

Introduction - This document explains how to use Streets and Trips (S&T), Google Maps (GM), and CQ/X to develop county line crossing files for use in CQ/X using the Google Path KML file method.

In this method, which was first developed and supported in CQ/X version 1.7.9.1 the user defines a route in S&T, exports the route from S&T as a gpx file, uses CQ/X to convert the file to the KML format, and then uploads the KML file to Google Maps. Then using a “KML” link on the Google Map a KML file containing the lat/lon values describing the path of the route is downloaded. The downloaded file is then submitted to CQ/X which refines the lat/lon values in order to analyze the route, determine the county line crossing points, and build the necessary crossing file and other data. Although it is a multi-step method each step is very simple requiring only moving and saving of files with the only additional requirement being the development of some skill at using Google Maps and tweaking/editing the map to make sure that the resulting path goes where you plan to go.

The Google Path Process Steps - After developing a general idea of where you want to go you need to define that plan in S&T – a 2010 or later version of S&T is required in order to perform the GPX export in Step 1 below. In the following it will be assumed that you have started up CQ/X and have started the desired QSO party. Also for a multi-day trip the process is usually more manageable if it is separated into separate processes for each day.

Step 1: Define your route for the day in S&T and use the S&T menu item **Data | Export to GPX File** to export the route as a GPX file.

Step 2: In CQ/X use the menu item **QP Tools | Convert GPX to KML** to activate the conversion dialog. On that dialog browse to the GPX file from Step 1 and select it as the GPX source file. Specify a file into which to save the KML data and then click on the Convert button to perform the conversion.

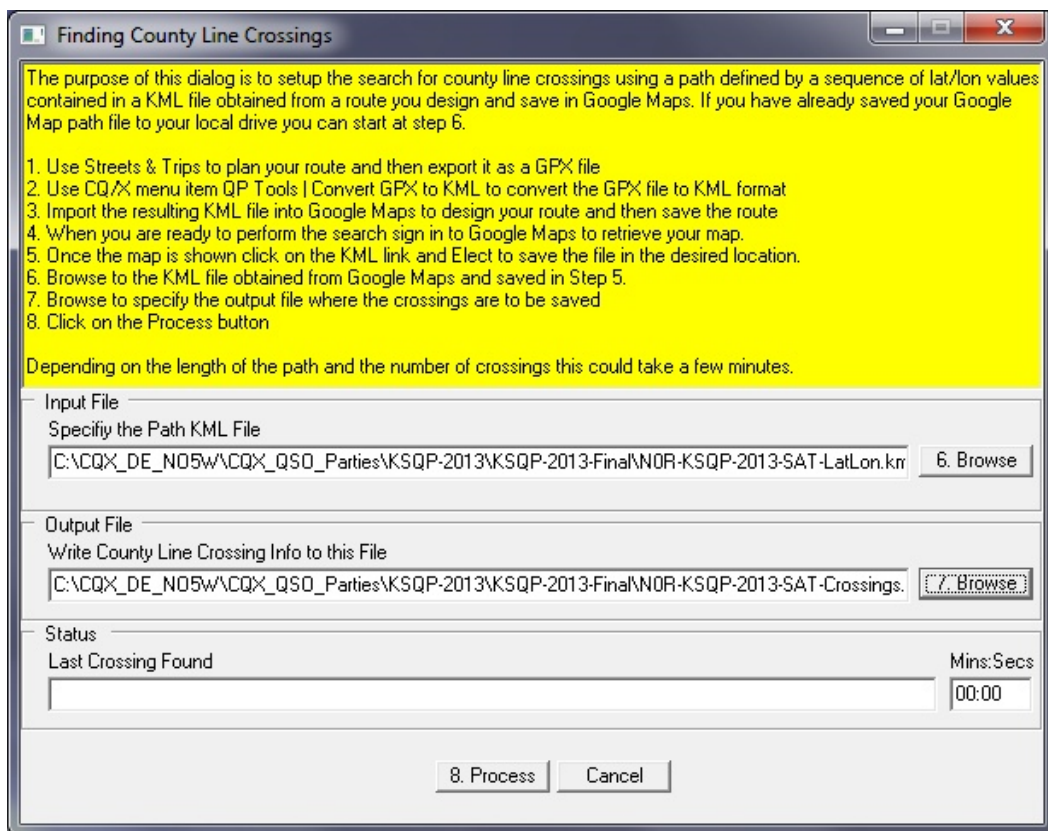
Step 3: Now log into your Google account, select the Maps option, then select My Places and click on the Create Map button. Provide some meaningful name and description of your map. Click on the “Import” link to the left of the Done/Save/Edit buttons and use the resulting dialog to specify to upload the file that resulted from the conversion in Step 2. When the upload is finished a multi-segment line will be drawn connecting points on the map. Right click on the line and select “Turn On Snap to Roads”. Click Done to save the map.

Step 4: After the previous step you should have a red Edit button. Click on the Edit button and review the map making sure it follows the same roads as your source S&T map. If it does not follow the same roads click on the map and drag it to modify the route. When satisfied with the map click Done. You should then see a link labeled “KML” on the left hand panel of the map. If no such link appears exit Google Maps and log back in.

Step 5: After logging back into GM select My Places. After selecting the map from Step 4 you should

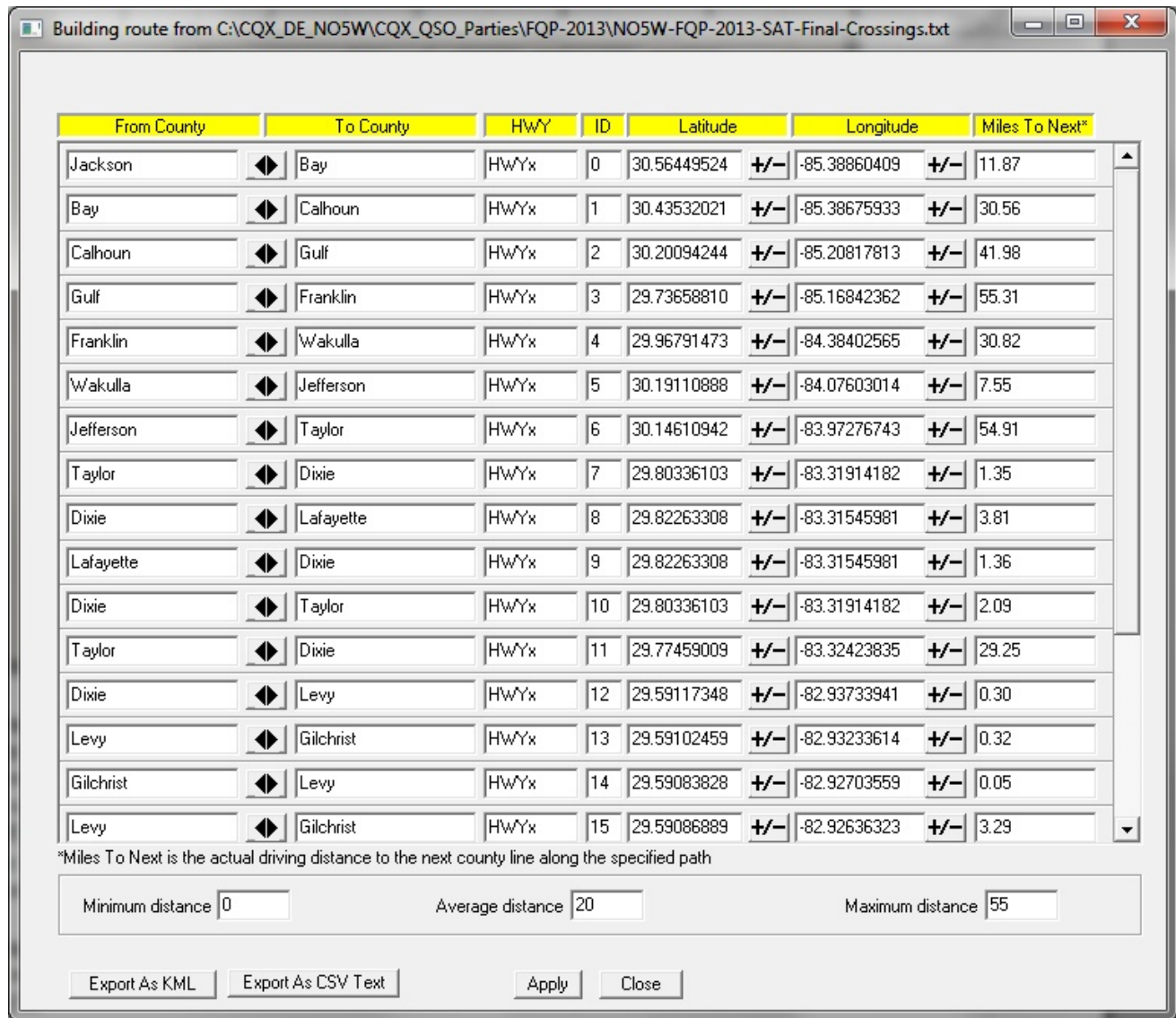
see a link labeled “KML”. Click on the KML link and elect to save the file. This is a file of latitude and longitude values that describe the route and which you will use in the next step to find the county line crossings.

Step 6: Click on the CQ/X menu item **QP Tools | Build Plan Using a Google Map** to open the Find Crossings Using a Google Map dialog shown below. On that dialog browse to the file saved in the previous step to specify that file as the Path KML File and use the other browse button to specify the file to which the crossing information will be written. Once those files are specified click on the Process button to begin the county line determination process. The status box will indicate the latest crossing found and the time required.



Step 7: Depending on the complexity/length of the route the processing in Step 6 could take 20-30 seconds or perhaps up to a minute if it is a very long route. When the process completes the following dialog showing the crossings will appear. The dialog shows the sequence of county line crossings with each crossing having a From County, a To County, a Latitude and Longitude, and a Miles to Next. Note that when using the Google Map Path method the Miles to Next is the actual driving distance from one

crossing to the next. A highway label can also be included but this information must be entered manually and in general is not required.



Step 8: As a check of your Google Map route it is a good idea to import the crossings determined in Step 6 back into S&T. To do this click on the button labeled “Export as CSV Text” on the above crossings dialog. Then go to the S&T map and use the menu item **Data | Import Data Wizard** to import the crossings. Review the location of the crossings to see if there are any that are not on the S&T route line. If any “off route” crossings are found you will need to return to the Google Map and

Edit the map to bring it in line with the S&T map. Then repeat Steps 5-8 until the S&T map and the Google map are in agreement. [You might also decide to modify the S&T map to agree with the Google map].

Step 9: Once you are satisfied with the Google map and the associated KML file that you downloaded be sure to save the KML file. This file will serve as the source file from which to define your route to CQ/X as explained in the following section.

Multiple-Day Operational Considerations - As mentioned at the beginning it is often useful to split a multi-day route into a set of maps with a separate map for each day. In that case you will need to perform the above steps for each day and after completing Step 9 for each day you will have an associated KML file for that day. You should save those KML files in a common directory and each with a name that is indicative of the day to which it applies. For example lets say we have KMLs for our Saturday and Sunday routes for the 2013 Florida QSO Party. We might name the files

FQP-2013-SAT-LatLon.kml
FQP-2013-SUN-LatLon.kml

When starting up CQ/X at the start of Saturday (or the night before in preparation for Saturday) you would use the file FQP-2013-SAT-LatLon.kml and the menu item **QP Tools | Build Plan Using a Google Map** to initialize the route information for Saturday. If during Saturday you shut down CQ/X, on restart it will not be necessary to redo the Build Plan Using a Google Map as that information will be automatically reloaded unless you tell CQ/X to build the route from a different KML.

Now on Sunday morning at the start (or after the Saturday session is over and in preparation for Sunday) you would use the file FQP-2013-SUN-LatLon.kml and the menu item **QP Tools | Build Plan Using a Google Map** to initialize the route information for Sunday. If during Sunday you shut down CQ/X, on restart it will not be necessary to redo the Build Plan Using a Google Map as that information will be automatically reloaded unless you tell CQ/X to build the route from a different KML.

In summary the main point here is that the KML files downloaded from Google Maps contain the information required to construct your county line crossings and should be viewed as the starting point from which to build your crossings for each day. For that reason they should be carefully named and saved in a location that you can remember and easily access. Be sure to save them on a drive or memory stick that you will be taking with you on your trip – they won't do you much good if they are back at the home QTH and you are somewhere in the boonies!