

Appendix B

WIST Needs Templates by Sector

B-1 Roadways

B-1.1 Federal Highways

B-2 Long-Haul Railways

B-3 Marine Transportation System

B-4 Pipeline Systems

B-5 Rural and Urban Transit Systems

B-6 Airport Ground Operations

WIST Needs Template Column Headings

Weather Element. A weather element is a particular weather condition or a consequence of weather conditions that WIST participants identified as affecting (1) transportation system operations (e.g., road or railway maintenance; traffic management on rail, road, or marine transportation systems) or (2) the safety, economic value, or efficiency (time as well as cost) of transportation activities using those systems (e.g., ship or barge movement on the MTS, truck and car movement on roadways). The categories of weather elements included in the templates are precipitation elements; temperature-related elements; thunderstorm-related elements; winds; visibility; tropical cyclone, sea state, and ice (on waterways); and miscellaneous elements. The individual weather elements in each category are listed in Table 2-1.

Threshold. The responses to the initial WIST questionnaire (see Chapter 2) emphasized the importance of specific *thresholds* at which a weather element affects a transportation activity or (in the case of multiple thresholds) affects it differently. In some cases, any occurrence of a weather element has impacts and requires action. For other elements, thresholds are critical to defining the users' information need.

(Sector) Activity. A sector activity is a grouping of functionally similar or identical WIST users within a transportation sector. For example, WIST user activities within the roadways sector include road maintenance operations, bus operations, and state police. The long-haul railways sector has activities for railroad stations and depot operations. Among the activities in the Marine Transportation System are inland waterway recreational boating and open water cargo/freight operations. The rationale for delineating an activity within a sector was either the uniqueness of the activity's needs and requirements or differences in institutional operations among activities within a sector. Each template begins with a table of sector activity descriptions. (The same descriptions appear in Chapter 4.)

Impacts. The Impacts column lists potential economic and safety consequences of a particular weather element, once the stated threshold is reached, on the stated sector activity or activities.

Actions. The Actions column lists mitigating activities and key decisions available to WIST users in the stated sector activity, if they receive accurate information about the stated weather element with the lead time shown in the last column. Impacts and actions are discussed by sector in Chapter 4.

Lead Time. The forecast lead time required for users' to take action and make decisions is a critical factor in supporting surface transportation with weather information. For the WIST needs identification, lead time is defined as the advance warning prior to an event. This advance warning gives the decision maker the time needed to make the necessary preparations to minimize the effects of the weather on the specified event or activity.