Chesapeake Bay Watershed 2024 Environmental Literacy Report

West Virginia

Results from the ELIT Survey

Final Report: 4/4/2025

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ELIT Background & Purpose

The Chesapeake Bay Environmental Literacy Indicator Tool (ELIT) was developed to monitor the capacity and progress of public school districts toward meeting the environmental literacy goal stated in the 2014 Chesapeake Bay Watershed Agreement. The goal was to:

> **Enable every student in the region to graduate with the knowledge and skills to act responsibly to protect and restore their local watershed.**

Three outcomes are stated in the agreement:

1. **Students**: Increase age-appropriate understanding of the watershed through meaningful watershed educational experiences (MWEEs) and rigorous, inquiry-based instruction, with a target of at least one MWEE in elementary, middle, and high school, depending on available resources.

2. **Sustainable Schools**: Increase the number of schools that reduce impact of buildings and grounds on their local watershed, environment, and human health through best practices, including student-led protection and restoration projects.

3. **Environmental Literacy Planning**: Develop a comprehensive and systemic approach to environmental literacy for all students, including policies, practices and voluntary metrics that support environmental literacy goals and outcomes.

The ELIT contributes to monitoring public school districts' progress toward these outcomes, collecting data about:

- School district preparedness to implement a comprehensive and systemic approach to environmental literacy education (Outcome 3);
- Student participation in MWEEs during the school year (Outcome 1);
- School district needs to support further improvements in environmental literacy education.

The ELIT tool used in 2024 was identical to the tool used in 2022.

The ELIT is administered biennially to all local education agencies (LEAs) in six jurisdictions within the Chesapeake Bay Watershed. **This report presents results from West Virginia LEAs, but only those that are within the Chesapeake Bay Watershed.**

ELIT Data Collection

Data Collection Procedure

The ELIT is administered every two years as an electronic survey. It is intended to be completed by a single representative from the administration of each LEA (school district) who is able to report on district-wide activities. Additional data that are more reliably obtained through non-survey means (e.g., student enrollment) are identified from external sources and merged with the survey responses.

Past ELIT data were collected in 2015, 2017, 2019, and 2022. There was a one-year pause in data collection during the COVID-19 pandemic.

The Chesapeake Bay Program Education Workgroup organized data collection in 2024. Representatives from each state's education office led distribution of the survey to LEAs within their jurisdiction. ELIT data collection targets only public school districts. This report does not contain data about private or charter schools.

Data Collection Timing & Details

The 2024 ELIT asked districts to report on the status of activities for the 2023-24 school year. The ELIT survey opened for responses in August 2024 and remained open for responses through early December 2024.

This report presents results from West Virginia LEAs, but only those that are within the Chesapeake Bay Watershed.

Additional Information about Data

The most significant challenge of the ELIT is obtaining a strong response rate from 680 LEAs across six jurisdictions. As more LEAs report their activities into this dataset, the Chesapeake Bay Program has a more accurate understanding of the status of environmental literacy regionwide.

To maximize ability to generalize about conditions across the region, ELIT results include all data submitted in the current year's survey, as well as available data from prior ELIT surveys, within two years. **In this report, results include all responses to the 2024 ELIT, as well as data from any LEA that responded in 2022, but did not update their records in 2024.** The underlying assumption is that changes for non-reporting districts are likely minor in just two years.

In some analyses, we constrain the dataset to only those districts who provided data in *both* recent years – 2024 and 2022 – to offer the most accurate reporting of patterns of change at the district level.

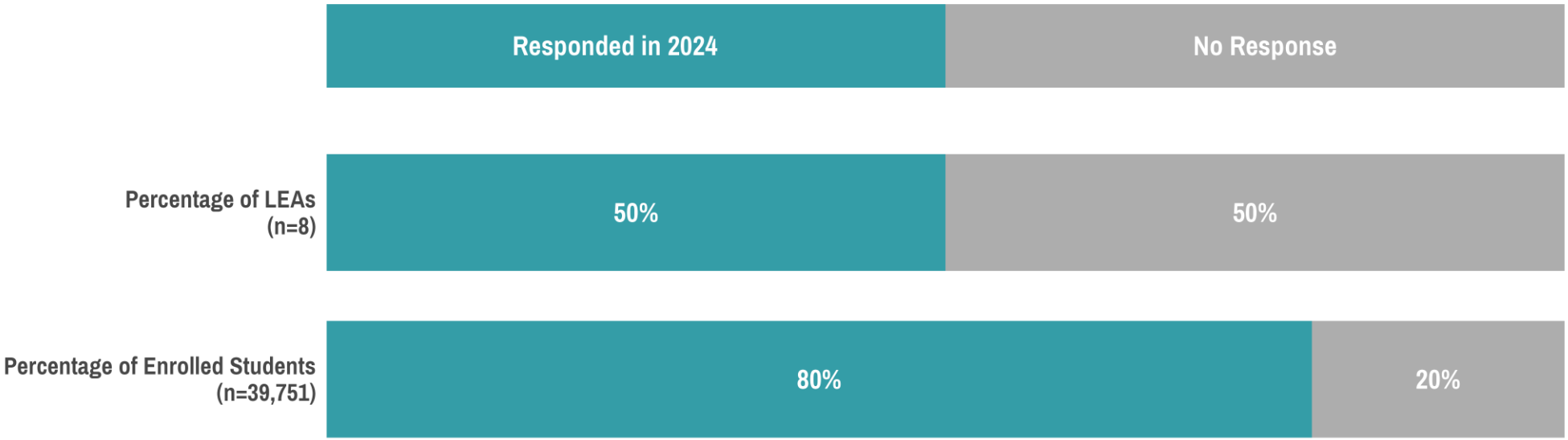
About Rounding: In tables and graphs throughout this report, we display distributions with whole number percentages. In some tables and graphs, percentages may appear to add up to slightly more or less than 100%. This is due to variation when rounding decimals.

2024 ELIT Response Rate

4 out of 8 LEAs that are within the Chesapeake Bay Watershed in West Virginia completed the ELIT in 2024. This constituted a response rate of 50% of all districts in the watershed. When response rate is considered based on student enrollment, the sample represents 80% of students in the watershed.

West Virginia had a slightly higher response rate in 2024 as compared to 2022 – one additional district responded this year. Based on this 50% response rate, the data presented in this report likely present some insights, but an incomplete picture of environmental literacy for the districts that fall within the Chesapeake Bay Watershed.

ELIT Response Rate: Percentage of all LEAs and of Enrolled Students within the Chesapeake Bay Watershed in West Virginia in 2024



Availability of Paired Year-to-Year Data

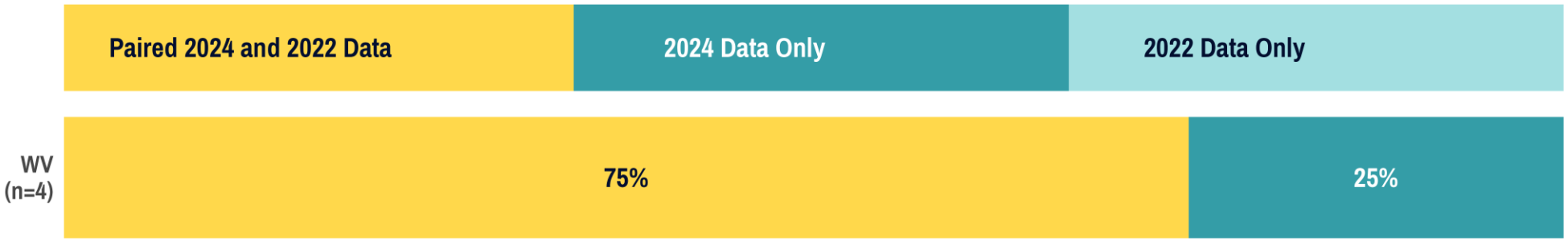
All 3 of the LEAs in West Virginia that responded in 2022 also completed the ELIT in 2024, with one additional district adding data in this year. These three LEAs will offer a view into the nature of changes from year-to-year in the state.

In the analyses that follow, we use this paired dataset to explore the degree to which changes have occurred between the last two years of ELIT surveys. By isolating comparisons to districts that responded in both current and previous years, we can eliminate "noise" in the data that may be due to changes in which districts responded (or not) in a given year. While a smaller dataset, these analyses allow the jurisdiction to see the actual movement of a given district between years.

With this amount of paired, year-to-year data, year-to-year changes presented by the data should provide some signal of environmental literacy efforts but may not be fully representative of the targeted districts.

Repeat ELIT Respondents: Availability of Paired 2024 and 2022 Data

The dataset used for the 2024 analysis includes data from 4 LEAs. The yellow segments show the proportion of districts for which we have paired data from both 2024 and 2022 ELIT collection. The remaining segments (teal) indicate districts for which we only have one year's data (either 2024 or carried-forward data from 2022).



Staff Responsible for Sustainable Schools

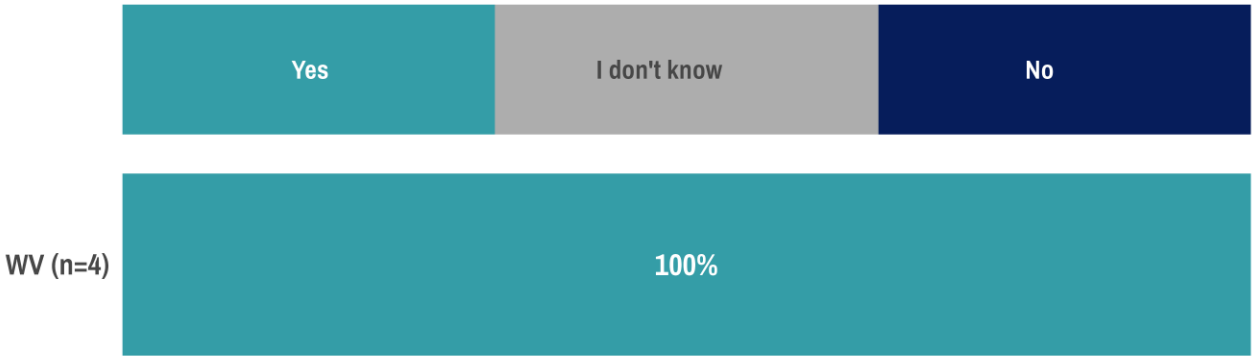
All 4 of the responding LEAs indicated that their district has dedicated staff responsible for sustainable schools.

The 2024 ELIT did not engage in a full inquiry of sustainable schools practices, to reduce the burden on districts where data may be gathered elsewhere. Only one question was asked, which was to gauge if the district had dedicated staff responsible for sustainable school efforts.

West Virginia LEAs all reported having a dedicated staff person responsible for coordinating sustainable school efforts.

Sustainable Schools: Presence of Support Staff in West Virginia

Responses to the question: Does your LEA have a staff lead or team responsible for coordinating sustainable schools efforts?



RESULTS

Preparedness to Implement Environmental Education

Measurement Overview

To assess each LEA's current capacity to implement a comprehensive and systemic approach to environmental education (EE), respondents considered six elements (below) and indicated for each whether it was:

- Not in place
- Partially in place
- Fully in place

The response for each element was scored with a value of 0, 1, or 2, respectively. These values were summed to arrive at a total preparedness score for the district.

Six Elements Used to Determine LEA Preparedness for EE:

a) An established program leader for environmental education (providing effective, sustained, and system leadership).

b) An integrated program infusing environmental concepts into appropriate curricular areas.

c) Regular communication among staff responsible for environmental education curriculum and program implementation.

d) A support system in place that enables teachers and administrators to engage in high quality professional development in content knowledge, instructional materials, and methodology related to environmental education.

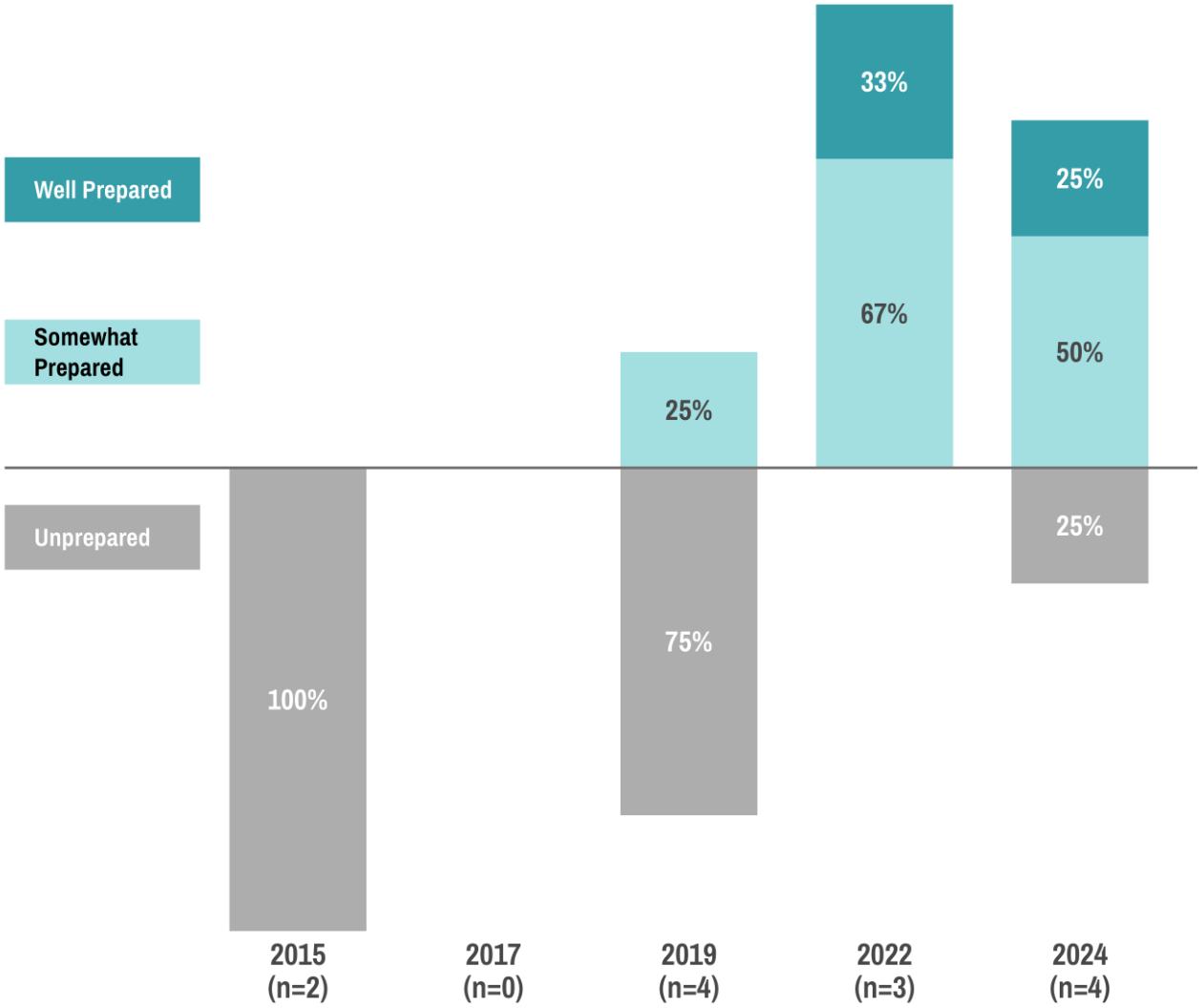
e) A plan to ensure opportunities for all students to engage in meaningful watershed educational experiences (MWEEs) at the elementary, middle and high school levels.

f) Established community partnerships for delivery of environmental education, including implementation of MWEEs.

LEA Preparedness: Trends Over Time

Changes in Environmental Literacy Preparedness Over Time (2015-2024)

Preparedness levels in all reporting LEAs in West Virginia in each of the ELIT years' reporting. Divergence illustrates the change in proportion of districts reporting any level of preparedness. Number of reporting districts may vary from year to year.



Results from 2024 are largely similar to those from 2022. In each year, 1 LEA reported as being well prepared and 2 LEAs reported as being somewhat prepared.

Responding LEAs rated how fully their district has implemented the six indicators of planning and infrastructure for high quality EE. Total preparedness scores, across all indicators, were grouped into three levels of preparedness:

- Well Prepared: scores from 9-12
- Somewhat Prepared: scores from 4-8
- Not Prepared: scores from 0-3

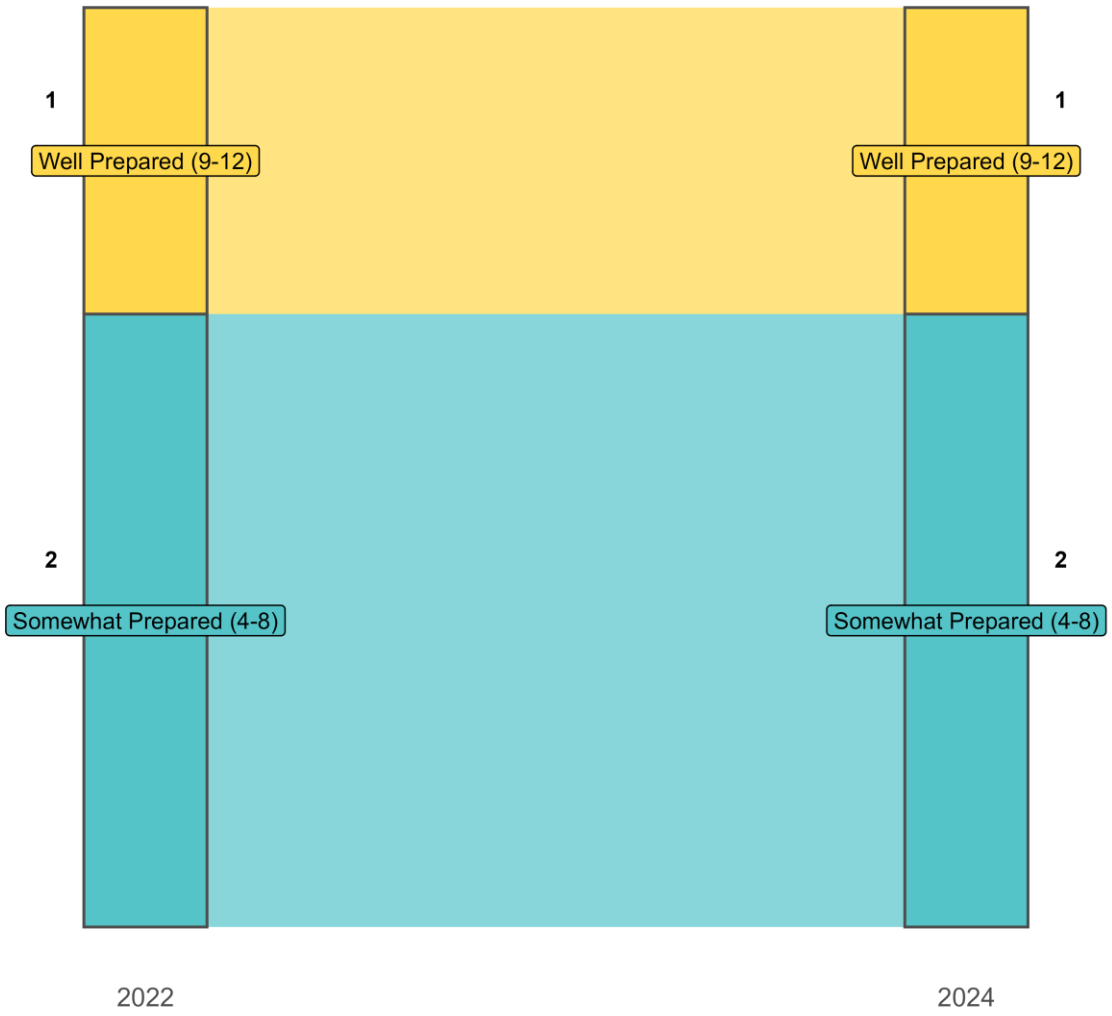
The data from 2022 and 2024 shows some stability, which were all positive changes from pre-pandemic ELIT surveys (in 2015 and 2019), when most LEAs were scored as unprepared.

On the next page, we examine changes for just districts with paired 2022 and 2024 data, which provides a more nuanced look at changes that occurred.

LEA Preparedness: District Changes from 2022 to 2024

ELIT Preparedness: Pathways of Change between 2022 and 2024

This graphic shows how the planning level of individual school districts changed between the 2022 and 2024 ELIT. It includes only districts that responded to the survey in both years (n=3). Numbers show counts of districts at each level.



When we look only at the three districts for which we have reported data in both 2022 and 2024, we see that all of the LEAs maintained the same levels of preparedness.

This analysis provides a clear picture of year-to-year change and pathways of movement in the metric by tracking each individual district that reported status in both years. All districts maintained their level of preparedness over the two years. The change seen on the prior page (the addition of 1 unprepared LEA) came from the new respondent added to the dataset in 2024.

Breaking Down the Elements of Readiness

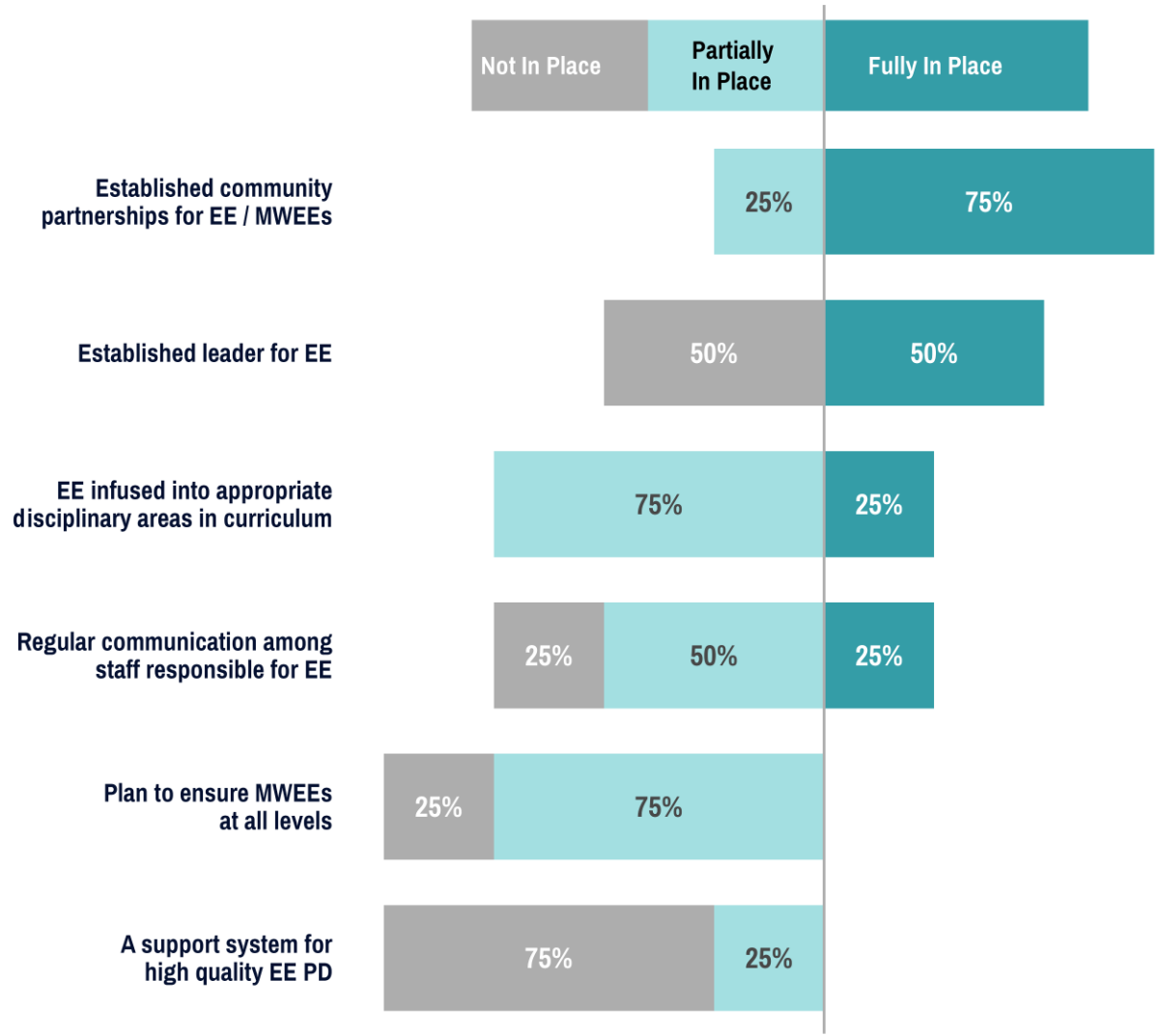
All 4 responding West Virginia LEAs reported having at least some community partnerships established – with three of the four having this element fully in place.

The breakdown of readiness within each element in the preparedness indicator show some mixed trends in districts' preparedness to support environmental literacy. In 2022, all 3 districts reported having leadership in place. However, in 2024, this dropped to only 2 of the districts. All items slightly dropped from their 2022 ratings, with the exception of environmental education infused curriculum which maintained the same proportions.

The next page further breaks down these data, by comparing the three sub-groups (well-prepared, somewhat prepared, or unprepared).

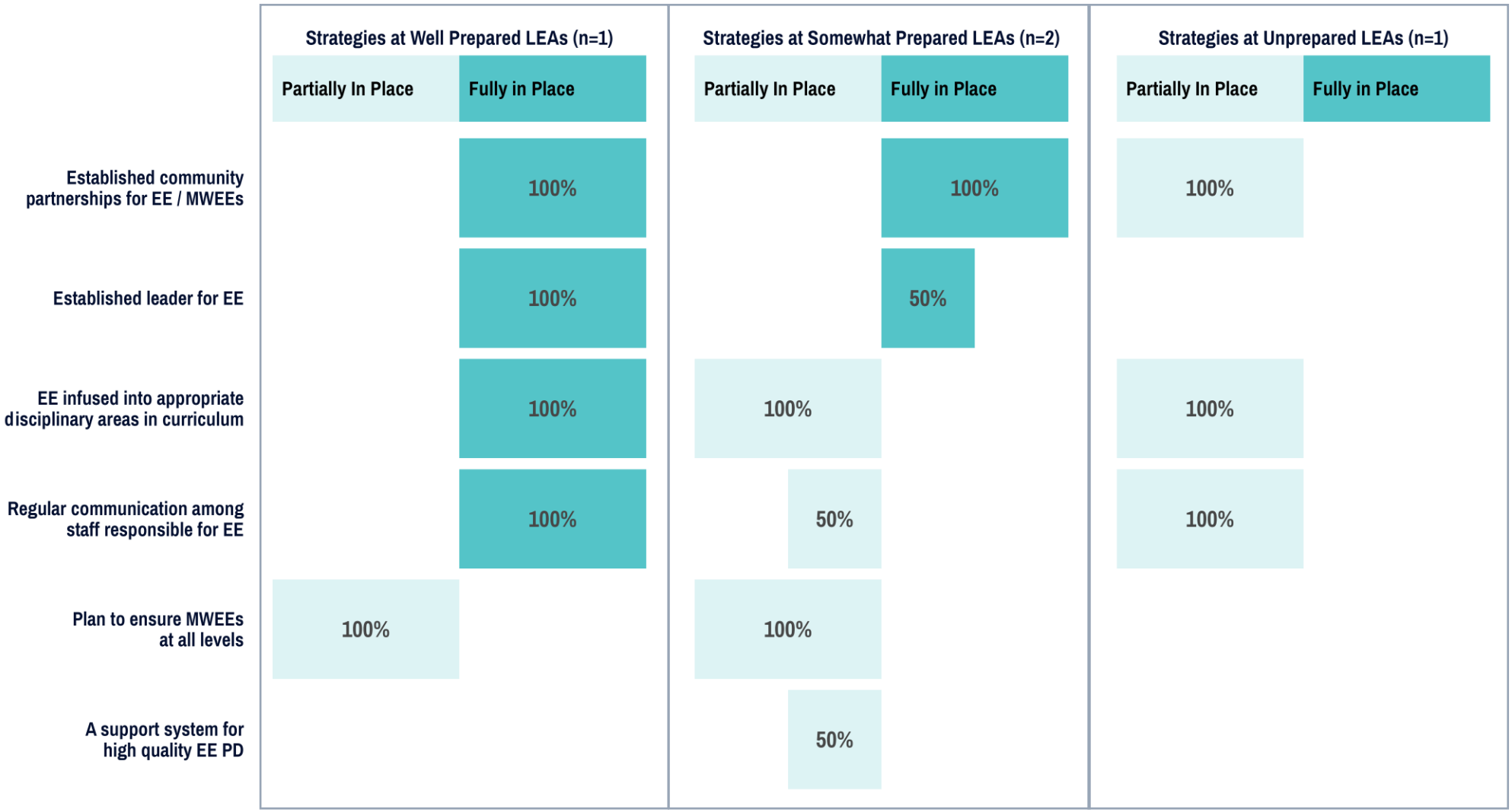
Degree of Readiness for Each Element of LEA Planning and Infrastructure.

Distribution of ratings to individual items in the planning indicator by all LEAs in West Virginia (n=4)



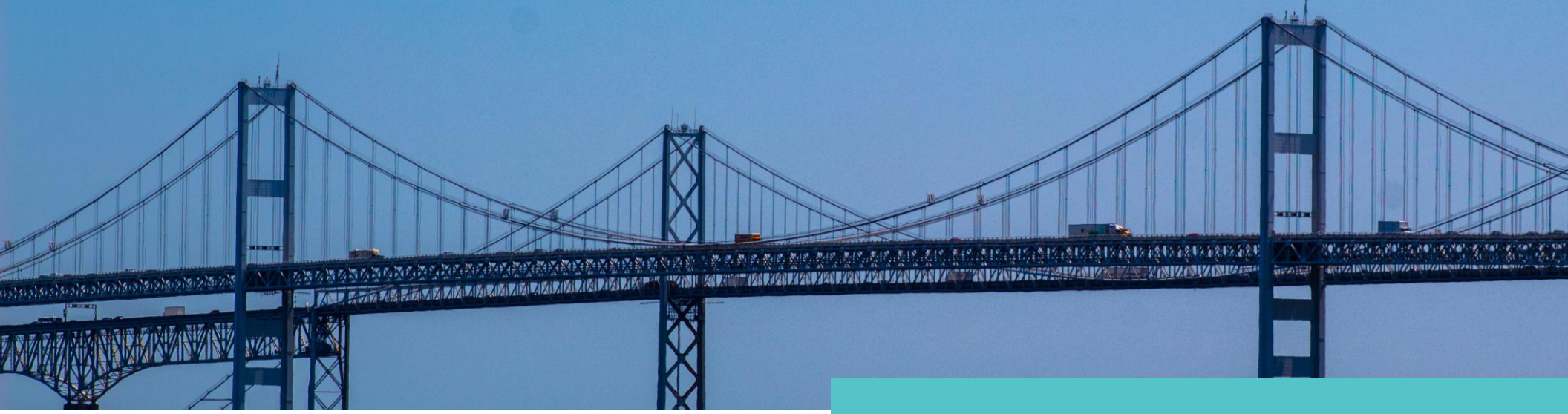
Elements Fully or Partially in Place

Comparing Strategies between Levels of Preparedness



RESULTS

Student Participation in Meaningful Watershed Educational Experiences (MWEEs)



RESULTS: STUDENT PARTICIPATION IN MWEES

Measurement

To assess the level of student participation in MWEEs within each LEA, respondents were asked to assess the presence of MWEEs within curricular offerings within each grade level (K-12), considering if they were system-wide or isolated to schools or classes. (See detail, right.) Respondents were given a reminder of the complete definition of a MWEE before the questions.

Although respondents reported at individual grade levels, analysis aggregated these data to report results by grade band (elementary, middle, or high school). The aggregation grouped each LEA into one of three levels within each grade band:

- At least one system-wide MWEE provided in the grade band;
- Some MWEE programming in the grade band, but not system-wide;
- No MWEE programming provided in the grade band.

For elementary (K-5) and middle school (6-8) grades, respondents indicated whether the district had:

- A system-wide MWEE experience for students in this grade
- Some schools or classes in this grade participate in MWEEs
- No evidence that students in this grade participate in a MWEE

For high school, MWEEs are more likely to correspond to a course than a grade level. Therefore, respondents reflected on courses at the high school level, indicated if the course was required or elective and whether the district had:

- A system-wide MWEE experience for students in this course
- Some schools or classes participate in MWEEs for this course
- No evidence that students in this course participate in a MWEE

The MWEE level was computed based only on courses that were indicated to be graduation requirements (i.e., needed for all students).

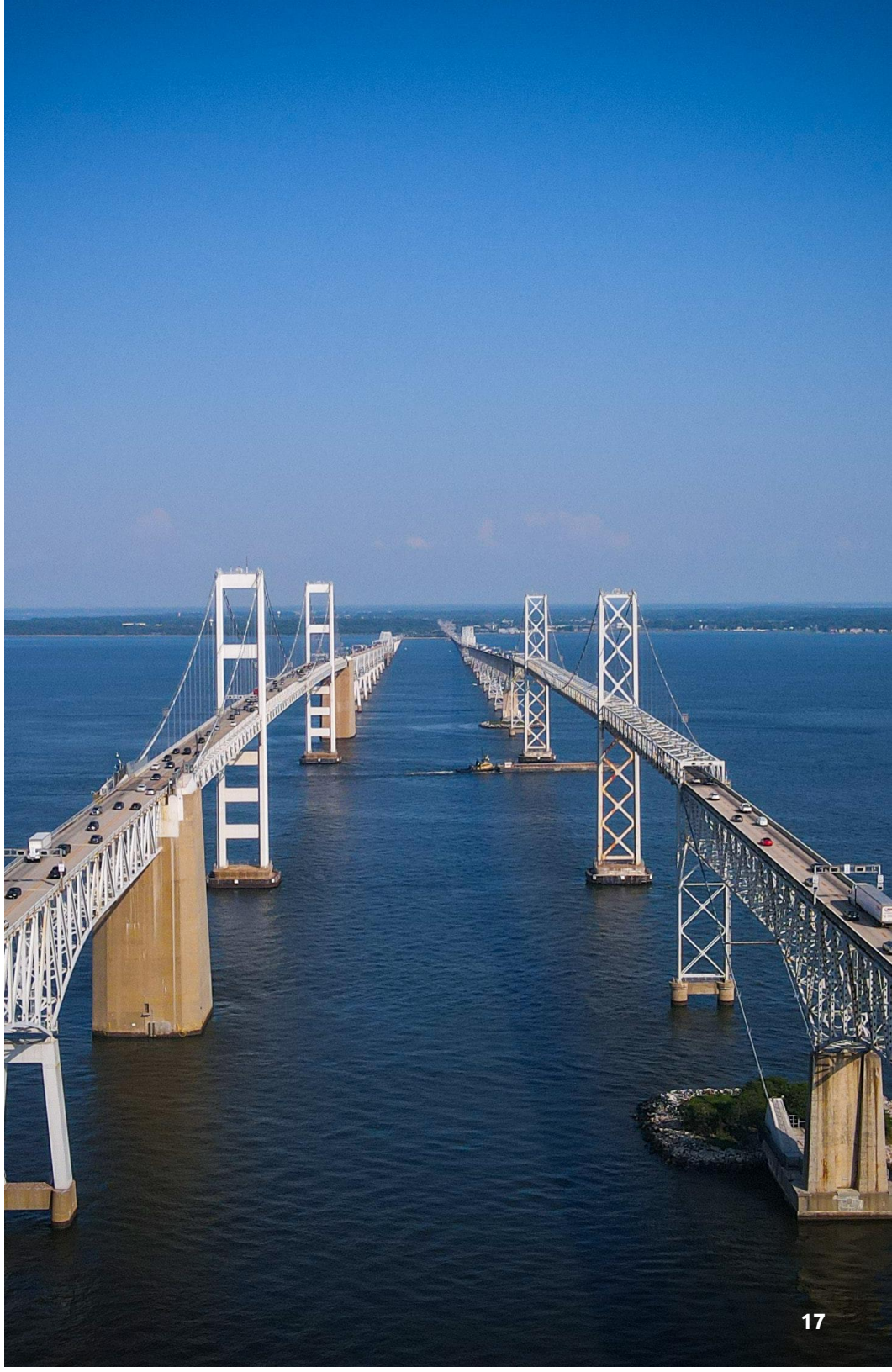
HS MWEE Measurement

The method for gathering data about high school MWEEs in 2024 was identical to the method used in 2022. However, the 2022 method was a shift from past years, as described below.

Early ELIT surveys received feedback that there may be inaccuracies in how high school courses were reported, particularly regarding clarifying whether MWEE reports were clearly limited to *required* courses (a critical element to be "system-wide"). For example, an AP course might be listed as a system-wide MWEE; but as AP course are electives, it indicated that early ELIT reports may have conflated requirements and electives.

In 2022, the question provided LEAs with an inventory of specific, common subjects, including: biology, chemistry, physics, Earth/ environmental science, history, government/civics, geography, algebra I, algebra II, geometry, language arts, literature, health/physical education, AP science, AP English, AP math, AP history, with space for write-in courses. LEA representatives reported the presence of MWEEs in each of these courses (system-wide, some schools, no evidence) – *regardless* of if it was required or elective. This allowed LEAs to focus on course topics.

A secondary question provided the same list of subjects and asked them to indicate which courses were graduation requirements. Analysis used this response to distinguish if each MWEE rating (above) pertained to a requirement (for the indicator) or an elective.



Student Participation in MWEEs

MWEEs were most common at the elementary level among responding districts.

All LEAs reported at least some MWEEs occurring at the elementary and middle school levels. For elementary grades, 3 of the 4 districts reported having system-wide MWEEs. In middle school grades, one district reported system-wide MWEEs and the other three reported MWEEs partially in place.

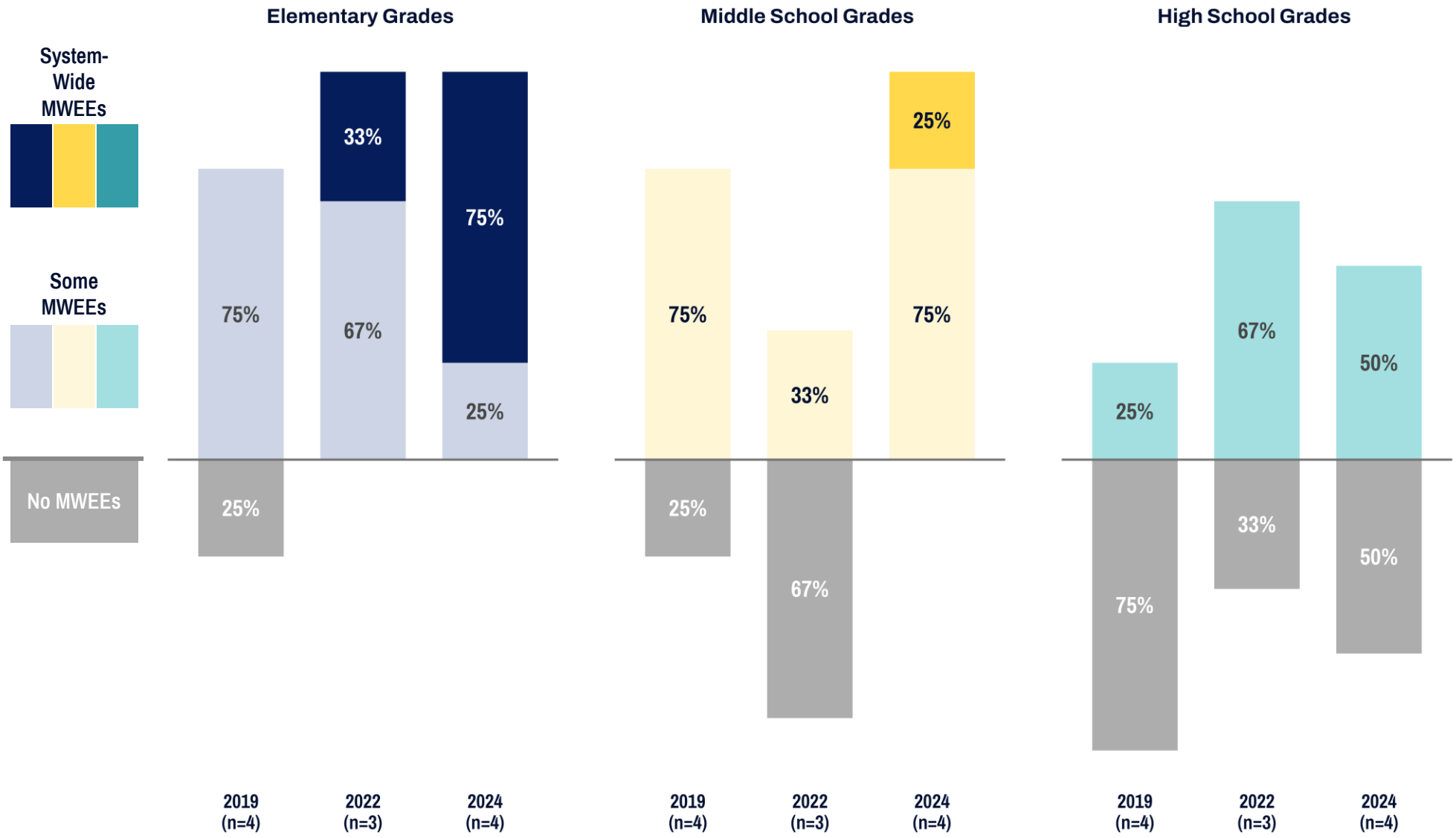
High schools had the lowest rate of MWEE presence, with only half of the responding districts reporting some MWEEs in place.

On the next page, results from ELIT years 2019 through 2024 are compared. Access to MWEEs in elementary and middle school grades appear to have gone up among reporting districts, while MWEEs in high school grades has stated roughly stable (given the small number of LEAs). As mentioned previously, due to the small sample size, these data do not reflect all districts in the watershed in the state.

MWEE Availability among LEAs within West Virginia in 2024

Rates of availability across all responding LEAs. If a district reported there was a system-wide MWEE at any grade level(s), they were scored as having "System-Wide MWEEs"; "No MWEEs" indicates no MWEEs at any grade in the band.

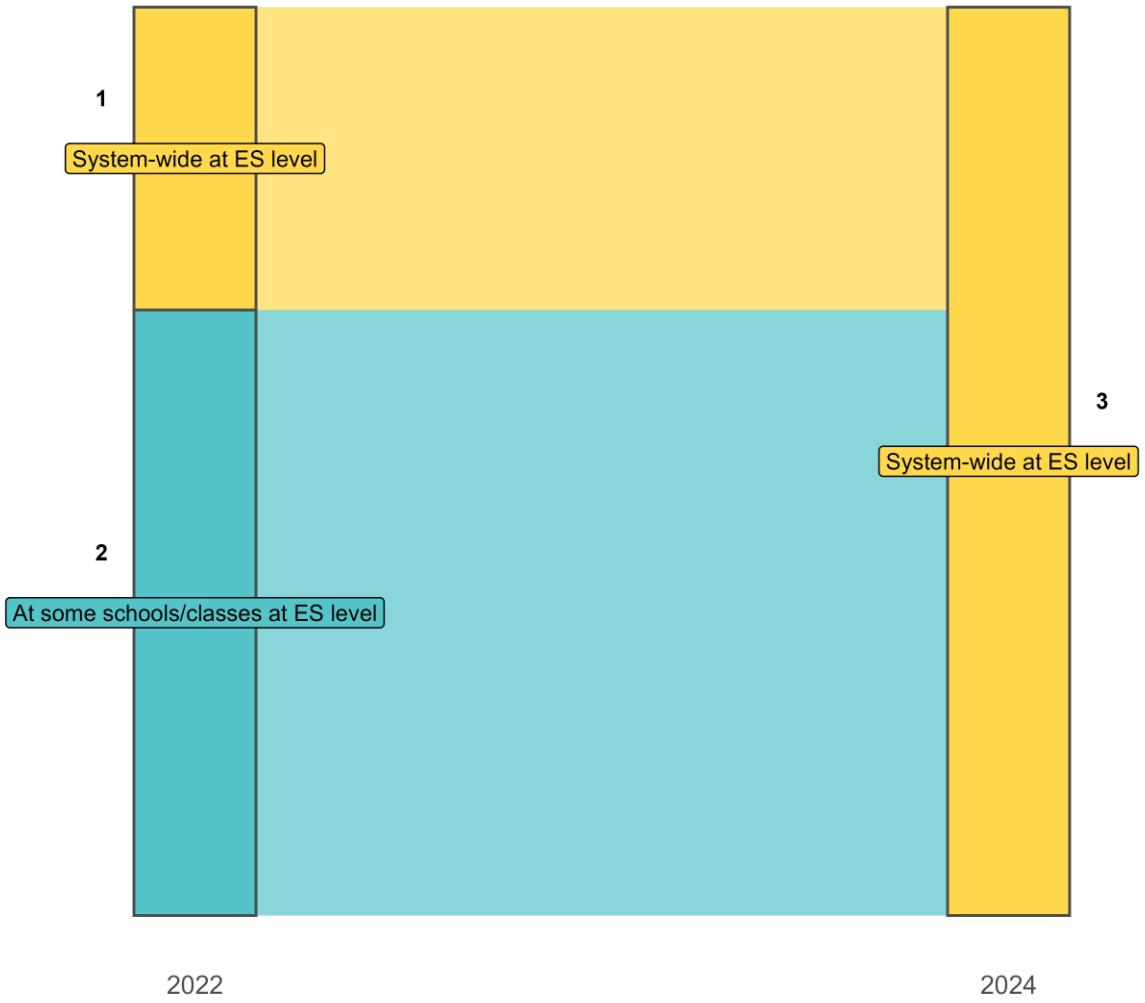
MWEEs by Grade Band: Change Over Time



Change in Elementary: Paired 2022 and 2024 Data

ES MWEEs: Pathways of Change between 2022 and 2024

This graphic shows how the presence of MWEEs of individual school districts changed between the 2022 and 2024 ELIT. It includes only districts that responded to the survey in both years (n=3). Numbers show counts of districts at each level.



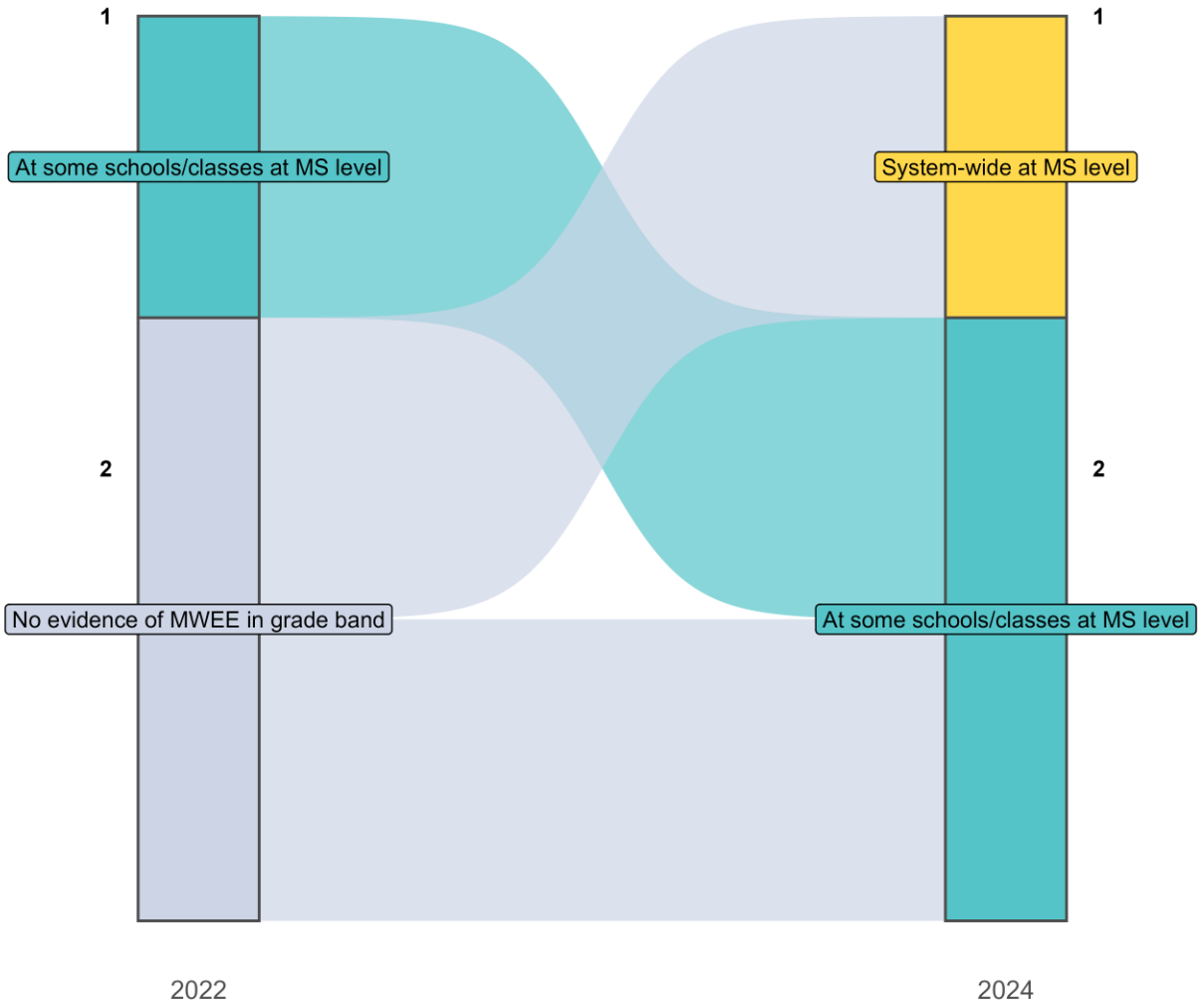
Exploring the subset of LEAs for which we have year-to-year data, we see that the two LEAs who only reported some MWEE use in 2022 increased to include system-wide use by 2024.

Two of the three districts increased the presence of MWEEs to be system-wide in 2024.The other district maintained system-wide MWEEs resulting in every district with paired data reporting system-wide MWEEs. This indicates that the one new district in the dataset in 2024 is the one with only some MWEE use at the youngest grades.

Change in Middle School: Paired 2022 and 2024 Data

MS MWEEs: Pathways of Change between 2022 and 2024

This graphic shows how the presence of MWEEs of individual school districts changed between the 2022 and 2024 ELIT. It includes only districts that responded to the survey in both years (n=3). Numbers show counts of districts at each level.



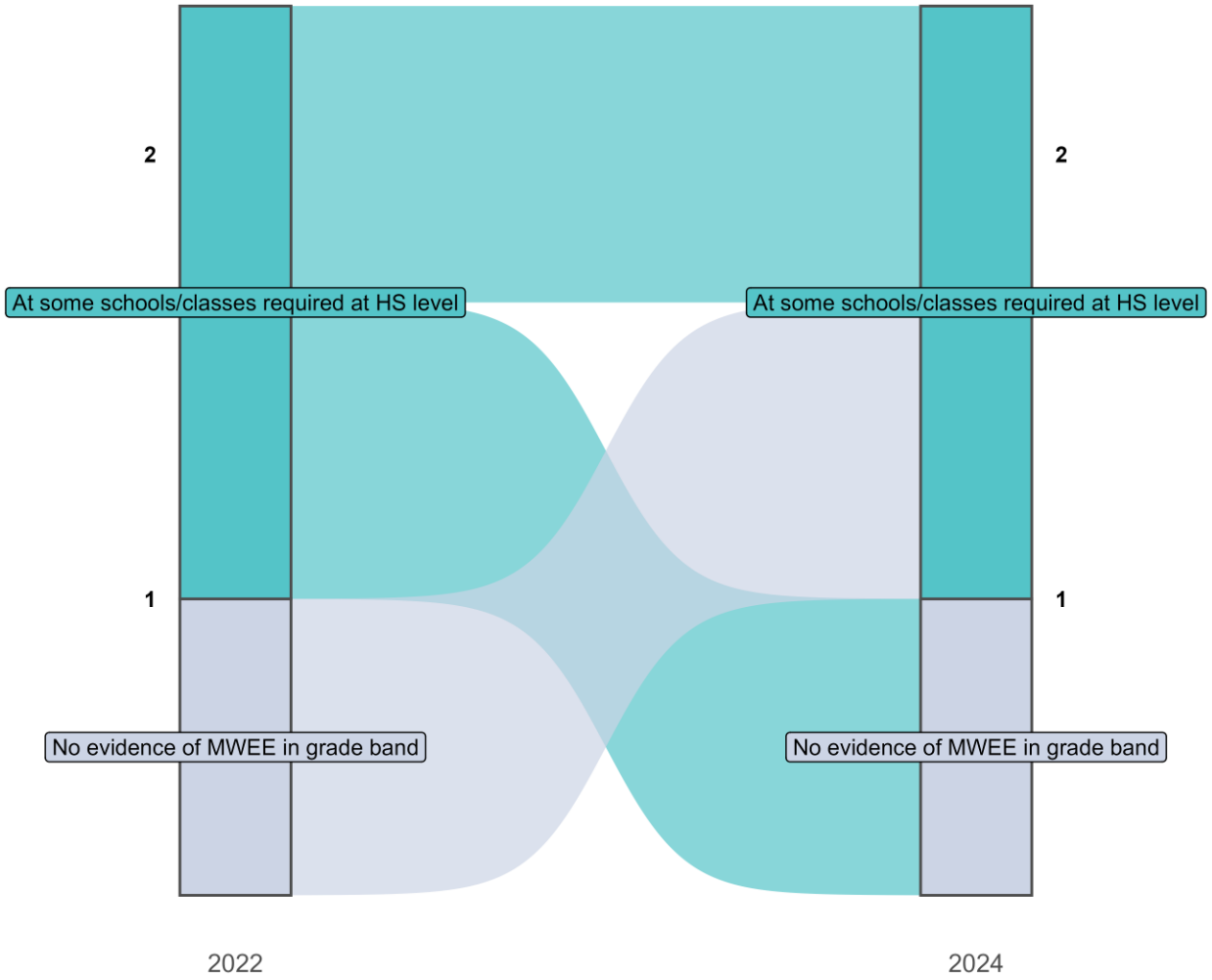
The middle school grades showed one LEA making a big move between levels – this LEA moved from no MWEE usage to system-wide MWEE use between 2022 and 2024. Another LEA increased one level – going from no MWEEs to some MWEEs.

The third district stayed at the same MWEE level as in 2022's reporting – some presence of MWEEs in the middle school grades.

Change in High School: Paired 2022 and 2024 Data

HS MWEEs: Pathways of Change between 2022 and 2024

This graphic shows how the presence of MWEEs of individual school districts changed between the 2022 and 2024 ELIT. It includes only districts that responded to the survey in both years (n=3). Numbers show counts of districts at each level.



While the overall proportion of MWEE presence in high school stayed constant for the LEAs with year-to-year data, there was movement underlying those numbers.

The diagram shows that one LEA moved up a level – from no MWEEs at high school to some. And another LEA moved in the reverse direction – from some MWEEs in high school to none.

High School: Courses Using MWEEs

Two LEAs that reported providing MWEEs in high school grade bands in any form. Both of those LEAs reported that they were included in required and elective science course

Both LEAs with MWEEs at high school reported they were present in graduation requirement biology and environmental science courses. Both LEAs reported that these MWEEs were incorporated at specific schools, and not system-wide across the district.

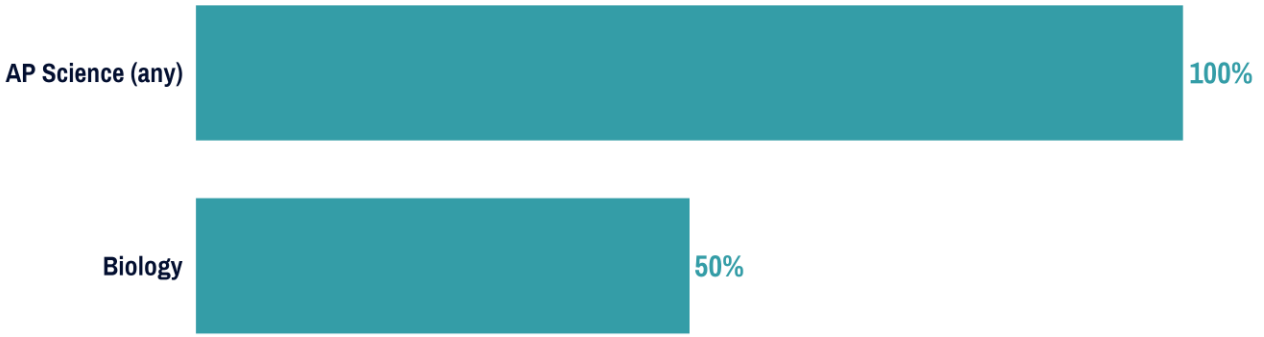
Both districts also reported MWEEs being included in AP science courses (by definition, electives). One district reported a MWEE that was included in an elective biology course.

Percentage of LEAs that Provide MWEEs within Each Required Subject (n=2)

Sample is just of LEAs that reported having MWEE(s) in at least one required high school course. Data rely on accurate self-reports that courses are requirements. Teal-colored bars indicate science-focused courses (the most common broad subject area); gray bars indicate non-science courses.

Percentage of LEAs that Provide MWEEs within Each Elective Subject (n=2)

Sample is just of LEAs that reported having MWEE(s) in at least one elective high school course. Data relies on accurate self-reports that courses are requirements. Teal-colored bars indicate science-focused courses (the most common broad subject area); gray bars indicate non-science courses.



RESULTS

Environmental Education Support Needs

Greatest Needs for EE Support

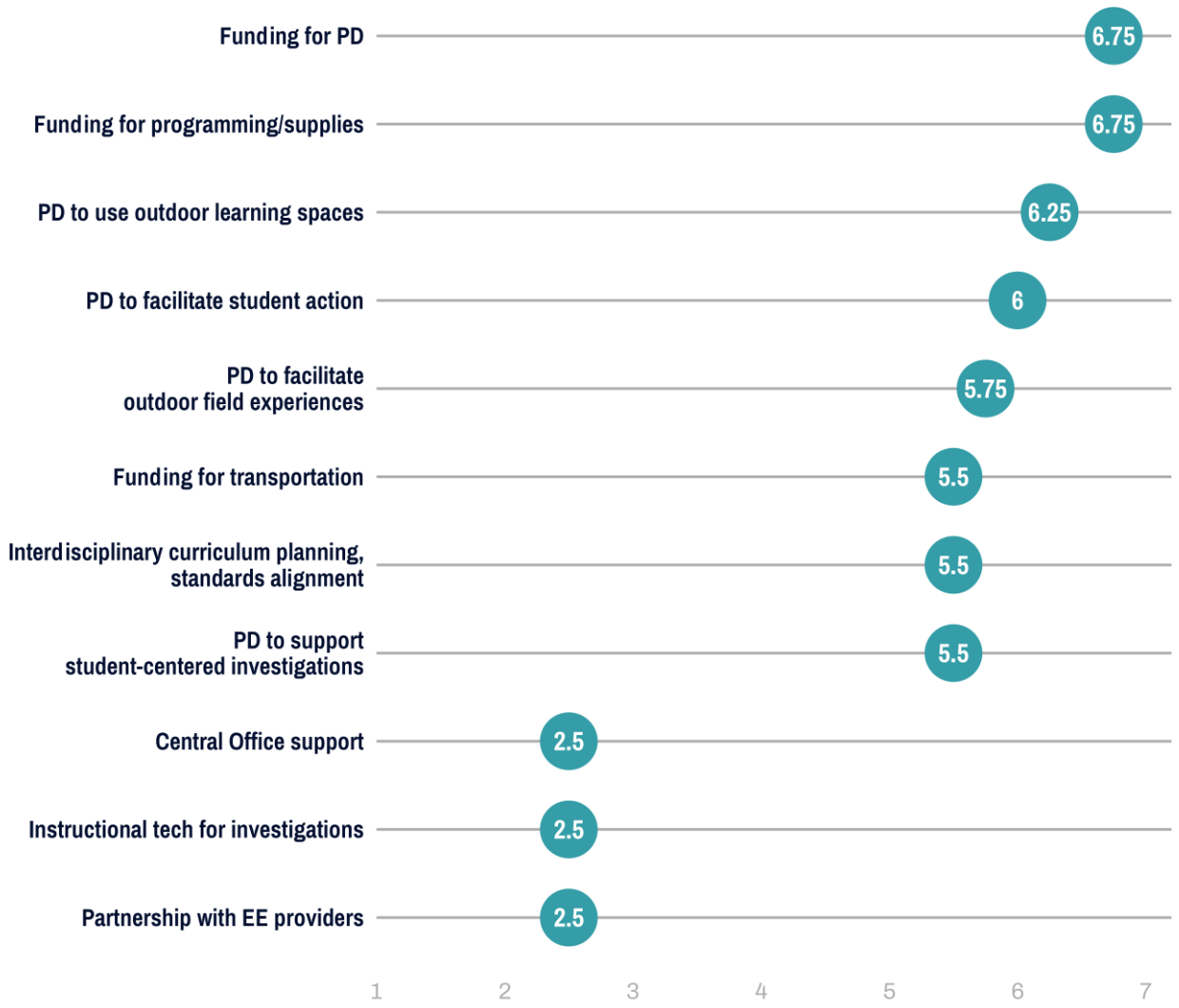
In West Virginia, funding for professional development as well as funding for programming and supplies were rated as the greatest needs overall, on average.

Notably, all of the items focused on funding and professional development (PD) across were rated as the most highly needed across LEAs. Interdisciplinary curriculum planning was included in their higher tier of needs.

Three needs tied for the lowest need overall. Support from the central office or administration, instructional technology, and partnerships with environmental educators were seen as the least needed among the items listed.

Average Ratings of Need for Support in Each Area in West Virginia

Responding LEAs rated their level of need for support in each area from 1 to 7, with 7 being the greatest need. (n=4).



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