

Comparative Error Analysis Workshop

Data Collection Procedures

This workshop will analyze data collected across a test course of known and unknown monuments. The collection techniques are described below.

1. There are three primary control stations set around Westport Plaza, each with fixed MCS83 coordinates (US Survey Feet). There are up to seven secondary stations set, each with unknown values.
2. The first set of coordinates for the secondary stations will be collected by individuals utilizing one of two primary collection systems, a two-unit base & rover system or a one-unit system employing the Missouri Highways and Transportation Commission Global Navigation Satellite Real Time Network. All observations will be made using a plumb receiver pole and bipod. Observations will be limited in duration to roughly sixty seconds. Point ID numbers will consist of six-digits and use the format outlined below. (This will allow readers to see the collector's ID, the procedure used, the number of observations and the target ID number.)
3. A second set of coordinates for the secondary stations may be collected by individual users employing IMU tilt correction units. The set shall be collected using a fixed location model (a receiver pole stabilized by a bipod but tilted out of plumb). Observations may be of variable durations.
4. A third set of tilt correction coordinates may be collected by applying a freehand location model (a handheld pole allowing for some movement). Observations may also be of variable duration.
5. Datasets submitted for analysis should be CSV or TXT files and use the following format:
Point Number, Northing, Easting, Elevation, Descriptor (optional). (Pno,N,E,EI,D)
6. On the day of the workshop, coordinates will be collected by the group's party chief and provided to the analyst. After processing the data, a presentation on the results of the comparative error analysis will be given on Saturday afternoon.
7. As part of a separate exercise from the workshop's drone collection session, a set of coordinates for each station will be extracted from drone collected cloud data and will be compared against the results of the primary error analysis.

Point Numbering Format

