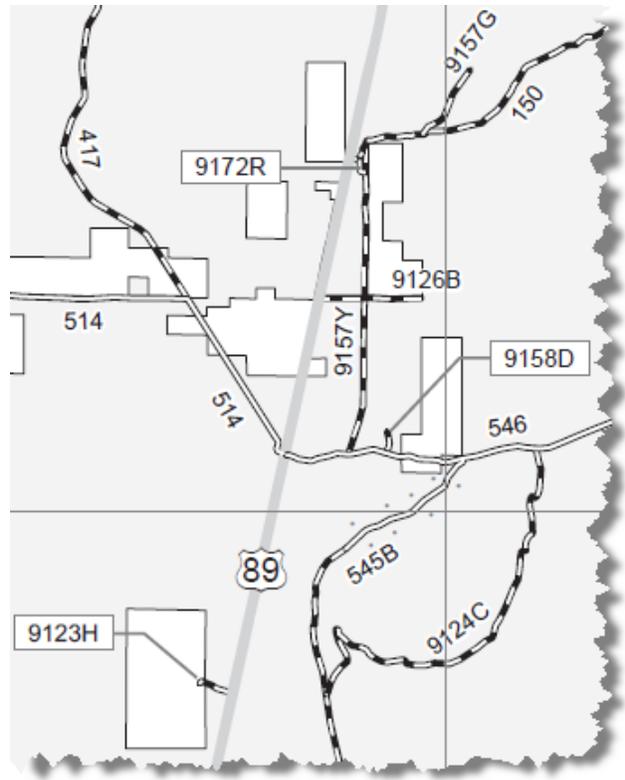


## Guidance - Installation And Use Of An MVUM Travel Aid For Garmin GPS Receivers

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**Background** - The published Motor Vehicle Use Map (MVUM) is the legal document-of-record that designates roads, trails, and areas open to motorized use on Coconino National Forest. An example is illustrated at right.

The published MVUM contains important information about road, trail, and area designations that motorists should always have close at hand. However, the MVUM's large size could make it difficult to handle, or refer to, while travelling, and some motorists have found that the MVUM's small map scale and spare cartographic design make it difficult to locate themselves with confidence along the roads and trails, and within the areas, that it portrays.

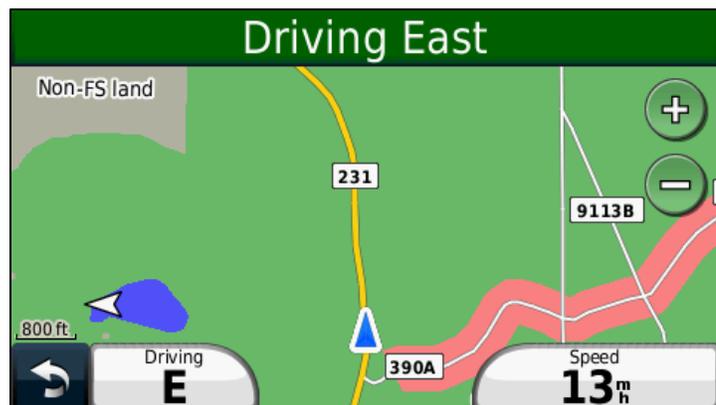


In response to these concerns, Coconino National Forest developed a “Travel Aid” for Garmin GPS receivers that is designed to help motorists locate their position:

- Along designated roads or trails,
- Within areas open to motorized cross-country travel, and
- Relative to motorized dispersed camping corridors.

The Travel Aid is a supplement to, not a substitute for, the published hardcopy MVUM.

An example of the Travel Aid is illustrated at right on a Nüvi 40 LM.



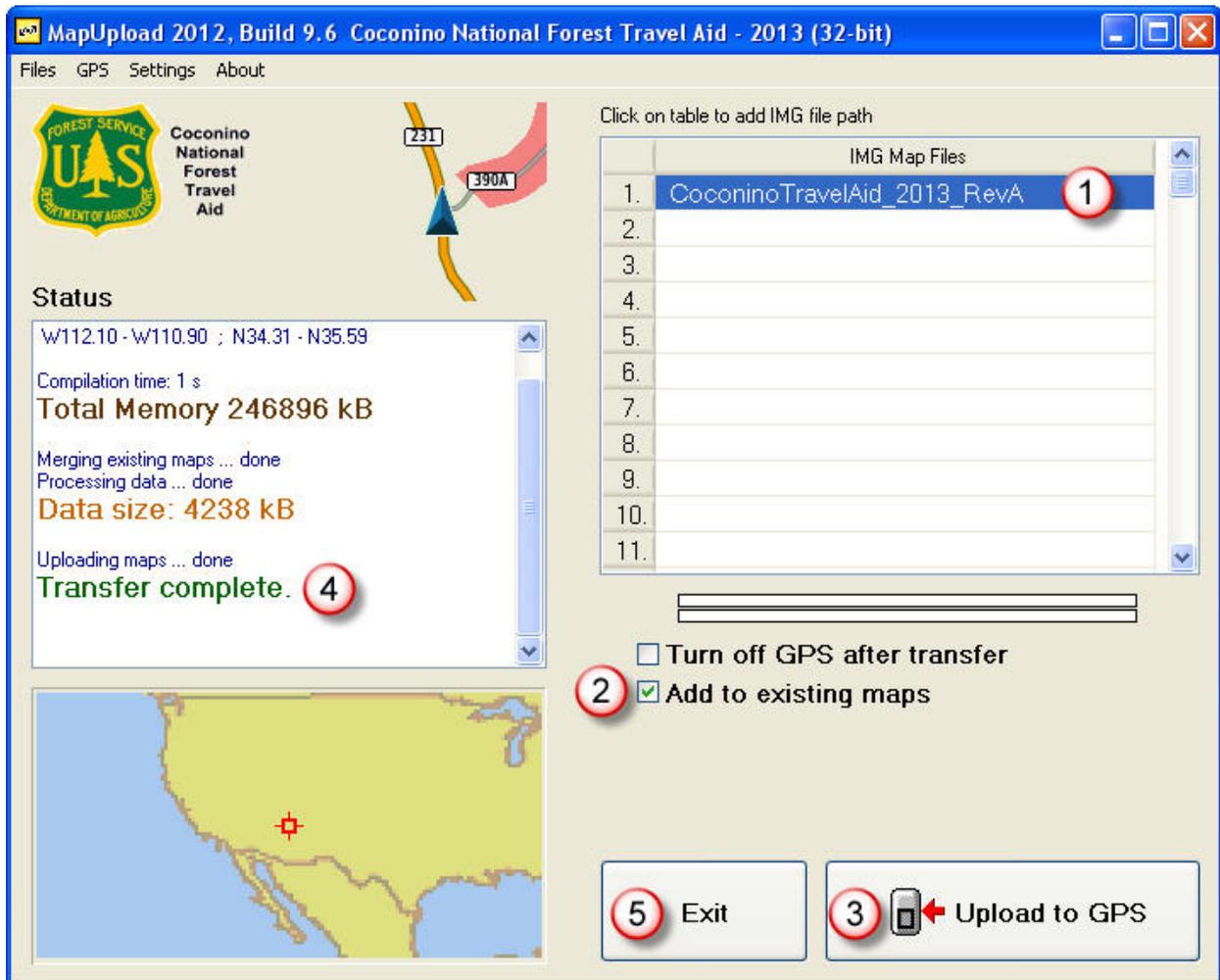
**Install the Travel Aid** – Follow these steps to install the Travel Aid.

1. Refer to **Appendix A** to see a list of supported Garmin GPS receivers. Do not attempt to install the Travel Aid on receivers that are not supported.
2. If the receiver is supported, click **Start – Control Panel – Add or Remove Programs** on the Windows-compatible PC (Windows 2000, XP, Vista, 7, or 8) that will be used to perform the installation, and determine if a **Garmin USB Drivers** entry is present. If not, the drivers must be installed on the PC before proceeding. Garmin USB drivers can be obtained from these sources:
  - CD shipped with a new Garmin GPS receiver,
  - Garmin MapSource or BaseCamp software CD or installation package, or
  - Garmin website at [http://www8.garmin.com/support/download\\_details.jsp?id=591](http://www8.garmin.com/support/download_details.jsp?id=591).
3. Browse to <http://go.usa.gov/PEa> on the internet, scroll to near the bottom of the page, click on the Garmin **Windows-compatible Installer** link, and **Save** the 4.5 MB installer file to the PC. Take note of the location where the installer was saved.
4. Turn the receiver on, and connect it to the PC with its USB cable.
5. Browse to the installer's location on the PC, double-click it, and carry out this sequence of steps while referring to the illustration found on the next page.
  - **Item 1** – The Travel Aid's map is already pre-loaded, so no further action is required.
  - **Item 2** – Check this box to merge Travel Aid map content with the receiver's existing supplemental map content, if any. **WARNING - If this box is not checked, any existing supplemental map content in the gmapsupp.img file will be permanently over-written!** The receiver's default base map (**gmapbmap.img**) and City Navigator map (**gmapprom.img**) are not affected when merging maps, and will not be over-written.

Merging the Travel Aid map with a large supplemental mapset, such as an extensive MapSource library, can be extremely time-consuming and subject to mishap. Supplemental map content that cannot be easily reloaded from another source should be backed up prior to merging it with the Travel Aid's map.

- **Item 3** – Click the **Upload to GPS** button to install the Travel Aid's map content.

- **Item 4** – Take note of these status messages, and wait for the “Transfer complete” message before proceeding. Do not operate the GPS receiver during the Travel Aid’s installation. Travel Aid map content totals about 1.4 MB.
- **Item 5** – Click **Exit** to complete the Travel Aid’s installation.



**Use the Travel Aid** – These topics describe general operation and use of the Travel Aid.

**Establish GPS reception** - Turn the receiver on outdoors, and wait for it to establish a position fix before using the Travel Aid. Receivers vary, but most provide an indication that GPS reception has been established, or that the receiver is ready for navigation.

**Map page** - Display the **Map** page (right) by cycling through the receiver's page sequence, or by opening it from the receiver's menu.

**Feature symbology** – Refer to **Appendix B** for an example of the symbols used to represent the Travel Aid's features.

**Color scheme** - The map's color scheme was designed for daytime use, so it is recommended that users manually change their receiver's **Display Mode** to the "Daytime" setting.

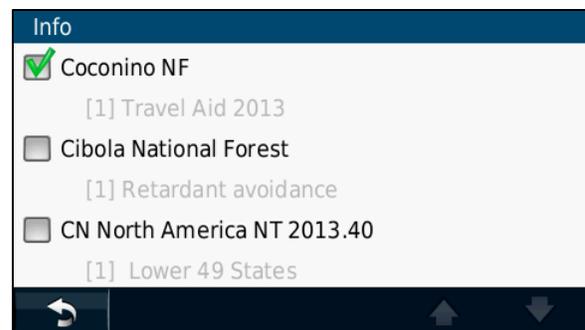


**Map orientation** - The map may be easier to interpret while travelling if its **Orientation** is set to "track up" instead of "north up". Regardless of the map's orientation, road labels will automatically refresh and rotate themselves to remain visible and legible.

**Position and direction of travel** - The receiver's current position will be indicated by an arrowhead pointing in the direction of travel. In the example above, travel is towards the east along Road 231, a road that has been designated for highway-legal vehicles only.

**Zoom levels** – Different feature types will appear or disappear when zooming in or zooming out. When zooming in, for instance, major public highways will become visible before major Forest Service roads appear. And, in turn, major Forest Service roads will come into view prior to the appearance of minor Forest Service roads. Of course, the map may be viewed at any convenient zoom level, but the 800 ft through 0.3-mile zoom levels are typically preferred for general use.

**Hide or show the map** – Generally, it is good practice to only have one map visible at any given time. Users can control Travel Aid map visibility by checking or un-checking its entry, or by enabling or disabling its content, in the receiver's **Map Setup** or **Info** sections. Examples of setting the Travel Aid's map visibility to "on" are shown below for a GPS Map 76CSx, GPS Map 62sc, and Nüvi 40 LM.



**Feature identification** – The receiver’s map pointer may be used to “identify” a feature. In the example at right, identifying a road reveals its road number (9496F) and, for roads having seasonal designations, its season of use (04/02 – 12/14).



**Travel Aid limitations** – Unfortunately, the Travel Aid is not a perfect solution. The following topics describe some of its limitations.

**Map clarity** – Certain lighting conditions, limited screen size/resolution, and competition from other maps can impair map clarity. Zooming in, increasing screen backlighting, and turning off other maps may improve map clarity.

**Roads having seasonal designations** – Roads having seasonal designations are not explicitly identified by the Travel Aid, so motorists will have to refer to the published hardcopy MVUM for that purpose.

**Feature display** - Different receiver models may display feature symbols and labels differently, and at different zoom levels, depending upon their version of installed firmware.

**Roads and trails are not “routable”** – Unlike commercial map content for the Garmin Nüvi, Tom Tom, Magellan RoadMate, and so on, the Travel Aid’s roads and trails are not “routable”.

**Windows compatibility only** – The Travel Aid’s installer package is compatible only with PCs running Windows 2000, Windows XP, Windows Vista, Windows 7, or Windows 8.

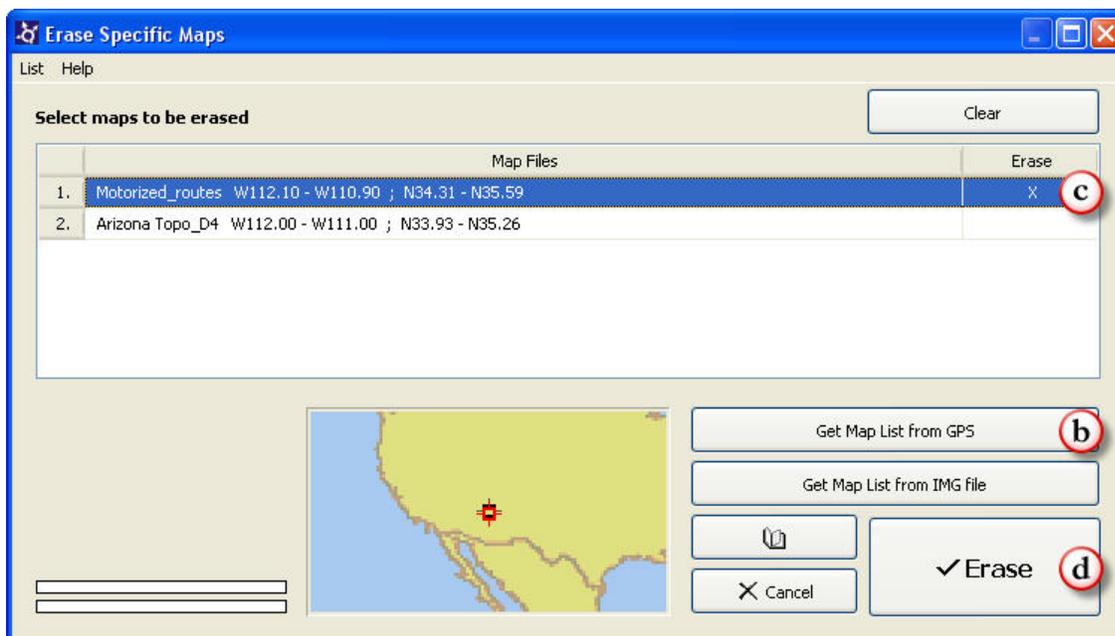
**Un-install the Travel Aid** – Unfortunately, the Travel Aid’s installer package does not include an un-install utility. There are two options for deleting a Travel Aid’s map content from a receiver.

**Option 1** – The **gmapsupp.img** file may be deleted from the receiver if the Travel Aid has not been merged with any other supplemental map content, or if the other supplemental map content can be easily reloaded from another source like Mapsource, BaseCamp, or an SD card.

To delete this file, connect the receiver to a PC by its USB cable, browse the receiver’s file system for the **gmapsupp.img** file, select it, and delete it. This file typically resides in the receiver’s **.System, Garmin, or Map** folder.

**Option 2** – Follow these steps if the Travel Aid has been merged with other supplemental map content, and if the other supplemental map content cannot be easily reloaded from another source like MapSource, BaseCamp, or an SD card.

1. Download and install the Mapwel demo software (<http://www.mapwel.net/down.htm>) on a Windows-compatible PC. The demo software is a free download.
2. Turn the receiver on, and connect it to the PC with its USB cable.
3. Start the Mapwel demo software, click **No** when prompted to register, and:
  - a. In Mapwel, click **GPS – Erase Specific Maps**,
  - b. Click **Get Map List From GPS**,
  - c. Select the **Motorized\_routes** map (or whichever map is to be deleted), and
  - d. Click **Erase**.



## Appendix A – List of supported Garmin GPS receivers

The Travel Aid should be installed only on Garmin GPS receivers that are supported by the Travel Aid’s development software, as listed below.

Unfortunately, “supported” is a relative term, as these receivers may display feature symbols and labels differently, and at different zoom levels, depending upon their version of installed firmware.

Although technically supported, **receivers having a grey-scale (non-color) screen are not generally suitable for Travel Aid use.**

Garmin Nuvifone M20

Garmin Mobile XT

Garmin Aera

Garmin Oregon

Garmin Dakota

Garmin Colorado

Garmin Montana

Garmin Astro

Garmin Nuvi and Zumo (all models) - most of them do not display symbol (point) icons \*

Garmin Edge 605, 705, 800

Garmin iQue M3, M4, M5

Garmin eTrex 20, 30

Garmin eTrex Summit HC

Garmin eTrex Venture Cx, HC

Garmin eTrex Legend C, Cx, HCx

Garmin eTrex Vista, C, Cx, HCx

Garmin Rino 120, 130, 520, 530, 520HCx, 530HCx

Garmin GPS V

Garmin GPSMAP 60C, 60CS, 60Cx, 60CSx, 62, 62s, 62st

Garmin GPSMAP 76, 76S, 76C, 76CS, 76Cx, 76CSx, 78, 78s, 78sc

Garmin GPSMAP 176, 176C, 276C, 376C, 378, 478C

Garmin GPSMAP 96, 96C, 196, 296, 396, 496

Garmin GPSMAP 620 - only routing maps in automotive mode \*\*

Garmin Quest, Quest 2

Garmin Street Pilot i2, i3, i5

Garmin Street Pilot c320, c330, c340

Garmin Street Pilot c530, c550, 580

Garmin Street Pilot 2610, 2620, 2650, 2660

## Appendix B – Travel Aid feature legend for different classes of Garmin GPS receiver

A class or model of receiver may display feature symbols and labels differently than another class or model, and at different zoom levels, depending upon their version of installed firmware. Examples of the variation likely to be observed between different classes or models of receiver are illustrated below.

Type Of Feature	Older Handheld	Newer Handheld	Nüvi
Public road or highway			
Road open to highway-legal vehicles only			
Road open to all vehicles			
Road label			
Motorized trail open to all vehicles			
Motorized trail open to motorcycles only			
Motorized trail open to vehicles 62 inches, or less, in width			
Motorized trail label			
Campground			
Picnic area			
Motorized trailhead			
Information site			
Corridors open to motorized off-road dispersed camping			
Area open to motorized cross-country travel			
Wilderness area			
Water body			
Non-National Forest land			
Coconino National Forest			