Attendees

* **Chunyu Lu**, *Gannett Fleming*
* **Daniel Harris**, *FDOT Central Office*
* **Heinrich McBean**, *PB Americas*
* **Howard Slavin**, *Caliper Corporation*
* **Joe Castiglione**, *Resource Systems Group*
* **Krishnan Viswanathan**, *Cambridge Systematics*
* **Matthew Martimo**, *Citilabs*
* **Mohammed Hadi**, *Florida International University*
* **Neelam Fatima**, *St Lucie TPO, (DTA Subcommittee Chair)*
* **Rafey Subhani**, *Gannett Fleming*
* **Rama Balakrishna**, *Caliper Corporation*
* **Roberto Miquel**, *Wilbur Smith Associates*
* **Srinivas Varanasi**, *The Corradino Group*
* **Vladimir Majano**, *FDOT Central Office*

1. **Welcome and Introduction**

* Neelam Fatima (Chair) welcomed everyone to the meeting and asked attendees to introduce themselves. Neelam then asked Dr. Hadi to present his proposed test plan and networks.

1. **Testing Plan and Networks – *Dr. Mohammed Hadi, Florida International University***

* Dr. Hadi presented his test plan and proposed test networks (available at DTA Subcommittee Web Page).
  + Network 1 would be a simple straight network that would be used with each of the DTA tools to test flow, travel time, queue length, queue spill back, effects of an incident, introduction of an intersection, and input parameter sensitivity.
  + Network 2 would also be a simple network but would include alternative paths and different levels of demand and would be used with each of the DTA tools to test assignment and input parameter sensitivity.
  + Network 3 would also be a linear system of the I-95 corridor in Miami and would have 31 zones. The tests would include comparison of computational time and congestion level.
  + Networks 4 to 7 would be more realistic networks. Network 4 would be a freeway corridor with parallel arterials (I-95 in Miami with NW 7th Ave and NW 27th Ave and includes Miami managed lanes) and would have 247 zones. Tests would include computational time; convergence; and shortest paths and assignment. O-D estimation and model calibration would be done later in the project as a case study using one of the DTA tools.
  + Network 5 would by a sub-area network which includes the Miami I-95 corridor from Network 4. This network would have 582 zones. Tests would include computational time; convergence; and shortest paths and assignment. Neither O-D estimation nor calibration would be done with this network.
  + Dr. Hadi then proposed two county level network options to the subcommittee for their selection. Option 1 (Networks 6) would by the Broward county network with 982 zones and include ITS and managed lanes. Option 2 (Network 7) would be the Jacksonville Area network with 2145 zones. This would be the same network being used for the SHRP2 C10A activity-based project. The select network would be loaded with different levels of static O-D demand and tests would include: computational time; convergence; and shortest paths and assignment. O-D estimation and calibration would be done later in the project as a case study using one of the DTA tools.
  + Dr. Hadi stated that the test networks would be made available to DTA tool developers in the private sector who may wish to do the modeling using their DTA tool.
* Questions and Comments
  + Neelam asked why the Miami-Dade network was not being considered. Dr. Hadi answered that he could consider three networks: Network 6, Network 7 and an expand Network 5. Network 5 would be expanded eastward and southward to about 1300 zones, if selected.
  + Howard Slavin (Caliper Corporation) asked if all streets or only limited assess highways would be modeled and Dr. Hadi confirmed that all streets in the network would be modeled.
  + Srinivas Varanasi (The Corradino Group) asked why the different networks were chosen for the tests. Dr. Hadi stated that the simple networks were chosen for basic exploratory review of the DTA tools. The important networks are the two that will be used for the case studies: Network 4, which would be used for a corridor case study; and Network 5, 6 or 7 which would be used for a region-wide case study.
  + Howard asked Neelam what are the primary objectives of the project. He suggested that if the main objective was to have a regionalized DTA tool for FSUTMS then a regional case study would be appropriate but if the objective was to have a corridor modeling tool then a regional case study may not be necessary. Neelam explained that a Requirements Workshop was done to determine the DTA requirements and the findings of that workshop would be discussed later on the meeting agenda. She however asked Dr. Hadi to comment on the findings from the Requirement Workshop.

1. **Results of Survey of Florida DTA Needs – *Prof. Mohammed Hadi, Florida International University***

* Dr. Hadi presented the results of the survey which include the following:
  + 54% of respondents were from the private sector, 12% from State Agencies and 22% from MPO/TPO.
  + 34% or respondents envisioned that DTA would be used with regional models while 62% envisioned DTA being used for corridor-based/sub-area studies and operational analysis.
  + 32% of respondents wanted a 15-minute temporal modeling resolution, 34% wanted a 30-minute resolution and 23% wanted a 1-hour resolution.
* The complete survey results are available at the Dynamic Traffic Assignment Subcommittee Web Page:

<http://www.fsutmsonline.net/index.php?/model_task_f/model_advancement_committee/>

1. **Comments On The Suggested Test Networks**

* Neelam invited the subcommittee members to offer their opinion on whether the case studies should be for a corridor-based DTA or a region-wide DTA and which network should be selected.
* Roberto Miquel (Wilbur Smith Associates) stated that the use of DTA may be best served at the sub-area level but testing at a regional level may be useful as a test case to determine a reasonable size for a large DTA sub-area. He also stated that the Jacksonville network offers limited opportunities to cross the St. John’s river and it may present unique implications for region-wide DTA in the Jacksonville area compared to Broward County network where traffic movement is more grid-like and uniform. Roberto also suggested that during testing, close attention should be paid to how different facility types interact, for example freeway to ramp to arterials, where queues may become exaggerated.
* Rama Balakrishna (Caliper Corporation) commented that many DTA applications across the country are based on large networks and it may be useful to look at large networks to see what the various DTA tools can do in such situations.
* Neelam asked Dr. Hadi what size of network, large or small, would be better suited to the fixed project budget. Dr. Hadi responded that a smaller network would require less work and therefore allow him to examine more details than would a larger network, given a fixed budget. However, he can work with a network of either size to meet the requirements of the project.
* Dr. Hadi also stated that the project budget will allow him to fully calibrate Network 4 or 5 but it would not be enought to fully calibrate Network 6 or 7. For either of the the larger networks his aim would be to achieve a reasonable level of calibration to produce reasonable results.
* Roberto asked if Dr. Hadi had already selected a suite of DTA tools for testing. Dr. Hadi replied that three or four tools and the simple networks would be use in the initial stages of testing to get a general overview of the capabilities of the tools and how well they compare to each other. A single tool would then be selected for use in the latter stages of testing. That tool would be the one used for calibration and detailed testing and development of the case studies.
* Howard asked if Dr. Hadi planned on including any microsimulation DTA in the tests. Dr. Hadi replied in the negative and stated that microsimulation DTA is not a requirement for the project.
* Howard commented that there is a school of thought which supports the use of microscopic DTA for corridor-level/subarea studies and mesoscopic DTA for region-wide DTA. He noted that the use of a mesoscopic model results in a loss of lane level detail and therefore if the study wants to look at route choices or traffic phenomena that are based on lane detail or traffic signal detail then a microsimulation DTA would offer more meaningful insights.
* In response to a question from Neelam, Dr. Hadi confirmed that he was more intrested in a region-wide case study using a mesoscopic DTA tool. Neelam then called on the subcommittee members to comment on and recommend one of the two region-wide networks (network 6 or 7) proposed by Dr. Hadi.
* Roberto supported the use of the Broward network. He commented on its relative simplicity, compared to the Jacksonville network, and its similarity to other networks statewide that would be using the DTA process.
* Neelam suggested that we should choose a network for which Hadi feels comfortable that he can complete on time and within budget.
* Srinivas suggested that the ability to handle large scale networks should also be considered when selecting the DTA tool.
* At Neelam’s request Joe Castiglione, (Resource Systems Group) commented that testing a regional scale network would be interesting. He stated that the Jacksonville C10 project is using micro-simulation and it would be good to have a mesoscopic DTA project that uses the Jacksonville network as this would allow for comparison of the microscopic DTA results to the mesoscopic DTA results for the same region.
* Neelam suggested that the meeting continue with the next agenda item but that the Sub-Committee members consider a network for selection by the end of the meeting.

1. **Results of the Requirement Workshop – *Prof. Mohammed Hadi, Florida International University***

* Dr. Hadi stated that the Requirements Workshop was very informative and many comments were received from the attendees. The comments are currently being reviewed by his team with the aim of developing a set of requirements for the future DTA needs of the Florida modeling community. The review will be completed in February. He asked Neelam to provide advice on how the requirements should be finalized.
* Neelam stated that she would follow up with Dr. Hadi after she has had a chance to digest the review of the requirements workshop.

1. **Selection of Test Network**

* Neelam called on individual subcommittee members to state their preferred network.
* There were more votes for the Jacksonville network and Neelam instructed Dr. Hadi to use the Jacksonville network for the DTA case study.

1. **Closing Remarks**

* Neelam thanked all subcommittee members for their contribution and declared the meeting closed. Notice of the next meeting will be sent to subcommittee members by email.