



U.S. Department of Transportation
Human Factors Coordinating Committee

Better Transportation Through Human Factors

STRATEGIC PLAN

Purpose

The Department of Transportation (DOT) Human Factors Coordinating Committee (HFCC) serves as a multi-modal team with government-wide liaisons to promote human factors and to address crosscutting human factors issues in transportation. Since its inception, HFCC has influenced the implementation of human factors projects within and between modal administrations, provided a mechanism for exchange of human factors and related technical information among modal administrations and provided synergy and continuity in implementing transportation human factors research. This Strategic Plan describes the role of the HFCC within the DOT, the functions it serves, and its strategic goals.

Introduction

The Secretary of Transportation established the Human Factors Coordinating Committee (HFCC) in 1991 to become the focal point for human factors and cross-modal issues within the Department of Transportation (DOT). The Committee is composed of representatives from each of the DOT administrations that have modal human factors programs. The HFCC members have been designated as the human factors points of contact for their agency. In addition to the modal representatives, the HFCC maintains a network of affiliates which represents the Office of the Secretary of Transportation (OST); the Research and Innovative Technology Administration (RITA); the Volpe National Transportation Systems Center (Volpe Center); the National Transportation Safety Board; the National Institute for Occupational Safety and Health; the Department of Homeland Security; the US Coast Guard; the Transportation Security Administration; the Department of Defense; and, the Department of Commerce. The Volpe Center serves as Executive Agent to facilitate the work of the HFCC. The list of current HFCC federal representatives and affiliates is provided in Appendix A.

In this document, we describe the HFCC's mission and provide a model that captures the Committee's functions within the DOT.

HFCC Vision

Better transportation through human factors.

HFCC Mission

Enhance awareness, understanding, application, and evaluation of human factors in transportation.

HFCC Goals

1. Coordinate cross-modal human factors activities.
2. Provide human factors information and support to DOT senior level policy and decision makers.
3. Promote human factors research and applications in transportation.
4. Serve as DOT's human factors liaisons with the international transportation research and development community.

As a result of DOT HFCC activities, we anticipate the following:

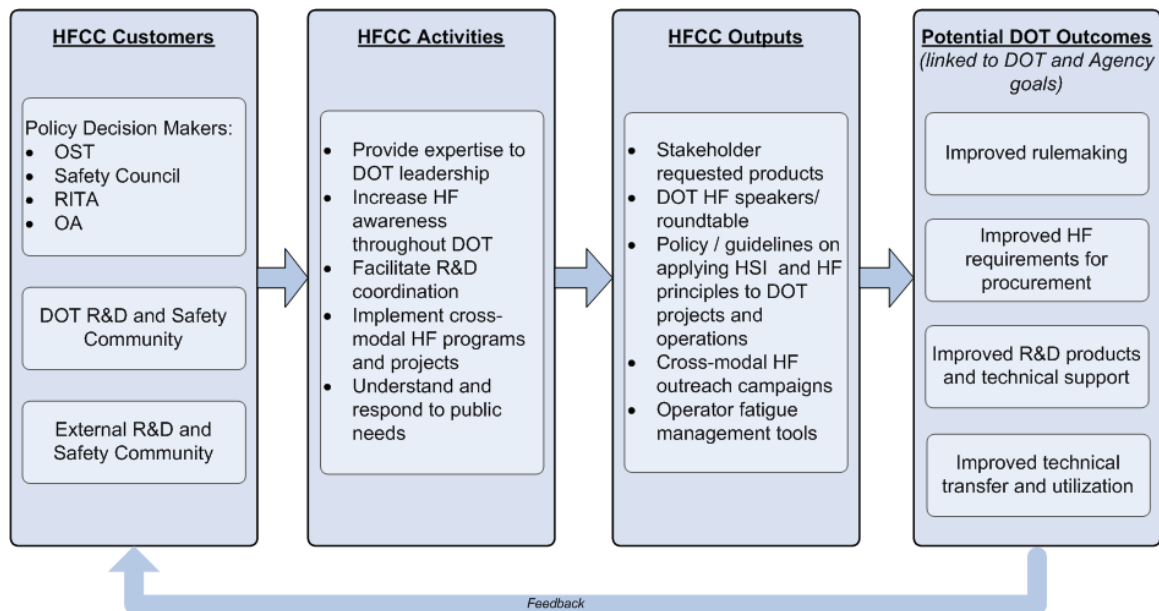
- Improved transportation through rulemaking,
- HF requirements for procurement,
- Research and development products and technical support, and
- Technical transfer and utilization.

In the next section, we present a model that captures how HFCC achieves their mission. Included in the model are the past and current activities of the committee and the future goals.

HFCC Model of Operations

The HFCC provides a mechanism to enhance planning, implementation, and education related to human factors research within the transportation community. The model below captures the functions and relationships that HFCC has established within the DOT. There are four components highlighted in the model: *HFCC Customers*, *HFCC Activities*, *HFCC Outputs*, *Potential DOT Outcomes*. At a high level, the model highlights how HFCC coordinates with its various customers to identify and direct committee activities, which in turn offer contributions to the regulations, research, and development. As an example, by stepping through the model, one can see that the HFCC works with DOT policy decision makers and provides expertise as requested to develop and execute programs and projects that address human factors and cross-modal issues. This activity may result in improved policy and guidelines for applying human systems integration (HSI) and human factors principles to DOT projects and operations, thereby contributing to improved rulemaking. This example describes only one path through the model; the model illustrates multiple paths that describe HFCC's operations and contributions. Additionally, a key part of the model is the feedback loop, in which

internal and external outcomes are examined by the Committee and used to drive future activities.



HFCC Model of Operations

Each of the components is described below.

HFCC Customers

To serve as a technical consultative body and a national information resource for transportation human factors issues, the HFCC provides expertise to three different communities. The first is DOT senior policy decision makers, such as the Office of the Secretary of Transportation (OST), the U.S. DOT Safety Council, RITA, and Operating Administrations (OA). The second is the DOT Research and Development and Safety community; this includes researchers within DOT as well as those funded by the DOT. The third is the external Research and Development and Safety community. The HFCC also has in place a mechanism for referral and networking within the transportation community through regular contact with agencies and organizations concerned with transportation human factors issues/research.

HFCC Activities

The Committee serves as advisor and clearinghouse on transportation human factors research and development projects. Additionally, the HFCC facilitates and coordinates human factors research to sponsor and permit large research efforts that modes cannot support individually, to address multi-modal transportation issues, as well as to advocate for timely human factors research in transportation system solutions. For example,

recognizing that fatigue management requires major changes in both organizational culture and operator behavior, the HFCC formed an Operator Fatigue Management initiative (OFM). Along with the expertise of government, industry, and labor and over \$1 million in multi-modal funding, the OFM created several tools to aid in managing operator fatigue. To coordinate and lead these and similar cross modal activities, the HFCC identifies research needs, technology gaps, and gaps in understanding in transportation human factors to support national transportation goals.

The Committee meets monthly to discuss modal human factors projects. Ongoing Committee activities include but are not limited to the following:

- Providing expertise to DOT leadership. This expertise may be provided on a project-by-project basis or in an ongoing basis as a general human factors consultant.
- Increasing human factors awareness throughout the DOT, such as through symposia, communications, etc.
- Facilitation of research and development coordination. The HFCC is also serving as the RITA Human Factors Cluster and has coordinated regularly with TRB and University Transportation Centers (UTCs).
- Implementing cross-modal human factors programs and projects
- Understanding and responding to public needs

HFCC Outputs

Through the various activities, the HFCC can (and has) accomplished the following:

- Developing stakeholder requested products
- Coordinating DOT HF speakers/roundtable
- Developing policy and guidelines on applying HSI and human factors principles to DOT projects and operations, upon request
- Conducting cross-modal human factors outreach campaigns (e.g., topics such as Operator/Driver Performance, Fatigue, Aging, Human Systems Integration, Safety Culture, System Design, Training, and Human Error, etc).
- Developing operator fatigue management tools. The HFCC identified the impact of fatigue on safety critical operator performance as an issue in all modes of transportation and created the multi-modal Operator Fatigue Management (OFM) program. This collaboration led to the development of five Operator Fatigue Management Tools in 2000. The tools include the following:
 - Work Schedule Representation and Analysis Software
 - Fatigue Management Reference Guide
 - Business Case Development Tool Suite, and
 - Fatigue Model Validation Procedure
 - Strategic Roadmap

Developed to apply human fatigue management in transportation, these tools can be tailored by each agency for their particular use.

- Promoting awareness of Operator Fatigue Management issues. In 2009, the HFCC sponsored the International Conference on Fatigue Management in Transportation Operations: A Framework for Progress. The HFCC has also helped with the planning and execution of the US DOT Safety Council Hours of Service/Fatigue Action Team's initiatives:
 - development of the next generation of fatigue modeling tools in transportation;
 - operator fatigue communications campaign;
 - cross-modal incident analysis framework for commercial operators;
 - cross-modal strategic roadmap for transportation fatigue management; and,
 - contextual framework of hours of service rules and rulemaking process across DOT).

Potential DOT Outcomes

In support of DOT's strategic goals, the HFCC aims to apply human factors to improving the following outcomes:

1. Rulemaking (more effective rules)
2. Human factors requirements for procurement
3. Research and development products and technical support
4. Technical transfer and utilization

The potential impact HFCC can have on DOT will in turn lead to further discussion and research to address safety issues and challenges faced in the transportation community.

Conclusion

This Strategic Plan serves to incorporate HFCC's mission and vision and to define what HFCC will accomplish strategically within DOT in the future. To meet the DOT's and the nation's transportation needs, the HFCC utilizes its main asset to focus attention on issues that go beyond the interests of any single transportation mode and then pool departmental talents and resources to produce solutions and benefits that extend throughout the transportation communities and across all modes of transportation. With the DOT's support, the HFCC will continue to provide a mechanism to enhance planning, implementation, and education related to human factors research within the transportation community.

HFCC Website: hfcc.dot.gov

Human Factors Research Cluster: www.transportationresearch.gov/dotrc/hfct/default.aspx

Appendix A – List of HFCC Federal Representatives and Affiliates

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