

SHRP 2 Renewal Project R11

Lesson Plan

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TRANSPORTATION RESEARCH BOARD
Washington, D.C.
2014
www.TRB.org

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ACKNOWLEDGMENT

This work was sponsored by the Federal Highway Administration in cooperation with the American Association of State Highway and Transportation Officials. It was conducted in the second Strategic Highway Research Program, which is administered by the Transportation Research Board of the National Academies.

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Welcome and Administrative Paperwork

Introduction of Instructors, Participants, and Administrative Forms

Time Allocation: 45 Minutes

Session 1—Introduction to WISE

A. Topic Description

The Session will cover current research work and techniques for evaluating work zone impacts on the traveling public. A quick summary of the procedures used by WISE for evaluating regionwide or large corridor renewal projects. Limitations and the overall objective and expected WISE final results will be discussed.

B. Expected Outcome

Participants will understand the general principals of work zone impacts and the WISE approach for evaluating impacts of renewal projects on the traveling public.

C. Time Allocation

30 Minutes

D. Evaluation of Participants

Review Questions

E. Instructional Method

Lecture

F. References

SHRP 2 R11 Phase 1 and 2 Report

Session 2—Getting Started in WISE

A. Topic Description

The Session will cover the computer requirements necessary to run WISE. A summary discussion will be conducted to cover the data necessary to run WISE and potential sources for the information. The NEXTA network format will be reviewed. A summary discussion and display of the Graphical User Interface will be included in the Session.

B. Expected Outcome

The participants will have a basic understanding of what hardware, software, and data are needed to run WISE.

C. Time Allocation

70 Minutes

D. Evaluation of Participants

Review Questions

E. Instructional Method

Lecture and Microcomputer Display and Sample Network

- F. References
SHRP 2 R11 Software Documentation

Session 3—Creating/Opening a Workspace

- A. Topic Description
The Session will demonstrate how to open up either an existing scenario or prepare to create a new scenario. The file structure of WISE will be discussed.
- B. Expected Outcome
Development of a WISE workspace on the participant's computer
- C. Time Allocation
30 Minutes
- D. Evaluation of Participants
Participants' development of a computer case study
- E. Instructional Method
Hands-on computer case study
- F. References
SHRP 2 R11 Software Documentation

Session 4—Planning Module (Inputs)

- A. Topic Description
Session 4 is the heart of WISE process. All input for running the Planning Module will be discussed and displayed by the instructor. Each participant will input planning data for a case study. Data input will include the NEXTA network, traffic information, value of time, road user costs, project costs, work zone strategies, creation of strategy libraries, and project information and descriptions.
- B. Expected Outcome
Participants will be capable of inputting all data into the Planning Module.
- C. Time Allocation
355 Minutes
- D. Evaluation of Participants
Review and success in participants' creating a Planning Module.
- E. Instructional Method
Discussion and participants creating a microcomputer planning module.
- F. References
SHRP 2 R11 Project and Software Documentation

Session 5—Running the Algorithm

- A. Topic Description

The basic concepts of the algorithm will be discussed. A line item explanation will be given by the instructors and the algorithm will be executed within WISE. The results of the algorithm will be discussed with the class. All participants will execute the algorithm on their computers.

B. Expected Outcome

Basic understanding of the algorithm and the results as well as a successful execution of the algorithm

C. Time Allocation

165 Minutes

D. Evaluation of Participants

Review of algorithm

E. Instructional Method

Lecture

F. References

SHRP 2 R11 Documentation on the Model Algorithms

Session 6—Operation Module

A. Topic Description

Session 6 will discuss and demonstrate the application of a selected traffic operational microcomputer software package such as Transmodeler or DynusT. The operational software will provide an estimate of the potential traffic diversion due to renewal projects that are part of the case study.

B. Expected Outcome

Participants will be able to apply the results of the traffic diversion results of the selected operational software.

C. Time Allocation

175 Minutes

D. Evaluation of Participants

Successful execution by the participants of the operational software.

E. Instructional Method

Discussion and Microcomputer Demonstration as well Participant Case Study

F. References

SHRP 2 R11 Documentation and Operational Software Documentation

Session 7—Back to the Planning Module

A. Topic Description

Session 7 will demonstrate and discuss the iteration process between the Operation Module and the Planning Module. The input of the traffic percent diversion results from the operational model to the Planning Module will be demonstrated. Final results of the WISE Model will be reviewed.

B. Expected Outcome

Participants understand the iteration process between the Operation and Planning modules.

C. Time Allocation

75 Minutes

D. Evaluation of Participants

Successful completion of the class case study

E. Instructional Method

Discussion and class case study

F. References

SHRP 2 R11 Software Documentation

Case Study Wrap-up and Conclusion – 90 Minutes