# Resources Task Group

## 2021-12-14 – Third Meeting

**The following summarizes the main items discussed:**

- Apoorba Bibeka updated the organizational structure (for a resource repository) based on Task Group member's feedback (10/30). Please see the following two pages.
- The Task Group had no further comment on the structure. The Task Group recommended soliciting help (additional member involvement) before moving to the next step: collecting resources. The Task Group also recommended developing a timeline to help guide the repository's development.
- Chris Melson showed an example of a searchable database – which may be emulated for the resource repository. He also explored if such a database could be housed on the ITE SimCap website or the ACP80 website.
  - ITE was receptive but is currently busy moving all of their servers to the cloud. They would be willing to discuss this with their new IT Senior Director after the holidays.
  - ACP80 is planning updates to their website. It's unclear what these updates entail and when they will be completed.
- Apoorba Bibeka will no longer be involved in the Task Group; he is no longer involved in traffic simulation. We appreciate all of his assistance!

**Action items:**

- Develop tasks and schedule to guide the repository's development (1/14) [Chris]
- Solicit additional Task Group members to assist with collecting resources – ideally from ACP80 (ongoing) [Chris; All Task Group members]
- Schedule next Task Group meeting to discuss how to begin collecting resources (mid-March) [Chris]

## Resource Structure:

1. Simulation Basics
   a. What is it
2. When do agencies use it
3. Available simulation options---resolution
   a. Microscopic
      i. VISSIM
      ii. AIMSUM
      iii. SimTraffic
      iv. CORSIM
      v. TransModeler
      vi. https://ops.fhwa.dot.gov/trafficanalysistools/tat_vol2/sectapp_e.htm#top
   b. Mesoscopic
      i. DynusT
      ii. AIMSUM
      iii. Dynameq
      iv. TransModeler
      v. https://ops.fhwa.dot.gov/trafficanalysistools/tat_vol2/sectapp_e.htm#top
   c. Macroscopic
      i. Freeval
      ii. HCS
      iii. https://ops.fhwa.dot.gov/trafficanalysistools/tat_vol2/sectapp_e.htm#top
   d. Multi-resolution
   e. Resolution choice
4. Choosing Scope
   a. Temporal
   b. Spatial
   c. Modeling resolution
   d. Dynamic traffic assignment
5. Experiment Design
   a. No of runs
   b. No of scenarios
   c. Data sources
   d. Performance Measures
      i. Selection
      ii. Measurement locations
      iii. Presentation format
6. Verification, Calibration, and Validation
   a. Procedures
      i. Calibration parameters
   b. Statistics
      i. Performance Measures
      ii. Targets
7. Application

a. Conventional freeways and arterials
b. CVAVs
c. MaaS
d. ITS
e. Hardware in the loop
f. Innovative intersections

8. Case Studies
    a. Consulting reports
    b. Research reports
    c. Available Datasets

## 2021-09-08 – Second Meeting

**The following summarizes the main items discussed:**

- Abhilasha Saroj (with assistance from Chris Melson) has maintained the SimCap calendar of events. The calendar currently resides on the ITE SimCap website – but will also reside on the ACP80 website after ACP80 completes planned updates. Maintaining the calendar will be an ongoing Task Group initiative. If you have an event you would like added to the calendar, please contact Abhilasha (asaroj3@gatech.edu) and Chris (cmelson1@lsu.edu).
- Apoorba Bibeka developed an initial organizational structure to categorize existing simulation resources. It is primarily based on chapters of the Transportation System Simulation Manual (TSSM) and is shown on the next page.
  - This is the first step in developing and maintaining a database of existing resources of value to traffic simulation practitioners (another ongoing Task Group initiative).

**Action items:**

- Present Task Group activities at the 2021 ACP80 Summer Meeting; gain feedback on the proposed organizational structure (9/15) [Apoorba]
- Review the proposed organizational structure; provide feedback to Apoorba (A-Bibeka@tti.tamu.edu) (by 10/1) [All Task Group members]
- Schedule next Task Group meeting to discuss how to begin curating/populating resources (mid-November) [Maryam]

Resource Structure:

9. Simulation Basics
    a. What is it
10. When do agencies use it
11. Available simulation options---resolution
    a. Microscopic
        i. VISSIM
        ii. AIMSUM
        iii. …
    b. Mesoscopic
        i. DynusT
        ii. AIMSUM
        iii. …
    c. Macroscopic
        i. Freeval
        ii. ..
    d. Multi-resolution
    e. Resolution choice
12. Choosing Scope
    a. Temporal
    b. Spatial
    c. Modeling resolution
    d. Dynamic traffic assignment
13. Experiment Design
    a. No of runs
    b. No of scenarios
    c. Data sources
    d. Performance Measures
        i. Selection
        ii. Measurement locations
14. Verification, Calibration, and Validation
    a. Procedures
    b. Statistics
15. Application
    a. Conventional freeways and arterials
    b. CVAVs
    c. MaaS
    d. ITS
    e. Hardware in the loop
    f. Innovative intersections
16. Case Studies
    a. Consulting reports
    b. Research reports
    **c.** Available Datasets

## 2021-06-03 – Initial Meeting

**Activities to pursue:**

- Begin curating list of existing resources (primarily published documents) of value to traffic simulation practitioners. [To be led by Apoorba]
    - Review existing sources of such information (e.g., ITE SimCap, PTV Group, among others).
    - Identify ways resources can be better organized in a database format (e.g., organized by TSSM chapters, "tagged" by topic area, include a two-sentence summary, etc.).
    - Identify gaps in resources; coordinate with User Needs Task Group to address gaps.
    - Identify how these resources can supplement the TSSM (future activity, but good to keep in mind now).
- If necessary, investigate hosting platforms (e.g., ACP80 website, ITE SimCap, own website, etc.).
- Maintain calendar of events (located on ITE SimCap's website). [To be led by Abhilasha]

**Action items:**

- Task group to present what was discussed at upcoming SimSub meeting (6/25) [Maryam]
- Have a brief follow up call with Chris, Maryam, and Apoorba (before 6/25) [Maryam to organize]
- Have a brief follow up call with Chris, Maryam, and Abhilasha (before 6/25) [Maryam to organize]
- Schedule next Task Group meeting (a month or two after 6/25 meeting)