Summary Instructions and Work Flow to Remotely Access Detailed/ Spatial Data from the Transportation Secure Data Center

The Transportation Secure Data Center (TSDC) allows users to conduct legitimate analyses on data from travel surveys and studies in such a way that preserves the privacy of the original study participants. The U.S. Department of Transportation (DOT) and U.S. Department of Energy (DOE) support the TSDC, which is hosted by the National Renewable Energy Laboratory (NREL) Transportation and Hydrogen Systems Center (THSC). The TSDC web page is available at www.nrel.gov/tsdc. From this site, users may freely download "cleansed" transportation data, including features such as second-by-second speed profiles for large numbers of vehicles over significant periods of time in a variety of locations. Such data are sufficient to answer many research questions, but some types of analyses also require spatial data details. To address these analysis needs, the TSDC provides a process for users to apply for secure, remote access to detailed/spatial data. This process is more involved than that to access the cleansed data due to the need to safeguard participant confidentiality. The webinars and fact sheets posted on the TSDC website provide more information on the data and tools available from the secure portal environment (within which approved users may work with the detailed/spatial data). The work flow described below summarizes the required steps to access the detailed data in that environment.

Secure Portal Workflow

1. Prospective user submits application materials for detailed/spatial data access. The "user" is the person who would like to receive a log-in account on the system and will themselves be performing analyses through that account. Note that log-in accounts are not to be shared (multiple users from the same organization must apply individually), but if a new user will be taking over a previous user's work, the previous user's files can be transferred to the new user's account.
    a. Analysis Description Form – Answer the questions on this form to describe the proposed analysis and why it requires working with the detailed/spatial data in the TSDC secure portal.
    b. Data Use Disclaimer Agreement for Detailed Data – The user AND his/her responsible line manager or university advisor must read and sign this legal agreement indicating his/her understanding and acceptance of the Terms of Use for accessing the data.
    c. Foreign National specific steps:
        i. Applicants who are not U.S. citizens will also need to complete and submit the following:
            1. Items 1-18 on the Foreign National Data Card
            2. Copy of a current resumé or curriculum vitae.
            3. Copy of a government-issued photo ID.
        ii. Applicants from a designated state sponsor of terrorism countries (for a full list, please see https://www.state.gov/j/ct/list/c14151.htm) the following items will be submitted:
            1. Complete page 1 on long-form Foreign National Data Card
            2. Copy of a current resumé or curriculum vitae.

3. Copy of a current passport and visa

   or

4. Copy of a permanent resident card

   (Note: Applicants from designated state sponsor of terrorism countries require a minimum notice of six months to request access to national lab cyber resources, and the ultimate approval or denial of their access is not controlled by TSDC staff).

   d. Submit these completed and signed documents to tsdc@nrel.gov.

2. An NREL administrator will send the user a Condition of Use for Cyber Resources form. This additional form must be signed and returned in accordance with the e-mailed instructions to indicate that the applicant understands and accepts the terms of use for the NREL cyber resources through which s/he will remotely access the data (assuming his/her application is approved).

3. In parallel with step 2, NREL will distribute the completed application materials to the TSDC advisory panel for consideration. The advisory members review the request and return their recommendation to either approve or deny the application for detailed/spatial data access.

   a. After receiving advisory panel input, DOT and NREL make the final decision to approve or deny access.

   b. This process should take one to two weeks.

4. NREL will inform the applicant of the decision. If access is approved, the following steps are taken.

   a. TSDC staff complete an internal NREL Site Access Request form on behalf of the user and submit it to the NREL Cyber Security Office.

   b. NREL Cyber Security establishes an account for the user in the TSDC secure portal environment, and grants access to the databases approved in the user's application.

   c. TSDC staff sends initial log-in information and instructions to the user.

   d. This process should take roughly one additional week.

5. User performs analysis in the TSDC secure portal environment.

   a. The user will establish a remote connection to the TSDC secure portal from his/her local machine. While connected to the analysis environment, the user may perform analysis on the detailed/spatial data (consistent with the plans included in his/her Analysis Description Form).

   b. The user may submit externally developed code, software or, reference files (again, consistent with the plans included in his/her Analysis Description Form) to NREL so that they can be reviewed and saved in the user's secure portal file storage location. They will then be available for the user to continue developing after logging in.

   c. The analysis environment is closed to external interfaces (e.g., local drive access, clipboard sharing, and internet connectivity are all disabled), and the user is restricted to the software packages provided within the environment. See the webinars and/or fact sheets posted at www.nrel.gov/tsdc for additional details on the software tools provided for database querying, GIS visualization, statistical analysis, and mathematical modeling. As noted previously, the user may also request addition of other specific software tools for use in the environment.

d. The user may save interim analysis code and results in his/her specific file storage location to conduct analyses over the course of multiple log-in sessions. NREL will not require specific starting and ending times of log-in sessions unless user traffic grows to the point that some sort of queue control becomes necessary.

e. Within reason, NREL staff is available to answer questions and help users set up analyses/access the data within the environment.

6. Removing analysis results from the TSDC secure portal environment.

a. Once the user has generated a set of aggregated analysis results, he/she may submit a request to have NREL audit the results and provide them to the user through NREL's FTP site. The user shall only ask NREL to audit and send aggregated analysis results that contain no individually identifying information (i.e., information that could be used to identify specific individuals or vehicles from the data results).

b. This process should take approximately one week, depending on the extent of the results the user wishes to receive.