It is early days for Tracks4Australia but with your help this can be a first class map set.

Some Guiding Principals

- The foundation is 1:250K data licensed from Geoscience Australia
- Track log submissions from Tracks4Australia members & the general public will be our life blood as we will augment and improve that data with tracks logs.
- We will not - under any circumstances - include data that has been copied from other maps.
- We will not encourage or condone Tracks4Australia users to illegally copy any Mapsource software
- The focus will always be on rural areas. City Navigator & Metroguide do a good job in metropolitan areas but we believe Tracks4Australia already has better quality data than Metroguide in rural areas.
- With your assistance Tracks4Australia can become even better.
- We encourage you to submit your track logs and waypoints to Tracks4Australia via email.
- The track log could be a Sunday drive or the highway to your work or the Birdsville Track . . . all are equally valued. (Track logs that consist entirely of residential streets will generally not be processed but we're happy to include enough local streets to help you find your way home. . .)

Road Line Improvements

New road lines are added to the map and existing road lines are made more accurate using contributed track logs. For example.
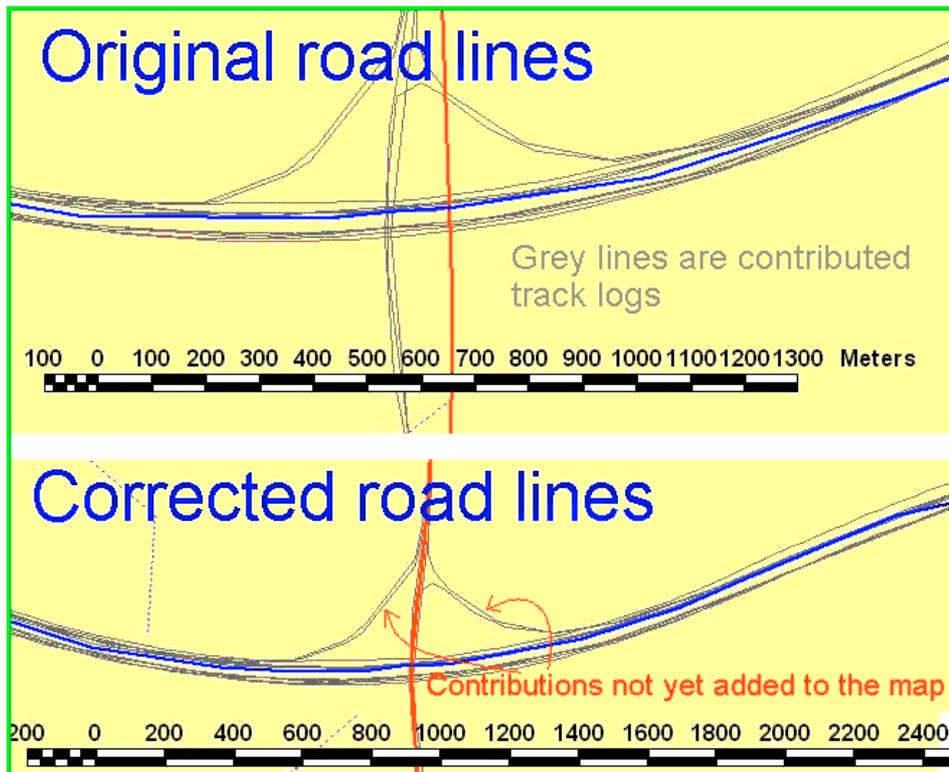
Track Log Overview

- ➢ Generally speaking there are three ways to log tracks, i.e.
    1. Internally within the GPS
    2. Real time direct to a laptop using Mapsource, Oziexplorer or other software
    3. Real time direct to a data logger
- ➢ Any of these three methods can with a little care produce excellent quality track logs
- ➢ The most important thing to remember is to retain maximum possible data. Data is destroyed by track filtering, editing or saving to the GPS "saved log" memory

Tips For High Quality Track Logs

- ➢ 500 km of quality tracks is more useful to Tracks4Australia than 5,000 km of tracks logged at 30 second intervals. And yes, 50 km of quality tracks is still more useful than 5,000 km of poor quality tracks.

- ➢ Logging settings will vary according to your GPS but generally speaking the automatic setting works best. Do a few trials, we ideally want track points every 1 – 5 seconds.

- ➢ If you are logging internally within your GPS **Please ensure *Lock On Road* is switched off.** *Lock on road* destroys the accuracy of track logs because it tricks the GPS into following the nearest road line and logs the track as though it is on this road line. It makes the logs look incredibly accurate but this is not quite so.

    Different GPS handle this differently but please check - some GPS switch this on automatically whenever you autonavigate.

- ➢ A few waypoints can make your track logs much more meaningful and easier to process. e.g. **WP 1 "Tar ends, 4WD track to nth East"** or **"WP turn north onto Calder Highway"** Without this we have no clue that you have just left a highway and locked your hubs for a scary descent etc, etc. . .

- ➢ My preferred format is GPX or Mapsource or Ozie in that order but all are acceptable.

Logging – internally within the GPS

Most, maybe all, Garmin GPS have two distinct memories for retaining track logs, that is:

1. Active memory. This is the full data as determined by your track log settings but this memory area is quite limited.
2. Saved memory. When you "save" a track within your GPS it is copied to the "saved" memory but some changes are made to save memory, i.e.
    - Some attributes are discarded (time, speed, altitude)
    - The track is compressed by discarding some track points. For example the Garmin V can have up to 3,000 points in the Active memory but when the track is saved it must have a maximum of 250 points so more than 90% of the points are discarded. The track is not truncated but there is an algorithm that discards the least significant points.

- ➢ If at all possible submit Active Log tracks as this retains maximum detail.

- ➢ For longer trips you can stretch your logging capacity but still retain good data quality if you save the track when the memory is say 10 - 20% full.

- ➢ If however you had saved when the log was say 10% full very little would be discarded and you could store a few days travel in this way. Not quite as good as Active memory tracks but much better than tracks compressed from 100% full memory.

Logging – real time direct to a laptop

I am not experienced at this but many traditional Oziexplorer users have many high quality tracks using this method. The advantage is there are virtually no limits on the length of tracks you can log.

- If possible, please break the track when the road type changes

- It makes things much easier at my end if you give each track log a short but meaningful name, e.g. *Wagga-Griffith 15Apr05*

Logging – real time direct to a data logger

This is probably the easiest way to log lots quality track logs because no intervention is required. The best data loggers I have seen are from Rob Keskull in Sydney. They are small but robust and very reliable & the included software will enable you to easily get the track log into Mapsource or Ozie.
Rob's base model data logger will log your position (including time & altitude) every two seconds for approximately two weeks, assuming you are driving 8 hours per day.
See Rob's web site at http://www.gps-datalogger.com/   & please tell him Tracks4Australia referred you.

Track Point Interval

Regardless of the method chosen above there are generally some options to be set that control how often a track point is recorded.
The maximum resolution is the GPS natural data output cycle which is generally once every second. That's terrific but often we have limited logging capacity & some choices have to be made. The following table can help understand what happens when you change the logging interval.

Interval (Secs)	Speed (KPH)	Track Point Interval (Metres)
1	100	28
2	100	56
5	100	139
10	100	278
1	60	17
2	60	33
5	60	83
10	60	167
1	40	11
2	40	22
5	40	56
10	40	111

In most cases use the "Automatic" setting which will vary the logging interval, that is, it will log more points on a twisting road & very few if you are driving in more or less as straight line.

Any settings that produce a track log with more than 10 second intervals is of very limited value.

Somewhere in the 1 – 5 second range is ideal.

Tracks4Australia – Future Plans

We plan to have two versions of Tracks4Australia, i.e. a free version and a full commercial version that will include additional features.

Both versions will incorporate the original data licensed from Geoscience Australia plus new or more accurate road lines from contributed data.

All contributors will be able to get the full map set in the free version and we will encourage you to share this version with other people.

The commercial version will include additional features such as national parks, reserves, searchable POI etc and this version will cost approx A$50

Contributor data loses its identity in the mapset and contributors will not receive any monetary reward if their data is incorporated in the commercial version.

Please see the document Tracks4Australia - Long Term Intentions.pdf in the files section for a full discussion on this.

Regards,

Graham