



**STATES FOR
THE FUTURE**

A Data to Policy Network



Building Quality Data Products

A States for the Future Network Resource

INTRODUCTION

As data-driven policy organizations, one of the most effective ways to impact policy conversations happening in our states is by making data and analysis accessible and meaningful to decision makers and community members.

Good data products—such as dashboards, infographics, dynamic data visualizations, calculators, simulators, interactive maps, etc.—can serve as a starting point for shared facts, bring clarity to complex problems, and support policy analysis and goals.

In this States for the Future Network Resource,

we share considerations and best practices for building good data products across four key priorities:



Dos and Don'ts

Beginning with the seed of an idea through product launch and dissemination, there are many decisions product developers need to make. Different choices often have tradeoffs, and there are pitfalls that organizations focused on research and advocacy should avoid.

The insights in this resource intend to help others steer clear of those pitfalls, and are based on the experiences of States for the Future member organizations and partners. Additional resources and examples of data products built by States for the Future members are included at the end of the document.



PURPOSE

Define the problem you are trying to solve and for whom

Maybe Don't Build It...

If your organization is considering building a data product to solve a problem, be skeptical and ask whether a data product is the precise solution needed

While technology can turn almost any data set into a flashy tool, many data products that make it to launch are never widely adopted.

Before investing resources in building a new data product, first ask if people are already doing things with the data, you would be using to build this data product:

What isn't working about how people are currently accessing and using this information?

Will a new data product change this or are there other ways your resources could be used to address the underlying problem?

Is the data already available, but a communication strategy is what's really needed?

Are people communicating the data effectively, but stakeholders aren't motivated to listen?

If you've been sufficiently skeptical and still see a need or you are in a position where you must absolutely build a data product, then by all means - build the data product! Just be ruthlessly pragmatic about how your tool will advance your mission and bring value to your audience while doing so.

Getting the data together is 90% of the work

Is the data you need accessible? Does it exist? Even if it does, expect this part to be expensive. Expect any changes you want to make at a later point to the data sources or how they're used to be expensive. Furthermore, data updates (e.g., if new data is released quarterly or annually) and maintenance to data products takes time, effort, and resources. Ensure you have a plan for updates and maintenance ahead of time, not after the launch of your data product. Lastly, just because data is free or publicly available doesn't mean it will always be available, or that it will be easy to leverage.

Assume your data will be misused by some users or audiences. It doesn't matter if your dataset is downloadable or not, anything available on the web can be stolen and repurposed with enough effort. What are the possible impacts of this? **If your data is about people, could its misuse cause them harm?** Think through what would be the impact of your data being misinterpreted or used to support a message you wouldn't endorse.

Problem-oriented design has only one Key Performance Indicator

Remember: Why are you trying to make a tool? So people will use it.

Usage is the only KPI (Key Performance Indicator) that matters, but it is very easy to lose sight of this during the building process. To avoid this pitfall, make the problem - not the product - your purpose by staying focused on the activity your data product will enable and the problem it will solve.

Understand the problem before you build a solution

Problem-oriented design begins with user research that doesn't start with an anticipated solution. For example, if you begin by sharing your initial ideas with your stakeholders or asking them what kind of tool they would use, the resulting feedback is likely to be weak as it places the burden of pointing out problems with the idea on the user. **Users will reply "yes, I agree your product should exist" even if it won't actually solve an important problem.**

Once a more broad "problem space" has been defined, potential users can be asked about their current habits and frustrations to inform the design of a solution. For nonprofit organizations, this can be a challenge when we've received funding tied to a specific solution or we aren't resourced to complete user research.

Think creatively about how initial plans for your data product can be informed by early input from potential users or how different parts of your organization can contribute to continuous user research with your stakeholders.



Examples of a "Problem Space"

- > Community members and advocates don't understand the **new school funding formula**
- > Policymakers and residents want to better understand how **various drought scenarios will impact water access** in different parts of the state
- > Actors across our state **don't have shared facts** for how we're performing or shared targets for where we want to be across different policy areas



PEOPLE

Determine what perspectives, expertise, and skills are needed

Leveraging partnerships for your data product

Partnering with others with similar missions or who are facing similar challenges with accessing good data can create opportunities to share resources, tap into expertise your organization doesn't have to inform your design, bring credibility to your tool, or recruit champions of your tool.

Potential partners include universities, local foundations, think tanks, business or economic development organizations, advocacy or community-based organizations, etc. **Be sure to clearly communicate your scope to any potential partners** to ensure the purpose of the product doesn't get lost as you gain new input throughout the process.

Find an effective and efficient vendor who shares your goals

Look for vendors who have done something similar for similar organizations. Vendors with experience working with nonprofits are a good place to start as they understand that budgets for data products look different in the nonprofit space. Many vendors will try to sell you a custom solution for building your data product, which will likely require ongoing payment for their services to maintain the product.

Instead, look for vendors that leverage off-the-shelf tools as much as possible, rather than focusing on designing custom solutions. **Effective vendors will find ways to make your approach simpler - not more complicated** - making your data product less expensive and easier to maintain.

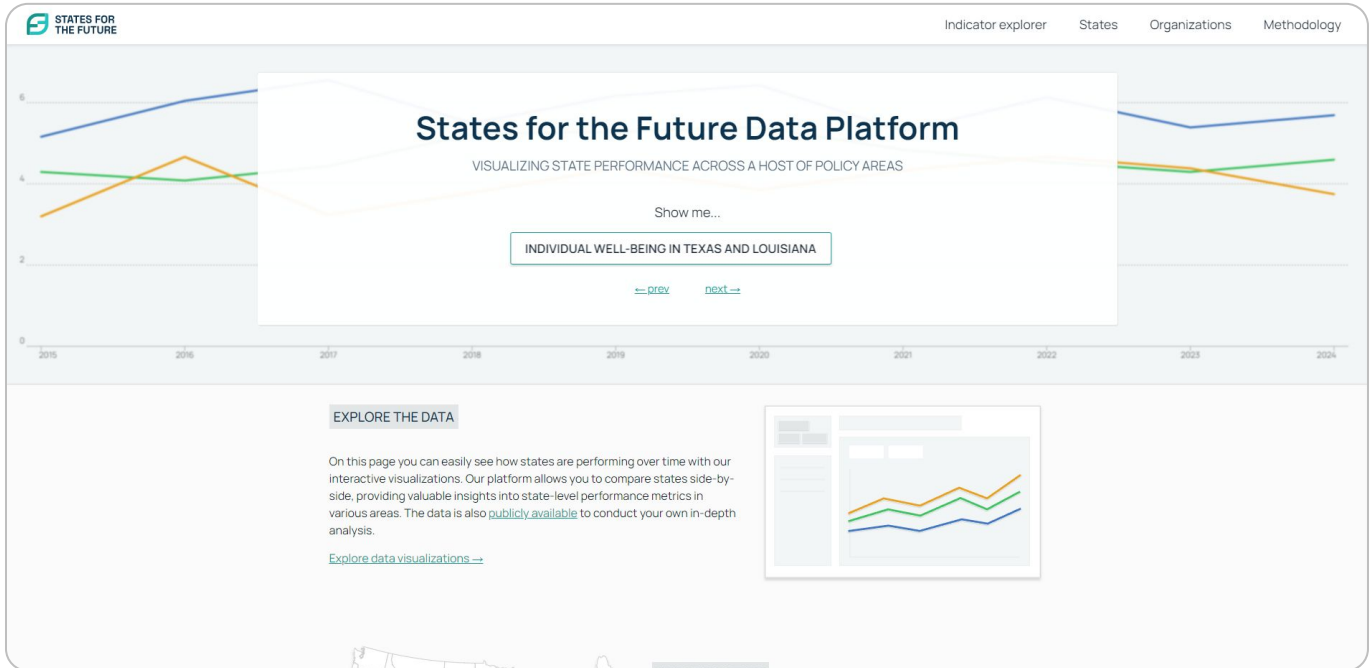
Internal technical expertise can be helpful, even if working with vendors

Hiring external vendors can be an effective approach to building a product, particularly if your organization lacks the technical capacity or expertise to build the product or tools that will help you meet your goals. Some organizations may not have the capacity to procure additional expertise, and importantly, some data products may be narrow enough in scope that outside technical expertise may not be necessary. It is important to consider whether outside support is needed, and if so, what is feasible given your organization's capacity and resources.

If your organization does have the capacity and the data product requires or would significantly benefit from added expertise, you'll need someone with sufficient technical or product experience to be the shot-caller and maintain the product in the long term, either directly or through the vendor.

This role will also need processes for determining product requirements and coordinating with your developer to meet them.

If your organization doesn't have internal expertise to fill this role, you may want to consider working with a consultancy that can serve as a virtual product manager and intermediary between your team and vendors.





BUILD

Create a data product that is useful and can be maintained over time

Product design should focus on the best format for your audience

As you're determining what format your data product should take, consider what is most relevant to your audience and what level of comfort they have with engaging with data. **For example**, if your audience is state legislators or advocates working with them, data organized by legislative district may be more relevant than aggregate statewide data.

Consider that a data product designed purely for exploration has rapidly diminishing returns. On the other hand, the more complex analysis someone can do with a tool the more it's going to cost to build and the fewer people will feel comfortable engaging with the tool.

Some key questions to consider as you determine the right format:

Is this a static product needed for a particular policy issue happening right now or is this a more evergreen product that you want to maintain over time?

What is the simplest solution that would still provide value to our audience? (e.g., a series of animated charts vs. an interactive dashboard?)

Is it possible to provide the data in multiple formats to serve a range of audiences? (e.g., charts, interactive visualizations, underlying tables that can be downloaded, etc.)

Is there a need for a more comprehensive index that can power multiple data products?

Can we disaggregate our data to offer insights about specific communities? If so, how?
For example:

- > Geography: County, Metropolitan Statistical Area, Legislative District, etc.
- > Demographics: Race/ethnicity, gender, age, education-level, special populations, etc.

A cautionary note on “Dashboards”

Dashboards run the temptation of becoming a catch-all. The more you try to do with a dashboard, the more you risk diluting the purpose of your product and the problem it's trying to solve. The general public may benefit more from three key, compelling statistics than they would a dashboard, and those statistics would still be more compelling than complicated charts. Experts probably don't need a dashboard either.

Experts are already steeping in the data and likely already have their own ways of accessing it, and have the ability to manipulate it in more ways than a dashboard would enable. Individual data points often come with a lot of technical jargon or caveats that need to be explained, all of which can make dashboards feel cluttered and overwhelming for users.

A minimally viable product should always be the first step

User research and design planning will result in a lot of desirable features that are expensive and don't solve the core problem you've identified. If you start with the bare minimum, you will get to launch faster and learn valuable information about where it's worthwhile to spend any remaining resources once people actually use the product after launch.

Accessible design can and should be incorporated in a minimum viable product (MVP). Planning for accessibility features is often an afterthought but could inform designs from a very early stage.

Do colors need to be central to how your product communicates data?

Do you have a plan for creating descriptive text versions of visuals?

Will there be a mobile version of your product?

Is there someone who will be consulted for any other accessibility-related considerations?

Maintenance has a cost

Getting a tool launched is a huge feat, but your organization will need to continue to dedicate time and funding to keep it maintained.

Some key questions to ask as you plan for sustainability and maintenance of your data product:

How will maintenance be funded after the initial launch?

What structures will exist for coordination and decision-making for maintenance in the long term?

How will you keep the data up-to-date?

Who will be responsible for monitoring the tool for bugs or breaks and communicating with the vendor to get them fixed? Are there areas of the tool that may change frequently that your vendor can build in functionality for you to update yourself (e.g., scrolling data insights)?



ACTION

Make your data actionable through adoption & stakeholder engagement

Product adoption is no accident

Launching a data product is a communications and engagement project but communications teams are rarely involved in the product development process.

Long before the build is complete, think through:

How will you get the product into the hands of users?

How will branding and communications materials be coordinated?

What happens if communication schedules and development schedules become misaligned?

Will there be demonstrations or events? How will you provide guidance to users?

Who will have the knowledge and skills necessary to “sell” your product?

Adoption is also an ongoing maintenance process. In addition to reviewing your data product’s analytics at a regular cadence, you should have avenues for continuously collecting feedback from users (e.g., “suggest” or “report” features, advisory groups, internal testing, etc.).

Make a plan for how you will collect, organize, review, and prioritize this feedback to inform subsequent iterations and updates to your product.

Data products are starting points for action

Your data product should serve as an opening for the more nuanced work of relationship building and problem solving amongst the different stakeholders in your state. Data has a way of bringing down the temperature around contentious policy issues by providing a shared set of facts to start from.

Here are some examples of how to make your data actionable:

Collaborate with partners to define common priorities and the metrics and targets we'll use to measure our progress over time

Host community roundtables to explore the data and gain insight from conversations amongst stakeholders

Work with other community partners to build new versions of your data product that are tailored to a specific population or geography

Develop supplementary communications materials like fact sheets or social media kits that provide context or amplify insights from your data product

Consider the ways in which you can use data and technology to facilitate connections between communities of experts or enable them to contribute/disseminate their own insights to a larger initiative

LEARNING MORE

All of this is advice, not rules or principles. Ignoring any one piece will not be a showstopper, it just increases the risk of failure. Doing all of them won't guarantee a data product will be useful either.

Leveraging the States for the Future Data Platform for your own data products

The [States for the Future Data Platform](#) is a cost free, low-risk way to get started with sourcing high-quality, up-to-date data that you may want to feature in your own data product.


The platform features over 100 indicators organized under seven policy areas:


- 1 Education & Workforce
- 2 Government Performance
- 3 Health
- 4 Infrastructure
- 5 Justice & Safety
- 6 Natural Resources
- 7 Prosperity & Wellbeing

The SFF Data Platform allows you to explore the data within your own state, compare with other states, generate summary graphics, disaggregate by county, race/ethnicity, or gender, download the underlying data, and connect to external data tools via API.


Once you've created an [Organization Profile](#) on the States for the Future Data Platform, you can "follow" indicators that are meaningful to your organization and the issues in your state. This is a great way to prototype your own dashboard and can even be used for conversations with community partners or funders to help communicate your vision for a new data product. Just share the URL to your Organization Profile!


Additional Readings & Resources


[The Mom Test - by Rob Fitzpatrick](#) 

[“Don’t Build It. A Guide for Practitioners in Civic Tech” - by Luke Jordan](#) 

[“How to Build Great Data Products” - by Emily Glassberg Sands](#) 


[“The Quick and Dirty Guide to Building Your Data Platform” - by Barr Moses](#) 


[“Developing a new product: Creating functional and non-functional requirements”
- from MaRS Startup Toolkit](#) 


[How to Become a Product Centric Organization - Gartner](#) 


Data Products by States for the Future Organizations

[States for the Future Data Platform](#) 

[Arizona Progress Meters - Center for the Future of Arizona](#) 

[Strategic Framework Dashboard - Texas 2036](#) 

[Washington Vitals - AWB Institute \(Washington State\)](#) 

[2 Million by 2030 Dashboard - myFutureNC \(North Carolina\)](#) 

Questions or want to be
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