1. Summary
First, the paper studies the problem of automatic road-map inference from GPS trace datasets. The difference between this paper and former research is that its dataset is sparse, sampled at a frequency of once per minute for example. Usually, dense sample is at a frequency of 1 Hz.
They compared and analyzed the performance of their algorithm TC1 (Trace Clustering algorithm) with three other algorithms. Two are designed for dense-sampled datasets, namely line-based KDE (Kernel Density Estimation) and K-means. The third is their modified KDE based on points.

2. Positive
a. Instead of using absolute values of density to set a threshold to find contour lines independent of datasets, they used density percentage for portability.
b. Some data cleaning/processing techniques used such as 1. filtering samples whose straight-line speed exceeds 180km/h and the segment selection phase in their TC1 algorithm. 2. Gaussian smoothing techniques for the density histogram, though I have no direct impression of its impact.
c. Good graphs for intuitive analysis. These are more beneficial in analyzing the problems or drawbacks of current algorithms.

3. Negative
a. Roads in the generated map has dangling end. For example, when a road crosses two parallel road in a perpendicular way, the segment between the two parallel roads is missing. Or a road simply has an impasse not connected two any other roads.
b. the lines generated by point-based KDE is not smoothed. As the paper itself mentioned, many zigzags exist in Figure 4.C.
c. points in low-density areas are simply discarded or filtered. In fact, these points can be used as an indicator to connect dangling ends.
d. simple methods, simple thresholds. More analysis of the complex situations of the datasets should be done in order to design rules to capture roads neglected with simple threshold.
e. measurement methods are limited.

4. Research Questions and Points for Discussion
a. When we look into figure 9, we can find many missing parts of a long road. Most of the missing line segments are can be drawn correctly either by connecting both ends of the two separate line segments of a straight line or by extending the dead end of a road until touching a perpendicular road. This post-processing step can improve the overall quality of the road map greatly intuitively.
b. It's consistent with common knowledge that seldom roads have impasse. In addition to precision and recall, connectivity of road-map generated is a reasonable factor for evaluation of its quality.
c. While some points in sparse areas can be used to increase connectivity, there exist sparse points with little linear correlation mainly distributed in the square area, possibly residential areas for example, which doesn't contain the general roads under consideration. These points should be filtered as a special case. Velocity, density and linear correlation may be employed for this problem and avoid spurious filtering of points in congestions.
d. some image processing techniques are beneficial for connectivity problem.