub:

1. To see how a route can be floated in its own modal window, click the gear button in the Route 1 window and choose *Float*. Click and hold in the title bar of the window and drag the route window to a new location.
2. Click the gear button in the Route 1 window and choose *Options*.
3. In the *Routing Preferences* tab select **Enabled** in the **Hub Routing** drop-down.
4. Click **Save**. The new route re-runs automatically, and now has one origin and four stops.

The screenshot displays two windows from the PC\*MILER software. The top window, titled "Route 1 | Route Options", is open to the "Routing Preferences" tab. The "Hub Routing" dropdown menu is highlighted with a red circle and set to "Enabled". Other settings include "Route Type" set to "Practical", "Road Network" set to "None", "Roads" set to "Highways & Streets", "Toll Roads" set to "Allowed", "International Borders" set to "Open", "Restrictions" set to "Use", "Ferries" set to "Allowed", "Governor Speed Limiting" set to "Disabled", and "Elevation" set to "Any".

The bottom window, titled "Routes", shows the results of the route calculation. The route is titled "Route 1" and is set to "North America, Practical, Hub, Open, Streets, Discount Tolls USD, Ferry". The route starts at "Sioux City, IA 51101" (Woodbury) and passes through four stops:

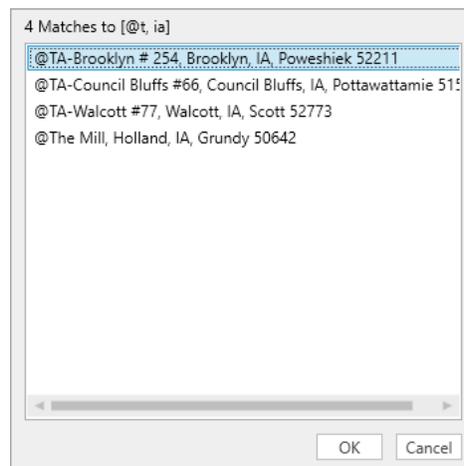
Stop	Location	Time Zone	Tolls	Cost	Drive Time	Miles
1	Urbandale, IA 50322 (Polk)	CDT	\$0.00	\$224.75	3:26	194.5
2	Richland, IA 52585 (Keokuk)	CDT	\$0.00	\$350.50	5:26	297.5
3	Manchester, IA 52057 (Delaware)	CDT	\$0.00	\$299.31	4:35	257.2
4	Armstrong, IA 50514 (Emmet)	CDT	\$0.00	\$181.36	2:55	146.2

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## Route to a Truck Stop

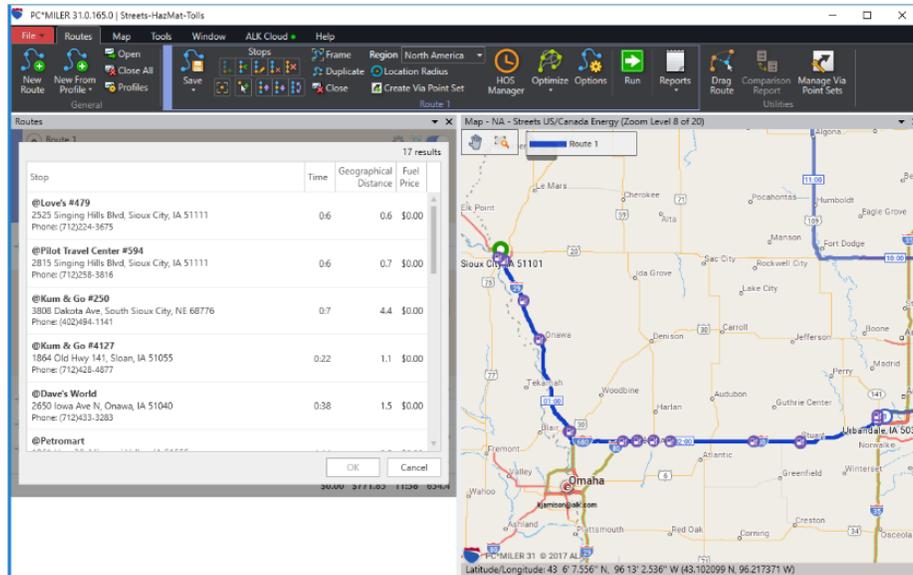
PC\*MILER gives you the ability to search for and add truck stops, highway exits and junctions, CAT weigh scales, state weigh stations, and border crossings as stops on a route. In the steps below, we'll explore two ways to search for truck stops and add a truck stop to the stop list for Route 1.

1. Right click the Route 1 window title bar and choose *Dock*. Depending on where you positioned the window when it was floated, it will either return to its original position or appear in its own tab.
2. To search for a known truck stop within a state, in the route window *City* field you could enter the first letter or first few letters of the name preceded by the "@" symbol. For example, to bring up a pick list of truck stops beginning with "T" in Iowa let's enter "@t, ia" to get the search results below:



3. Click **Cancel** to close the search results list.
4. Another way to search is by location, either within a specified radius around a location or along the whole length of the current route. In the steps below, we'll search along the route.
5. First click the plus ( + ) sign in the left column above **Urbandale** on the stop list. (Alternatively, you can right click and choose *Insert Stop Above*, or press <F7>.)
6. From the stop type drop-down list, select **Place of Interest**. New search fields will be added below.
7. Click the *Categories* drop-down and uncheck **Show All Categories**.
8. Check **Truck Stop**.

- For the **Search** type, select **along the route** then click **Search**. A list of truck stops between Sioux City and Urbandale will be shown in the Routes window, with icons for truck stops in the Map window.



- Highlight a truck stop on the list and click **OK** to insert it.
- Double-click the new stop in the route window to zoom to this truck stop on the map. To see a detailed view, select the Map tab > Map Style > *Satellite* (requires an Internet connection).

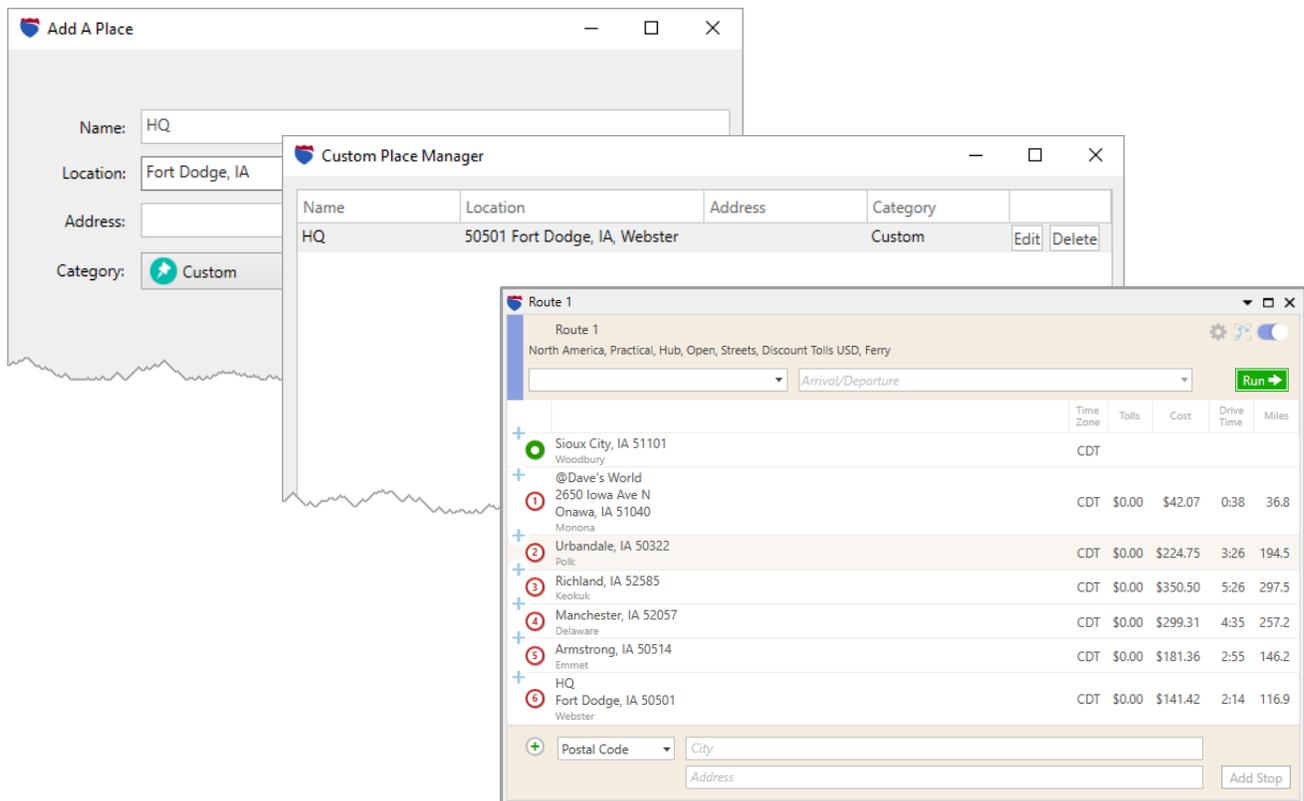


- The Satellite map style can be helpful and is interesting to look at, but takes longer to redraw than other styles so we'll go back to the Default map style. Select the Map tab > Map Style > *Default*.

## Customize Place Names

PC\*MILER allows you to customize place names to match the names of your facilities and customer locations. Let's add a custom place to the stop list for Route 1:

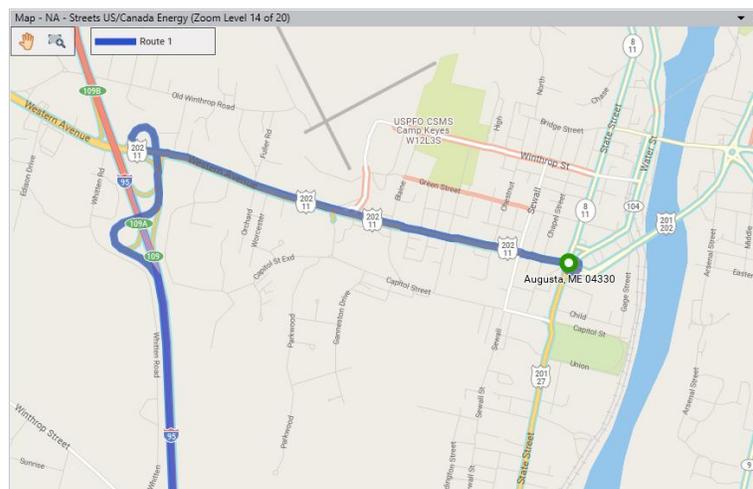
1. Select the Tools tab > *Add Places*.
2. In the Add A Place dialog, type "HQ" in the **Name** field.
3. In the **Location** field, type "fort dodge, ia" then click **Save** and select the match at the top of the pick list. (A postal code or latitude/longitude point would also be accepted, and an address is optional and available if you have PC\*MILER|Streets licensed and installed.)
4. Select the Tools tab > *Manage* to open the Custom Place Manager. You'll see the custom place that you added to the PC\*MILER database listed in this dialog.
5. Close the Custom Place Manager window.
6. In the Route 1 window, enter "hq" in the *City* field and click **Add Stop** (as you have already seen, stop entry is not case sensitive). Your custom place "HQ" will be added to the stop list.
7. To calculate the new hub route, click **Run**.



## Customize Routes with Road Preferences

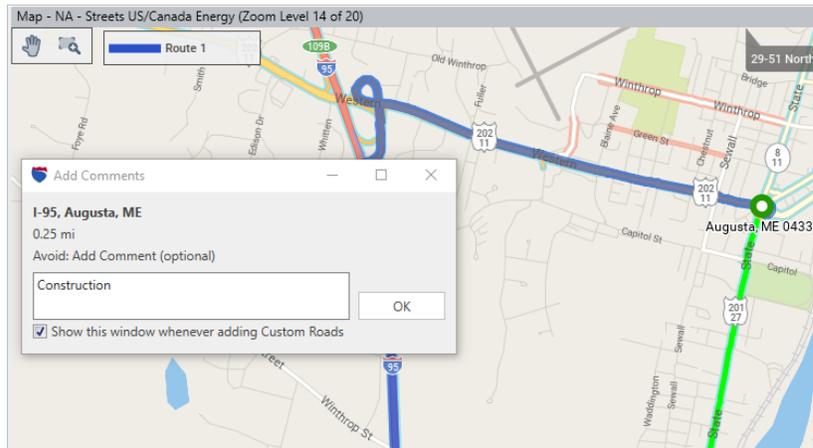
You can instruct PC\*MILER to avoid or favor selected roads when generating a route. To try this out, let's create a new route from Augusta, ME to Charleston, SC and then designate road preferences around Augusta. Whole roads can be avoided or favored, but in the steps below we'll be picking road segments from the map.

1. Close all open routes (Routes tab > *Close All*), then click *New Route* on the Routes tool bar or press <Ctrl+N> to open a new route entry window.
2. Enter **Augusta, ME** as the origin, **Oakland, NJ** as a stop, and **Charleston, SC** as the final destination, using any available ZIP codes, then run the route.
3. In the Map tab, select *Frame* > and uncheck *Auto Frame Routes*.
4. Double-click Augusta on the stop list to zoom into this capital city in Maine.
5. Right click the map and choose *Zoom Out* twice (alternatively you could use the scroll wheel on your mouse). Notice that PC\*MILER's route travels on I 95 (the Maine Turnpike) going south from US 202 out of Augusta.

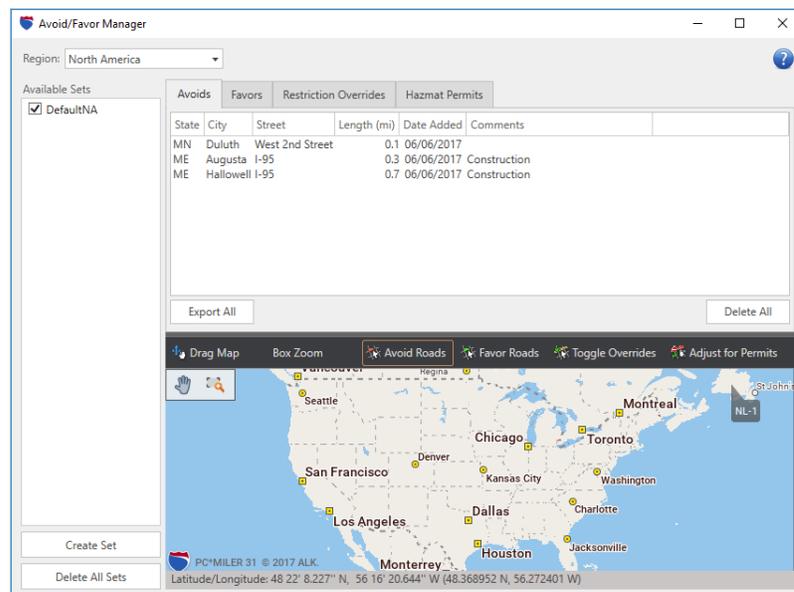


6. Right click on the map and select *Avoids/Favors* > *Favor Roads* from the menu (alternatively, you could click the *Favor Roads* button on the Tools toolbar).
7. On **US 201, ME 27** that runs south out of Augusta, click on several different points above Hallowell. Green highlighting will appear, indicating a **favored** road segment. If you accidentally choose the wrong road segment, click on it again to delete the highlight. Ignore the Add Comment box for now.
8. Now right click on the map again and select *Avoids/Favors* > *Avoid Roads*.
9. On the map, click on **I 95** going south from US 202 to designate it as a road segment to be **avoided**. Red highlighting will indicate an avoided road.

Optionally, a comment can be entered for any road preference you create using the Add Comment dialog box that pops up. This comment gets stored in the Avoid/Favor Manager along with the date the preference was created, and the length of the selected road segment. We'll enter "Construction" as a reason for avoiding I-95: type it in the dialog box and then click **OK**.

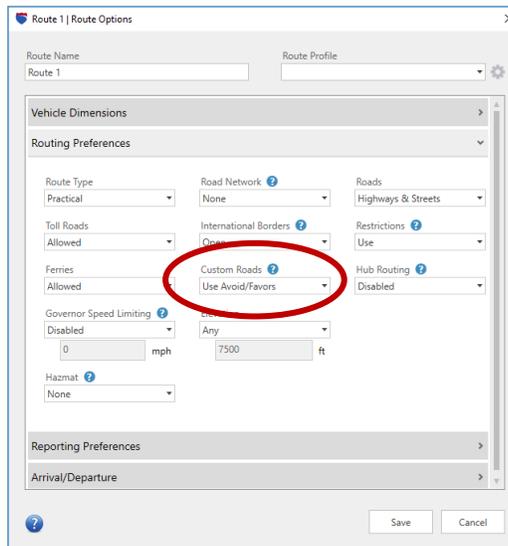


10. To take a quick look at this record in the Avoid/Favor Manager, select the Tools tab > *Manager* (the **Avoids** tab will be open) then close the window.

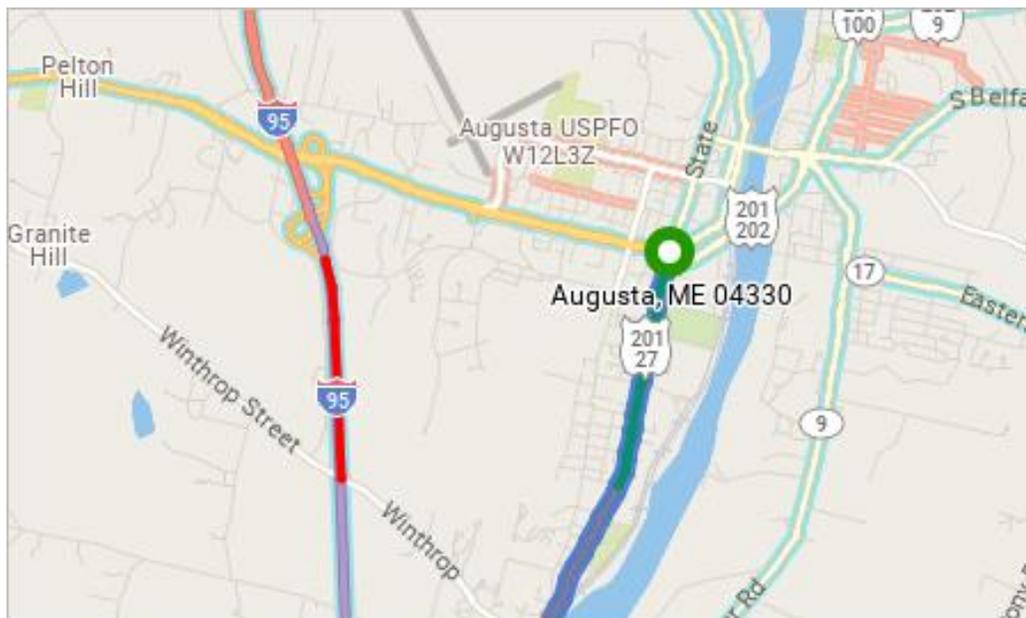


11. Next, open the Route Options dialog (click the gear button in the route window and select *Options*).
12. In the *Routing Preferences* tab, under **Custom Roads** select **Use Avoid/Favors** from the drop-down, then click **Save**. **This step is crucial to running a new route that includes the road preferences you designated.** If this option isn't turned on, road preferences won't be included in PC\*MILER's route calculations.





13. The route will rerun automatically when you exit the Route Options dialog – your route now travels on US 201 and avoids the Maine Turnpike.



**TIP:** To clear a road preference, you have two options: you can 1) click again on the road segment to toggle the preference off, or 2) open the Avoid/Favor Manager, highlight the road in the **Avoids** tab, and click the “X” on the far right. Use the **Delete All** button to clear all road preferences.

## Customize Routes to Avoid or Favor States

You can instruct PC\*MILER to favor or avoid certain states when generating a route. Let's recalculate our Maine to South Carolina route with its current settings, but this time we'll avoid routing through Massachusetts, and favor routing through Vermont.

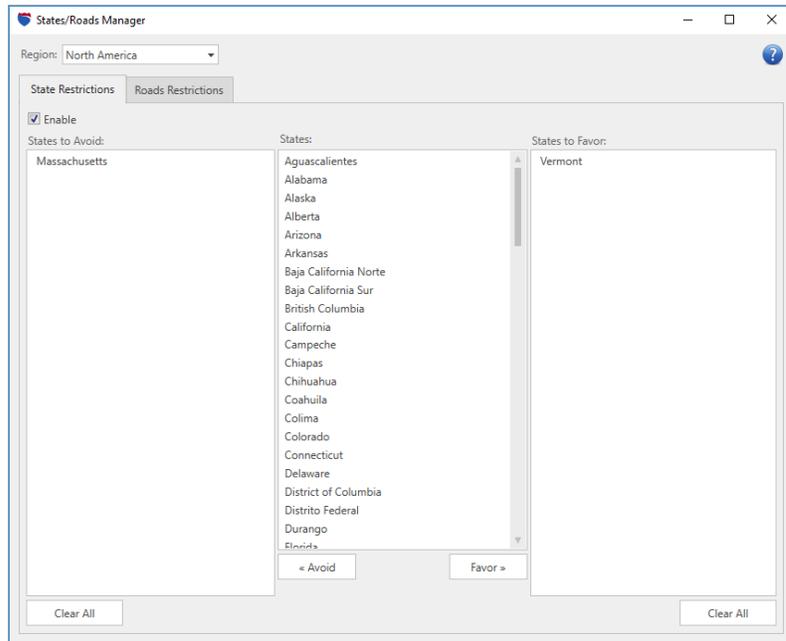
1. With the Route 1 window active, press the <F6> key or select the gear button > *Reports* > *State/Country* to view a summary of mileage, times, and costs listed alphabetically by state. Examine the list of states to confirm that Route 1 travels through Massachusetts.

Stop		Leg Miles	Total Miles	Leg Cost	Total Cost	Leg Hours	Total Hours	Leg Tolls	Total Tolls	Leg Est.GHG	Total Est.GHG
04330	Augusta, ME, Kennebec	0.0	0.0	0.00	0.00	0:00	0:00	0.00	0.00	0.0	0.0
07436	Oakland, NJ, Bergen	377.3	377.3	473.11	473.11	6:57	6:57	26.00	26.00	1292.6	1292.6
29401	Charleston, SC, Charles					1:12	21:09	33.00	59.00	2687.6	3980.3

State/Country	Total	Toll
CT	119.4	0.0
DE	13.0	2.2
MA	97.9	14.5
MD	97.8	3.9
ME	103.6	38.6
NC	181.4	0.0
NH	16.1	12.0
NJ	87.2	0.0
NY	31.0	19.0
PA	51.2	0.0
SC	16.0	0.0
VA	184.9	0.0
US	1161.8	90.2

2. Now select the Tools tab > *States/Roads*.
3. Check **Enable** in the top left corner of the States/Roads Manager (**this must be checked for state preferences to work**).
4. In the pick list of states, scroll down and highlight **Massachusetts**. Click the **Avoid** button below to add that state to the States to Avoid list on the left.
5. Now highlight **Vermont** on the pick list of states, and click the **Favor** button to add that state to the States to Favor list on the right.
6. Click the "X" in the upper right corner to close the States/Roads Manager window (your changes will be saved).



7. A new customized route will automatically generate in the route window, and the State Report will be updated. On the map and in the report, you'll see that PC\*MILER has plotted the new route completely outside of Massachusetts, using Vermont and New York State as a byway.

Stop		Leg Miles	Total Miles	Leg Cost	Total Cost	Leg Hours	Total Hours	Leg Tolls	Total Tolls	Leg Est.GHG	Total Est.GHG
04330	Augusta, ME, Kennebec	0.0	0.0	0.00	0.00	0:00	0:00	0.00	0.00	0.0	0.0
07436	Oakland, NJ, Bergen	458.0	458.0	607.63	607.63	9:40	9:40	20.81	20.81	1569.1	1569.1
29401	Charleston, SC, Charleston	784.5	1242.5	953.06	1560.69	14:12	23:52	33.00	53.81	2687.6	4256.8

State/Country	Total	Toll	Free	Ferry	Loaded	Empty	Toll(\$)
DE	23.6	2.2	21.3	0.0	23.6	0.0	9.00
MD	97.8	3.9	94.0	0.0	97.8	0.0	24.00
ME	75.2	0.0	75.2	0.0	75.2	0.0	0.00
NC	181.4	0.0	181.4	0.0	181.4	0.0	0.00
NH	35.4	0.0	35.4	0.0	35.4	0.0	0.00
NJ	87.2	0.0	87.2	0.0	87.2	0.0	0.00
NY	148.9	113.3	35.6	0.0	148.9	0.0	20.81
PA	51.2	0.0	51.2	0.0	51.2	0.0	0.00
SC	167.6	0.0	167.6	0.0	167.6	0.0	0.00
VA	189.3	0.0	189.3	0.0	189.3	0.0	0.00
VT	189.3	0.0	189.3	0.0	189.3	0.0	0.00
US	1242.5	119.2	1123.3	0.0	1242.5	0.0	53.81

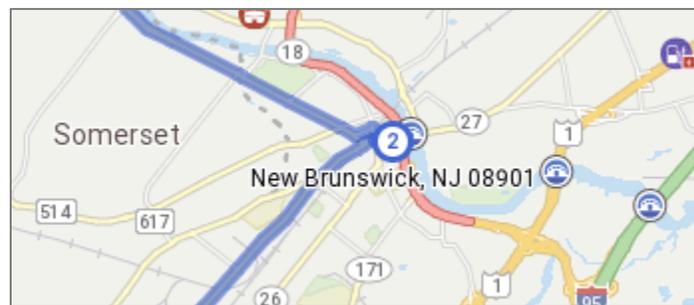
8. Close the Reports window to continue.

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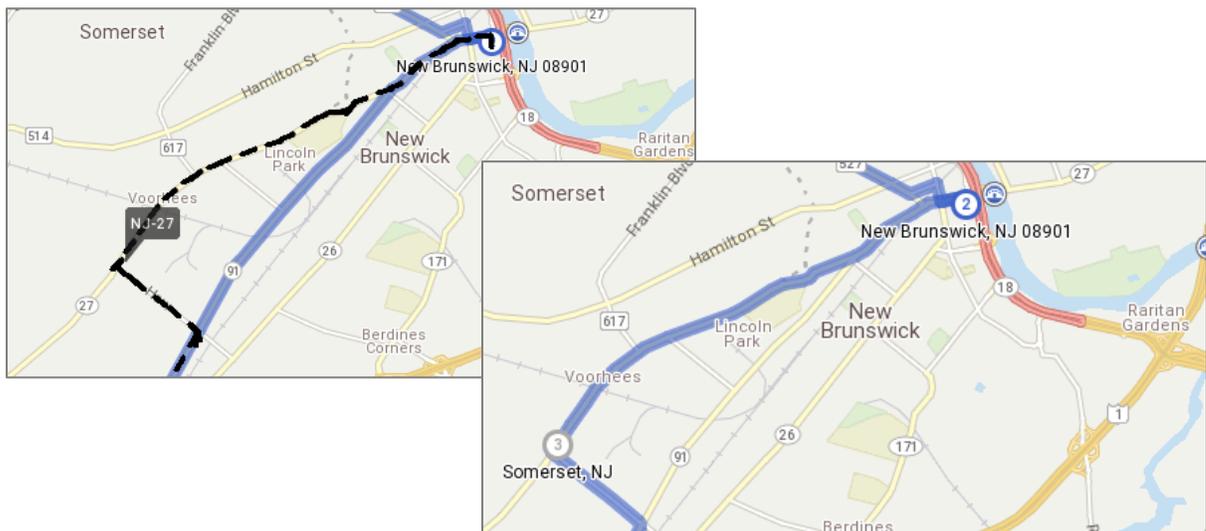
## Drag a Route onto a Different Road

Another way to customize a route is by dragging it onto a new road on the PC\*MILER map. We'll try it with a segment of the Augusta to Charleston route:

1. In the Route 1 window, highlight Charleston on the stop list and press **<F7>**
2. Enter "new brunswick, nj" and click **Add Stop**, then select any postal code.
3. Press **<F10>** to run the new route.
4. Double-click on the New Brunswick stop to zoom to it on the map, then zoom out using the right mouse map menu or mouse scroll wheel to about zoom level 14.



5. Select the Routes tab > *Drag Route*.
6. On the map, place your cursor on the portion of Route 1 that travels on Highway 91 south of New Brunswick, and holding the mouse button down, drag the route west onto Route 27. You'll see Route 27 briefly highlighted and then the route will be recalculated with a new waypoint on Route 27. (A waypoint causes a route to pass through a location that is not treated as a stop in driving directions or reports.)



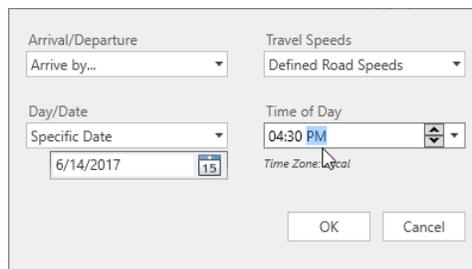
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## Calculate ETA/ETD with Time-Based Routing & Traffic Data

PC\*MILER's time-based routing offers more precise travel time estimates, taking into consideration the time of day, day of the week, and time zones in route calculations and reports. Optionally, real-time and historical traffic data can also be used in route calculations for even more accuracy (*a subscription to PC\*MILER/Traffic and an Internet connection are required*).

At this point in the Tour, we will enter a target arrival time. When the route is run, PC\*MILER will calculate the necessary departure time at the origin, and arrival times at two intermediate stops.

1. Minimize Route 1 and press <CTRL+N> to open a new route window (Route 2).
2. Open the *Arrival/Departure* drop-down in the route window and select **Arrive by...** under **Arrival/Departure**.
3. Under **Day/Date**, with **Specific Date** selected, click the calendar and choose any future day in the current month.
4. Under **Time of Day**, set the time to 4:30 PM either by typing over the current setting or using the drop-down pick list.



5. Click **OK**. PC\*MILER is set to calculate a route that arrives at its last stop at 4:30 PM on the selected day.

**TIP:** Both the time format (24 hours vs. AM/PM) and the time zone that is used for reporting can be changed in the File menu > *Application Settings* > *Units*. The time zone does not affect calculations.

6. Now let's enter an origin, destination, and stops on this route. Enter the following locations in this order: **Southampton, NY**; **Hamilton, NJ**; **Camden, NJ**; and **Pittsburgh, PA** using any ZIP codes.
7. Run the route. In the **ETA/ETD** column (scroll to the right if it's not visible, or float the route window) you can see the approximate time at which the truck would have to depart from Elizabeth to get to Pittsburgh at 4:30. We didn't set any stop durations, so this reflects only the driving time.

	Time Zone	Tolls	Cost	Drive Time	Miles	ETA/ETD
Southampton, NY 119	EDT					Dep 6 / 14 07:00 AM (EDT)
Hamilton, NJ 08609	EDT	\$54.05	\$253.24	3:15	158.1	Dep 6 / 14 10:15 AM (EDT)
Camden, NJ 08101	EDT	\$20.00	\$65.08	0:45	35.0	Dep 6 / 14 11:00 AM (EDT)
Pittsburgh, PA 15295	EDT	\$166.10	\$522.76	5:30	304.3	Arr 6 / 14 04:30 PM (EDT)
		<b>\$240.15</b>	<b>\$841.08</b>	<b>9:30</b>	<b>497.3</b>	

8. (If PC\*MILER/Traffic and an Internet connection are not available, skip to Step 9.) Now we'll make one change to this route: select the *Arrival/Departure* drop-down again, and under **Travel Speeds** select **Historical Traffic**. The route will recalculate using recent historical traffic pattern data\*, at the specified time on the specified day of the week. Using traffic data, the estimated time of departure at the origin in our sample route is **34 minutes later** for this route.

\* Traffic information provided by INRIX © 2017. All Rights Reserved by INRIX, Inc.

	Time Zone	Tolls	Cost	Drive Time	Miles	ETA/ETD
Southampton, NY 119	EDT					Dep 6 / 14 08:28 AM (EDT)
Hamilton, NJ 08609	EDT	\$54.05	\$276.92	3:54	158.1	Dep 6 / 14 10:20 AM (EDT)
Camden, NJ 08101	EDT	\$20.00	\$66.30	0:47	35.0	Dep 6 / 14 11:07 AM (EDT)
Pittsburgh, PA 15295	EDT	\$166.10	\$518.34	5:23	304.3	Arr 6 / 14 04:30 PM (EDT)
		<b>\$240.15</b>	<b>\$861.56</b>	<b>10:04</b>	<b>497.3</b>	

9. We won't be using this route again, so close Route 2 (Routes tab > *Close* or gear button > *Close Route*).

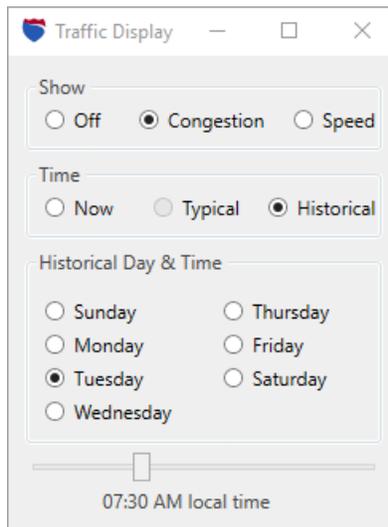
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## Display Traffic Patterns on the Map

(A subscription to PC\*MILER|Traffic and an Internet connection is required to use this feature and to complete this part of the Tour. If it is not available, please skip to “Create and Edit a Geofence” on p. 27. Traffic information provided by INRIX © 2017. All Rights Reserved by INRIX, Inc.)

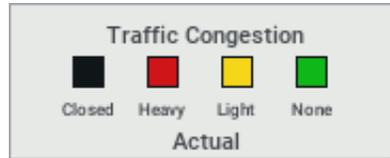
PC\*MILER’s traffic display feature lets you visualize historical, typical or real-time traffic patterns in the map window. We will quickly take a look at historical and real-time traffic patterns in and around the Lincoln Tunnel that crosses under the Hudson River from New Jersey into New York City, New York.

1. Right click the map and select *Traffic...* to open the Traffic Display window.
2. In the Traffic Display window, select **Congestion** and **Historical** to see the day and time options for viewing historical traffic patterns. Select **Tuesday** and move the slider bar to **7:30 AM**.



3. Press **<Ctrl+N>** to open a new route window.
4. In the Route 2 window, enter “**new york ny**” (any ZIP code), then double-click it in the stop list to zoom to New York City on the map. The map displays what traffic congestion has been like historically at 7:30 a.m. on a Tuesday: red, yellow and green highlights indicate heavy, light or no congestion on the roads and tunnels in this area.
5. Select the Map tab > *Legends* > *Traffic*. The Traffic Congestion legend indicates the meaning of the colors used in the traffic display and the time and day for which historical data is displayed.

- In the Traffic Display window, select **Now** under **Time** to indicate that this route is departing now. This allows us to view real-time traffic patterns. The legend changes from “Historic” to “Actual”.



- Zoom out twice using the right mouse map menu or your mouse scroll wheel, and move the Traffic window if needed, to see current traffic patterns in the Lincoln and Holland Tunnels between New York and New Jersey.



- Now that you’ve had a look at the traffic display, we will turn it off. Select **Off** in the Traffic Display window, then close the window.
- Select the Map tab > Customize > *Legends* and uncheck *Traffic*.
- Close the open Route 2 window.

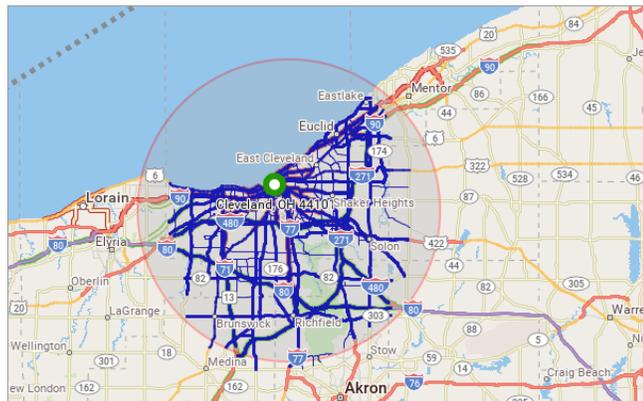
## Create and Edit a Geofence

PC\*MILER lets you define geofences on the map. A geofence is a geographic area that will either generate an alert in reports when a route enters it, or will be avoided altogether by the route, or both. We will create a circular geofence around Cleveland, OH and edit its properties.

1. Press **<Ctrl+N>** to open a new route window.
2. Enter “**cleveland oh**” as a stop (any ZIP code), then double-click it on the stop list to zoom to this Midwestern city.
3. Use your mouse scroll wheel or right click on the map to zoom out to level 10.

**REMEMBER:** The zoom level is shown in the title bar of the map window.

4. Select the Tools tab > *Create Geofence* > *Create Circle*.
5. In the map window, place the cursor over the Cleveland stop icon, hold down the mouse button, drag a circle around a portion of the city, then let go. The new geofence will look something like this on the map:

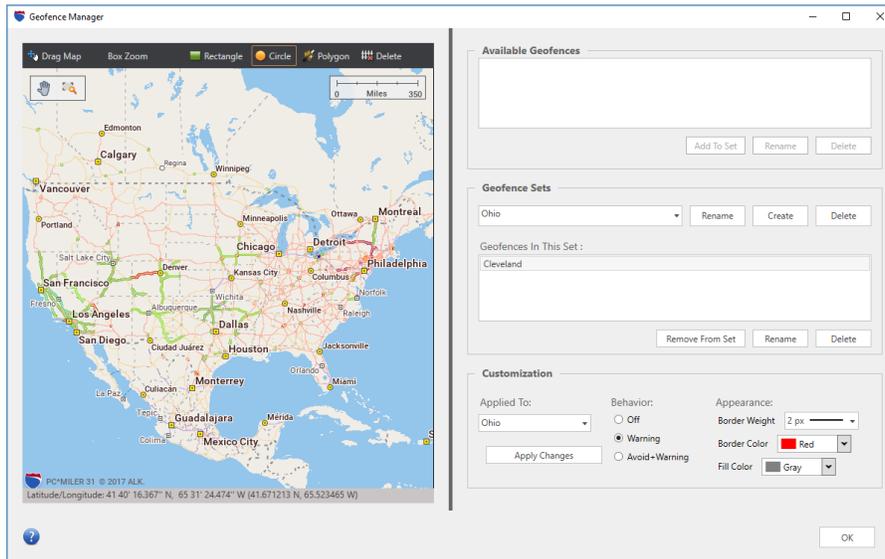


**TIP:** If you aren't satisfied with the area your geofence covers on the first attempt, click Tools tab > Geofences group > *Delete* and click on the geofenced area to delete it. You could also try using the *Create Polygon* option for more precision.

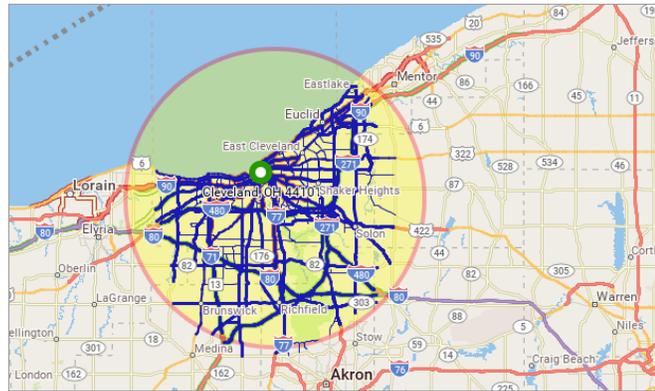


6. Select the Tools tab > *Geofence Options* > *Manage*.
7. Using this dialog, you can name a geofence and assign it to a geofence set that has customized properties. You'll see the default name assigned to the new geofence, for example “**Geofence\_1**”, under **Available Geofences**.
8. Click the default name to highlight it, then click **Rename**, type “**Cleveland**” and click **Save**.

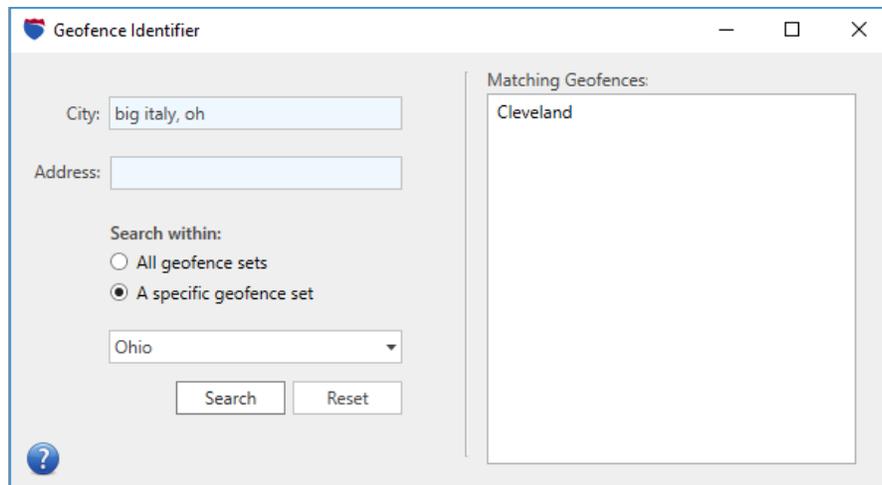
9. Now we will create a set for this geofence to belong to, so that we can edit its colors and properties. Under **Geofence Sets**, click **Create** then type “**Ohio**” and click **Save**.
10. To add the Cleveland geofence to the Ohio set, click on it and then click **Add To Set**. As part of the set, its properties can now be edited.



11. Under **Customization**, **Ohio** should be selected in the **Applied To** section.
12. Next, select **Avoid+Warning** as the **Behavior** to identify the alert level of this set. At this level, routes will avoid the geofenced area whenever possible, but if they must enter the area (for example, if a stop is within that area) an alert will appear in reports at the point where the route begins to travel on the road segment that crosses the geofence.
13. Next, select the characteristics of the geofence’s **Appearance** – change the border width: under **Border Weight** select **4 px** from the drop-down and leave the border red.
14. To change the fill color of this set, click the down arrow under **Fill Color** and choose a color. We’ll choose yellow.
15. Click **Apply Changes** to apply the fill color and border edits then close the Geofence Manager. You’ll see that the appearance of the geofence has changed on the map.



16. Once a geofence has been established, you can do a search to determine if a specified address falls within the geofenced area. Select the Tools tab > *Geofence Options* > *Identify*.
17. In the Geofence Identifier, enter **Big Italy, OH** in the **City** field.
18. Under **Search within**, select **A specific geofence set**.
19. In the drop-down list, select **Ohio** then click **Search**. The correct geofence will appear under **Matching Geofences**.

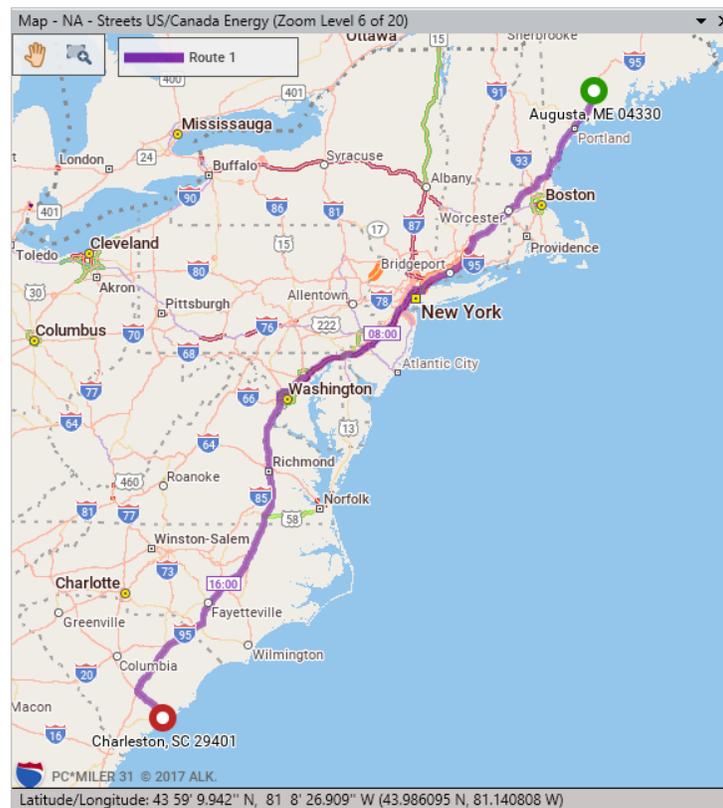


20. Close the Geofence Identifier window then close the Route 2 window to continue.

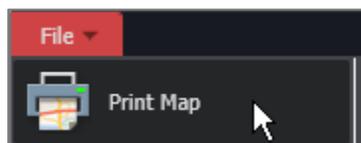
## View and Print a Map

Now we'll return to the Route 1 window, frame it on the map, and print it:

1. Select the Map tab > *Frame* > *Frame One Route* > *Route 1* to frame Route 1 on the map.
2. The route from Augusta to Charleston is now framed and positioned at the center of the map window. The size of the map window can be adjusted – you may want to close the Routes pane for a more expanded view of the map, and move or delete legends.



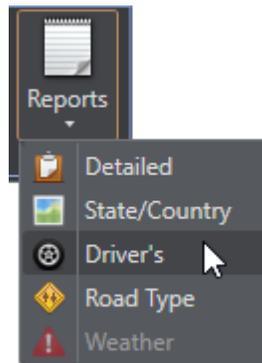
3. To print the map, select the red File application menu > *Print Map*.



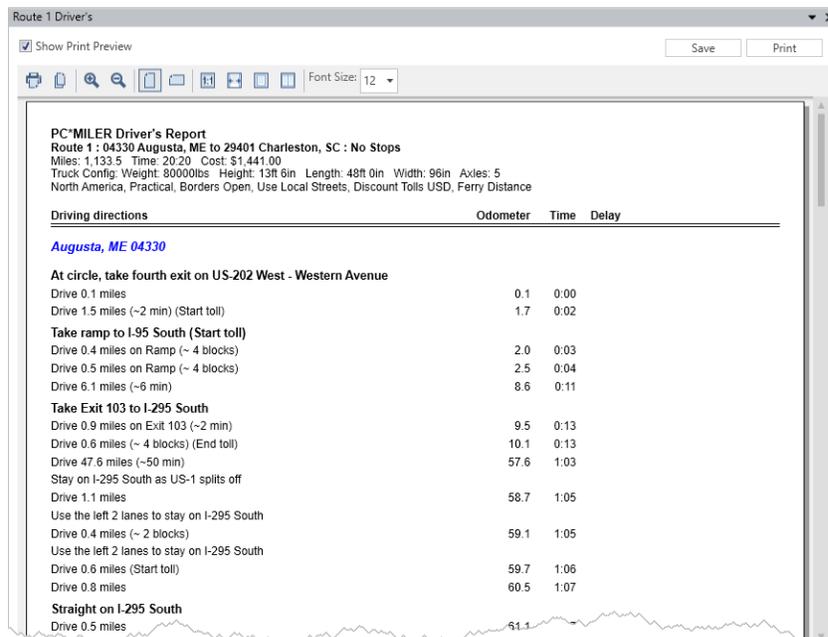
## View and Print Driving Directions

Now let's view the driving directions for the Augusta - Charleston route by generating that report:

1. Click on the Route 1 window to activate it, and maximize it if it's minimized.
2. Now select the Routes tab > Reports > Driver's to generate driving directions. The Driver's Report includes turn-by-turn detailed driving directions with cumulative distances and time estimates for each leg of the route.



3. In the Reports pane, check **Show Print Preview**. The Print Preview view will be displayed, along with a tool bar that enables printing, copying and several editing options.



Route 1 Driver's

Show Print Preview

Save Print

Font Size: 12

**PC\*MILER Driver's Report**  
Route 1 : 04330 Augusta, ME to 29401 Charleston, SC : No Stops  
Miles: 1,133.5 Time: 20:20 Cost: \$1,441.00  
Truck Config: Weight: 80000lbs Height: 13ft 6in Length: 48ft 0in Width: 96in Axles: 5  
North America, Practical, Borders Open, Use Local Streets, Discount Tolls USD, Ferry Distance

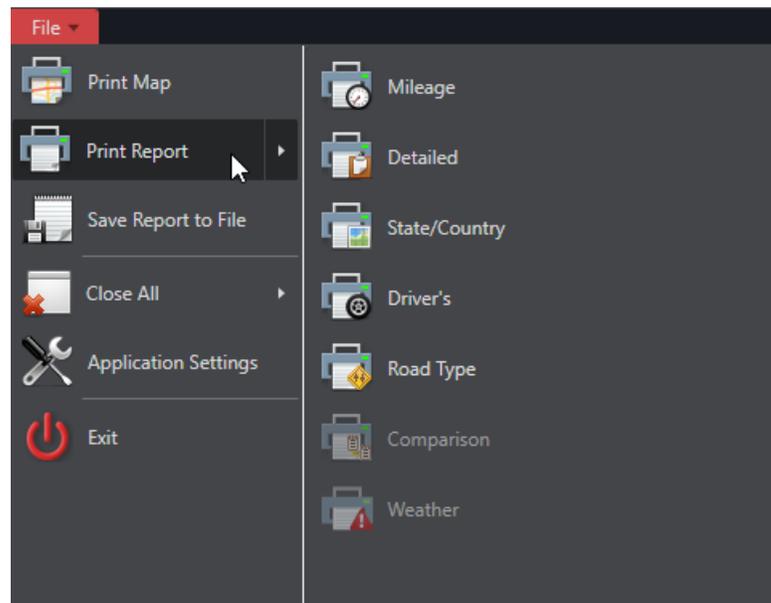
Driving directions	Odometer	Time	Delay
<b>Augusta, ME 04330</b>			
<b>At circle, take fourth exit on US-202 West - Western Avenue</b>			
Drive 0.1 miles	0.1	0:00	
Drive 1.5 miles (~2 min) (Start toll)	1.7	0:02	
<b>Take ramp to I-95 South (Start toll)</b>			
Drive 0.4 miles on Ramp (~ 4 blocks)	2.0	0:03	
Drive 0.5 miles on Ramp (~ 4 blocks)	2.5	0:04	
Drive 6.1 miles (~6 min)	8.6	0:11	
<b>Take Exit 103 to I-295 South</b>			
Drive 0.9 miles on Exit 103 (~2 min)	9.5	0:13	
Drive 0.6 miles (~ 4 blocks) (End toll)	10.1	0:13	
Drive 47.6 miles (~50 min)	57.6	1:03	
Stay on I-295 South as US-1 splits off			
Drive 1.1 miles	58.7	1:05	
Use the left 2 lanes to stay on I-295 South			
Drive 0.4 miles (~ 2 blocks)	59.1	1:05	
Use the left 2 lanes to stay on I-295 South			
Drive 0.6 miles (Start toll)	59.7	1:06	
Drive 0.8 miles	60.5	1:07	
<b>Straight on I-295 South</b>			
Drive 0.5 miles	61.1		

- PC\*MILER also provides a Detailed Route Report that includes interchange information, plus leg and cumulative mileage and time estimates including any designated on/off duty, border wait and break times. To generate this report, select *Detailed* in the *Reports* drop-down, or press the <F5> key.

PC\*MILER Detailed Report  
 Route 1 : 04330 Augusta, ME to 29401 Charleston, SC : No Stops  
 Miles: 1,133.5 Time: 20:20 Cost: \$1,441.00  
 Truck Config: Weight: 30000lbs Height: 13ft 6in Length: 48ft 0in Width: 96in Axles: 5  
 North America, Practical, Borders Open, Use Local Streets, Discount Tolls USD, Ferry Distance

State/ Country	Route	Miles	Hours	Interchange	Leg Miles	Leg Hours	Total Miles	Total Hours	Leg Tolls	Toll Plaza
<b>Origin: 04330 Augusta, ME, Kennebec</b>				<b>0:00 (On-Duty)</b>						
ME	Sharp right Memorial Cir	0.1	0:00	+ Memorial Cir US...	0.1	0:00	0.1	0:00	0.00	
ME	West US-202 - Western...	1.5	0:02	+ US-202 Ramp	1.7	0:02	1.7	0:02	0.00	
ME	\$ Keep right Ramp	0.4	0:01	+ Ramp Ramp	2.0	0:03	2.0	0:03	0.00	
ME	\$ Keep left Ramp	0.5	0:01	+ Ramp I-95	2.5	0:04	2.5	0:04	0.00	
ME	\$ South I-95	6.1	0:06	+ I-95 Exit 103	8.6	0:11	8.6	0:11	0.00	
ME	\$ Keep right Exit 103	0.9	0:02	+ Exit 103 I-295	9.5	0:13	9.5	0:13	0.00	
ME	\$ South I-295	0.6	0:01	+ I-295 I-295	10.1	0:13	10.1	0:13	2.00	MeTA GR2
ME	South I-295	47.6	0:50	+ I-295	57.6	1:03	57.6	1:03	0.00	
ME	South I-295	1.1	0:01	+ I-295 I-295	58.7	1:05	58.7	1:05	0.00	
ME	South I-295	0.4	0:00	+ I-295 I-295	59.1	1:05	59.1	1:05	0.00	
ME	South I-295	0.6	0:01	+ I-295 I-295	59.7	1:06	59.7	1:06	0.00	
ME	\$ South I-295	0.8	0:01	+ I-295 I-295	60.5	1:07	60.5	1:07	0.00	
ME	\$ South I-295	0.5	0:01	+ I-295 Ramp	61.1	1:07	61.1	1:07	2.00	MeTA SPP
ME	\$ Straight Ramp	0.6	0:02	+ Ramp I-95	61.7	1:09	61.7	1:09	0.00	
ME	\$ South I-95 - Maine Tpke	35.8	0:38	+ I-95 I-95	97.5	1:46	97.5	1:46	0.00	
ME	\$ South I-95 - Maine Tpke	0.8	0:01	+ I-95 I-95	98.3	1:47	98.3	1:47	3.60	MeTA YRK
ME	South I-95 - Maine Tpke	6.5	0:07	(to ME/NH State L...	104.7	1:54	104.7	1:54	0.00	
NH	South I-95 - Star Tpke - I-95	3.2	0:03	+ I-95	107.9	1:57	107.9	1:57	0.00	

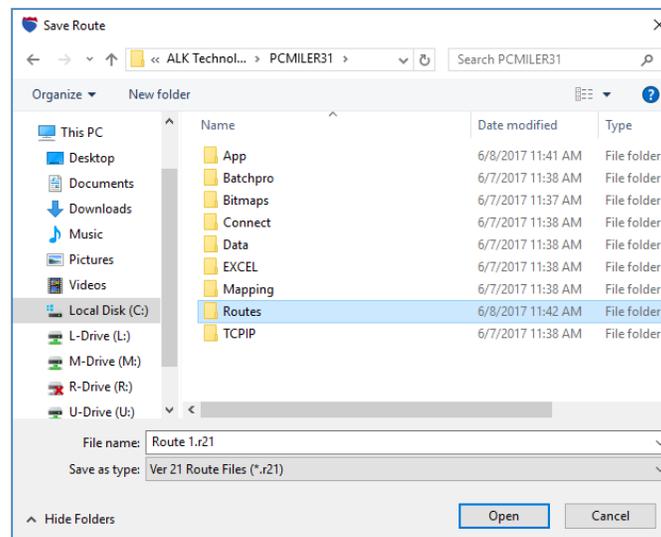
- To print the Driver's Report, select the File application menu > *Print Report* > *Driver's*.



## Save a Route

PC\*MILER lets you save routes for future use. We're going to save Route 1 to disk now:

1. With the Route 1 window active, in the Routes tab select *Save > Save Route As* or use the **<Ctrl+S>** keyboard shortcut.
2. In the Save Route window, choose the drive and folder on your hard drive where you want to save the route.
3. Type a file name such as "**AugME-CharSC**" in the **File Name** field. The file extension ".R21" will be added by default to this name.
4. Click **Save** to save Route 1 to your hard drive for future retrieval.



5. Try opening this saved route: close the Route 1 window, then select the Routes tab > *Open*, locate the file and click **Open**.

## **OKAY, You Have Finished the Guided Tour!**

In minutes, you calculated driving directions, maps and mileage for several routes and explored some of the many features that PC\*MILER has to offer. The features covered in this Tour are only basic examples of what PC\*MILER can provide for all your routing, mileage and mapping needs. See the PC\*MILER 31 *User's Guide* for additional features and detailed descriptions.

You may want to continue on to the *Appendix* on the next page: **Customizing Trip Options**.

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## Guided Tour Appendix: Customizing Trip Options

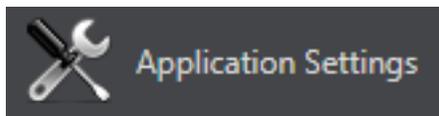
The routes that you generated in the Guided Tour were mostly calculated using default trip parameters. Try generating some sample routes with modified options, so you can see for yourself how these changes will affect driving directions and route calculations.

### Use the Route Options Dialog



Use the Route Options dialog to apply custom options to the currently open route. Select the gear button > *Options* in the Route 1 window. Then click through the **Vehicle Dimensions**, **Routing Preferences**, and **Reporting Preferences** tabs to see the parameters that can be edited. Click the help button at the bottom of the dialog for route option descriptions.

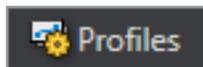
### Use Application Settings



Application settings affect all PC\*MILER route calculations and determine the behavior of some features in the application. Application settings have a global effect on routes, maps and/or reports, and are likely to be changed infrequently.

To open Application Settings, click the File menu > *Application Settings*. Click the help button at the bottom of the dialog for descriptions of these settings.

### Use Route Profiles



Try selecting the Routes tab > *Profiles* and applying a route profile to a route. Route profiles enable users to create and save comprehensive sets of custom route options that can be quickly applied to routes. Click the help button at the bottom of the Manage Profiles dialog for help with using route profiles