## 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**: We will continue to serve as a global leader in independent accident investigations, products, and services essential to transportation safety.
- 2. **Engagement**: We will engage external stakeholders to advance transportation safety.
- 3. **Synergy**: We will promote agency 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 credibility with critical stakeholders we must influence, are the keys to our future success and this plan is a framework to guide us in achieving this objective. It addresses the challenges we face in the next 5 years, and guides our efforts to improve our investigations, advocate for critical safety improvements, and enhance the stewardship of our human and financial resources. Our greatest strength—our dedicated, knowledgeable, and professional staff—focus every day on the safety of the traveling public.

Over the last 3 years to support organizational change 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. The task forces provided valuable strategies for analyzing performance data, improving strategic thinking, and using innovative solutions to achieve organizational goals and objectives. Leadership engaged with staff via a series listening sessions to understand their concerns and suggestions for improving agency operations and products. We are implementing many of the ideas from these sessions. 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 from the 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.

### Vision

To be THE BEST place to work in the federal government.

### **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 our actions with our 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.



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## **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, and railroad 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, conducts investigations and makes recommendations from an objective viewpoint.

### **Role in Transportation Safety**

Since our inception in 1967, we have investigated more than 144,000 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.



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Our investigations are used to determine the probable cause of an accident, examine safety issues related to that and to similar accidents, and devise recommendations to prevent reoccurrence. We have issued more than 14,600 safety recommendations to more than 2,300 recipients in all transportation modes, over 82% of which have been implemented. Since 1990, we have compiled and published a *Most Wanted List* (MWL) of transportation safety improvements which represents our advocacy priorities. It is designed to increase awareness of, and support for, the most critical changes needed to reduce transportation accidents and save lives.

Safety studies focused on broader safety questions and topic areas, enabling us 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 (USCG), and we adjudicate appeals of civil penalty actions taken by the FAA.



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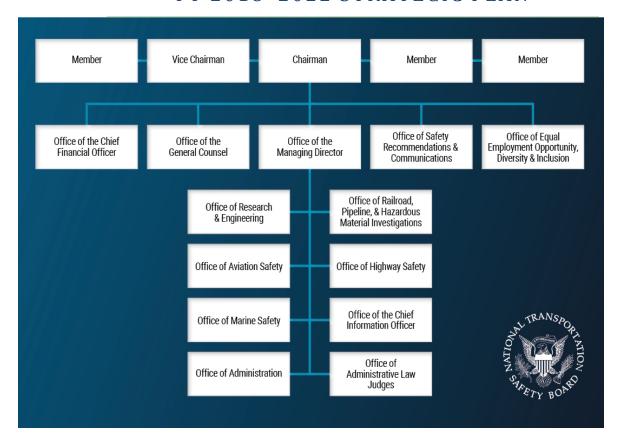


Figure 1: NTSB Organization Chart

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 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 as of October 2016.





Figure 2: NTSB Regional Presence

The NTSB is headquartered in Washington, DC. We also have investigators located in regional offices in Ashburn, Virginia; Denver, Colorado; Anchorage, Alaska; and Federal City, Washington (Figure 2 shows the NTSB's US regional presence). The Office of Aviation Safety has organized the staff assigned in the 48 contiguous states into three regions; Alaska forms a fourth region.



### **Strategic Plan Overview**

In 2016, the NTSB's senior leadership established an Executive Management Council (EMC) strategic planning working group 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 for the NTSB with 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 closed loop 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. More information on this process can be found in Appendix A.

## **Strategic Goals and Objectives**

## **Goal 1: Safety Leadership**

## Serve as a global leader in providing independent accident investigations, products, and services essential to transportation safety

To maintain our status as a globally recognized leader in transportation accident investigations and relevant safety recommendations, 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 state-of-the-art 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 concerns about the safe implementation of new technologies in transportation, at the same time it is equally clear that technology advances are also 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 autonomous 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 employ the most advanced tools to analyze transportation accidents and, over many years, we have made a significant number of recommendations to regulators, manufacturers, and operators to develop and deploy new technologies to enhance safety and prevent future accidents. Yet, the pace of technological change and its complexity and sophistication present new challenges to our investigators and analysts. Our ability in the future to conduct comprehensive investigations requires the continuing development of staff expertise and the acquisition of essential tools and equipment necessary to investigate transportation accidents where latest technologies may have contributed to an accident.

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

- Training in emerging technologies and segments of transportation.
- Conducting comprehensive and technically proficient accident and incident investigations.
- Developing and applying innovative and efficient investigative tools.

## Objective 1.2 Data Analytics: Broaden the use of data and analytics to improve decision-making

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:

- Pursuing improved research methods and reporting of trends and historical issues.
- Ensuring processes and databases are accessible internally and externally for monitoring trends.
- Developing an operational analytics and management strategy to inform decision-making.
- Increasing transparency by reinforcing the agency's focus on data and data analytical quality.

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

Conducting independent accident investigations, developing relevant recommendations, and promoting advocacy 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 *ensuring our impact on improving transportation safety* through the following strategies:

- Continuing to showcase how we improve transportation safety through the variety of products we produce.
- Continuing to advance our role in international accidents investigations and collaborations with foreign countries.
- Communicating timely and accurate information to the transportation safety community on actions, recommendations, lessons learned, and accomplishments that improve safety.
- Increasing advocacy efforts on emerging safety issues 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 MWL, which is designed to increase awareness of, and support for, the most critical changes needed to reduce transportation accidents and save lives. By engaging, collaborating, and partnering with stakeholders, we can increase the potential of our recommendations being implemented and strengthen our impact.

## Objective 2.1 Stakeholder Engagement: Use our independence and integrity to optimize outreach and build consensus with stakeholders

Our stakeholders continuously remind us of the significance of our mission. We encourage collaboration with government agencies, the transportation industry, and advocacy organizations to identify and develop effective ways to advocate for safety. Stakeholder engagement supports our efforts to promote the safety of the entire transportation system and furthers the agency's objectives of promoting advocacy, outreach, and collaboration.

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

- Advocating transportation safety by enhancing and fostering collaboration with stakeholders.
- 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 risk in the transportation sectors we investigate.
- Continuing to advance our ongoing international outreach and collaborations with foreign countries.
- Developing a strategic communication plan that clearly disseminates the safety message in agency products.
- Leveraging e-mail, social media, and other online tools to communicate more effectively with external stakeholders.
- Engaging the public and stakeholders through strong partnerships to increase public understanding of lessons learned and transportation safety improvements.



### **Goal 3: Synergy**

#### Promote agency teamwork, innovation, and engagement to optimize operations

We foster a culture of leadership, diversity, and accountability that enables decision-making while promoting teamwork and collaboration. We strive to meet challenges with innovation and urgency. Collectively, these efforts support our goal of being a synergistic organization.

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 are building important strategic links between 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 support a transparent and collaborative decision-making process and seek to align organizational goals with daily actions. We promote teamwork and innovation across our offices and improve our processes to optimize operations and improve our responsiveness to stakeholders.

Our success in achieving this objective will be accomplished by *improving agency efficiency and effectiveness* through the following strategies:

- Teaching and promoting risk management principles at all levels of the organization to remain resilient to changing environments, internal and external.
- Evaluating and redesigning processes to improve first-pass yield; reduce rework, duplication, and non-value-added tasking; and improve standardization where appropriate.
- Promoting efficiency through enhanced use of automation and technology where appropriate.
- Developing and implementing efficient training modules and tools for staff.
- Develop competency and skills assessment program for staff.
- Communicating consistent organizational goals, objectives, priorities, and performance expectations in a timely manner to staff at all levels in the agency.



## Objective 3.2 Inclusive and Engaged Workforce: Eliminate barriers to equal employment opportunity and promote an inclusive and engaged workforce

With increased demand for innovation, problem solving, and efficient resource use, it is critical that we address these challenges with a diverse and inclusive workforce. We strive to create a culture that fosters creativity and benefits from a greater return on investment in human capital. We will leverage internal inclusive intelligence data and employee viewpoint survey results to increase engagement, innovation, and collaboration. After considering the available data over the last few years, we will evaluate our performance outcomes to identify strategies to raise awareness, enhance communication, foster a culture of inclusion and engagement, 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:

- Sustaining an agency-wide performance culture focused on individual and organizational accountability to achieve programmatic goals and priorities.
- Expanding our social media presence to promote our mission and expanding outreach to a diverse pool of applicants for mission-critical positions.
- Using innovative strategies to recruit, develop, and retain a well-qualified, diverse workforce.
- Ensuring senior leadership is engaged with employees through communication, coaching, mentoring, conflict resolution strategies, and staff development.
- Encouraging cooperation and collaboration within to drive employee engagement and empowerment.
- Developing strategies for improving the virtual workspace for remote and teleworking staff to increase their connection with their peers, supervisors, and senior leaders.

### **Key Factors Affecting Strategic Goal Achievement**

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 factors may affect this plan's goal achievement.

### Identification and selection of accident investigations

The costs of transportation accidents to society are significant, and as traffic levels in the US transportation system grow, so will the potential for accidents and their associated costs. Accompanying this growth are enormous increases in the complexity of industry processes and systems, which must be addressed with accident investigation techniques and methods that are



equally complex. 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 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 emergent technologies of commercial space, unmanned aircraft systems, high-speed rail, state of the art railroad technology, autonomous vehicles, database management systems, and analytics. This will prepare staff to investigate when this technology is a factor in an accident 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 mitigating, preventing and investigating transportation accidents.

### Effectively Issuing and Closing Safety Recommendations

The nation's transportation activity is influenced by changes in highly correlates with economic activity and continues to increase. As our skies, highways, waterways, and railways become more congested, the potential for transportation accidents increases. Issuing appropriate recommendations to recipients is a necessity and remains important to the agency. One challenge we face with issuing recommendations, is developing those recommendations that can be implemented in a more impactful way.

Our limited resources make it challenging to find new ways to identify ways to 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 suited to 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 requires us to 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.

### Retaining and recruiting staff with critical technical experience

The NTSB has earned a reputation for thorough and independent transportation accident investigations. We are committed to continuously developing the managerial, leadership, and workforce skills needed to ensure the quality of the accident investigations for which we are well known. 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.

We address these challenges through effective long-range planning, excellent 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 <u>Government Performance and Results Act of 2010</u>, 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 Five Phase Cyclical Process



Figure 3: NTSB Strategic Management Process Map

On an annual basis, we will define our performance goals and evaluate our progress toward achieving them. 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 NTSB 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 mission-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 pan, 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 Strategic Plan in the Federal Register and on our website using social media to give the public the opportunity to provide comments. Comments were reviewed, responded to if necessary and evaluated during the finalization process.

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## **Abbreviations and Acronyms**

Table 1: Acronyms and abbreviations

Abbreviations and Acronyms	Definition
EMC	Executive Management Council
NTSB	National Transportation Safety Board
ANC	NTSB Alaska Region, Anchorage, AK
CEN	NTSB Central Region, Denver, CO
WPR	NTSB Western Pacific Region, Federal City, WA
ERA	NTSB Eastern Region, Ashburn, VA
USCG	US Coast Guard
DOT	US Department of Transportation
FAA	Federal Aviation Administration
MWL	NTSB Most Wanted List