Chapter 6 Conclusion

6.1 Conclusion

This research provides a subarea focusing methodology from a regional planning model in TRANSIMS and a traffic simulation model in CORSIM. The previous chapters have outlined the foundation and implementation of the subarea focusing and the application of the methodology for different sizes of the network in Blacksburg-Full Study. Then in Chapter 5, an evacuation study is then applied to Virginia Tech campus, Blacksburg, VA. The results are explained and evaluated. In general, the following conclusions could be drawn from the research:

1) The proposed methodology in the research is significant. Compared with the subarea focusing procedure of the traditional Four-Step Model (e.g. EMME/2) which transportation planners are very comfortable with, this model benefits from both the disaggregate, detailed network represented transportation planning model, TRANISMS, and high fidelity, small network running efficiency operational traffic simulation model, CORSIM.

2) The subarea simulation results are within 5% with the regional simulation output as shown by the MOEs as well as the evacuation clearing time for Virginia Tech campus on both TRANSIMS and CORSIM.

3) The running time is particularly efficient for subarea with links less than 200 when simulating using CORSIM. For example, it takes only 39 seconds to simulate network with size of 117 links.

6.2 Recommendation for Further Study

The research is mainly concentrated on the development of the framework of the methodology. CORSIM is chosen as the operational simulation software package. Further
research and development could be conducted on extending the interfacing capability to other simulation package, e.g. TRANSYT-7F.

It would be very important if the simulation output of the subarea focusing model could be used for crosscheck with the simulation output of the regional model and more accurate travel time be fed back to the regional planning study as shown in Fig. 6.1. This would make possible to analyze not only sophisticated effects on the subarea but also the system-wide effects as the whole region simultaneously. The integration of subarea focusing methodology with planning will help to a great extent investigating policies of short-term Travel Demand Management (TDM).

Fig. 6.1 Framework of TRANSIMS planning model and Subarea focusing model