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Washington, DC 20594-2000  
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# National Transportation Safety Board

Office of the Chief Information Officer

FOIA Office (CIO-40)

Washington, DC 20594



February 25, 2026

Re: National Transportation Safety Board (NTSB)  
Freedom of Information Act (FOIA) No. FOIA-2024-00511

This letter is in response to your FOIA request received on July 17, 2024, seeking a copy of the Barrier Analysis Study.

The Safety Board located several pages responsive to your request. Enclosed are 70 pages; however, we withheld certain information, in part and in full, pursuant to the following exemptions specified below.

We determined that certain documents, are exempt from release under FOIA exemption 5 U.S.C. § 552(b)(5) ("Exemption 5"), which exempts from disclosure "inter-agency or intra-agency memorandums or letters that would not be available by law to a party other than an agency in litigation with the agency, provided that the deliberative process privilege shall not apply to records created 25 years or more before the date on which the records were requested." Exemption 5 exempts from disclosure agency records that are preliminary and deliberative. National Wildlife Fed'n v. Forest Serv., 861 F.2d 1114 (9th Cir. 1988); Jowett, Inc. v. Department of the Navy, 729 F. Supp. 871 (D.D.C. 1989). Overall, Exemption 5 justifies withholding material that reflects the Safety Board's deliberative process from disclosure in order to ensure the free flow of information during the course of our investigations and other projects. Mead Data Cent., Inc. v. Department of the Air Force, 566 F.2d 242, 256 (D.C. Cir. 1977). Pursuant to this exemption, we partially redacted 28 pages making recommendations on Agency's matters.

Personal information, notably autopsy information and graphic photos, social security numbers, and any personal identifying information, is withheld pursuant to 5 U.S.C. 552(b)(6), which exempts from disclosure "personnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy," to include personal addresses, phone numbers, etc. Pursuant to this exemption, we partially redacted 1 page containing direct business telephone number and e-mail addresses.

In several documents enclosed with this letter, we determined that exemption(s) to the FOIA required that we redact a limited amount of material. The redactions are clearly marked, and the applicable exemption(s) are noted at the place of the redaction.

The NTSB has completed processing your FOIA request, and no there are no fees.

In accordance with the standard codified in the statute, even where an exemption would otherwise apply, agencies may withhold information only when (1) the agency reasonably foresees that disclosure would harm an interest protected by one of the nine exemptions that FOIA enumerates; or (2) disclosure is prohibited by law. See 5 U.S.C. § 552(a)(8)(A)(i). The NTSB considered the foreseeable harm standard when reviewing records and applying FOIA exemptions in response to this FOIA request and has determined that releasing the records would create a foreseeable harm. Disclosure of the information would chill agency officials' ability to candidly discuss policy options and confuse the public where options being considered are not ultimately adopted.

You may contact our FOIA Public Liaison at 202-314-6540, for any further assistance and to discuss any aspect of your request. Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration (NARA) to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows: OGIS, NARA, 8601 Adelphi Road-OGIS, College Park, Maryland 20740-6001, e-mail at [ogis@nara.gov](mailto:ogis@nara.gov); telephone at 202-741-5770; toll free at 1-877-684-6448; or facsimile at 202-741-5769.

If you are not satisfied with the response to this request, you have the right to appeal this determination under the FOIA. You may administratively appeal by writing to the NTSB, Attention: Ms. Dana Schulze, Managing Director, 490 L'Enfant Plaza, SW, Washington, D.C. 20594. Your appeal must be postmarked or electronically transmitted within 90 days of the date of the response to your request.

Sincerely,

  
for  
Roger Castillo  
Acting FOIA Officer

Enclosure



# Diversity, Equity, Inclusion, and Accessibility (DEIA) Barrier Analysis

Final Report

**National Transportation Safety Board (NTSB)**

**Office of Equal Employment Opportunity, Diversity, and  
Inclusion (EEODI)**

July 1, 2022

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## I. Executive Summary

The National Transportation Safety Board (NTSB) Office of EEO Diversity & Inclusion has contracted with Economic Systems Inc. (EconSys) to analyze NTSB diversity outcomes and assess agency policies and procedures that have an impact on outcomes. The project focuses on statistical analyses, interviews, barrier analysis, and training to support findings. The project requires quantitative statistical analysis to identify the scope and specifics of the underrepresentation of diverse groups and several types of qualitative analyses to understand the factors contributing to lack of diversity and to provide recommendations.

This project has four main tasks, with an emphasis on underrepresented groups (including Females, Blacks, Hispanics, Asians, Native Americans/Alaskan Native Americans, Native Hawaiians or Other Pacific Islanders, and individuals with disabilities).

The tasks are:

1. **Barrier analysis** that identifies employment policies (formal or informal), procedures (formal or informal), practices, or conditions (formal or informal), that tend to limit opportunities for members of such groups
2. **Engage NTSB employees through meetings** to obtain further insights into these barriers
3. **Identify barriers that arise throughout the employment life cycle at NTSB, including recruitment, hiring, promotions, and terminations**
4. **Recommend and assist in implementing evidence-based strategies, interventions, or plans of action** to mitigate or eliminate those barriers.

This project is further influenced by the June 25, 2021, Executive Order (EO) 14035 on Equity, Diversity Inclusion, and Accessibility (DEIA) in the Federal Workforce.<sup>1</sup> EO 14035 specifies that the Federal Government must be a model for DEIA and must strengthen its ability to recruit, hire, develop, promote, and retain talent and remove barriers to equal opportunity. The EO establishes DEIA as a priority dimension of federal governance and specifically supports the development and issuance of

<sup>1</sup> EO 14035 defines DEIA terms as follows:

**Diversity** means the practice of including the many communities, identities, races, ethnicities, backgrounds, abilities, cultures, and beliefs of the American people, including underserved communities.

**Equity** means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment.

**Inclusion** means the recognition, appreciation, and use of the talents and skills of employees of all backgrounds.

**Accessibility** means the design, construction, development, and maintenance of facilities, information and communication technology, programs, and services so that all people, including people with disabilities, can fully and independently use them. Accessibility includes the provision of accommodations and modifications to ensure equal access to employment and participation in activities for people with disabilities, the reduction or elimination of physical and attitudinal barriers to equitable opportunities, a commitment to ensuring that people with disabilities can independently access every outward-facing and internal activity or electronic space, and the pursuit of best practices such as universal design.

government-wide DEIA initiatives, strategic plans, agency-specific assessments, and annual progress reports.

## Highlights

DEIA outcomes are measures of diversity, equity, inclusion for all members of the workforce, and accessibility for people with disabilities. Under Management Directive (MD)-715, a key measure of diversity is underrepresentation of protected groups in the organization's workforce compared to representation in the civilian labor force or measures of underrepresentation based on internal benchmarks within the organization. DEIA best practices often supplement these outcomes with additional measures based on climate surveys of employees and other data collection methods.

### Diversity

**1. Representation of EEO Groups.** The EconSys Project Team analyzed an extensive amount of NTSB personnel data to measure diversity and discern patterns of underrepresentation of protected groups. Analysis at the level of overall diversity representation of race/ethnic origin categories reveals only a few shortfalls, primarily for Hispanics. Hispanics comprise only 3.6 percent of the overall NTSB workforce, compared to 9.4 percent of the federal workforce,<sup>2</sup> 9.6 percent of the regional targeted benchmark for NTSB, or 10 percent of the national civilian labor force (CLF). In contrast, overall Black representation at NTSB is 17.2 percent, compared to 14.9 percent for the regional targeted benchmark, or 12 percent at the national level. Asian representation at NTSB is 5.7 percent compared to 5.8 percent regionally and 3.9 percent nationally.

Analysis at the occupation level indicates underrepresentation in all Mission Critical Occupations (MCOs), except for Air Safety Investigator. Blacks are underrepresented in six of the eight MCOs (0801, 0830, 0861, 1801, 2101, and 2121). Hispanics are underrepresented in five of the eight MCOs (0801, 0830, 0861, 1083, 1801). Asians are underrepresented in four of the eight MCOs (0830, 1083, 2101, and 2121). Females are underrepresented in only Aerospace Engineering (0861). The MCOs are highly technical in nature and are at higher pay grade levels. Weighted averages were calculated for the eight MCOs to obtain enough statistical observations to perform valid statistical tests.

**Recommendation:**

(b)(5)

(b)(5)

<sup>2</sup> OPM FedScope Diversity Cube, March 2021.

**2. Hire and Promotion Selection Rates.** Over a five-year period from 2017 to 2021, the number of applicants for positions at NTSB (headquarters and regional offices) comprised 870 Whites, 469 Blacks, 175 Hispanics, and 173 Asians. For the final stage of the hiring process, Whites have the highest selection rate at 17 percent, compared to 13 percent for Asians, 15 percent for Hispanics, and 8 percent for Blacks. The selection rate among internal promotion applicants is 14 percent for Whites compared to 4 percent for Blacks, 18 percent for Hispanics, and 7 percent for Asians. The barrier analysis shows that Black candidates have a statistically significant lower rate of selection for both hiring and promotions. Females, especially White Females, have a statistically significant higher rate of selection for promotions than Males.

The data analysis indicates that the primary focus of decision-making at which the underrepresentation is arising is not the initial screening stage of determining which initial applicants are qualified for the position. Instead, it is arising at the later stages of deciding which applicants to refer for further consideration and selecting who to hire. Underrepresentation of diversity in the applicant pool was not identified as a barrier.

**Recommendation:**

(b)(5)

**3. Trend Analysis.** Organization level diversity change typically occurs slowly over time. The amount of change is primarily limited by the number of opportunities for change through hiring, replacement hiring, promotion, and retention. As the opportunity to change diversity is limited, this analysis focuses on comparing the diversity of Hires in the most recent three-year period to the diversity of Onboard Employees. The impact of diversity efforts should be detectable in the population of Hires. This analysis compares metrics for race/ethnicity, gender, and disability status between Hires and Onboard Employees.

Overall, the comparison between Hires and Onboard Employees reflects favorably from the DEIA perspective. Statistically significant improvements in minority representation and Female representation are both present. The significant results are also clearly present for the Mission Critical Occupations.

Disability representation also shows improvement; however, the latter results are not statistically significant. The latter could be affected by the smaller number of statistical observations. Additional trend analysis within specific MCOs is hampered by insufficient statistical observations. There is simply not enough data points to perform meaningful trend analysis within an occupation.

**Recommendation:**

(b)(5)

**Inclusion**

**4. Federal Employee Viewpoint Survey (FEVS) Analysis.** The Federal Employee Viewpoint Survey (FEVS) sponsored by the Office of Personnel Management (OPM) provides a critical source of information on equity and inclusion. The FEVS data provide insights on employee perceptions related to DEIA that cannot be extracted from quantitative personnel data. It contains subjective experiences about what it is like to be an NTSB employee.

Available NTSB 2020 FEVS data limit analysis to gender, employees with disabilities, and employees who identify as LGBTQ+. Unfortunately, the available data do not allow for in-depth analysis of underrepresented groups such as Blacks, Asians, Hispanics/Latinos, and comparisons with Whites.

**Recommendation:**

(b)(5)

### Policies/Practices/Programs

**5. Personnel Practices.** Agency personnel practices relevant to DEIA include recruitment, hiring, development, performance reviews, promotion, and retention. EO 14035 speaks to adopting “best practices” in this area. The Project Team’s qualitative analysis focused on focus group discussions and policies, practices, and procedures review.

**Recommendations:**

(b)(5)

### Policies/Practices/Programs Impacting Persons with Disabilities

**6. Leadership, Infrastructure, and Culture.** Establishing a diverse, equitable, and inclusive agency-wide culture begins with leadership at the highest levels, including political appointees, personnel in Senior Executive Service (SES), and mid-level managers and supervisors. For people with disabilities this includes expectations that addressing their interests will not be an afterthought, but addressed in the initial design stages of policies, practices, and processes and the provision of qualified staff and adequate budgets.

**Recommendation:**

(b)(5)

(b)(5)

**7. Workforce Analysis and Identification of Disability.** Our document review and interviews raised concerns regarding the accuracy of the data collected for purposes of performing the annual workforce analysis used to determine the percentage of employees at each grade level and salary level who have disabilities and targeted disabilities. For example, currently an ambiguity in a key code used in OPM Standard Form (SF)-256 for reporting disability may result in under-counting of individuals with disabilities and individuals with targeted disabilities. OPM SF-256 Code 01 is: "I do not wish to identify my disability or serious health condition." EEOC is concerned that employees who do not have a disability, as well as people who have a disability but do not want to specify a particular impairment will enter 01. This may lead to inaccurate data and thereby hinder efforts by NTSB to address systemic barriers facing employees with disabilities.

**Recommendation:**

(b)(5)

(b)(5)

**8. Recruitment, Hiring, Advancement and Retention.** Our research suggests that offices do not consistently use hiring tools that target candidates who have disabilities to their full potential (for example, Schedule A Excepted Service Hiring Authority and the Workforce Recruitment Program). Contributing to this problem is insufficient mechanisms for sharing best, promising, and emerging practices for recruiting, hiring, retaining, and advancing people with disabilities.

Recommendation

(b)(5)

(b)(5)

**9. Centralized Accommodation Funding.** Currently, the Reasonable Accommodation Program does not include a centralized source of funding for accommodations—currently appropriate funding is provided by OCIO, and AD. NTSB also does not have a centralized program for funding personal assistance services (PAS). Individuals within NTSB do not have sufficient expertise on assistive technology (AT) devices and services and the interplay between AT and information and communication technology (ICT), and communication between various stakeholders within NTSB regarding these subjects is inadequate.

Recommendation

(b)(5)

(b)(5)

**10. Accessibility and Usability of information and Communication Technology.** Executive Order 14035 and Section 508 of the Rehabilitation Act generally require federal agencies, including NTSB, to design, maintain, procure, and use ICT that is accessible to and usable by individuals with disabilities. According to our interviews and our review of websites and documents, there appears to be a systemic failure at NTSB to meet this standard in terms of policy, personnel, budget, and training.

Recommendation:

(b)(5)

(b)(5)

### Data Gaps and Lack of Evidence

**11. DEIA Data Collection Challenge.** While conducting the study, the Project Team noticed that NTSB personnel required a significant level of effort to gather, format, and distribute the appropriate data required for the Barrier Analysis project.

There is also an issue with incomplete applicant flow data and the integrity of this data. A large portion of applicant flow data cannot be used because the data shows no one was selected. This is due to the HR Specialist not completing the record.

Recommendation:

(b)(5)

(b)(5)

### Transparency and Dissemination of Information

**12. Role of MD-715 Reporting.** Based on the Project Team's observation, NTSB MD-715 annual reports currently appear to serve primarily to fulfill the Equal Employment Opportunity Commission (EEOC) reporting mandate for NTSB but have only limited impact in informing and guiding DEIA activities by NTSB leadership, or in informing relevant stakeholders throughout the NTSB community.

Recommendation:

(b)(5)

(b)(5)

**13. Access to DEIA Information.** EO 14035 calls on federal agencies to promote a data-driven approach to increase transparency and accountability, building on the EEOC’s Management Directive (MD)-715 measures of employment outcomes.

**Recommendation:**

(b)(5)

**14. Public Release of DEIA Information.** EO 14035 requires NTSB to make information available to the public on its DEIA efforts.

**Recommendation:**

(b)(5)

## II. Diversity Benchmarks

Nearly all federal agencies have a requirement for reporting Equal Employment Opportunity Commission (EEOC) Management Directive (MD)-715 diversity data and conducting barrier analysis. A key measure of employment outcomes for MD-715 reporting purposes is the percent of an agency’s workforce by racial/ethnic groups, gender, and disability status. The critical result for EEO reporting is whether the participation rate for a targeted group meets or exceeds the participation rate (or benchmark) in the relevant civilian labor force (RCLF). The term “underutilization” is used to refer to the presence of fewer employees in the targeted group than would be expected given their availability. RCLF typically refers to the labor market for a specific occupation in a reasonable recruitment area.

EEOC requires that decennial Census data be used to calculate RCLF benchmarks for gender and racial/ethnic groups. It encourages agencies to use alternative benchmarks as well. EEOC sets benchmarks of twelve percent and two percent for individuals with disabilities and targeted disabilities, respectively. EEOC also requires that agencies use an “internal” benchmark for several of the tables in

the MD-715 Table A series. Internal benchmarks are the percent representation of a protected group in the agency’s permanent workforce for a given occupation or sub-division. The Project Team reviewed internal benchmarks related to occupation and grade level using the *DEIA Reporter* tool and only isolated triggers were uncovered. Two grade level triggers are significant. One significant trigger for White Females at GS12 and one for Black Females at GS15. Regarding significant occupation triggers, Hispanics and Black Females have triggers for 1801 at GS14. However, there appeared to be no trigger patterns from the internal benchmarks requiring additional root cause analysis.

## External Benchmarks

The mandated MD-715 benchmarks at a total civilian labor level do not reflect the highly technical nature of work within NTSB. To provide a more nuanced analysis of barriers within NTSB, the Project Team developed a set of benchmark alternatives to the mandated benchmarks that:

- Provide additional insights into the demographics of highly specified technical occupations that reflect the NTSB technical workforce
- Capture more of the geographic dispersion of potential NTSB job candidates
- Utilize more recent data that capture ongoing demographic changes for NTSB mission critical occupations.

The primary alternative benchmarks developed for all employees utilize Census American Community Survey (ACS) data five-year estimates for 2015-2019. The first step in this process is to create a mapping from Office of Personnel Management occupational definitions to FFO 2010 Census and 2018 Census definitions. Such a mapping is necessary as NTSB and other federal agencies use Office of Personnel Management (OPM) occupational position classifications, while the data sources for benchmarks (i.e., decennial Census and ACS 5-year estimates) use the Census definitions. Table 1 presents the occupational mapping of the top eight NTSB major occupations from OPM to the 2010 (used by decennial Census) and 2018 Census (used by ACS).

**Table 1. Mapping of OPM Occupations to 2018 Census Occupations**

<b>NTSB MCO Top 8</b>	<b>OPM Series Number</b>	<b>OPM Series Name</b>	<b>2010 Census Code</b>	<b>2018 Census Code</b>	<b>2018 Census Title</b>
<b>General Engineering Mechanical Engineering Aerospace Engineering</b>	0801	General Engineering	1530	1530	Engineers, All Other
<b>Technical Writer</b>	1083	Technical Writing and Editing	2840	2840	Technical Writers
<b>Accident Investigation</b>	1801	General Inspection, Investigation, Enforcement, and Compliance	0565	0565	Compliance Officers
<b>Air Safety Investigation</b>	1815	Air Safety Investigating	0565	0565	Compliance Officers
<b>Transportation Safety</b>	2101	Transportation Specialist	0750	0750	Business operations specialists, all other

NTSB MCO Top 8	OPM Series Number	OPM Series Name	2010 Census Code	2018 Census Code	2018 Census Title
Railroad Accident Investigator	2121	Railroad Safety	0565	0565	Compliance Officers

After initial discussions with NTSB staff, the following positions in Table 1 were assessed to have questionable occupational matches between the highly specific and technical nature of the NTSB occupation to the ACS Occupation:

- Accident Investigation (1801)
- Air Safety Investigation (1815)
- Transportation Safety (2101)
- Railroad Accident Investigator (2121).

During the hiring manager interviews these positions were discussed at length. Managers were asked questions regarding position experience requirements, as well as which industry positions they tend to target for recruitment purposes. Based on NTSB input, these four positions show revised mapping in Table 2 to develop the representative comparative occupational matching.

**Table 2. Revised Occupational Mapping**

NTSB MCO	OPM Series Number	OPM Series Name	2010 Census Code	2018 Census Code	2018 Census Title
Accident Investigation	1801	General Inspection, Investigation, Enforcement, and Compliance	9030	9030	Aircraft Pilots and Flight Engineers
			9040	9040	Air Traffic Controllers and Airfield Operations Specialists
			9410	9410	Transportation Inspectors
			9310	9310	Ship and Boat Captains and Operators
			9330	9330	Ship Engineers
			3860	3860	Transit and Railroad Police
			0540	0540	Claims Adjusters, Appraisers, Examiners, and Investigators
			1440	1440	Marine Engineers and Naval Architects

NTSB MCO	OPM Series Number	OPM Series Name	2010 Census Code	2018 Census Code	2018 Census Title
Air Safety Investigation	1815	Air Safety Investigating	9030	9030	Aircraft Pilots and Flight Engineers
Transportation Safety	2101	Transportation Specialist	9005	9005	Supervisors of Transportation and Material Moving Workers
			9410	9410	Transportation Inspectors
			1360	1360	Civil Engineers
			1430	1430	Industrial Engineers, including Health and Safety
			1350	1350	Chemical Engineers
			1410	1410	Electrical and Electronics Engineers
			1460	1460	Mechanical Engineers
			1510	1510	Nuclear Engineers
			1400	1400	Computer Hardware Engineers
			Railroad Accident Investigator	2121	Railroad Safety
9230	9230	Railroad Brake, Signal, and Switch Operators			
9240	9240	Railroad Conductors and Yardmasters			
9410	9410	Transportation Inspectors			
3860	3860	Transit and Railroad Police			

The Project Team calculated ACS benchmarks by race/ethnicity and gender in several ways. The two most common methods employed are by geography and occupation. However, simple occupational data tabulations by NTSB MCOs revealed a heavily weighted male representation. The same occupational tabulations were developed for the national ACS data and the heavy male representation was similar if different from the NTSB. To account for the occupational variability of the highly specialized occupations of the NTSB, a stratified sampling method was employed. The sampling process involved matching the NTSB occupational distribution, where the sample was pulled from the South Atlantic geographic region. The occupational distribution was sourced from the publicly available FEDSCOPE. All the available NTSB occupational codes and employee counts were used to provide the basis of the criteria for the sample. The stratification attempts to account for the highly specific and technical work of the MCOs as well as matching the overall distribution of occupations at the NTSB. In this way, the alternative benchmark matched the occupational distribution of the NTSB, as well as the

geography of the NTSB workforce. Table 3 below reflects the general progression of the various tabulations of the data. Each column reflects the change in geography or occupation with the last column combining the geography and occupational distributions of the NTSB employed population.

For the geographical representation, the South-Atlantic Region was chosen for overall NTSB representation. The South-Atlantic Region includes the District of Columbia and the primary states of interest - Maryland and Virginia. The South-Atlantic Region also includes Delaware, Florida, Georgia, North Carolina, South Carolina, and West Virginia. The overall population of the South-Atlantic Region was large enough to develop accurate occupational samples with minimal sampling issues for occupational concerns. Other geographic representations such as only the Maryland/Virginia/DC geography were prone to sample development issues. Simply stated, for smaller, very targeted geographies the sampling process could not consistently find enough records to sample from for certain occupations. The South-Atlantic Region provided a reasonable geographic representation and had enough occupational observations to obtain a reasonable representative sample. The South-Atlantic Region also allowed for greater Hispanic representation to be possible since the region included southern Florida.

The naming convention for comparison populations is as follows:

- National Benchmark = US ACS Employed Population (2015-2019)
- Regional Benchmark = South-Atlantic Region, Employed Population (2015-2019)
- National Target Benchmark = US ACS Employed Population (2015-2019), Stratified Sample to match NTSB occupational distribution
- Regional Target Benchmark = South-Atlantic Region, Employed Population (2015-2019), Stratified Sample to match NTSB occupational distribution

**Table 3. ACS, Regional, Occupational, and NTSB Specific Representation, by Demographic Segment**

<b>Group</b>	<b>National Benchmark: US Employed: ACS 5 Yr. Sample (2019)</b>	<b>Regional Benchmark: South Atlantic Region</b>	<b>National Target Benchmark: NTSB Occupations (Weighted)</b>	<b>Regional Target Benchmark: South Atlantic Region, NTSB Occupations (Weighted)</b>
<b>Sex</b>				
Female	47.4	48.4	32.5	35.0
Male	52.6	51.6	67.5	65.0
<b>Race</b>				
American Indian / Alaska Native	0.6	0.3	0.4	0.3
Asian	5.8	4.0	7.2	5.8
Black	11.9	21.7	9.0	14.9
Hispanic	17.3	14.4	10.2	9.6
Native Hawaiian / Pacific Islander	0.2	0.1	0.1	0.0
Two Or More	1.9	1.7	2.0	2.0

Group	National Benchmark: US Employed: ACS 5 Yr. Sample (2019)	Regional Benchmark: South Atlantic Region	National Target Benchmark: NTSB Occupations (Weighted)	Regional Target Benchmark: South Atlantic Region, NTSB Occupations (Weighted)
White	62.1	57.7	70.9	67.2

Due to the highly technical nature of NTSB, selecting a sample benchmark population based on occupation is more important than geography. The National Benchmark most closely aligns with the NTSB occupations (i.e., 1801s represent 17% of the population nationally and 24% of the population at NTSB. During the study, NTSB asked the Project Team why the South Atlantic Region was selected as a benchmark rather than the DC Locality Pay Region. When comparing Regional Benchmarks for 1801s, the South Atlantic Region is slightly more representative than the DC Locality Pay Region (seven percent versus five percent, respectively). When analyzing race, the National Benchmark for Hispanics (ten percent) and both Regional Benchmarks for Hispanics (ten percent South Atlantic and seven percent DC Locality) show underrepresentation of Hispanics at NTSB (three percent). When analyzing gender, the National Benchmark (45 percent Females and 55 percent Males) and both Regional Benchmarks (46 percent Females and 54 percent Males) align with NTSB (40 percent Females and 60 percent Males). For this study, the Project Team used the match rate to occupation as the driver to select the Regional Benchmark. The match rate is better for the South Atlantic Region than the DC Locality Pay Region.

Table 4 presents the Regional and National benchmarks by race/ethnicity, female representation, and major occupations. For the MCOs, Females generally have a low representation regardless of the benchmark except for the Technical Writer position (1083). Differences between the Regional and National benchmarks are much greater for Blacks than the other race categories. For example, the regional benchmarks represent a high benchmark while the National Benchmark represents a low benchmark. The magnitude of this difference is reflected in the other occupations for Blacks too. The National Benchmarks for Asians also tend to be much higher than the Regional Benchmarks for several occupations.

Differences between Regional and National Benchmarks are much smaller for Hispanics. Also, Hispanic Civilian Labor Force (CLF) availability is much lower than that of Blacks in the Regional area. This result suggests the beneficial effects of recruiting Hispanics outside the traditional geographic marketing areas, such as targeted geographical recruiting in areas of the country where the Hispanic population is higher relative to other areas of the country, such as in the Southwestern region of the country.

Table 4. Regional and National Benchmarks by Race Category and by Major Occupations

Major Occupation (OPM Occ. Series)	Regional Benchmark				National Benchmark			
	Black	Hispanic	Asian	Female	Black	Hispanic	Asian	Female
General Engineering (0801)	9%	8%	11%	15%	5%	8%	17%	14%
Mechanical Engineering (0830)	6%	9%	8%	8%	4%	7%	12%	9%
Aerospace Engineering (0861)	5%	11%	10%	12%	4%	9%	12%	12%
Technical Writer (1083)	9%	3%	7%	51%	6%	3%	6%	53%

Major Occupation (OPM Occ. Series)	Regional Benchmark				National Benchmark			
	Black	Hispanic	Asian	Female	Black	Hispanic	Asian	Female
Accident Investigation (1801)	20%	10%	1%	24%	12%	13%	3%	23%
Air Safety Investigator (1815)	2%	7%	2%	7%	2%	7%	2%	6%
Transportation Safety (2101)	13%	11%	8%	16%	7%	10%	12%	15%
Railroad Accident Investigator (2121)	15%	13%	2%	15%	14%	16%	2%	13%
<b>Overall</b>	<b>13%</b>	<b>10%</b>	<b>5%</b>	<b>18%</b>	<b>9%</b>	<b>11%</b>	<b>6%</b>	<b>19%</b>

### III. Diversity Outcomes

#### Representation of EEO Groups

The Project Team analyzed NTSB personnel data to measure diversity and discern patterns of underrepresentation of protected groups. The data was sourced from NTSB demographic employment files for Fiscal Years 2019-2021. The total number of NTSB employees is approximately 400 as of September 30, 2021.

The diversity analysis indicates there are areas of underrepresentation for Blacks, Hispanics, Asians and Females at different occupations including Mission Critical Occupations (MCOs). The analysis also suggests significant triggers are present regarding Black selection rates for both hires and internal competitive promotions. Regarding the diversity of the pool of applicants, overall, there are fair levels of diversity with only small pockets of underrepresentation. These pockets occur primarily for Hispanics, Asians and Females.

#### External Benchmark Comparisons

As discussed above, external benchmarks are based on information about the workforce outside NTSB. The EEOC required benchmark for MD-715 is the National Civilian Labor Force (CLF) and the Occupational Civilian Labor Force. For many agencies, the CLF is an imperfect comparison. NTSB has a specific mission that requires specialized occupations. The most common occupations in the United States are retail sales workers, fast food and counter workers, along with cashiers. These are a significantly different population than those that comprise the bulk of the NTSB labor force.<sup>3</sup> As a measure of total NTSB representation for a given race category, we calculate a weighted occupation mix percent that reflects the mix of different occupations in NTSB.

The NTSB workforce is also located predominantly in the Washington DC, Maryland, and Virginia area. While NTSB jobs are advertised nationally, the immediate labor pool is in this region and may be particularly relevant to lower-level positions. It may also be particularly relevant to higher-level,

<sup>3</sup> U.S. Bureau of Labor Statistics Occupational Employment and Wage Statistics.

professional positions because of the possibly greater attractiveness of NTSB positions to persons who would not have to relocate. Comparing to only national benchmarks may not provide the most accurate estimates of workforce availability. It is an empirical question as to whether the recruitment should focus on a national labor pool or a regional labor pool.

The representation of race/ethnic origin categories in the total NTSB workforce in comparison to national level benchmarks is poor for Hispanics. Although Hispanics comprise 9.4 percent of the total federal workforce,<sup>4</sup> they comprise only 3.6 percent of the NTSB workforce. We also compare the representation of 3.6 percent of NTSB employees to 10 percent of the workforce for the National benchmark and 9.6 percent for the Regional Targeted benchmark shown in Table 5. These differences are statistically significant at the 90 percent confidence level. In the MD-715 reporting system, negative differences that are statistically significant are “triggers,” and they are highlighted in yellow in the table.

Overall diversity representation for Asians at 5.7 percent is slightly lower than the respective Regional Target benchmark and exceeds the National benchmark by a small margin. Overall diversity representation for Blacks at 17.2 percent exceeds the respective Regional Targeted benchmark of 14.9 percent and the respective National benchmark of 12 percent.

**Table 5. NTSB Total Workforce Representation Compared to Regional Targeted Benchmark and National Benchmark, by Demographic Group**

<b>Group</b>	<b>NTSB Workforce</b>	<b>Regional Targeted Benchmark</b>	<b>National Benchmark</b>
<b>Sex</b>			
Female	39.1%	35.0%	48.1%
Male	60.9%	65.0%	51.9%
<b>Race</b>			
American Indian / Alaska Native	0.8%	0.3%	1.1%
Asian	5.7%	5.8%	3.9%
Black	17.2%	14.9%	12.0%
Hispanic	3.6%	9.6%	10.0%
Native Hawaiian / Other Pacific Islander	0.3%	0.0%	0.1%
Two or More Races	2.1%	2.0%	0.5%
White	69.8%	67.2%	72.4%

*Yellow highlight indicates statistically significant difference from NTSB with  $\alpha = 0.1$*

Many comparisons indicate underrepresentation in major occupations for Blacks, Hispanics, and Asians. The major occupations are based on the eight Mission Critical Occupations at NTSB. Using one year of data (2021), only the Accident Investigation Occupation (1801) has credible size to perform valid statistical tests. To account for the size issue, the other seven occupations were passed through the statistical comparison process a second time but using the combined three years of data (2019-2021). This provided enough observations for a credible comparison and statistical test.

<sup>4</sup> OP11 FedScope Diversity Cube, March 2021

Table 6 reflects the occupational comparison of the MCOs to the Regional and National benchmarks by race/ethnicity. Table 7 shows Female representation by MCOs compared to the benchmarks. Positions with identified underrepresentation triggers are highlighted in yellow. Using the combined data, most of the MCOs have underrepresentation issues. The only occupation without any detectible underrepresentation is the Air Safety Investigator (1815). Black underrepresentation triggers were identified for all MCOs except Technical Writer (1083) and Air Safety Investigator (1815). Hispanic underrepresentation triggers were identified for all MCOs except Air Safety Investigator (1815), Transportation Safety (2101) and Railroad Accident Investigator (2121). Asian underrepresentation triggers exist for Mechanical Engineering (0830), Technical Writer (1083), Transportation Safety (2101) and Railroad Accident Investigator (2121). Females are underrepresented in Aerospace Engineering (0861).

Table 6. ACS Regional Benchmark, National Benchmark, and NTSB Representation for Blacks, Hispanics, and Asians by NTSB MCO

Major Occupation (OPM Occ. Series)	Blacks			Hispanics			Asians		
	NTSB	Regional	Nat'l	NTSB	Regional	Nat'l	NTSB	Regional	Nat'l
General Engineering (0801)	0%	9%	5%	0%	8%	8%	9%	11%	17%
Mechanical Engineering (0830)	0%	6%	4%	0%	9%	7%	0%	8%	12%
Aerospace Engineering (0861)	0%	5%	4%	0%	11%	9%	10%	10%	12%
Technical Writer (1083)	13%	9%	6%	0%	3%	3%	0%	7%	6%
Accident Investigation (1801)	4%	20%	12%	1%	10%	13%	7%	1%	3%
Air Safety Investigator (1815)	5%	2%	2%	14%	7%	7%	5%	2%	2%
Transportation Safety (2101)	5%	13%	7%	10%	11%	10%	0%	8%	12%
Railroad Accident Investigator (2121)	9%	15%	14%	9%	13%	16%	0%	2%	2%
<b>NTSB Overall Weighted Average</b>	<b>4%</b>	<b>13%</b>	<b>9%</b>	<b>3%</b>	<b>10%</b>	<b>11%</b>	<b>5%</b>	<b>5%</b>	<b>6%</b>

Yellow highlight indicates statistically significant difference from NTSB with  $\alpha = 0.1$ .

Table 7. ACS Regional Benchmark, National Benchmark, and NTSB Female Representation by NTSB MCO

Major Occupation (OPM Occ. Series)	Females		
	NTSB	Regional	Nat'l
General Engineering (0801)	18%	15%	14%
Mechanical Engineering (0830)	24%	8%	9%

<b>Aerospace Engineering (0861)</b>	4%	12%	12%
<b>Technical Writer (1083)</b>	98%	56%	56%
<b>Accident Investigation (1801)</b>	26%	24%	23%
<b>Air Safety Investigator (1815)</b>	17%	7%	6%
<b>Transportation Safety (2101)</b>	36%	16%	15%
<b>Railroad Accident Investigator (2121)</b>	14%	15%	13%
<b>NTSB Overall Weighted Average</b>	<b>28%</b>	<b>18%</b>	<b>23%</b>

The Hire postings for FY2017-2021 show a low volume associated with the number of possible openings - 0801 (3 postings), 0830 (3), 0861 (2), 1083 (6). Given these low numbers, NTSB may want to devote time and effort on higher volume opportunities.

**Recommendation:**

(b)(5)

## Hire and Promotion Selection Rates (Applicant Flow Analysis)

### Hire Selection Rates

The applicant flow analysis focuses on how each targeted segment of race/ethnicity, gender, and disability flows through the applicant flow pipeline. The data is presented for the applicant pools of Hires and Internal Competitive Promotions. Data for the applicant flow excludes those records where the position included Student and/or Intern in the title. Records where the race/ethnicity and/or gender were omitted was segmented into an Omitted category and included in the analysis. Applicants have the right to refuse to identify their gender, disability status, and/or their race/ethnicity. From a population size perspective, they are a fairly large portion and including their data adds to the overall model estimation. As this segment has chosen not to respond, it is considered good analytical practice to include this segment separately.

Table 8 reflects results by the stages of the hiring process in sequential rows reflecting the sequential stages of the hiring process:

- First row: All Applicants

- Second row, All Qualified Applicants: With Title V competitive hiring in the Federal Government, the qualifications describe the minimum requirements necessary to perform work of a particular occupation successfully. The minimum requirements may include specific job-related work experience, education, medical or physical standards, training, security, and/or licensure. They are not designed to identify the best qualified for a particular position, or substitute for an assessment of an applicant's knowledge, skills, and abilities/competencies.
- Third Row: All Referred Applicants. "Referred to hiring manager" means that the applicant has passed the initial HR screening. Referred does not mean that someone in the office recommended a certain candidate. An applicant can be qualified but not necessarily referred to the hiring manager for further review. The team would like to perform more analysis with these variables to probe for the possibility of bias in the hiring process.
- Fourth Row: All Hired Applicants.

Table 8 shows the selection rates for hires. Hire analysis is limited to only those announcements where at least one of the candidates was selected. Announcements where no candidate was selected were excluded from the hire analysis as were any positions identified as Student or Intern.

Over a five-year period from 2017 to 2021, the number of applicants for positions at NTSB covered in our analysis were 870 Whites, 469 Blacks, 175 Hispanics, and 173 Asians. For the initial screening stage, 24-32 percent of the applicants were deemed "qualified" for each of the race categories. For the next screening stage, we see more variation across the race categories (35 to 53 percent) with Blacks having the lowest rate of "referred applicants" at 35 percent. For the final stage of the hiring process, Whites have the highest selection rate at 17 percent, as compared to 13 percent for Asians, 15 percent for Hispanics, and 8 percent for Blacks.

**Table 8. Hiring Stage Rates among Hire Applicants, by Demographic Group (2017-2021)**

Hiring Stage	White	Black	Hispanic	Asian	Persons in other racial groups/race omitted	Totals
Applied	870	469	175	173	539	2,226
Qualified	275	112	45	53	147	632
Qualification Rate (Qualified/Applied)	32%	24%	26%	31%	27%	28%
Referred	146	39	20	30	69	304
Referred Rate (Referred/Qualified)	53%	35%	44%	57%	47%	48%
Selected	25	3	3	4	2	37
Selected Rate (Selected/Referred)	17%	8%	15%	13%	3%	12%

Notes: Any Vacancy Announcement without at least one candidate Selected is excluded from these calculations. Positions identified with Student or Intern in the name were also excluded. The "Persons in other racial groups/race omitted" category includes Two or more races, American Indian/Alaska Natives, Native Hawaiians and other Pacific Islanders, and those with an omitted race category.

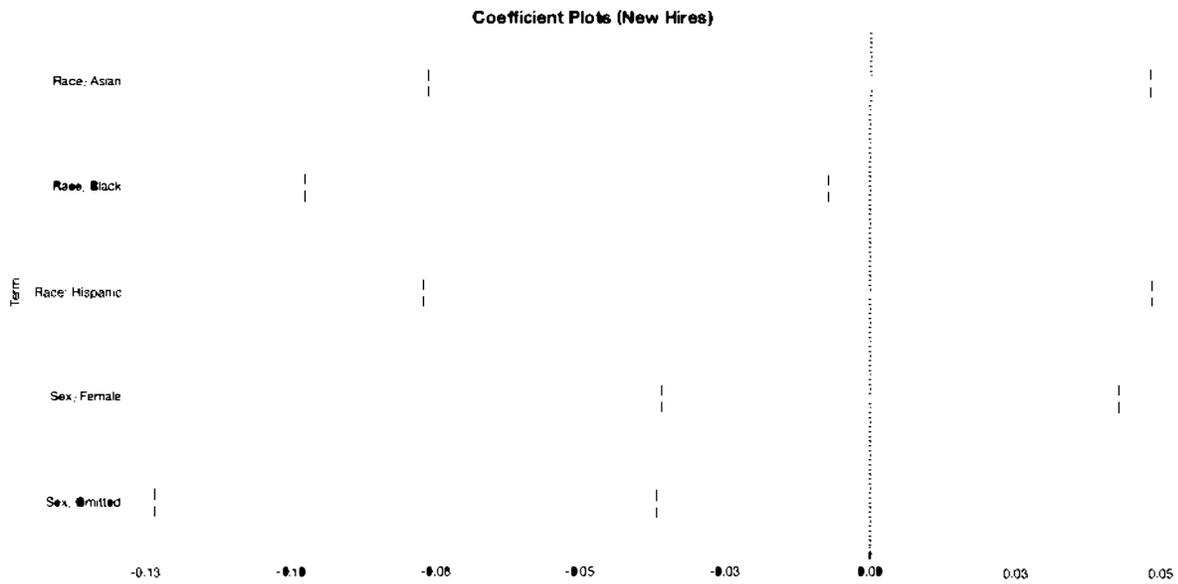
A statistical model was developed to explain the differences between selection rates. To encompass all the stages, the event of being selected (given the applicant qualified for the position) was modeled as a function of the following explanatory variables:

- Size/number applying for the open position
- Races/Ethnic Groups: Black, Hispanic, Asian
- Genders of Female and Omitted
- Disability Status
- Grade
- Mission Critical Occupation (General Engineer, Mechanical Engineer, Aerospace Engineer, Technical Writer, Accident Investigation, Air Safety Investigator, Transportation Safety, Railroad Accident Investigator and All Others)
- Year associated with the last submission date
- Associated Supervisory Status was initially included but was not found to be significant, thus removed from the modeling.

The coefficient plot in Figure 1 below helps to visualize how the effects of explanatory variables on selection rates compare to others in the size and direction of their influence. Horizontal lines which span zero (here represented by a vertical, red line) are not significant, as the possibility that they have zero influence on the event of candidate selection is contained within the horizontal line. A horizontal line contained either completely to the left or the right of the red vertical line indicates a significant variable on the event of selection.

Figure 1 highlights a significant, negative effect for hires who identify their race as Black. The coefficient for Race: Black is negative 5.2 percent with a 90 percent confidence interval that suggests that identifying as Black lowers the rate of selection anywhere from negative 9.8 percent to negative 0.7 percent, a clear indication of a trigger.

Figure 1. Coefficient Plot, NTSB Applicant Flow Results (Hires)



### Promotion Selection Rates

Table 9 shows similar analyses of Hiring Stage rates for promotions among internal promotion applicants by demographic groups. The promotion selection process goes through similar stages as the hire selection process. In this table, a modest drop-off occurs at all stages except the final hiring decision stage, where the disparity for Blacks becomes slightly more apparent. The selection rate among internal promotion applicants is 14 percent for Whites compared to 4 percent for Blacks, 18 percent for Hispanics, and 7 percent for Asians.

Table 9. Hiring Stage Rates by Internal Promotion Applicants, by Demographic Group (2017-2021)

Hiring Stage	White	Black	Hispanic	Asian	Persons in other racial groups/race omitted	Totals
<b>Applied</b>	1,017	937	242	162	1,043	3,401
<b>Qualified</b>	382	366	80	58	433	1,319
<b>Qualification Rate (Qualified/Applied)</b>	38%	39%	33%	36%	42%	39%
<b>Referred</b>	353	339	74	55	413	1,234
<b>Referred Rate (Referred/Qualified)</b>	92%	93%	93%	95%	95%	94%
<b>Selected</b>	51	13	13	4	33	114

Hiring Stage	White	Black	Hispanic	Asian	Persons in other racial groups/race omitted	Totals
<b>Selected Rate (Selected/Referred)</b>	14%	4%	18%	7%	8%	9%

Notes: Any Vacancy Announcement Number without at least one candidate Selected is excluded from these calculations. The “Persons in other racial groups/race omitted” category includes Two or more races, American Indian/Alaska Natives, Native Hawaiians and other Pacific Islanders, and those with an omitted race category.

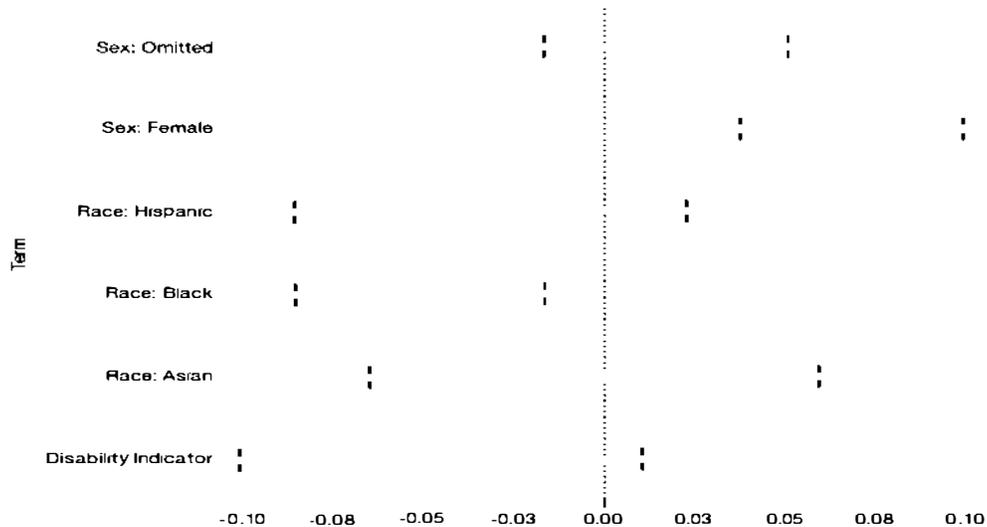
A statistical model was developed to explain the differences between selection rates for internal promotions. To encompass all the stages of the promotion process, the event of being selected (given the employee qualified for the position) was modeled as a function of the following explanatory variables:

- Size/number applying for the open position
- Races/Ethnic Groups: Black, Hispanic, Asian
- Genders of Female and Omitted
- Disability Status
- Grade
- Mission Critical Occupation (General Engineer, Mechanical Engineer, Aerospace Engineer, Technical Writer, Accident Investigation, Air Safety Investigator, Transportation Safety, Railroad Accident Investigator) and All Others
- Year associated with the last submission date of the posted position.

Figure 2 is a visual way to interpret the size and direction of the explanatory variables on promotion selection rates. Figure 2 has the following notable highlights:

- Being Female has a significant, positive promotion effect on being internally promoted
- Being Black has a significant, negative effect on being internally promoted
- Both the Disability Indicator and Hispanic variables have effects on being internally promoted that heavily lean toward being negative. However, we cannot say with 90 percent confidence based on the data included in the study that this negative effect is statistically significant, although it is suggestive of a possible trigger.

Figure 2. NTSB Applicant Flow Coefficient Plot (Promotions)



In a similar result as with the Hires, the Black segment has a significant, negative effect of 5.1 percent on competitive internal promotions. The 90 percent confidence interval is from negative 8.6 percent to negative 1.7 percent, which again is an indication of a significant trigger.

Females are showing a clear advantage over Males for competitive internal promotions. The female coefficient is a positive 6.8 percent with an associated 90 percent confidence interval of 3.7 percent to 9.9 percent.

## Applicant Pool Diversity for Hires/Promotions

The diversity of the applicant pool is measured in this section of the analysis. We are measuring the relative occupation level diversity of those applying for hires/promotions and looking for possible underrepresentation. The analysis uses the developed ACS based Regional occupational benchmarks as a comparison. The benchmark is compared to each targeted segment of the applicant pool. This process is performed for both types of applicant flow candidates (Hires and Internal Competitive Promotions). Each comparison is also tested for statistical significance. The results are segmented into three categories:

1. Underrepresentation is a statistically significant result where the applicant pool has a proportion that is less than what is expected from the Regional Benchmark.
2. Overrepresentation is a statistically significant result where the applicant pool proportion is greater than what is expected from the Regional Benchmark.
3. No Significant Difference detected. The proportions between the applicant flow and the Regional Benchmark are so close that you really cannot say they are different. There is also the situation where the sample size is so small that the test could not credibly detect a difference.

This report reflects those occupations identified with significant underrepresentation. All NTSB occupations are included in this analysis as listed in Table 10.

Table 10. Occupations for Analysis

Occupation Code	Occupation
0201	Human Resources Management
0301	Miscellaneous Administration & Program
0340	Program Management
0341	Administrative Officer
0343	Management & Program Analysis
0501	Financial Administration & Program
0510	Accounting
0560	Budget Analysis
0602	Physician
0801	General Engineering
0804	Fire Protection Engineering
0830	Mechanical Engineering
0855	Electronics Engineering
0905	General Attorney
0935	Administrative Law Judge
1083	Technical Writing & Editing
1102	Contracting
1801	General Inspection, Investigation, Enforcement, & Compliance
1815	Air Safety Investigating
2101	Transportation Specialist
2121	Railroad Safety
2210	Information Management

**Regional Target Benchmark Comparisons.** For the purposes of making comparisons to the ACS population, if the Race/Ethnicity was omitted on the application, that record was excluded in the race/ethnicity proportional comparison development. Approximately 25 percent of all application records were missing a race/ethnicity designation. Similarly, if the gender was omitted on the application, that record was excluded in the gender proportional comparison. Approximately 24 percent of all application records were missing a gender designation.

The following tables (Table 11 - Table 12) reflect the summarized results by application type (Hire/Internal Competitive Promotions), occupation, and race/ethnicity or gender.

- Table 11 reflects those combinations of race/occupation where the actual applicant flow proportions are significantly lower than the Regional Target Benchmark
- Table 12 reflects those combinations of gender/occupation where the actual applicant flow proportions are significantly lower than the Regional Target Benchmark.

Both tables are arranged with the same basic columns:

- Applicant representation for target population
- Occupation Regional Target Benchmark proportion for the target population
- Difference between Actual and Benchmark proportions
- Number of Applicants available in the calculation.

**Table 11. Significant Underrepresentation, by Race/Ethnicity**

<b>Applicant Flow Segment, Race/Ethnicity, Occupation</b>	<b>NTSB Applicant Representation</b>	<b>Regional Target Representation</b>	<b>Difference In Representation</b>	<b>Size of Applicant Pool</b>
<i>Hires</i>				
<b>Asian</b>				
301 - MISCELLANEOUS ADMINISTRATION & PROGRAM	4%	6%	-3%	729
<b>Hispanic</b>				
1712 - TRAINING INSTRUCTION	4%	11%	-8%	54
2121 - RAILROAD SAFETY	8%	13%	-5%	259
<i>Promotions</i>				
<b>Asian</b>				
1083 - TECHNICAL WRITING & EDITING	4%	7%	-3%	434
341 - ADMINISTRATIVE OFFICER	2%	6%	-4%	158
<b>Hispanic</b>				
201 - HUMAN RESOURCES MANAGEMENT	9%	13%	-4%	502
2121 - RAILROAD SAFETY	6%	13%	-7%	94

**Table 12. Significant Underrepresentation for Female**

<b>Applicant Flow Segment, Females, Occupation</b>	<b>NTSB Female Representation</b>	<b>Regional Target Representation</b>	<b>Difference In Representation</b>	<b>Size of Applicant Pool</b>
<i>Hires</i>				
1035 - PUBLIC AFFAIRS	46%	61%	-15%	157
1712 - TRAINING INSTRUCTION	36%	59%	-23%	55
18 - SAFETY & OCCUPATIONAL HEALTH MANAGEMENT	39%	56%	-17%	110
2121 - RAILROAD SAFETY	10%	15%	-5%	261
340 - PROGRAM MANAGEMENT	27%	48%	-22%	83
<i>Promotions</i>				

Applicant Flow Segment, Females, Occupation	NTSB Female Representation	Regional Target Representation	Difference In Representation	Size of Applicant Pool
1035 - PUBLIC AFFAIRS	32%	61%	-29%	79
1712 - TRAINING INSTRUCTION	37%	59%	-22%	54
18 - SAFETY & OCCUPATIONAL HEALTH MANAGEMENT	23%	56%	-33%	80
1801 - GENERAL INSPECTION, INVESTIGATION, ENFORCEMENT, & COMPLIANCE	20%	24%	-4%	610
2210 - INFORMATION TECHNOLOGY MANAGEMENT	19%	28%	-9%	279
340 - PROGRAM MANAGEMENT	11%	48%	-37%	35
501 - FINANCIAL ADMINISTRATION & PROGRAM	32%	53%	-21%	28
505 - FINANCIAL MANAGEMENT	38%	52%	-15%	116
510 - ACCOUNTING	51%	61%	-10%	236
560 - BUDGET ANALYSIS	50%	66%	-16%	172
950 - PARALEGAL SPECIALIST	72%	85%	-13%	67

Table 11 and Table 12 reflect occupations where triggers were identified for a lack of diversity from a race/ethnicity or gender perspective. These identified occupations should be prime candidates for additional outreach and/or targeted positional advertising. While selection rates are relatively high for White Females, the applicant pool has greater underrepresentation for Females than it does for race/ethnic group.

**Recommendation:**

(b)(5)

(b)(5)

## Trend Analysis

### Hires: Race/Ethnicity and Gender

The Hire trend analysis focuses on how each targeted segment of race/ethnicity compares to the existing workforce. The race/ethnicity data is presented by tenure segment.

The following data used in the analysis was compiled from personnel data received from NTSB for the three years 2019-2021. The data was limited to positions with permanent status. At NTSB, less than five percent of employees are temporary and most were student trainees, hence excluded. Separate annual data was compiled for each of the three years and then combined into one analytical file. Multiple years of data were combined to ensure sufficient sample size for statistical calculations.

Tenure was calculated using the provided hire date. Employees were grouped into Hires (less than or equal to three years of NTSB) and Onboard Employees (more than three years of NTSB tenure). Table 13 reflects counts/metrics by race/ethnicity segments and tenure groupings. Rows reflect race/ethnicity figures and columns represent figures by tenure grouping.

The main metric of interest is the last column which reflects the difference in total representation by tenure segments. The segments of Asian, Black and Hispanic all reflect positive increases in representation for Hires over Onboard Employees. Whites showed a decrease in representation. These findings indicate that NTSB hiring is increasing diversity representation in the NTSB workforce.

Statistical tests were conducted on each of these comparisons. Due to sample size limitations for some of the individual segments, only the White segment was determined to be statistically different. For statistical testing purposes, the race/ethnicity data was combined into two segments (White and Non-White). These figures are reflected in the Summarized Segment portion of Table 13 (last 2 rows). Both metrics for proportional differences (increase for Non-Whites, decrease for Whites) were statistically significant between Hires and Onboard Employees.

**Table 13. Race/Ethnicity Representation, by Tenure Groups (2019-2021)**

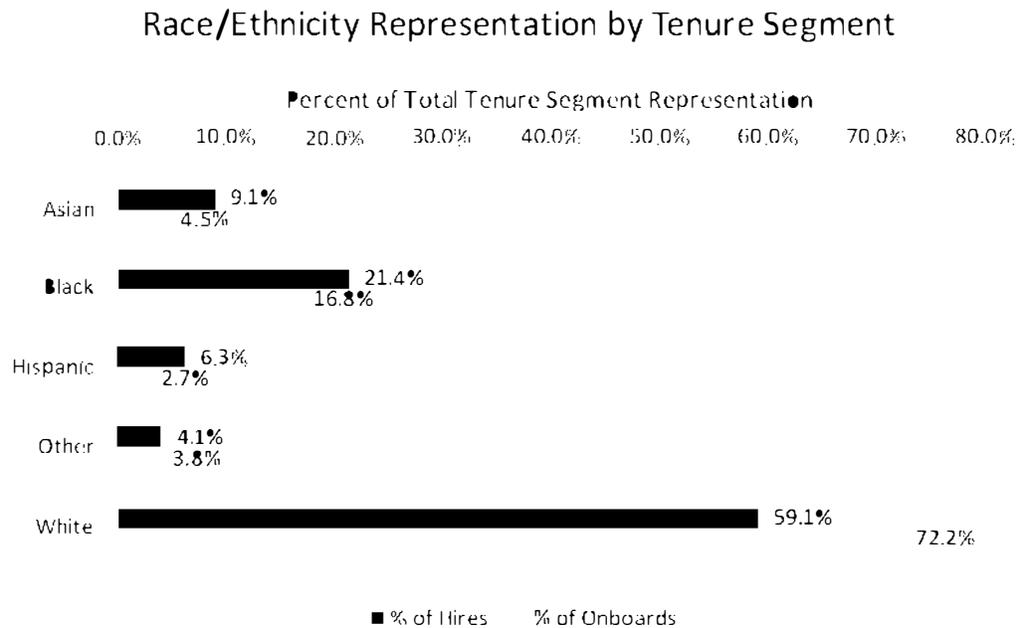
<b>Race/ Ethnicity</b>	<b>Total Employees</b>	<b>Onboard Employees Hires</b>	<b>% Of Total Employees</b>	<b>% Of Hires</b>	<b>% Of Onboard Employees</b>	<b>Hires – Onboard Employees</b>	
<b>AIAN</b>	14	-	14	1%	0%	1%	-1%
<b>Asian</b>	69	27	42	6%	10%	4%	6%
<b>Black</b>	225	61	164	18%	23%	17%	6%
<b>Hispanic</b>	47	20	27	4%	7%	3%	5%

Race/ Ethnicity	Total Employees	Hires	Onboard Employees	% Of Total Employees	% Of Hires	% Of Onboard Employees	Hires – Onboard Employees
NH OPI	3	-	3	0%	0%	0%	0%
Two or More Races	24	3	21	2%	1%	2%	-1%
White	869	157	712	69%	59%	72%	-14%
<b>Totals</b>	<b>1,251</b>	<b>268</b>	<b>983</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	
<b>Summarized Segment</b>							
Non-White	382	111	271	31%	41%	28%	14%
White	869	157	712	69%	59%	72%	-14%

Notes: American Indian/ Alaska Native (AIAN), Native Hawaiian and other Pacific Islander (NH OPI). Employees with a missing Race/Ethnicity segment were excluded.

Figure 3 visually compares race/ethnicity groups by tenure segment for hires and onboard employees. This graph indicates that NTSB is improving the diversity of hires.

Figure 3. Graphical Race/Ethnicity Representation by Tenure Segment (2019-2021)



The same analysis was performed from the perspective of Mission Critical Occupations (MCOs). To avoid the sample size issue, all the MCOs were grouped into one category of MCO instead of individual MCOs. The data was then summarized by MCO and All Other Occupations. In a similar fashion, individual race/ethnicity segments were grouped into the White and Non-White segments for summary and statistical sample size purposes.

Both the MCOs and All Other Occupations categories reflect increasing diversity in the NTSB workforce, as indicated by increases in the proportion of Non-White representation (Table 14). MCO Non-White representation for Hires is double the Non-White representation of Onboard Employees. The MCO results between tenure segments were determined to be statistically significant. The increasing diversity is much greater for MCOs than it is for All Other Occupations.

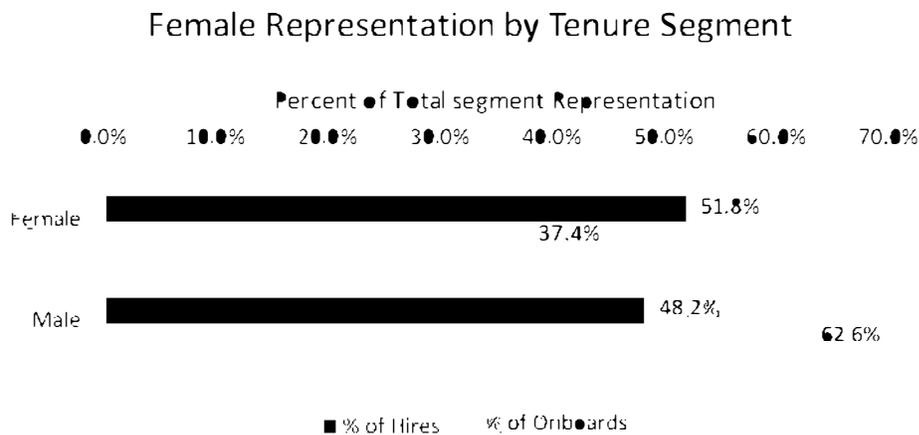
Table 14. Race/Ethnicity Representation by MCO and Tenure Groups (2019-2021)

Race/ /Ethnicity	Total Employees	New Hires	Onboard Employees	% Of Total Employees	% Of Hires	% Of Onboard Employees	Hires – Onboard Employees
<b>MCOs</b>							
<b>Non-White</b>	93	28	65	14%	24%	12%	12.0%
<b>White</b>	570	89	481	86%	76%	88%	-12.0%
<b>Totals</b>	663	117	546	100%	100%	100%	
<b>All Other Occupations</b>							
<b>Non-White</b>	327	115	212	47%	48%	47%	0.6%
<b>White</b>	364	126	238	53%	52%	53%	-0.6%
<b>Totals</b>	691	241	450	100%	100%	100%	

Notes: Employees with a missing Race/Ethnicity segment were excluded. Yellow highlight indicates statistically significant difference from NTSB with  $\alpha = 0.05$

Figure 4 shows statistically significant representation of females.

Figure 4. Graphical Female Representation by Tenure Segment (2019-2021)



## Diversity Indices

The current EEOC required method of determining triggers for the MD-715 reports does not provide summary measures of the triggers that provide an overall picture of diversity representation. MD-715

triggers are not all equal and cannot simply be added up to obtain a meaningful composite measure of an agency's diversity outcome.

The Project Team calculates a Diversity Index to measure overall diversity in a population.<sup>5</sup> Diversity is measured in terms of how close each of the EEO protected groups is to parity within a given population. The index measures the distribution of multiple groups simultaneously. We then compare the diversity index to respective CLF diversity benchmarks. The calculation measures the diversity index based on all the race/ethnicity and gender groups. Since the measure is a comparison to a benchmark, the measure has values that center around one, with values lower than one indicating less diversity and values over one indicating higher levels of diversity than the benchmark.

The measure enhances our understanding of the extent to which different departments or offices within an agency have been successful or across time at achieving diversity outcomes across race/ethnicity and sex. The Diversity Index provides a summary measure of underrepresentation.

This analysis is an innovative approach to measuring the extent to which one organizational entity is performing better overall at diversity than another or over time on a trend basis. Adding up MD-715 triggers or calculating the number of triggers per employee does not yield a good overall summary measure. Those triggers are not equal in terms of importance or relevance. This analysis of CLF benchmarks can control for important determinants of selection into occupations, such as education and experience. One objective is to determine the extent to which equally qualified minorities are underrepresented in high grade positions relative to their White counterparts.

## Hire and Onboard Diversity Indices

The Project Team's Diversity Index includes gender segments (Female/Male) and the following race/ethnicity groups:

- American Indian, Alaskan Native
- Asian
- Black
- Hispanic
- Native Hawaiian Other Pacific Islander
- Two or More Races
- White

The indices for NTSB Hires and NTSB Onboard Employees are compared to the diversity indices of the National Benchmark, Regional Benchmark, and the Regional Targeted Benchmark. The Regional Target Benchmark was developed using stratified sampling of ACS data from the South-Atlantic Region based on the employee distribution of NTSB occupations. The sampling was designed to yield the most representative population of NTSB based on geography and occupation.

<sup>5</sup> Economic Systems uses an Entropy Index to measure overall diversity in a population.

The Diversity Indices for hires and onboard employees are presented in Table 15. Indices at 100 percent (or higher than one) reflect higher levels of diversity than the respective benchmark. Indices less than 100 percent (or less than one) reflect lower levels of population diversity.

Table 15. Diversity Index Comparisons

NTSB Population	Diversity Index to US Employed Population	Diversity Index to South Atlantic Region	Diversity Index to the Regional Target Benchmark
Hires	96.5%	95.8%	104.6%
Onboard Employees	83.2%	82.6%	90.2%

The developed diversity index confirms the earlier findings that Hires are a more diverse population than Onboard Employees. Of special note is that the Hires are approaching the overall US Employed Population and the Regional Indices and exceed the Diversity Index of the Regional Targeted Benchmark. Alternatively, the Onboard Employees lag all three indices.

## IV. Equity and Inclusion Outcomes

### FEVS Analysis

**Attitudinal Data.** The purpose of FEVS is to capture subjective experiences about what it is like to be a NTSB employee. Analysis of attitudinal data provides important insights on employee perceptions related to DEIA that complement the insights from quantitative data. However, published reports of NTSB FEVS data do not allow for in-depth analysis of underrepresented groups such as Blacks, Hispanics/Latinos, and Asians. The reports also do not allow for analysis of raw data at the individual level or for comparative analysis between Whites and underrepresented groups.

**Recommendation:**

(b)(5)

**2020 FEVS Data.** The analysis that the Project Team was able to conduct used 2020 FEVS data provided by NTSB and focused on eight key questions related to training/development, agency reputation, and employee viewpoints on fear of reprisal, commitment to diverse teams, and respect. The Project Team suggests NTSB revisit this analysis when the 2021 FEVS results are available since the 2021 FEVS has three questions that support implementation of Executive Order (EO) 14035 on Diversity, Equity, Inclusion, and Accessibility (DEIA) in the Federal Workforce. In addition, 2021 FEVS includes groups previously not considered eligible - employees classified as non-permanent, seasonal, and not full- or part-time. Specific 2021 FEVS questions of interest to barrier analysis efforts are:

Q34. Policies and programs promote diversity in the workplace (for example, recruiting minorities and women, training in awareness of diversity issues, mentoring)

Q45. My supervisor is committed to a workforce representative of all segments of society

Q55. Supervisors work well with employees of different backgrounds

The barrier analysis effort focuses heavily on determining the underlying causes of barriers for underrepresented groups. The 2020 NTSB data available to the study team allows only limited analysis of Persons with Disabilities, Gender, and LGBTQ+. Except for gender, the groups analyzed have a relatively small total response (Persons with Disabilities = 28, and LGBTQ+ = 22), whereas the comparison groups range from approximately 250 to 300. FEVS data most notably absent in the 2020 NTSB data are responses identified by race/ethnic categories.

Tests for statistical significance were performed using percentages rather than number individuals responding. Statistically significant differences at a 90 percent confidence level are highlighted in yellow. Table 16 shows a comparison of responses between persons with disability and persons without disabilities for relevant 2020 FEVS questions.

**Table 16. 2020 FEVS DEIA Comparison between Persons with Disabilities and Persons without Disabilities**

Question #	FEVS Question	% Respondents, by Disability Status					
		Positive		Neutral		Negative	
		Persons with Disability	Persons without Disability	Persons with Disability	Persons without Disability	Persons with Disability	Persons without Disability
1	I am given a real opportunity to improve my skills in my organization	76.9%	80.7%	14.1%	11.4%	9.1%	7.9%
8	I can disclose a suspected violation of any law, rule, or regulation without fear of reprisal	75.1%	75.2%	20.4%	15.1%	4.5%	9.7%
17	I recommend my organization as a good place to work	85.8%	85.7%	11.5%	8.7%	2.8%	5.5%
20	My supervisor is committed to a workforce representative of all segments of society	76.7%	85.5%	18.7%	11.4%	4.6%	3.1%
21	Supervisors in my work unit support employee development	91.8%	87.9%	8.2%	6.5%	0.0%	5.6%
23	My supervisor/team leader treats me with respect	81.5%	91.1%	18.5%	4.3%	0.0%	4.5%
31	I have a high level of respect for my organization's senior leaders	74.7%	74.0%	12.7%	13.9%	12.6%	12.1%

Question #	FEVS Question	% Respondents, by Disability Status					
		Positive		Neutral		Negative	
		Persons with Disability	Persons without Disability	Persons with Disability	Persons without Disability	Persons with Disability	Persons without Disability
36	Considering everything, how satisfied are you with your job?	74.7%	83.4%	16.9%	10.5%	8.4%	6.1%

The results for the selected questions of the survey between persons with and without disabilities were statistically significant with 90 percent confidence for positive responses in questions 1, 20, 21, 23, and 36, and for negative responses to questions 8, 17, 20, 21, 23, and 36. This means, for example, that fewer individuals with a disability responded positively to the question “My supervisor is committed to a workforce representative of all segments of society” than individuals without a disability (and the 90 percent confidence indicates this difference is not due to random error). Neutral responses were not included in the statistical analysis as the number of indifferent or responses to a question offer little insight compared to the number of positive or negative responses.

Of note is the fact that people with disabilities were less likely to answer positively and more likely to answer negatively to the question “My supervisor is committed to a workforce representative of all segments of society” (Q23). They were also less likely than those without disabilities to respond positively to the statement “My supervisor/team leader treats me with respect” (Q23). Persons with disabilities were also less likely to answer positively and more likely to answer negatively about their job satisfaction (Q36).

Table 17 shows a comparison of responses between Males and Females for relevant 2020 FEVS questions.

Table 17. 2020 FEVS DEIA Comparison by Gender

Question #	FEVS Question	% Respondents, by Sex						Female Total Response (n)	Male Total Response (n)
		Positive		Neutral		Negative			
		Male	Female	Male	Female	Male	Female		
1	I am given a real opportunity to improve my skills in my organization	78.5%	81.2%	10.9%	14.1%	10.5%	4.7%	108	172
8	I can disclose a suspected violation of any law, rule, or regulation without fear of reprisal	74.2%	73.1%	12.4%	23.9%	13.3%	3.0%	98	167
17	I recommend my organization as a good place to work	84.0%	87.3%	8.5%	11.2%	7.5%	1.4%	109	173
20	My supervisor is committed to a workforce	82.3%	87.8%	12.6%	12.2%	5.1%	0.0%	105	169

Question #	FEVS Question	% Respondents, by Sex						Female Total Response (n)	Male Total Response (n)
		Positive		Neutral		Negative			
		Male	Female	Male	Female	Male	Female		
21	representative of all segments of society Supervisors in my work unit support employee development	84.3%	93.9%	9.2%	3.5%	6.5%	2.7%	108	173
23	My supervisor/team leader treats me with respect	87.3%	91.5%	7.7%	5.8%	4.9%	2.6%	109	173
31	I have a high level of respect for my organization's senior leaders	71.1%	78.8%	15.3%	11.7%	13.6%	9.5%	107	173
36	Considering everything, how satisfied are you with your job?	84.0%	79.9%	8.8%	15.3%	7.2%	4.8%		

In the analysis of the selected survey questions as separated by sex, there was a statistically significant difference between male and female responses in the positive and negative categories for all questions except Question 1 and Question 8, where only the negative response showed a statistically significant difference.

Males answered more negatively than Females to every single question at a significant rate. Females, on the other hand, responded more positively than Males for every question with a significant difference (excluding Questions 1 and 8), with the exception being Question 36, "How satisfied are you with your job?" to which Males answered both more positively and more negatively than Females. Since Males answered more negatively on all questions yet Females were less likely to be satisfied with their job, the team concludes that the drivers of overall satisfaction are different for Males and Females and these drivers are not due to inclusion.

Table 18 shows a comparison of responses between Straight and LGBTQ+ for relevant 2020 FEVS questions.

**Table 18. 2020 FEVS DEIA Comparison between LGBTQ+ and Straight**

Question #	FEVS Question	% Respondents, by Sexual Orientation					
		Positive		Neutral		Negative	
		Straight	LGBTQ+	Straight	LGBTQ+	Straight	LGBTQ+
1	I am given a real opportunity to improve my skills in my organization	80.6%	72.4%	12.2%	9.6%	7.2%	18.0%
8	I can disclose a suspected violation of any law, rule, or regulation without fear of reprisal	74.9%	76.3%	16.7%	3.6%	8.4%	20.1%

Question #	FEVS Question	% Respondents, by Sexual Orientation					
		Positive		Neutral		Negative	
		Straight	LGBTQ+	Straight	LGBTQ+	Straight	LGBTQ+
17	I recommend my organization as a good place to work	85.2%	92.3%	10.6%	0.0%	4.2%	7.7%
20	My supervisor is committed to a workforce representative of all segments of society	84.5%	88.2%	12.9%	7.2%	2.7%	4.6%
21	Supervisors in my work unit support employee development	88.5%	87.2%	7.4%	0.0%	4.0%	12.8%
23	My supervisor/team leader treats me with respect	90.0%	83.9%	6.7%	7.9%	3.3%	8.2%
31	I have a high level of respect for my organization's senior leaders	74.5%	74.7%	14.2%	10.5%	11.2%	14.8%
36	Considering everything, how satisfied are you with your job?	83.0%	92.3%	11.7%	0.0%	5.4%	7.7%

In the analysis of the selected survey questions as separated by sexual orientation, there was a statistically significant difference between straight and LGBTQ+ responses in the positive and negative categories for all questions, except the positive responses for Question 8, 21, and 31 which were not statistically different between the two groups.

LGBTQ+ respondents felt more positively about their organization as far as job satisfaction (Q36) and recommending their organization as a good place to work (Q17) (although they also answered slightly more negatively to Q17 as well). They were less likely to feel positively about their team leader treating them with respect (Q23).

LGBTQ+ were more likely to answer negatively than straight respondents in every question asked. "My supervisor is committed to a workforce representative of all segments of society" (Q20) is another example where the LGBTQ+ group responded both more positively and more negatively to the question. Q36 regarding overall job satisfaction is another example of this direction of results.

**Recommendation:**

(b)(5)

(b)(5)

**Compensation Analysis.** Although this phase of the barrier analysis did not focus on pay equity issues, an equity best practice is for an agency to ensure that no pay disparities exist.

**Recommendation:**

(b)(5)

(b)(5)

## V. Disability-Related Outcomes and Practices

### Representation of People with Disabilities

Disability representation is fairly high (10.5 percent) at NTSB compared to the 12 percent benchmark for the Federal Government. The 10.5 percent represents only those individuals who self-identify as having a disability. The statistical analysis of Promotion did not find any negative effect for disability representation.

NTSB could consider alternative benchmarks to the 12 and 2 percent targets for representation of Persons with Disability. A potential source for constructing disability data benchmarks is the American Community Survey (2015-2019) five-year population estimates of individuals with disabilities related to activities of daily living (ADLs) across occupations.

## Hires: Disability Focus

The Hire analysis focuses on disability representation for Hires compared to the Onboard Employees. Table 19 reflects counts/metrics by disability status and tenure groupings. Rows reflect disability status figures, and columns represent figures by tenure grouping.

The main metric of interest is the last column which reflects the difference in total representation by tenure segments. The representation for employees with a disability among Hires is 2.5 percent higher than Onboard Employees, which suggests that NTSB is making progress in increasing the percent of employees with disabilities in its workforce. Alternatively, employees without a disability have a lower representation in Hires compared to Onboard Employees. Neither of these metrics were determined to be statistically significant.

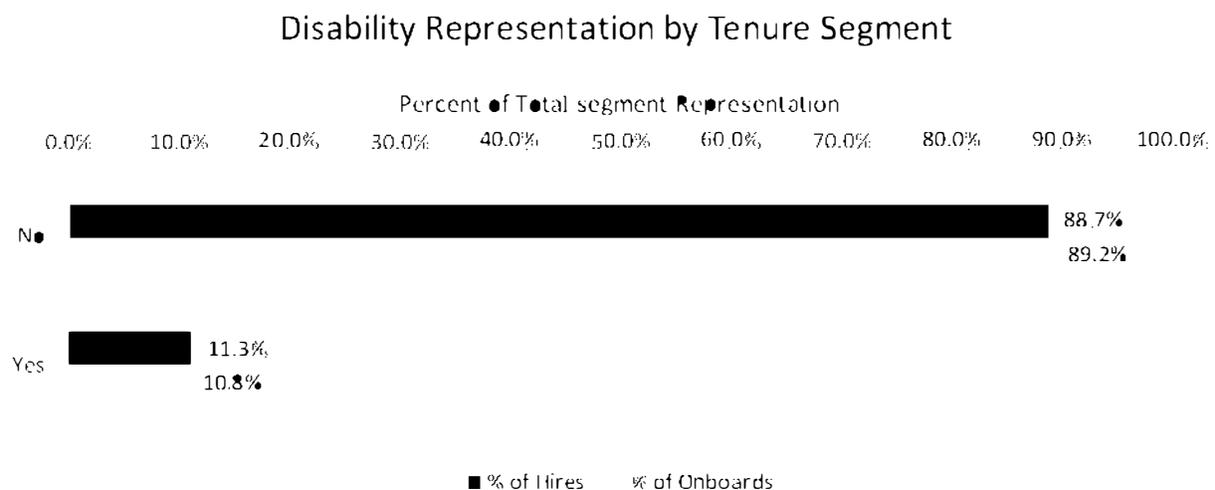
Table 19. Disability Representation by Tenure Group (2019-2021)

Disability Status	Total Employees	<= 3 Years	> 3 Years	% Of Total Employees	% Of Hires	% Of Onboard Employees	Hires – Onboard Employees
No Disability	1,134	258	876	89%	87%	89%	-2.5%
Disability	147	40	107	11%	13%	11%	2.5%
<b>Total</b>	<b>1,281</b>	<b>298</b>	<b>983</b>				

Notes: Disability is defined as an employee record having at least one identified disability. No Disability is defined as any employee record without a disability identified or did not identify a disability.

Figure 5 shows disability representation by tenure segment (2019-2021) for hires and onboard employees. This graph shows that NTSB is increasing representation of Persons with Disability in their hires.

Figure 5. Disability Representation by Tenure Segment (2019-2021)



The same disability analysis was performed from the perspective of Mission Critical Occupations (MCO). To avoid the issues associated with small numbers of employees in various MCO occupations, all the

MCOs were grouped into one category of MCO instead of individual MCOs. The data was then summarized by MCO and All Other Occupations.

The MCOs reflected an increase in the proportion of disability representation (Table 20) by about two percent. Although not statistically significant, this increase suggests that NTSB is increasing recruitment and hiring of employees with disabilities in mission-critical occupations. In contrast, disability representation among All Other Occupations was roughly the same between Hires and Onboard Employees.

Table 20. Disability Representation by MCO, Tenure Groups (2019-2021)

Disability Status	Total Employees	Hires	Onboard Employees	% Of Total Employees	% Of Hires	% Of Onboard Employees	Hires – Onboard Employees
<b>MCOs</b>							
No Disability	587	103	484	88%	87%	89%	-2.1%
Disability	78	16	62	12%	13%	11%	2.1%
<b>Totals</b>	<b>587</b>	<b>103</b>	<b>484</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	
<b>All Other Occupations</b>							
No Disability	624	220	404	90%	90%	90%	0.0%
Disability	71	25	46	10%	10%	10%	0.0%
<b>Totals</b>	<b>695</b>	<b>245</b>	<b>450</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	

Notes: Disability is defined as an employee record having at least one identified disability. No Disability is defined as any employee record without a disability identified or did not identify a disability.

## Barriers Impacting Individuals with Disabilities

**Leadership and Culture.** Establishing a diverse, equitable, and inclusive agency-wide culture begins with leadership at the highest levels, including political appointees, personnel in Senior Executive Service (SES), and mid-level managers and supervisors. For people with disabilities this includes expectations that addressing their interests will not be an afterthought, but addressed in the initial design stages of policies, practices, and processes and the provision of qualified staff and adequate budgets.

**Recommendation**

(b)(5)

(b)(5)

(b)(5)

**Infrastructure.** Section 508 compliance is currently the responsibility of the Strategic Planner. A review of the 508 Policy indicates that the policy is limited to referencing Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended in 1998, and the Architectural Barriers Act (ABA) of 1968. In fact, the extent of agency 508 compliance needs further investigation (e.g., website and document accessibility).

Currently, the reasonable accommodation program does not include a centralized source for funding accommodations and personal assistance services (PAS). The Chief Financial Officer's budget office identifies the source of office level funding to ensure reasonable accommodations are always being funded. For example, if a request for IT equipment is received, the funding will come from the OCIO. On the other hand, if an accommodations request involves furniture such as "stand station" the funding will come from the Office of Administration. Each office is responsible for the cost of accommodations. The reasonable accommodation policy lists the responsibilities of numerous staff e.g., General Counsel, Chief Financial Officer and Chief Facilities Officer but does not include the responsibilities of an IT expert. Additionally, the reasonable accommodation policy defines the phrase "reasonable accommodation" but does not include examples such as telework.

After reviewing documentation provided NTSB and information obtained from interviews, the project team has concerns with Section 508 policy as being limited and incomplete displaying only one paragraph of content. Additionally, the agency does not have a system for needs assessment and prioritizing accessibility and usability of information and communication technology (ICT) for people with disabilities. There is no process of accountability to ensure compliance with Section 508 of the Rehabilitation Act. The agency does not seem to have staff with sufficient experience and expertise to implement and comply with Section 508 standards or a formal mechanism for ensuring coordination between the provision of assistive technology and other forms of reasonable accommodations and the requirement to procure, use and maintain accessible and usable ICT.

Although closed captioning in all online training is now available and Section 508 compliance is included in contracts for training services, current NTSB infrastructure may limit IT accessibility for some employees with disabilities. A Chief Accessibility Officer could expand NTSB expertise on assistive technology (AT) devices and services and the interplay between AT and ICT, and communication between various stakeholders within NTSB regarding these subjects is inadequate, as well as assess issues requiring more detailed policies, such as accessibility for telework.

Accessibility at the Headquarters building was one issue mentioned by disability subject matter experts. Accessibility to the boardroom at Headquarters directly from the office space requires individuals unable to use an escalator to follow an alternate route through the parking garage. The property management company installed signage in the building for the route to the NTSB Boardroom, marked the path in the parking garage, and installed a curb cut at the entrance of the Boardroom on 10th Street for drop-off access. However, these may not be accessible as defined by ABA standards. Another example is the lack of automatic door openers on some doors.

**Recommendations:** |

(b)(5)

|

(b)(5)

(b)(5)

*The Chief Accessibility Coordinator reports to the Office of the Chief Information Officer (OCIO) and is responsible for compliance with Section 508 of the Rehabilitation Act by the agency and implementing the Accessibility Roadmap, consistent with the guide developed by GSA titled "Integrating Accessibility into Agency Diversity, Equity, Inclusion, and Accessibility (DEIA) Implementation Plans."*

**Improve IT Accessibility.** *NTSB should develop or update its comprehensive strategic action plan regarding accessible and usable ICT addressing the following areas needs assessment and priorities, policies/practices/procedures, and agency-wide infrastructure/accountability. NTSB could also arrange for an ICT accessibility expert to conduct a comprehensive NTSB-wide review of internal and external websites, online system, and mobile apps to determine the extent to which they are accessible to and usable by individuals with disabilities in conformance with Section 508 and report the findings and recommendations directly to the Director of NTSB. Andrew Nielson, director of government-wide IT accessibility program at the Office of Government-wide Policy, GSA, can provide direction on conducting a NTSB-wide review with a third party such as Perkins Access ([perkins@access.org](mailto:perkins@access.org)).*

*The Chief of Facilities will continue to ensure Architectural Barriers Act compliance.*

**Improve Facility Accessibility.** *According to staff, the agency is limited to what they can do to improve accessibility at headquarters because the facility is not a GSA facility; however, efforts should be made to proactively maximize the accessibility of the building for all current and future users with disabilities. Checklists and standards to measure accessibility are available through the U.S. Access Board website.*

**Recruitment, Hiring, Advancement, and Retention.** Section 501 regarding agency affirmative action plans requires that the agency take specific steps that are designed to gradually increase the number of persons with disabilities and targeted disabilities employed at the agency until they meet the established goals. Although Persons with Disabilities are not an underrepresented group at NTSB, it is best practice to ensure that individuals with disabilities and targeted disabilities are aware of and encouraged to apply for job vacancies if eligible.

Despite the statistical data showing a two percent increase in hiring employees with disabilities relative to the onboard staff, NTSB hiring managers do not consistently use hiring tools to their full potential that target candidates who have disabilities (for example, Schedule A Excepted Service Hiring Authority, the Veterans' Recruitment Appointment Authority, the 30 percent or More Disabled Veteran Authority, and the Workforce Recruitment Program). Schedule A is a special appointing authority that federal agencies can utilize to non-competitively appoint individuals, including eligible Veterans, who have a severe physical, psychiatric, or intellectual disability.

There is limited outreach and collaboration in recruitment and hiring. Contributing to this problem are insufficient mechanisms for sharing best, promising, and emerging practices for recruiting and hiring, retaining, and advancing people with disabilities.

Hiring managers are frequently dissatisfied with the amount of time required to recruit through competitive procedures. Schedule A Hiring Authority is one avenue to bring new employees onboard quickly. However, interviewees indicated that there is minimal support from HR to use this authority. The only initiatives promoting Schedule A are being sponsored by the EEO/ODI office's Schedule A and 501 webinars. The agency does not have a Schedule A policy to disseminate to the hiring official, managers, supervisors, and applicants.

**Recommendation:** | (b)(5) |

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(b)(5)

**Workforce Analysis and Identification of Disability.** Our document review and interviews raised concerns regarding the accuracy of the data collected for purposes of performing the annual workforce analysis used to determine the percentage of employees at each grade level and salary level who have disabilities and targeted disabilities. For example, currently an ambiguity in a key code used in OPM Standard Form [SF]-256 for reporting disability may result in under-counting of individuals with

disabilities and individuals with targeted disabilities. OPM SF-256 Code 01 is: “I do not wish to identify my disability or serious health condition.” EEOC is concerned that employees who do not have a disability, as well as people who have a disability but do not want to specify a particular impairment will enter 01. This may lead to inaccurate data and thereby hinder efforts by NTSB to address systemic barriers facing employees with disabilities.

**Recommendation:** |

(b)(5) |

(b)(5)

## VI. Policies / Practices / Programs

Agency personnel practices relevant to DEIA include recruitment, hiring, development, performance reviews, promotion, and retention. EO 14035 speaks to adopting “best practices” in this area. The Project Team’s qualitative analysis focused on focus group discussions and policies, practices, and procedures review.

### Recruitment

**Position Descriptions and job analysis, geographical job postings, outreach, and applicant pools.** Based on information collected during the group discussions, NTSB has some Position Descriptions (PDs) that have not been updated in the last fifteen years which makes it difficult to do a job analysis. The lack of specificity on positions, as well as the lack of support, expertise, and guidance from HR for job analysis have contributed to outdated PDs, especially for highly technical positions.

Another barrier uncovered during the group discussions was the limitation on the pool of applicants imposed by restricting recruitment to the DC area. One group participant remarked “I was restricted to only being able to hire in DC, then eventually opened it up to Denver and Seattle. It is hard to hire for positions because of the competition with the private sector. They offer more money, and remote options which are determinants for people.” NTSB has a lack of telework opportunities post-COVID. Interviewees cited competitors with more robust telework policies may hinder NTSB’s recruitment process.

In addition, there is no clear definition on **who** is responsible for developing the marketing plan – hiring managers or HR? One hiring manager mentioned that funding may be required for posting jobs within community groups/organizations. Group participants stated that the agency is not as well-known as other related federal agencies such as The Department of Transportation (DOT). The small size of the agency may contribute to a general lack of public knowledge about the career opportunities the agency has to offer especially for positions not directly associated with safety and inspection.

Hiring Managers for technical positions desire a broader pool of applicants to consider. Occupational Safety and Health indicated they have a male dominated profession. Transportation mentioned difficulty attracting Hispanics and Black people, whereas Marine Safety draws from a homogeneous applicant pool where Veterans Preference may cause more qualified applicants to be eliminated. For highly technical positions, such as those in pipeline and hazardous materials, lower pay, and the inability to offer remote work options are barriers. Industry pays higher and offers remote work which makes it more difficult to recruit and hire highly qualified individuals. One hiring manager suggested that the effects of applicant caps may need further investigation. Another indicated that they had not used Pathways recently since NTSB does not retain Pathway's students because a full time equivalent (FTE) position must be earmarked to retain a Pathway student.

**Recommendations**

(b)(5)

(b)(5)

## Hiring

**Hiring process, hiring manager training, and applicant assessments.** Respondents indicated an absence of a streamlined hiring process, and HR involvement with hiring managers is perceived as slow and lacking clarity, communication, and collaboration. There is no formal channel to communicate the agency's recruitment goals or hiring principles to either the hiring managers, or the NTSB DIAC Executive Board & Special Emphasis Members. Overall, the hiring process is not standardized. The lack of communication between HR and hiring managers throughout the entire hiring process has led to uncertainties and ambiguities. One hiring manager shared that they do not know what to expect as "the process has not been laid out for hiring managers to know what the next steps are going to be." On the other hand, hiring managers are optimistic as they are starting to see some levels of improvement. One hiring manager stated, "changes are coming down from all levels of leadership in the organization, people seem hopeful that these processes will improve." Recently, there have been leadership changes

and personnel changes in HR. One stakeholder mentioned that “now HR is stable and should be ready to roll.”

Another concern uncovered is the lengthy time to hire. When an employee retires, it takes about two years to fill the position and train a new employee. Group participants stated that the length of time it takes to get individuals on the certification list hampers the hiring process. One hiring manager stated that there have been situations where good candidates have withdrawn because of the lengthy process. A hiring manager noted “getting people on the referred hiring list seems to be a challenge as the process takes too long, with candidates waiting for over nine months. People walk away because the process is cumbersome and slow.” Overall, it may take approximately fourteen months or more from beginning to end to hire someone. HR should adopt a customer-style approach to support both sides - the applicant and the hiring manager. Hiring managers expressed the need to be proactive instead of reactive. Recently, hiring managers have seen some positive changes in the process. They were able to start the hiring process thirty days prior to someone leaving.

The agency appears to have deficiencies in objective hiring practices. One hiring manager stated that the hiring practice is not based on objective criteria but on people’s judgment to determine selection. The hiring process needs to be intentional. A group participant noted that HR is not applying best practices to fill vacancies and address the needs of the agency, even when it comes to positions within the HR department.

Hiring managers do not necessarily exercise the hiring job duty immediately upon being assigned as a hiring manager. When hiring duties are required, the hiring managers feel they lack either sufficient or recent training on the hiring process and are unsure of next steps, what needs to be done at each step, and what needs to be prepared for each step. There are no formal guidelines or training for resume reviewers to ensure that personal bias is avoided. There are no measures in place such as omitting names on a resume to prevent implicit bias or blind resume reviews. There is no mandatory or structured training available for recruiters and hiring managers when it comes to interviewing best practices and diversity principles. Structured interviews, which are only used occasionally, are not a requirement. Some hiring managers are not aware of the Disability Employment Program Manager position, Schedule A, or 30 Percent Disabled Veteran hiring authorities, and/or the Workforce Recruitment Program. Some hiring managers indicated that they are aware of different hiring authorities from working at other agencies but have not received formal NTSB training on the intricacies and usability of each one. One hiring manager indicated there is a general need to improve understanding of Veterans Preference.

Other challenges related to the hiring process include applicant rating based on the candidate's skewed self-assessment. This is a phenomenon often experienced by hiring managers reviewing applicants’ self-assessments in USAJOBS. However, for highly technical positions, the great majority of job applicants are eliminated because they are not qualified for the position. There is a general need for improved competency assessment for applicants and employees in technical positions.

The agency also has an unreliable system for updating employees’ status. For example, one employee had a conditional status for seventeen years before being converted to permanent status. Another employee was given an incorrect salary during the hiring process resulting in a salary of \$6K less than indicated by HR. Furthermore, one group participant stated that: “there should be more checks and balances in place so errors in salary don’t occur...pay issues and leave issues in/out affects people especially (when) getting student loans paid off.”

*Recommendations:*

(b)(5)

(b)(5)

## Promotion and Internal Selection

**Career Advancement.** The impact of clear career paths on employees is indisputable. Pathways to leadership and promotion opportunities are incentivizing and motivating. When employees are presented with tangible goals to work toward, they tend to affiliate more with the place of work. Similarly, employees tend to be less motivated and less focused without clear progression plans (Lipman, 2013). Interview group participants expressed frustration in the lack of clear career progression plans, as well as insufficient cross-training opportunities. Group participants stated that often promotions are sponsor dependent and limited. One participant stated, “there is hardly cross-training unless you have a sponsor who will take you on their wing and try to develop you for the next level, this is under the sponsor’s discretion.”

Another perceived barrier uncovered by the research team was the limited advancement opportunities due to agency size. As one participant noted, “people stay at their jobs because they love the agency” despite having limited career advancement opportunities. Group participants added that “people are looking for more career opportunities; some have left and gone to the Air Force (as a contractor) and DOT.”

The lack of a Standard Operating Procedure for the promotion process results in career advancement that is not well-defined which can result in employees feeling a lack of oversight or concern for their personal careers. It warrants noting that these issues may be experienced more often by underrepresented groups than by majority populations of employees due to smaller networks and limited opportunities for mentorship. A group participant added that “mentoring, coaching, answering

questions, sponsoring helps one take a career to next level.” Another concern raised during the group discussion was the lack of analysis available to uncover manager promotion bias. Additionally, group participants brought up the need to improve succession planning, including succession planning at lower levels.

**Recommendations:**

(b)(5)

### Grade Level Distribution

**Skewed Grade Level Distribution.** Grade level distribution is an issue government-wide since here GS grades have lower diversity. At NTSB, there is a lack of diversity and representation at senior levels. The higher you go into the organization the less diversity one sees, especially in technical positions. Females, minorities, and persons with disabilities remain underrepresented in senior positions. GS levels 13, 14, and 15 are the levels where most mission critical employees are found. Investigators, GS 14, and GS 15 are required to have a college degree. On-the-job experience requirements can be seen as a barrier in modal offices. These offices do not hire recent college graduates, and they do not have the means to stay connected with college-level prospects. Group participants noted that career-level “staff need to broaden the scope of hiring.” Group participants noted that grade level distribution is not based on objective criteria. There is no apparent path to SES from the modal offices since most SES are hired externally. However, as noted by one group participant, “but this has changed some the past few years.” Interviewees had varied perspectives on hiring at lower levels and providing career growth opportunities. Additionally, group participants stated that to advance on the career ladder often they must transfer to another agency. Some employees leave the agency due to the lack of promotion opportunities at NTSB while others move to other agencies such as DOT, FAA, or private industry such as Boeing. Another perceived barrier to grade-level distribution is the GS level caps. A group participant noted that lawyers are capped at the GS 14 level as opposed to other agencies where lawyers can advance to a GS 15.

**Diversity Representation at Senior Levels (GS13-15 and SES).** The average tenure for the senior level MCO positions is 13.9 years. Table 21 reflects available FY21 figures for Permanent MCO positions with a Senior Level designation. Employees were segmented by the Tenure designation of less than or equal to three years or greater than three years. The data was further segmented into race/ethnicity.

Table 21. FY21 Number of Senior Level Permanent MCO positions by Tenure and Race/Ethnicity

Tenure Segment	Number of Employees	Asian	Black	Hispanic	Other	White
<= 3 Years	33	2	2	2	1	26
> 3 Years	174	9	6	4	3	152
Total	207	11	8	6	4	178

Only about five percent of the MCO Senior Level pool changes each year (33 new hires in the last three years or about 11 per year), which is a fairly low turnover percentage.

**Recommendation:**

(b)(5)

## Retention

**Workplace Flexibility.** There is a concern among hiring managers and leadership on the “great resignation” and that the new normal, brought about by the Pandemic where remote and telework opportunities have increased significantly, could negatively affect the agency’s ability to retain and recruit top talent. Group participants stated that a more robust telework/remote work policy could help attract and retain highly technical and young and ambitious employees. Additionally, NTSB has not implemented stay interviews to learn why employees continue to work for the agency and what could trigger the employee to consider leaving. Stay interviews can be an antidote to exit interviews and provide a powerful tool to gauge job satisfaction (Bergeron & Bergeron, 2022).

**Recommendations:**

(b)(5)

## Employee Development and Training Opportunities

**Focus on the Employee.** Organizations can ensure a diverse pipeline of potential leaders by identifying and nurturing talent across the organization. Group participants and senior interviewees were generally positive about DEIA training. Several participants specifically praised the unconscious bias training but expressed disappointment that this training was not a requirement and not all leaders had taken the training. However, several group participants noted, that little forward progress on career development and training has been done since the career advisor left. There is no uniform Individual Development Plan (IDP) process for career development. As one group participant emphasized “FedTalent is excellent” however, it requires supervisor approval. Another group participant added that “FedTalent needs to be more accessible.” Limited accessibility to FedTalent is a major perceived barrier to employee development. Similarly, the agency lacks guidelines for providing training opportunities. As one group participant mentioned, “the agency does not have a standard way to process training requests, nor to determine who gets selected for certain training programs, such as mentoring, shadowing, and supervisor programs, even though training requests are approved.” The Executive Leadership Program is the only career development program available for employee development. The Leadership Development Program, Shadow Program, Connected Across the Board (CAB) and the Agency Internal Assignment Program Pilot are no longer available. Nonetheless, the overall perception is that the agency is supportive of training. If an employee finds training, then NTSB will usually pay for it.

**Recommendations:**

(b)(5)

(b)(5)

### Data Challenges and Lack of Evidence

The barrier analysis effort uncovered several data areas that should be reviewed, improved, streamlined, expanded, and reported to minimize the ongoing DEIA level of effort and assist DEIA decision making. Based on hiring manager comments about workforce gaps due to retirements, NTSB would also benefit from the use of statistical forecasting models to predict future workforce needs.

**DEIA Data Collection.** NTSB personnel required a significant level of effort to gather, format, and distribute the appropriate data required for the Barrier Analysis project.

There is also an issue with overall applicant flow data and the integrity of the data contents. A large portion of applicant flow data cannot be used because the data shows no one was selected. This is due to the HR Specialist not completing the record.

**Recommendation:**

(b)(5)

**Organizational Climate Data.** *FEVS or other climate survey data is not available or complete.*

**Recommendation:**

(b)(5)

**Recommendation:**

(b)(5)

### Transparency and Dissemination of Information

**Role of MD-715 Reporting.** Based on the Project Team’s observation, NTSB MD-715 annual reports currently appear to serve primarily to fulfill the Equal Employment Opportunity Commission (EEOC) reporting mandate for NTSB but have only limited impact in informing and guiding DEIA activities by NTSB leadership, or in informing relevant stakeholders throughout the NTSB community.

**Recommendation:**

(b)(5)

(b)(5)

**Access to DEIA Information.** EO 14035 calls on federal agencies to promote a data-driven approach to increase transparency and accountability, building on the EEOC's Management Directive (MD)-715 measures of employment outcomes.

***Recommendation:***

(b)(5)

**Public Release of DEIA Information.** EO 14035 requires NTSB to make information available to the public on its DEIA efforts.

***Recommendation:***

(b)(5)

## VII. Plan of Action

The Project Team presents the following plan of action for setting high versus medium-level priorities to address DEIA.

### High Priority Action Items

(b)(5)

(b)(5)

### **Medium Priority Action Items**

EconSys recommends medium priority for the following action plan items:

(b)(5)

(b)(5)

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## Appendix A Statistical Results

### Difference between Two Proportions and Test

The difference between the proportions and the asymptotic confidence interval can be calculated for the difference between two proportions. The formula is:  
 $(p_1 - p_2) \pm Z(\alpha/2) \sqrt{(p_1 \cdot q_1 / n_1) + p_2 \cdot q_2 / n_2}$ .

However, the asymptotic confidence interval requires a somewhat large sample size (say cell counts of at least 12). For moderately small sample size, it is better to use the formula provided in Fleiss (1981, page 29) and Stokes (2000, page 29-30) where the confidence interval is adjusted by  $0.5 \cdot (1/n_1 + 1/n_2)$  - therefore a little wider.<sup>6</sup>

### Regression Models for Hire and Promotion Selection Rates

The Hire model was run two ways, the first approach uses a logistic regression method, and the second approach uses an ordinary least squares method. While the logistic regression method did not produce easily explainable results, it is notable that the two methods were consistent in which variables were significant and in which way they influenced the possibility of being selected. Therefore, for explanatory purposes, we have chosen to show the results of the ordinary least squares method.

Figure 6 indicates that only two of the possible explanatory variables were significant with 90 percent confidence for the event of a candidate being selected, Sex: Omitted, and Race: Black, highlighted in red. Although Sex: Omitted is significant, it is not a trigger since it is not a category that can be assigned to a protected group. The 'LogWorth' parameter is reflective of Ordinary Least Squares (OLS) basic regression.

Figure 6. Significant Hire Variables

Explanatory Variable	LogWorth	p-Value
Sex: Omitted	2.631	0.0000
Race: Black	1.251	0.0000
Disability Indicator	0.540	0.28873
Size of the Applicant Pool	0.500	0.31601
Grade	0.356	0.44089
Race: Hispanic	0.152	0.70538
Race: Asian	0.151	0.70595
MCO's	0.133	0.73648
Year	0.055	0.88162
Sex: Female	0.049	0.89302

<sup>6</sup> Fleiss, JL (1981) Statistical Methods for Rates and Proportions. New York: John Wiley & Sons, Inc.  
 Stokes, Davis, and Kock (2000) Categorical Data Analysis using the SAS System, 2nd edition.

The promotion model was also run two ways, the first approach uses a logistic regression method, and the second approach uses an ordinary least squares method. Again, to clearly explain the results, the team has chosen to present the results of the ordinary least squares method instead of the logistic regression method. This is done only because both methods gave consistent results in terms of which variables they identified as significant and how they influenced the possibility of being selected for an internal promotion, and the ordinary least squares model is easier to understand.

Figure 7 indicates that four of the possible explanatory variables were significant with 90 percent confidence. The most notable variables producing significant results are Race: Black and Sex: Female. The coefficient plot in

Figure 7. Significant Internal Competitive Promotion Variables

Variable	LogWorth	PValue
Size of the Applicant Pool	10.108	
Sex: Female	3.543	
MCO's	2.494	
Race: Black	1.830	
Disability Indicator	0.743	0.18072
Race: Hispanic	0.472	0.33736
Sex: Omitted	0.386	0.41140
Race: Asian	0.028	0.93800
Grade	0.010	0.97738
Year	0.004	0.99186

### Interaction between Race and Gender Effects

To further explore the significant gender differences, the statistical model was modified to include an interaction for race and gender. For each race, an interaction of Females was included in the model. Specifically, this means that specific combinations of each race and gender were considered. The results show a strong interaction for White and Female. Figure 8 to Figure 9 are the normalized results for the White race and gender interaction. The results indicate:

- White Females have significantly higher selection rates than any other interaction segment
- A statistical difference between Non-White Males/Omitted, Non-White Females and White Males/Omitted could not be detected.

Figure 8 shows the graph of normalized acceptance rates. Normalized implies that these rates have been normalized for all significant variables in the model. In other words, given all other variables were at the same levels for all segments, this is what the acceptance rate looks like (i.e., size of the applicant pool, race = White, gender = Female) which allows for a more "apples to apples" comparison. The normalized values are shown in Figure 9.

Figure 8. Mean Selection Rates, by Race and Gender

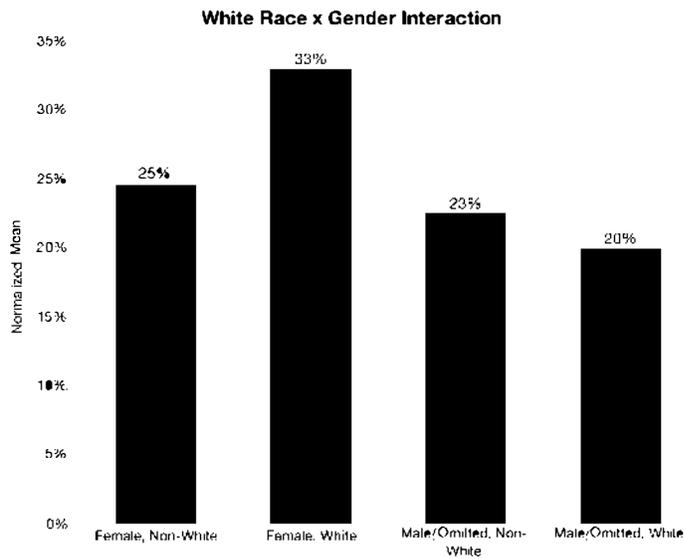


Figure 9. Female/Race Interaction Adjusted Means of Selection Rates

Level	Normalized Mean	Std Error
Female, Non-White	24.7%	0.03196738
Female, White	33.2%	0.03564501
Male/Omitted, Non-White	22.7%	0.02761279
Male/Omitted, White	20.1%	0.02977489

Figure 10 shows the tabled results of a connecting letters report. A connecting letters report is used to readily determine which of the variables shown are statistically different from each other. In this instance, Female, White has a letter A and each of the remaining variables (non-White Females, non-White and White Males, and Race/Ethnicity Omitted) have letter B (middle two columns of the table). Since A is not connected with B, White Females are significantly different from each of the other groups. Also, since the three other groups all have the same letter B, they are all considered similar in their selection rates.

Figure 10. Normalized Mean Selection Rate Difference<sup>7</sup>

Level	Normalized Mean
Female, White	A 33.2%
Female, Non-White	B 24.7%
Male/Omitted, Non-White	B 22.7%
Male/Omitted, White	B 20.1%

Levels not connected by same letter are significantly different.

<sup>7</sup> Tukey HSD Test.

Figure 11 is a detailed comparison of each variable with each of all other variables in the model and contains all the developed individual statistical information that is summarized in the connecting letters report (Figure 10). The yellow highlights indicate a statistically significant difference.

Figure 11. Detailed Difference Report

Level	- Level	Difference	Upper Confidence Limit	Lower Confidence Limit	p-Value
Female, White	Male/Omitted, White	13.1%	6.4%	19.8%	
Female, White	Male/Omitted, Non-White	10.5%	4.4%	16.6%	
Female, White	Female, Non-White	8.5%	1.2%	15.8%	0.0386*
Female, Non-White	Male/Omitted, White	4.6%	-1.7%	10.9%	0.3451
Male/Omitted, Non-White	Male/Omitted, White	2.6%	-2.2%	7.3%	0.6058
Female, Non-White	Male/Omitted, Non-White	2.0%	-2.8%	6.9%	0.7778

## Diversity Indices

The formula for the diversity index is:  $h = \sum_{j=1}^k p_j * \ln(p_j)$

Where k = number of race/ethnic/gender groups,

$p_j$  = proportion of the total population for a race/ethnic/gender group

A detailed explanation of indices of segregation can be found on the [Dartmouth College website](#).

## Appendix B Information Gathering for NTSB Staff Meetings

### Methodology

The qualitative assessment provides an in-depth examination of DEIA barriers particularly relating to accessibility, recruitment, hiring, career development, promotion, grade level distribution, and retention based on gender, race/ethnicity, and persons with disabilities. The triggers identified in the quantitative assessment are indicators of barriers but do not automatically signal the existence of barriers. Barriers can exist without signaling a trigger. The team's barrier assessment involved group discussions and policy/program/practice review. The purpose of the group discussions was to:

- Gain an understanding of the programs, policies, and initiatives that support DEIA at NTSB
- Identify barriers, issues, and concerns perceived by key stakeholders and hiring managers
- Identify employment conditions that limit or tend to limit opportunities for members of a particular group based on their sex, race/ethnic background, or disability status.

A total of 16 key stakeholders and 12 hiring managers participated in the one or more of the following groups:

1. Office of Equal Employment Opportunity, Diversity, and Inclusion (EEO/DEI)
2. Diversity and Inclusion Advisory Council (DIAC) Executive Board & Special Emphasis Members
3. Small Offices (Office of the General Counsel, Office of the Chief Financial Officer)
4. Disability/Accessibility Subject Matter Experts (SMEs)
5. EEO Assessment (Office the General Counsel, HR)
6. Hiring Managers from the Office of the Chief Financial Officer (CFO), Office of the Managing Director (MD), Office of the General Counsel (OGC), Office of Safety Recommendations and Communications (SRC), Office of Aviation Safety (AS), Office of Highway Safety (HS), Office of Research and Engineering (RE), Office of Marine Safety (OMS), Office of Administration (AD), Office of the Chief Information Officer (CIO), Rail, Pipeline, and Hazardous Materials Investigations.

Prior to each ninety-minute discussion, each participant was notified that their participation was voluntary and that their responses remained confidential. Although participants were assured of confidentiality, the group setting may have reduced participants ability to speak candidly. All discussions were conducted in an atmosphere where respondents were encouraged to participate candidly, through ground rules that established a non-threatening and non-attributional environment. The Project Team's facilitator guided the free-flowing discussions with targeted questions. Questions were tailored to each respondent group based on reviews of the NTSB MD-715, the agency's EEO and DEIA strategies, policies, and procedures, and NTSB workforce data. Each discussion closed with the following question:

*If given a magic wand, what would your office do to improve diversity, equity, inclusion, and accessibility at NTSB?*

Discussions were recorded to ensure notetaking accuracy. A thematic content analysis of the meeting notes identified the major themes expressed by participants within seven categories:

1. Disability and accessibility.

2. Recruitment.
3. Hiring.
4. Employee development and training opportunities.
5. Promotion and internal selection.
6. Grade level distribution.
7. Retention.

Worth noting is that the agency appears to have a robust anti-harassment policy and robust workplace safety/anti-harassment action plans detailed in their DEIA Strategic Plan. Effective policy implementation is directly linked to harassment prevention training for managers and employees. The Project Team did not uncover any new barriers to workplace safety/anti-harassment.

This analysis presents “unfiltered” perceptions to inform NTSB of how the respondents perceive issues pertaining to DEIA, as well as issues pertaining to recruitment and hiring. With this information, NTSB is better positioned to enhance communications to address concerns, misconceptions, and inaccuracies. The perceived themes within each category are based qualitative data gathered during group discussions. From the findings, the study team developed recommendations.

## NTSB General DEIA Interview Questions

### **CULTURE AND CLIMATE**

1. How would you describe NTSB as a place to work, the organizational culture, and the things that are important to the agency?
2. How would you rate the overall diversity climate at NTSB? Do you feel diversity, equity, inclusion, and culture is embedded in organizational culture?

### **DEIA**

3. How does the agency equip all employees to improve their understanding of diversity, equity, inclusion, and accommodation?
4. Is there a perception amongst all levels of employees that the agency promotes diversity, but it has not reflected on everyday practices, where employees have not seen any actionable changes?
5. Is there a general attitude of indifference amongst employees when it comes to EEO groups and DEIA topics and initiatives?

### **RECRUITMENT & HIRING**

6. In your view what are some of the obstacles the agency has faced when it comes to recruiting and hiring a diverse high-quality talent workforce?
7. What training is available for recruiters and hiring managers when it comes to recruitment and selection? Please specify training. Or does the agency train recruiters and hiring managers on the following:
  - \_\_\_ Interview best practices? What does that look like?
  - \_\_\_ Diversity principles?

\_\_ Agency's recruitment goals?

\_\_ Hiring principles?

### **RESUME REVIEW**

8. What are the guidelines for resume reviewers to ensure that personal bias is avoided? Are there any measures in place such as omitting names on a resume to prevent implicit bias? Blind resume reviews?

### **RETENTION AND SEPARATION**

9. Are there any retention issues of underrepresented groups? If so, can you share what those might be?

### **PROMOTIONS AND CAREER ADVANCEMENT**

10. Do you believe the agency has the "right" mechanism in place to ensure that major decisions (such as promotion and training opportunities) are free of bias? If not, what does it look like?

### **PERFORMANCE REVIEW AND AWARDS**

11. What practices are in place to ensure clear and accessible career pathways? (*Equitable and accessible career pathways*).
12. Is DEIA currently incorporated into performance reviews? If not, do you feel it should be?

### **AWARENESS AND TRAINING**

13. Do you feel current DEIA training is sufficiently effective in fostering inclusiveness and real empathy?
14. What sorts of biases have you seen or personally encountered in your day-to-day work experience?
15. Are there any known obstacles that would prevent certain employees from learning about available training opportunities, such as the nature of their job, their job location, their access to email or bulletin boards, or other reasons?

### **EEOI AND DIAC**

16. What is the current process for identifying triggers, identifying barriers, and overcoming barriers in each of these areas?
  - a. Agency recruitment process
  - b. Hiring and placement process
  - c. Employee development and training opportunity process
  - d. Promotion and internal selection process
  - e. Grade level distribution
  - f. Award distribution separation and discipline
17. How well do you understand each of the following?
  - a. EEOC Barrier Analysis Decision Tree Process (it seems as they have utilized this process, so what is it about the process that is not eliciting the wanted outcome? What steps of this process are not effective?)
  - b. Requirements for submission of MD-715 report
  - c. Importance of the Self-Assessment Checklist (Part G and H)
  - d. Preparation of statistical data analysis charts for annual and quarterly reports

18. The agency has established a barrier analysis working group. Can you describe the actions this group has taken so far to identify barriers and mitigate them?

**COMPLAINTS**

- 19. How effective is the organization’s complaint process in addressing and resolving issues?
- 20. Is workplace harassment an issue? If so, do you feel there is sufficient anti-harassment support for reporting and addressing workplace harassment issues?

**MAGIC WAND**

21. If you could wave a magic wand, what DEIA improvements would you make at NTSB?

## NTSB Hiring Managers Interview Questions

**RECRUITMENT & HIRING**

- 1. In your view, what are some of the obstacles the agency has faced when it comes to recruiting and hiring a diverse high-quality talent workforce, including individuals with disabilities?
- 2. What level of involvement do you have in the recruitment process? Does your department use sources other than USA jobs?
- 3. What training is available for hiring managers when it comes to recruitment and selection? Please specify training. Does the agency train hiring managers in the following?
  - a)  Interview best practices? What does that look like?
  - b)  Diversity principles?
  - c)  Agency’s recruitment goals?
  - d)  Hiring principles?

**RESUME REVIEW**

- 4. What are the guidelines for resume reviewers to ensure that personal bias is avoided? Are there any measures in place such as omitting names on a resume to prevent implicit bias? Blind resume reviews?

**OCCUPATION RELATED QUESTIONS**

Selected ACS to OPM Occupation Mapping

OPM SERIES	OPM SERIES TITLE	EEO TABULATION (CENSUS) CODE	EEO TABULATION (CENSUS) OCCUPATION TITLE
1801	GENERAL INSPECTION, INVESTIGATION, ENFORCEMENT, & COMPLIANCE	565	COMPLIANCE OFFICERS
1815	AIR SAFETY INVESTIGATING	565	COMPLIANCE OFFICERS
2101	TRANSPORTATION SPECIALIST	740	BUSINESS OPERATIONS SPECIALISTS, ALL OTHER
2121	RAILROAD SAFETY	565	COMPLIANCE OFFICERS

5. What are the Knowledge, Skills and Abilities (KSA's) that you look for in candidates for these positions (and/or your existing workforce)?
6. Any suggestions on what group of private sector occupations and/or educational backgrounds would be good suggestions for a comparative workforce?

#### **RECRUITING (CONTINUED)**

7. In general, how would you rate the applicant pool of potential candidates you interview for your open positions? Do you feel like you get an adequate pool of qualified candidates for the job?
8. In general, how would you rate "the reach" of the diversity of the candidates for your open positions? In other words, does the current process of attracting candidates to the job openings do a good job of attracting a diverse and qualified pool to choose from?
9. How would you rate the process of moving candidates through the applicant flow pipeline? Are there any issues or concerns with Qualification, Referral and/or Selection stages?

#### **HIRING AUTHORITIES**

10. Are you familiar with "Using Schedule A to Hire and Retain Individuals with Disabilities?" Have you used this hiring authority? Does the agency have training materials that address Schedule A?
11. Does the agency encourage hiring managers to take advantage of Schedule A?
12. To what extent have you used the 30% or More Disabled Veteran's hiring authority?
13. Does the agency include job announcements that encourage applicants with disabilities to apply and provide contact information for requesting reasonable accommodations that also contains information explaining how to apply under Schedule A/30% Disabled Veterans hiring authorities?
14. Have you engaged in any fashion with the Disability Employment Program Manager (DEPM) to find out more about programs and initiatives to recruit and hire people with disabilities?
15. Are you familiar with and have you received training and information on the Workforce Recruitment Program (WRP) or the Pathways program for recruiters and hiring people?
16. Does the agency have a centralized application process for people with disabilities applying for various internships e.g., interns hired under the Workforce Recruitment Program (WRP)? If so, have you utilized it during your most recent hiring process?
17. Are you familiar with and have you used any of the fellowship and internship programs such as the "Management Intern Program" and the "Presidential Management Fellowship Program" to recruit and hire any individuals with disabilities?
18. Do the EEODI office, HR, and hiring manager review the qualified candidates and selection collaboratively?

#### **MAGIC WAND**

19. If you could wave a magic wand, what would improve the recruitment and hiring process? What would that look like?
20. If you could wave a magic wand, what would improve DEIA at NTSB? What would that look like?

## NTSB Disability Group Follow up Discussion Questions

03/28/2022

### COVID-19 Return to Work

The agency's COVID-19 training and guidance materials (policy????) do not explicitly address people with disabilities. NTSB staff stated that the policies apply to all staff, including people with disabilities. Additionally, the agency's health and safety return to the workplace plan applies to all staff including those with disabilities. However, it does not specifically delineate provisions for people with disabilities.

### 508 POLICY

Confirm this statement:

NTSB has a Section 508 Coordinator, but not a full-time disability strategist who is responsible for the disability policy portfolio.

NTSB does not have a position for a specialist who focuses solely on disability-related issues, and the level of staff expertise on issues pertaining to individuals with disabilities is not known.

NTSB has no full-time person assigned to Section 508 compliance and insufficient support staff with specialized expertise in ensuring accessibility and usability of information and communication technology.

NTSB Personnel with disability-related responsibilities (e.g., Section 508 Coordinators) are often assigned other duties. They have other duties assigned to them. There are significant variations in the level of knowledge and experience among these individuals.

The agency has limited information on 508 policies, the documentation provided by the agency and reviewed by the Project team identified limited and vague guidelines for 508 compliance. The website where the 508 policy resides states that the agency is committed to making its electronic and information technology accessible to individuals with disabilities by meeting or exceeding section 508. But it does not specifically spell out the intricacies of such policy. The 508 policy should specify measures and procedures set in place by the agency to ensure key criteria for accessibility are met. There should be a full scope description of roles, responsibilities, and procedures for complaint resolutions. From the documentation obtained from the agency as well as from reviewing the agency's website, it seems as there is insufficient policy, personnel, budget, and training to implement and comply with Section 508 of the Rehabilitation Act regarding the accessibility and usability of information and communication technology. Some of the agency's personnel have made attempts to incorporate closed captioning in all online training and as well as to include Section 508 compliance into contracts for acquiring training services. However, there is no way to evaluate compliance with Section 508 because the agency may lack full knowledge of its requirements.

There is no information or description on the relationship between Section 508 and the reasonable accommodation process.

### TELEWORK POLICY

- NTSB Office of Human Resources telework policy guidance (HR-GEN-003) includes the misleading statement that "telework is a workplace flexibility for both management and employees. However, a telework arrangement is not a right and may be terminated, in whole or in part, at any time, in accordance with the provisions of this bulletin HR-GEN-003. The bulletin specifies that "telework may be permitted as a reasonable accommodation for an employee with a disability or medical

condition, depending on the individual circumstances. The policy specifies that the NTSB “may at its discretion provide other equipment for use in a teleworker’s home when it is justified. The language is discretionary but assistive technology may be considered a required accommodation, notwithstanding the obligation of agencies to provide reasonable accommodations under Section 501 of the Rehabilitation Act’s nondiscrimination provision.

## **DISABLED VETERANS**

A second concern regarding the accuracy of the data used to count employees with disabilities is related to NTSB not having a system or any mechanism in place to account for individual’s appointment under a hiring authority that takes disability into account under Schedule A authority, the Veterans’ Recruitment Appointment authority, and the 30% or More Disabled Veteran authority. The agency does not have a system in place to track this data. How is NTSB accounting for 30% disabled veterans? What process if any do you have for including individuals on schedule A or counting them as people with disability?

## **JOB ANNOUNCEMENTS**

**Vacancy Announcements.** Based on a review of documents, NTSB does not include language in vacancy announcements relating to the availability of reasonable accommodations. The announcement fails to encourage individuals with disabilities to apply for a job using the Schedule A excepted service hiring authority. There was no mention of personnel strategies and practices that include rules related to hiring Veterans with disabilities.

See job announcement attached from USA JOBS

Here is a copy of a recent NTSB job announcement. At the bottom, there is a link for the reasonable accommodations policy, but once you click the link, it instructs applicants to follow instructions to request accommodations on the job announcement. But it seems as if they do not have specific information on the process of requesting accommodations.

you will receive another notification regarding the status of your application.

## Fair & Transparent

The Federal hiring process is setup to be fair and transparent. Please read the following guidance.

Equal Employment Opportunity (EEO) Policy  
Financial suitability  
New employee probationary period  
Privacy Act

Reasonable accommodation policy  
Selective Service  
Signature and false statements  
Social security number request

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## Reasonable accommodation policy

Federal agencies must provide reasonable accommodation to applicants with disabilities to ensure equal opportunity in the hiring process. At any point in the application process, applicants should follow the instructions in the job opportunity announcement. For any part of the remaining hiring process, applicants should contact the hiring agency directly. Determinations on requests for reasonable accommodation are made on a case-by-case basis.

To learn more, please consult the following resources:

- [EEOC's Reasonable Accommodation for Applicants with Disabilities](#)
- [EEOC's Reasonable Accommodation for Applicants with Disabilities](#)

## Appendix C References

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