NATIONAL TRANSPORTATION SAFETY BOARD

FISCAL YEARS 2018–2022 STRATEGIC PLAN

Making Transportation Safer
Yesterday, Today, Tomorrow

OMB Final Submission
December 2017
Letter from the Chairman

The National Transportation Safety Board (NTSB) celebrated 50 years of improving transportation safety on April 1, 2017. Looking back, we know the improvements we advocated for saved lives. As we look to the future, we are committed to building on these efforts.

Our mission is to learn from the accidents we investigate to keep them from happening again; however, we are just as committed to improving the NTSB itself.

This strategic plan outlines our vision for the agency and highlights our priorities for the next 5 years. It will be used as a basis for continuing to strive to be the best at what we do and to serve as a source of expertise to our stakeholders.

Becoming a better agency will mean facing challenges and risks. Many of the strategies identified in this plan respond to changes in our external environment that cannot be ignored: addressing emerging technologies, improving our use of data, engaging our external stakeholders, and becoming more synergistic to cross “silos” of expertise and add value. With these changes come opportunities as well as challenges.

Our staff members are at the core of what we do. We will continue to develop their mission-critical expertise while nurturing their passion for excellence and enhancing this passion through cross-cutting collaboration. This plan details how we will excel in meeting the challenges of the next 5 years while working to identify and capitalize on the opportunities.

Our strategic goals are:

1. **Safety Leadership**: Serve as a global leader in conducting independent accident investigations, producing studies and creating products essential to transportation safety.
2. **Engagement**: Engage external stakeholders to advance transportation safety.
3. **Synergy**: Promote employee teamwork and innovation to optimize operations.

The NTSB will continue to improve transportation safety for another 50 years and beyond.

Robert L. Sumwalt, III
Chairman
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Executive Summary

The National Transportation Safety Board’s (NTSB’s) Strategic Plan for fiscal years (FYs) 2018–2022 outlines our strategies to achieve agency priorities, promote organizational change, and improve performance. This plan provides stakeholders—the traveling public, the transportation industry, government agencies, and Congress—with a comprehensive view of our goals and objectives for the next 5 years.

As we commemorate the agency’s successes of the past 50 years, we see the challenges ahead posed by the evolving transportation world. Enhancing our expertise and maintaining relevancy with critical stakeholders are the keys to our future success. This plan addresses the challenges we face in the next five years and guides our efforts to enhance our investigative and technical capabilities, successfully advocate for critical safety improvements, and improve the stewardship of our human and financial resources. Our greatest strength—knowledgeable and mission-driven employees—stays focused every day on the safety of the traveling public.

Over the last three years, we took several steps to improve strategic management, planning, and performance reporting. Senior leadership challenged staff to improve agency products, processes, technology, and communication. Two task forces were established in response to internal and external environmental assessments. They provided valuable guidance for analyzing performance data, improving strategic thinking, and using innovative solutions to achieve organizational goals and objectives. Leadership conducted a series listening sessions with staff to understand their concerns and hear their suggestions for improving agency operations and products. We are implementing many of the ideas from these sessions, including incorporating the tenets of Digital Transformation as part of the agency reform plan submitted to OMB.

This plan includes a revised mission statement, a description of the agency’s core values, and three new strategic goals supported by six new strategic objectives scoped via a series of listening sessions, task forces strategies and senior leadership support.
Achieving Our Mission and Mandate

Mission

*Making transportation safer by conducting independent accident investigations, advocating safety improvements, and deciding pilots’ and mariners’ certification appeals.*

Legislative Mandate

*Maintaining* our congressionally mandated independence and objectivity

*Conducting* objective, precise investigations and safety studies

*Performing* fair and objective airman and mariner certification appeals

*Advocating* and *promoting* safety recommendations

*Assisting* victims of transportation accidents and their families
Core Values

We are our core values. Our core values guide our daily actions, our internal conduct, and our relationships with our stakeholders. They are our organization’s true north, providing the solid foundation upon which our hardest decisions are made. Aligning one’s actions with the agency’s core values is a fundamental part of being an NTSB employee.

Integrity

We hold ourselves and each other to the highest ethical standards and are committed to being fair, honest, respectful, inclusive, and objective in our work and in our treatment of others.

Transparency

We encourage openness, collaboration, and feedback to ensure clarity and trust.

Independence

We are impartial and objective.

Excellence

We are thorough, rigorous, and accurate; we continuously seek diverse perspectives in all that we do.
About the National Transportation Safety Board

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation—railroad, highway, marine, and pipeline. We determine the probable cause of the accidents we investigate, and issue safety recommendations aimed at preventing future accidents. In addition, we conduct special transportation safety studies and coordinate the resources of the federal government and other organizations to assist victims and their family members who have been impacted by major transportation disasters.

History

The NTSB originated in the Air Commerce Act of 1926, in which the US Congress charged the US Department of Commerce with investigating the causes of aircraft accidents. That responsibility was transferred to the Civil Aeronautics Board’s Bureau of Aviation Safety when it was created in 1940. In 1967, Congress consolidated all US transportation agencies into a new US Department of Transportation (DOT) and established the NTSB as an independent agency within the DOT. In creating the NTSB, Congress envisioned that a single organization with a clearly defined mission could more effectively promote a higher level of safety in the transportation system than could the individual modal agencies working separately. Since 1967, the NTSB has investigated accidents in the aviation, highway, marine, pipeline, railroad and public transportation modes, as well as accidents related to the transportation of hazardous materials.

In 1974, Congress reestablished the NTSB as a separate entity outside of the DOT, reasoning that “no federal agency can properly perform such (investigatory) functions unless it is totally separate and independent from any other . . . agency of the United States.” Because the DOT has broad operational and regulatory responsibilities that affect the safety, adequacy, and efficiency of the transportation system, and transportation accidents may suggest deficiencies in that system, the NTSB’s independence was deemed necessary for proper oversight. The NTSB, which has no authority to regulate, fund, or be directly involved in the operation of any mode of transportation, strives for objectivity in its investigations recommendations.

Role in Transportation Safety

Since our inception in 1967, we have investigated more than 144,000 plus aviation accidents and thousands of surface transportation accidents. On call 24 hours a day, 365 days a year, our investigators travel throughout the country and to every corner of the world in response to transportation disasters.
We investigate accidents to determine the probable cause, identify safety issues, and devise recommendations to prevent recurrence. We have issued more than 14,600 safety recommendations to more than 2,400 recipients in all transportation modes, over 82% of which have been implemented. Since 1990, we have compiled and published annually a *Most Wanted List* of transportation safety improvements which increases awareness of, and support for, the most critical recommendations needed to reduce the number of transportation accidents and save lives.

We develop safety studies focused on broader safety questions and topic areas to better perform our mission. Additionally, we serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.
Our organizational structure is designed around sound business and management principles. We have five Board Members, each nominated by the President and confirmed by the Senate to serve 5-year terms. One Member is designated by the President as Chairman and another as Vice Chairman, each for a 2-year term. The chairmanship requires separate Senate confirmation. When there is no designated Chairman, the Vice Chairman serves as Acting Chairman. Figure 1 shows our organizational structure.
The NTSB is headquartered in Washington, DC. We also have investigators assigned to regional offices in Ashburn, Virginia; Denver, Colorado; Anchorage, Alaska; and Federal Way, Washington (Figure 2 shows the NTSB’s US regional presence).
Strategic Plan Overview

In 2016, the NTSB’s senior leadership established a working group within the Executive Management Council (EMC) to develop this plan and evaluate the agency’s future strategic performance. The EMC working group examined best practices at leading public and private organizations and adapted these practices to develop an enhanced, closed-loop process in which the agency will use to identify and evaluate agency performance. This process includes the following phases:

- Phase 1: Conduct Environmental Assessment
- Phase 2: Identify Mission, Vision, Goals, and Objectives
- Phase 3: Create Plans and Performance Metrics
- Phase 4: Execute Strategies
- Phase 5: Monitor and Evaluate

Through this process, the agency identified key priorities, issues, and risks. First, an environmental assessment recognized internal and external risks. The resulting risk mitigation strategies form the basis for this plan. Then, staff devised the agency’s mission, vision, strategic goals, and objectives, and defined performance metrics and goals. As we progress through this process, we will review and assess our performance considering changes in our internal and external environments. A more detailed discussion of strategies and activities in support of all objectives and performance goals are included in the agency’s Annual Performance Reports. More information on this process can be found in the Appendices.
Strategic Goals and Objectives

**Goal 1: Safety Leadership**

*Serve as a global leader in conducting independent accident investigations, producing studies and creating products essential to transportation safety*

To maintain our status as a globally recognized leader in transportation accident investigations and relevant safety studies, we must gain knowledge on transportation system advances and use that knowledge to create products that meet the needs of our stakeholders. Effective decision-making, continuous process improvements, and improved products will require greater use of data analysis and a global understanding of emerging technologies in transportation.

**Objective 1.1 Evolving Technology: Increase agency focus on an awareness of emerging technologies**

Technological advances are transforming transportation at an astonishing rate. These advances are a harbinger of dramatic improvements in transportation safety, but they also pose new challenges for manufacturers and operators of transportation conveyances and the traveling public. Despite challenges with the safe implementation of new technologies in transportation, technology advances are dramatically improving the tools available to investigate the causes of transportation accidents.

It is critical that we remain aligned with changing trends in transportation technology. Recent innovations in transportation, such as automated vehicles, commercial space transportation, hyper-speed rail, solar-powered airplanes, and new recording technologies, make it increasingly important to remain up to date on emerging developments and techniques for mitigating, preventing, and investigating transportation accidents.

We strive to understand and use the most advanced tools and new technologies to analyze transportation accidents, to enhance safety, and to prevent future accidents. Our ability to conduct comprehensive investigations requires the continuing development of staff expertise and the acquisition of essential tools and equipment necessary to understand these advanced systems and technologies.

Our success in achieving this objective will be accomplished by strengthening and increasing our expertise through the following strategies:

- Training staff in emerging technologies and segments of transportation safety.
- Evaluating initiatives to explore innovative safety solutions for emerging technologies.
Objective 1.2 Data Analytics: Broaden the use of data and analysis to improve decision-making

We look to increase transparency and effectiveness by reinforcing the agency’s focus on data and data analytical quality. We strive to improve agency efficiency through two programs, data analytics and digital transformation, to gain opportunities to collaborate, evaluate processes and products, as well as create techniques to assist us in accomplishing our mission.

By leveraging data gathered in our own investigations and from other transportation stakeholders, industry and academia, we will add value to the existing body of research in transportation safety. Informed, methodologically sound data analyses will help us better understand emerging threats to safety, assess the scope and scale of critical safety issues identified in our investigations and studies, issue the most relevant safety recommendations, and improve agency strategy development and decision-making.

Our success in achieving this objective will be accomplished by strengthening and increasing our expertise through the following strategies:

- Improving organization efficiency and effectiveness through the expansion of two agency programs, data analytics and digital transformation.
- Developing an operational analytics and management strategy to inform decision-making.
- Ensuring processes and databases are accessible internally and externally for monitoring trends.

Objective 1.3 Improve Transportation Safety: Promote transportation safety through response, products, recommendations, outreach, and proactive approaches and actions to remain resilient and effective.

Conducting independent accident investigations, developing relevant recommendations, and sharing lessons learned are critical components of our mission, and they are done with integrity transparency, and excellence, which are agency core values. A key challenge is to identify incidents in aviation and accidents in each transportation mode that represent the most important targets of safety improvement opportunity, determining the scope and scale of the resulting investigations, and conducting safety studies to help prevent similar accidents from occurring in the future.
Our success in achieving this objective will be accomplished by demonstrating our impact on improving transportation safety through the following strategies:

- Demonstrating how we improve transportation safety through the variety of products we produce.
- Continuing to advance our role in international accident investigations and cooperative activities through collaborations with foreign stakeholders.
- Increasing advocacy and outreach efforts on emerging safety issues and safety recommendations through ongoing dialogue with all our stakeholders.

**Goal 2: Engagement**

**Engage external stakeholders to advance transportation safety**

Effective engagement with the range of stakeholders interested in transportation safety is an important ingredient for agency success. Communication, advocacy, outreach, and partnerships enhance and foster collaboration with stakeholders.

This goal also emphasizes the importance of promoting our Most Wanted List, which is designed to increase awareness of, and support for, the most critical safety enhancements needed to reduce transportation accidents and save lives. By engaging, collaborating, and partnering with stakeholders, we can increase the potential for implementation our recommendations and strengthen our impact on improving transportation safety.

**Objective 2.1 Stakeholder Engagement: Optimize outreach and build consensus with stakeholders**

Collaboration with government agencies, the transportation industry, and advocacy organizations helps to identify and develop effective ways to advocate for and improve safety. Stakeholder outreach and consultations enable us to develop more concise recommendations that are likely to be enacted successfully. Additionally, stakeholder support of agency initiatives will support our efforts to promote safety of the entire transportation system.

Our success in achieving this objective will be accomplished by enhancing our external stakeholder engagement through the following strategies:

- Engaging the public and stakeholders through strong partnerships and collaborations to increase public understanding of lessons learned and transportation safety improvements.
- Increasing our access to and use of voluntarily provided safety information from industry stakeholders to support consensus-building on the issues most relevant to reducing safety risks in the transportation sectors we investigate.
• Leveraging social media, and other online tools to communicate more effectively with external stakeholders.

Goal 3: Synergy
Promote employee teamwork, innovation, and engagement to optimize operations

We will foster a culture of leadership, diversity, and accountability that enables decision-making while promoting teamwork and collaboration. We will strive to meet challenges with innovation and urgency. Collectively, these efforts support our goal of being a synergistic organization. Our employees can be most effective when they are motivated, engaged and trained. We continue to ensure our staff are ready and equipped with the necessary skills to support the mission daily.

Being a forward-thinking agency drives synergy and creativity within the agency. To foster efficiency in an evolving transportation environment, we must be innovative at all organizational levels. We will build important strategic links among planning, program management, budgeting, human resources, and technology to ensure the agency is operating cohesively.

Objective 3.1 Empowerment: Cultivate creativity and innovation across the agency through effective leadership

We will support a transparent and collaborative decision-making process and will seek to continuously align organizational goals with daily actions. We will promote teamwork and innovation across our offices by empowering, enabling, and rewarding staff to seek out interdepartmental and external agency partnerships, emerging transportation technologies and safety risks, and collaborative relationships with stakeholders focused on understanding their industry trends, constraints, and opportunities involving public safety to improve our processes, optimize operations and enhance our responsiveness to stakeholders.

Our success in achieving this objective will be accomplished by improving agency efficiency and effectiveness through the following strategies:
• Communicating consistently within the agency to increase transparency of strategic activities which allows for increased trust, empowerment, collaboration and efficiency.
• Teaching and promoting risk management principles at all levels of the organization to remain resilient to changing environments.
• Evaluating and redesigning processes to promote efficiency.
Objective 3.2 Inclusive and Engaged Workforce: Promote an inclusive, and engaged workforce and eliminate barriers to equal employment opportunity

Employee engagement is the employee’s sense of purpose that is evident in their display of dedication, persistence, and effort in their work or overall attachment to their organization and its mission. With increased demand for innovation and creative problem solving for complex problems, a diverse and inclusive workforce is critical. We strive to create a culture that fosters creativity and engagement through the motivation of our employees.

We will evaluate the Federal Employee Viewpoint Survey results; internal Inclusive Intelligence (New IQ) data; enterprise risks; and, our strategic outcomes to identify strategies to raise awareness, enhance communication, and develop a high-performing, diverse workforce.

Our success in achieving this objective will be accomplished by enhancing staff engagement and inclusiveness through the following strategies:

- Encouraging cooperation and collaboration within the agency to enhance employee engagement and inclusiveness.
- Ensuring senior leadership engages with employees through effective communication, coaching, mentoring, conflict resolution strategies, and staff development.
- Developing strategies for improving the virtual workspace for remote and teleworking staff to increase their connection with their peers, supervisors, and senior leaders.

Key Challenges Affecting Achievement of Strategic Goals

Our ability to achieve our strategic goals may be influenced by the changing balance of industry; other federal, state, and local government activities; national priorities; market forces; and resource availability. The following challenges may affect the ability of the agency to achieve its goals.

Identification and selection of accident investigations
A key challenge for the NTSB is to identify those accidents in each transportation mode that represent the most important targets of investigative opportunity and to determine the appropriate scope and scale of such investigations. This selection process must balance the

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significance of the safety issues involved against the limited investigative resources available to us and the depth of the investigation required.

**Advances in new technologies in all modes of transportation**

Advances in transportation technologies are quickly changing the landscape of the transportation sector. NTSB must gain familiarity, increase technical knowledge and engage with industry leaders in the emerging technologies of commercial space, unmanned aircraft systems, high-speed rail, state of the art railroad technology, automated vehicles, database management systems, and data analytics. This will prepare staff to thoroughly investigate emerging technologies and facilitate smooth working relationships with all parties to investigations. Our equipment and analytical tools must keep pace with innovation to be at the forefront of investigating, mitigating, and ultimately preventing transportation accidents.

**Effectively Issuing and Closing Safety Recommendations**

Issuing appropriate recommendations to recipients is a necessity and remains important to the agency. One challenge we face when issuing recommendation is developing those recommendations that can be implemented in a more impactful way.

In addition, our limited resources create challenges to identify and encourage recipients to implement open safety recommendations. Another concern is how to increase our presence at state legislative sessions to elevate the priority of highway safety at the state level and advance legislators’ understanding of the issues.

Further, we are challenged to ensure that the rulemaking process, which can take years, does not hamper the successful implementation of recommendations. For those recommendations requiring regulatory action, the duration and complexity of the rulemaking process make it difficult for recipients to act on safety recommendations in a timely fashion. This necessitates that we spend significant time monitoring each recommendation.

**Effectively managing pilots’ and mariners’ appeals**

The NTSB serves as the court of appeals for pilots and mariners facing loss or suspension of their licensing certificates or imposition of a civil penalty. As the country’s transportation activity increases, the potential for transportation accidents increases, resulting in more enforcement cases; therefore, effectively managing the appeal process becomes more challenging. We will continue to promote transportation safety by adjudicating appeals of certificate actions and denials, providing due process to those affected, and ensuring the integrity of the aviation and maritime safety enforcement system.
Recruiting, retaining, and developing staff
The NTSB has earned a reputation for thorough and independent transportation accident investigations, which is attributed to the expertise and skillset of our employees. We are committed to continuously enhancing the managerial, leadership, and workforce skills needed to ensure that we accomplish our mission. This initiative includes the entire NTSB organization—investigative offices, support offices, and agency leadership. We are faced with the challenge of developing our workforce in an environment of technological changes and dwindling resources.

Addressing the Challenges to Goal Achievement
We address these challenges through effective long-range planning, open communication, and improved employee engagement. Long-range planning in human capital management and core operations ensures that we are ready to deal with future investigative needs. Effective communication at all levels of the organization improves planning and process. We will devote time and resources to thinking strategically, promoting employee engagement, and encouraging staff development. To achieve our long-term vision, we must effectively plan and communicate while maintaining our primary commitment to improve transportation safety. We believe that the initiatives in place will provide the necessary balance to foster the success of these strategic goals and priorities.
APPENDICES

NTSB Strategic Management Process

In accordance with the Government Performance and Results Act of 2010, the NTSB’s strategic management process and performance framework starts with this plan. The plan serves as the foundation for establishing long-term priorities and developing performance goals, objectives, and metrics by which we can gauge our success. As prescribed by our senior leadership, this new process helps us demonstrate progress toward our performance goals and priorities, which will be measured using quarterly reviews and data analysis for future decision-making. This focus promotes active management and staff engagement across the agency. The figure below depicts a cyclical process map of how we measure success.

![NTSB Strategic Management Process Map](image)

Figure 4: NTSB Strategic Management Process Map

On an annual basis, we will define our performance goals and evaluate our progress toward achieving them through performance metrics. Strategic performance goals and measurement are powerful tools to advance an effective, efficient, and productive government. We regularly collect and analyze performance metric data to inform decisions. NTSB staff constantly strives to achieve meaningful progress and find ways to achieve positive impacts.
This performance-based culture has remained a focus of agency management and staff over the past several fiscal years, and it continues to be enhanced through this plan as we develop and evaluate our performance metrics and target levels each year. As we continually improve this process, we will be able to demonstrate more outcome-related performance results and make the best use of the resources entrusted to the agency. We are optimistic that our results-oriented culture will continue to evolve and promote better governance in the future, leading to further improvements in transportation safety.

**Internal and External Consultation**

In developing this plan, the Board and staff have devoted significant time in coordinating and consulting with internal and external stakeholders. In accordance with statute, we sought input from internal and external stakeholders on this plan several times during the drafting process. We posted the plan on our website using social media to give the public and staff the opportunity to provide comments. Comments were reviewed, responded to if necessary and evaluated during the finalization process.

**Abbreviations and Acronyms**

Table 1: Acronyms and abbreviations

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<thead>
<tr>
<th>Abbreviations and Acronyms</th>
<th>Definition</th>
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<tbody>
<tr>
<td>ANC</td>
<td>NTSB Alaska Region, Anchorage, AK</td>
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<tr>
<td>CEN</td>
<td>NTSB Central Region, Denver, CO</td>
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<tr>
<td>DOT</td>
<td>US Department of Transportation</td>
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<td>EMC</td>
<td>Executive Management Council</td>
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<td>ERA</td>
<td>NTSB Eastern Region, Ashburn, VA</td>
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<td>FAA</td>
<td>Federal Aviation Administration</td>
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<td>NTSB</td>
<td>National Transportation Safety Board</td>
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<td>WPR</td>
<td>NTSB Western Pacific Region, Federal Way, WA</td>
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