Indiana

Indiana Department of Education

Data Management, Analytics, Visualization

Indiana GPS Dashboard

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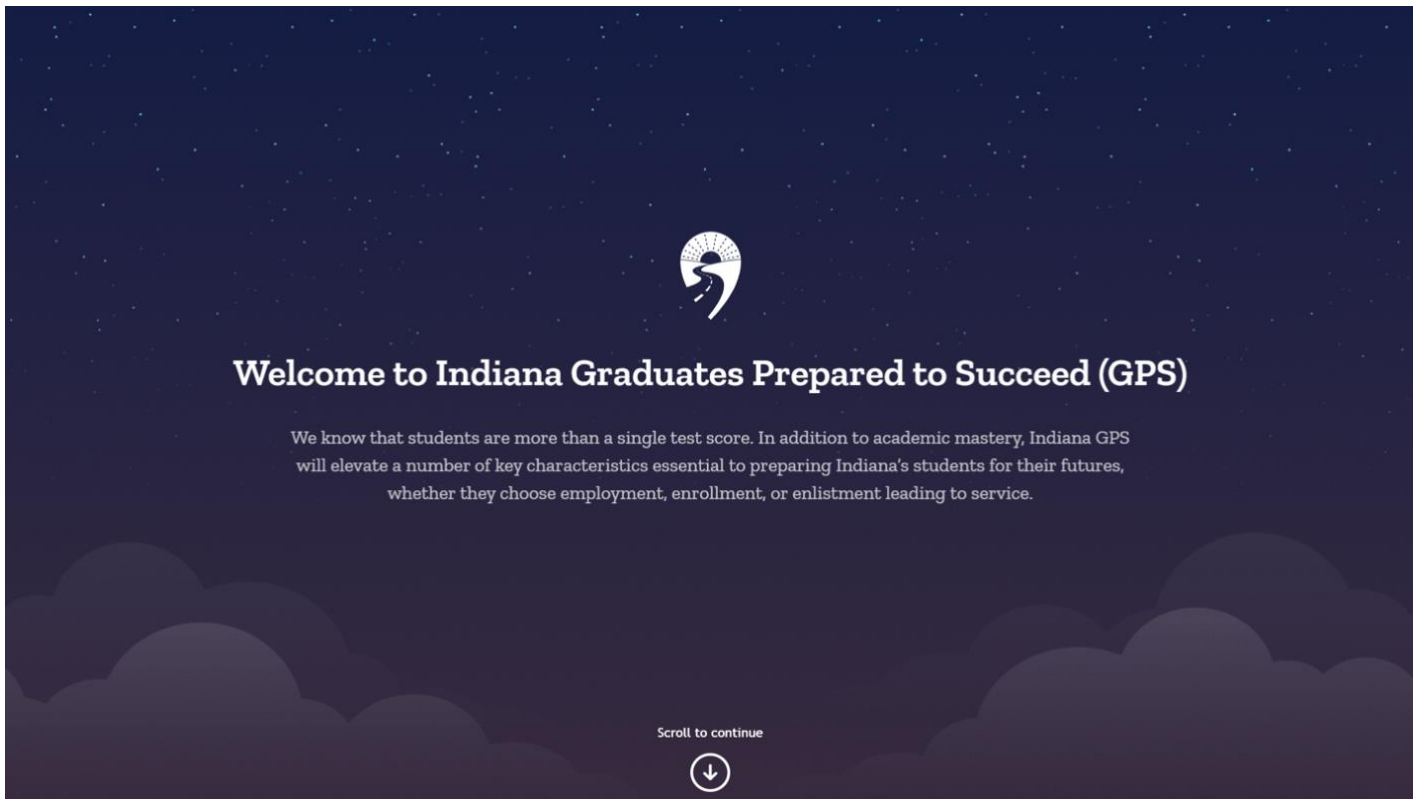
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Figure 1: Indiana GPS, Indiana's new education data transparency portal, launched December 2022.

When the State of Indiana Department of Education (IDOE) set out to build its Indiana Graduates Prepared to Succeed dashboard, the goal wasn't just to build a transparent education data portal. The goal was much more transformational: to re-envision the way Hoosiers understand, interact with, and make decisions from education data.

Guided by the mission of Graduates Prepared to Succeed (GPS):

> *"Our mission is to empower Indiana's families, educators, school administrators, and community leaders with a learner-centered, future-focused dashboard that displays how our students are building necessary knowledge and skills—in all grades and all schools—through the Indiana GPS dashboard."*

IDOE developed the Indiana GPS dashboard to:

- **Empower educators** by providing a variety of essential data points to support *continuous improvement* of student learning across the K-12 continuum,

- **Support families and community stakeholders** by providing *meaningful, relevant,* and *transparent information* about school progress and performance, and

- **Elevate the highest-performing schools** as models of excellence and identify other schools for additional support.

Launched to the public on December 12, 2022, the Indiana GPS dashboard has opened the doors for understanding what makes an Indiana student successful after graduation and how that is achieved throughout the student's education journey.

The Indiana GPS dashboard refers to a public website available at IndianaGPS.com and a private, authenticated site available through IDOE's data portal. Visitors to the public site are greeted by an interactive, visually appealing scrollytelling page that invites them to learn about the longitudinal data story for an Indiana student, beginning with the identified characteristics of a successful graduate and walking through the data indicators from Pre-K through post-graduation. Detailed data about performance for each indicator, opportunities to filter the data based on student-populations and learn about each indicator are available for visitors. The educator-oriented site, available to those with authenticated roles, enables data-driven decision making at the student level.

"Indiana GPS is a one-stop-shop, displaying information and data that matter to individual students and families, as well as the economic success of communities across Indiana," said Dr. Katie Jenner, Indiana Secretary of Education. "By coming together with educators, families, community leaders and employers, we have built a dashboard that transparently displays where our schools have been and, most importantly, where we are going. As we continue to work together on future iterations of the dashboard, Indiana GPS will continue to be updated so that it best reflects our progress for Indiana's students."

IDEA

What problem/opportunity does the Indiana GPS dashboard address?

While education data is readily available across the United States, it is often cumbersome—think spreadsheets available to download—boiled down simplistically into a single test score or graduation rate, or simply not available. Interested parties are directed to general assessment results showing data points they must interpret themselves. The available data focuses on a point in time about a student by sharing a singular test score to determine whether a student is achieving at the level desired, or a school is accomplishing its goal of preparing students to be successful, contributing adults. The opportunity to understand the path to success and how performance is achieved along the way is challenging at best, and completely absent at worst.

Students are more complex than a single data point. Education is more complex than a single data point. In building the Indiana GPS dashboard, IDOE emphasized the data story from Pre-K through graduation to share what steps are needed for post-graduation

employment, enrollment, or enlistment leading to service, to be achieved. As declared in the mission, Indiana's approach to GPS is learner-centered, providing educators with more detailed metrics for an individual student and enabling greater support for the student's individual needs as a learner. The approach is also future-focused, partnering with other agencies to map the path from education through employment, enrollment, and enlistment leading to service and allowing parties to measure achievement at any point along that path in consideration of what's required in the future.

Why does it matter?

In addition to the public-facing Indiana GPS dashboard which provides detail about achievement by the state, districts, and schools, administrators have access to row-level data for students through an authenticated portal. With this level of detail following the educational path of a student and aligning to understanding and goals of achievement along that path, the Indiana GPS dashboard enables individualized intervention for students and focused data for school and education program improvement.

What makes it different?

In preparing to launch Indiana's new performance dashboard, IDOE considered a unique set of questions:

- How might we "begin with the end in mind" to maximize a student's 13 years with us?

- What transferrable skills and knowledge should students have by high school graduation to help ensure post-secondary success?

- Recognizing that students are so much more than a test score, what combination of data indicators are most important, making sure we are learner-centered, future-focused?

To answer these questions, IDOE conducted analyses and engaged a variety of education stakeholders to determine the characteristics of a student that most significantly contribute to success after graduation.

1. Academic Mastery
2. Career & Postsecondary Readiness: Credentials & Experiences
3. Communication & Collaboration
4. Work Ethic
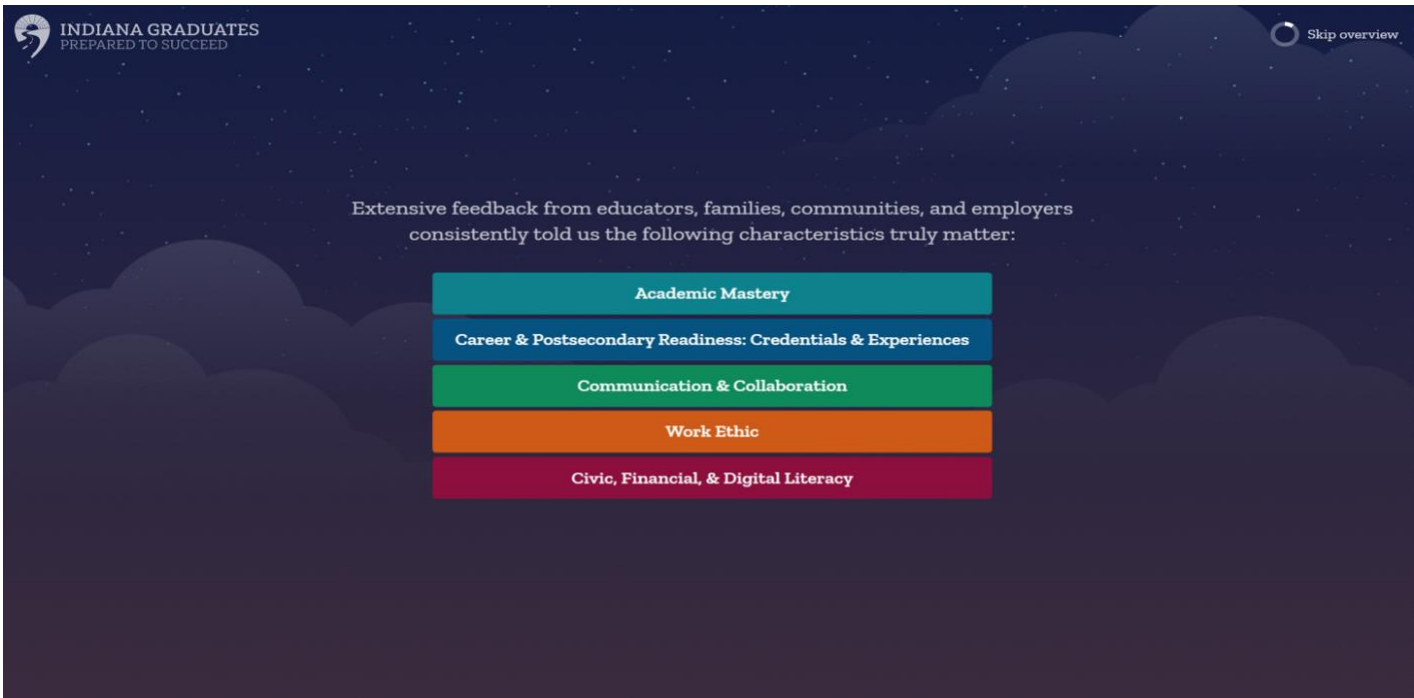5. Civic, Financial, & Digital Literacy

Figure 2: Indiana GPS shares the five characteristics of student success with visitors to the application home page.

Then, IDOE mapped the top indicators throughout the student journey and the associated goal for achievement that influence these characteristics. These characteristics and indicators were chosen to ensure that Hoosier students develop knowledge and skills throughout their K-12 years that forge connections to college and career pathways, so they are prepared for life beyond high school.

The first indicators place an emphasis on PreK-Grade 2. A student's access to early education is an essential first step in their academic and overall development. Measuring kindergarten readiness, as well as a student's PreK-2 Literacy Progress, can provide key indicators of future success across the K-12 continuum.

Next, indicators such as 3rd Grade Literacy, 6th Grade Math Growth, and others, place a focus on knowledge and skill development through elementary and middle school as students build literacy and math skills, which lay the foundation for future learning and problem solving.

As students continue to learn and grow through high school, IDOE looked to highlight partnerships with higher education and employers, with a focus on expanding access to intentional college credit opportunities that allow students to earn transferable, stackable credentials before graduation, as well as high-quality work-based learning experiences. Indicators such as College & Career Coursework, College & Career Credentials, and others showcase these experiences.

Finally, through Graduation Pathways, Indiana's class of 2023 will be the first to individualize their graduation requirements to align to their future goals of employment, enrollment, or enlistment leading to service. This includes earning credits necessary for a high school diploma, learning and demonstrating employability skills, and demonstrating postsecondary-ready competencies, as shown in indicators such as Graduation Pathways Completion and Diploma Strength.

Education positively impacts a person's quality of life, health, employment, and living wage. The future of students, communities, and the state depend on a K-12 system that helps everyone succeed, whether their post-graduation plans include employment, enrollment, or enlistment leading to service. Not only will these indicators allow IDOE to measure the success of students within the education system, but indicators such as Median Income and Sustained employment allow both IDOE and the public to measure and understand the long-term success of each Hoosier.

Figure 3: Indicator achievement is shared at a high level with additional detail drill down available.

The uniqueness of the Indiana GPS dashboard is not found only in the data it shares but also in the way it is shared with the public and with school leaders. The visually appealing home page features "scrollytelling" and state indicator data to help visitors understand what the data measures, why it matters, and how it supports the path to student success. The application is also engaging in its interactive, human-centered approach, incorporating Power BI dashboards that enable visitors to immediately see how a story changes when filtering for factors such as attendance, demographics, and more.
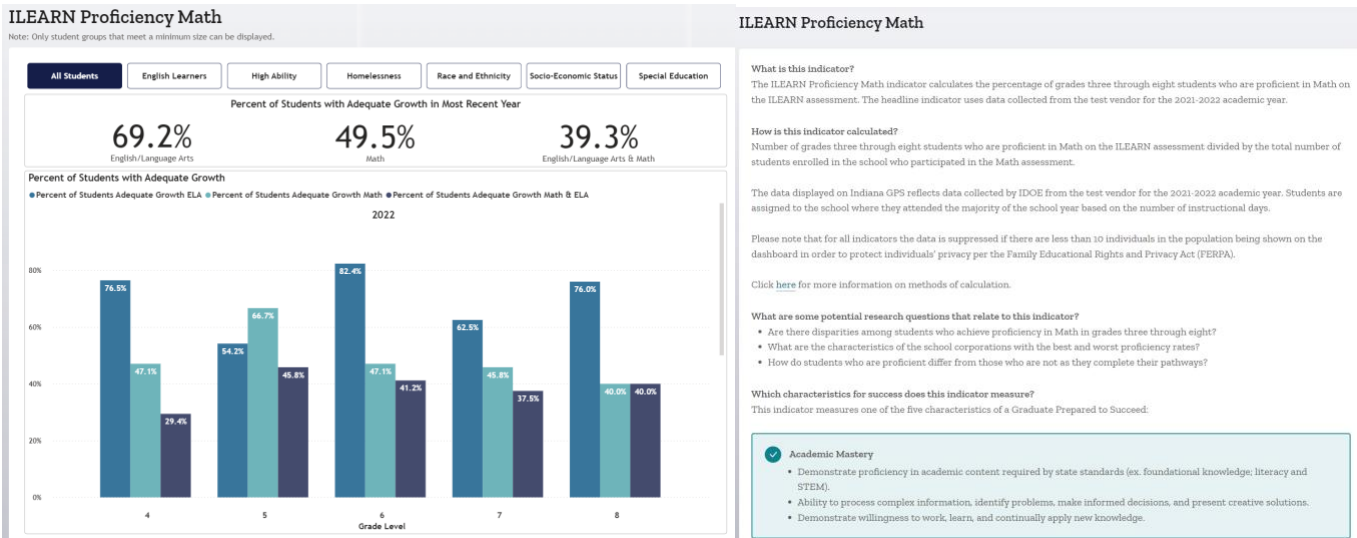

Figure 4: Indicator drill down information shares results filtered by characteristics and provides more detail about each indicator.

What makes it universal?

Every state is looking to make the most of its time with students. Aligning with State CIO Priority #8, Data and Information Management, the Indiana GPS dashboard doesn't simply make education data available to the public; it allows visitors to answer questions with that data, understand why that data matters in the context of a student's education, and to see the impact over time. The data and clear visualizations enable informed decision-making across a variety of stakeholder groups within education and beyond. Visitors like parents, employers, and realtors now have the ability to see how schools are preparing students for success, and in the near future, they will have the ability to compare schools. The significance of this will support decisions like school choice, how educators support continuous improvement, where employers seek talent, and where people decide to live.

IMPLEMENTATION

What was the roadmap?

IDOE embarked on this journey as a mechanism to shift the approach to data transparency in Indiana. While the official build of the Indiana GPS dashboard began in February 2022, the journey to enable a modern approach to data has been underway

for years. IDOE has invested a thoughtful approach to building data infrastructure as well as implemented Ed-Fi and the Data Exchange application for sharing of data and supporting schools. Further, an ongoing focus on data transparency within the department and education stakeholders and building of partnerships across agencies allowed for the longitudinal data story. The Indiana GPS dashboard officially launched to the public on December 12, 2022, and enhancements have continued since its launch. Using agile project management, IDOE and its development partner, Resultant worked to identify the appropriate indicators, design, and develop the site, and bring together the data from multiple agencies needed to fuel the relevant information.

Who was involved?

The development effort began by incorporating expertise and input within IDOE. To identify the appropriate indicators, members from IDOE's executive, Strategic Pathways & Opportunities, and Academics teams worked with Resultant's strategy and data team to identify the success characteristics and the indicators that drive them, as well as determine what data was needed and available to effectively measure each indicator. During the design and development phase, IDOE's collaboration was led by the IT team and included members from the executive team and Strategic Pathways & Opportunities team. To gather the needed data to support the longitudinal data story, in addition to the data already provided by IDOE, Resultant and IDOE worked with the Indiana Management Performance Hub to pull in data from the Indiana Department of Workforce Development and the Indiana Commission for Higher Education.

In addition, IDOE hosted focus groups with a number of stakeholders to understand what information and presentation was desired, informative, and helpful. This included:

- educators
- community organizations
- other state agencies
- colleges and universities
- philanthropy

- parents
- advocacy groups
- business and industry
- the Indiana General Assembly
- policy experts

Learnings from these focus groups directly informed the development of the Indiana GPS dashboard to ensure that it was a useful tool for educators and the public. Further, as the application was developed, a select group of the representative whole were invited to participate in user acceptance testing, a process by which a select group of end users preview the site and provide feedback. Similarly, IDOE gave school leaders an embargoed preview of the site to allow them to review their data and give feedback on the functionality of the site. Finally, IDOE worked with five school corporations before both the initial public and the authenticated launches to review the site, answer questions, and share feedback. In short, feedback from a variety of stakeholders has informed continued enhancement of the site, the FAQ themes, and tweaks to verbiage throughout the site to maximize clarity and usability.

> *"We appreciate the opportunity to be involved and to be able to provide our input. The DOE's efforts in being transparent and collaborative are noteworthy!"*
> *– Indiana school principal*

How did you do it?

The Indiana GPS dashboard is a cloud-based web application that seamlessly integrates embedded interactive Microsoft Power BI dashboards. These dashboards derive their data from Azure Analytic Services, allowing for comprehensive multi-dimensional analysis. The platform caters to both public and private access.

For public access, users can visit IndianaGPS.com, which offers a user-friendly interface for searching data. The landing page features an the innovative scrollytelling technique that pulls visitors into the GPS story and feeds them information about the indicators, the achievement goal assigned by the state, and measurement of the state's current achievement in an engaging, interactive visual presentation. The school summary pages empower the user to understand performance against indicators quickly and answer common analysis questions. Drill-down pages allow the user to answer specific questions about the performance data, filter based on characteristics, and activate users in engaging with the data. The Power BI Dashboards include a seamless experience between school (or corporation) summary pages and drill-down pages.

Private access is available exclusively to school and corporation leaders through IDOE's authenticated web portal, EdData. Based on user-specific login credentials, EdData provides student row-level data, allowing educators to explore and analyze the data feeding the public site. This ensures that school and corporation leaders have the necessary tools to make data-driven decisions and support individual student needs effectively.

Overall, the Indiana GPS dashboard offers a comprehensive and secure solution for accessing educational data, enabling both public users and educators to leverage the power of data analytics to enhance educational outcomes.

IMPACT

What did the project make better?

The Indiana GPS dashboard has opened the door for greater engagement and decision making with education data and a greater understanding of the path to success for Indiana students. It has provided teachers and administrators with easy access to greater detail about each of their students, enabling individualized support and future-focused education for each student. Indicator achievement and drill-down opportunity for a school's data allows local leadership to make data-driven decisions to support the school and their students.

> *"Schools have been begging for this kind of visibility into data for 2 decades, and I love how easy it is to land on a page and quickly see how well a school or district is doing in a given area. Also love that it's amendable; we haven't dug our heels in and said this is what we're doing, but it's fluid!"*
> *– Educator & Indiana State Board of Education Member*

How do you know?

Since its launch, over 100,000 visitors have engaged with the public site. Of those visitors, over 250 have provided feedback to IDOE after engaging with the data, offering suggestions for enhancements and support. The high volume of feedback demonstrates the demand for this data and interactive system, as well as the need to continue building enhancements and access to satisfy requests and serve the needs of educators.

What now?

With ever-changing data and continued feedback, Indiana GPS was built in a flexible manner, positioned for continued growth and enhancement. The roadmap for IDOE includes continued enhancements to support clarity, depth of understanding, and further engagement. With future releases inspired by stakeholder feedback as well as IDOE's mission for GPS, the major enhancements for 2023 will include the launch of functionality allowing visitors to use a map to identify schools within a certain area. This

functionality will encourage greater public engagement as a resource for evaluation of school choice. Future enhancements will also allow for the comparison of indicator achievement of selected schools.

Further, IDOE is developing internal dashboards to monitor the leading indicators that influence each of the GPS indicators. Access to the data that drives indicator achievement will allow IDOE to proactively iterate programmatic support to enhance educational achievement throughout the state.