# Location Jittering Process

## Data Collection

Collect original GPS data from participants as part of the data acquisition process.

## Initial Data Review

Review collected GPS data for completeness and accuracy. Identify any data points that require additional privacy measures due to their sensitive nature or high precision.

## Application of Jittering Algorithm

Apply a jittering algorithm that randomly adjusts the GPS coordinates within a predefined radius. Ensure that the jittered locations are plausible and avoid placement in unlikely areas.

## Validation of Jittered Data

Validate the jittered coordinates to ensure they do not reveal sensitive locations. Conduct a statistical comparison to ensure spatial patterns remain consistent.

## Data Aggregation

Aggregate jittered data to a higher geographic level to enhance privacy. Combine data points that fall within the same larger geographic unit.

## Ethical and Legal Compliance

Review all processes for compliance with data protection regulations and ethical guidelines. Obtain ethical approval as required.

## Implementation in Analysis

Use the jittered and/or aggregated dataset for analysis. Ensure compatibility with the adjusted data accuracy.

## Data Storage and Access

Store the jittered data securely with restricted access. Ensure all data transfers are encrypted.

## Documentation and Reporting

Document the jittering process and its impact on data quality. Report the use of jittered data in all related publications.