Smart Growth America
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GOVERNORS' INSTITUTE
on community design

# Prioritizing projects based on outcomes

## Why?

States should organize their transportation programs around priority outcomes. What are the most important goals the state's transportation network should address? Which investments will do the best and most cost-effective job moving the state toward those goals?

A growing number of states are creating performance-driven transportation programs as funding has become scarcer. No transportation agency will ever have the resources to complete every project on their list so they need a way to choose projects that generate the greatest benefits within statewide transportation priority areas. These states also recognize that their stakeholders and the public are not as trusting as they once were—they want to see that taxpayer dollars are producing results.

Successful states are 1) articulating their goals, 2) evaluating proposed transportation projects to ensure they are well-connected to those goals, 3) tracking how those projects perform after they are built, and 4) communicating each of these steps to their stakeholders.

Profiles of several states that have implemented new programs to evaluate, score, and rank projects for funding based on their statewide goals are included at the end of this white paper.

## Strategies

**Create a prioritization process that applies across project types and modes of travel.**

Currently, most states segregate transportation programs by mode, with separate funding programs for highways, transit, and walking and biking infrastructure. This limits the investment approaches available to meet any given transportation need, making it harder to find the most effective solution. For example, reducing congestion on a corridor could be addressed by widening the road, providing better transit service, promoting teleworking to reduce trips, directing travel to parallel routes, or any number of other strategies. Focusing on the desired outcome allows the state and the community to consider all possible approaches and pick the most cost-effective option.

**Use the priorities in long-range plans to drive project selection.**

States expend substantial effort working with stakeholders to develop the statewide long range visions and plans. The criteria used to evaluate projects should flow directly from the priorities in those plans—everything from moving people and goods safely, to supporting the economy, to minimizing harmful environmental impacts.

However, it is rarely clear how project selection connects to those goals. This is a major missed opportunity. Drawing a clear connection between statewide goals and the projects that receive funding shows stakeholders that the decisions they help make during planning actually carry weight, and are more than empty intellectual exercises. It also helps determine whether investments are producing the outcomes the state has said it wants to achieve.

States should 1) establish or update the criteria used to prioritize investments to align more directly with its goals; 2) publicize how the scoring criteria connect rather than assuming people can see the connection; and 3) create a feedback loop by evaluating whether investments actually achieved the intended outcomes to update the plan and project selection criteria over time.

**Develop a numerical scoring system to evaluate projects based on goals:**

States on the forefront of performance-based project selection have developed numeric scoring systems to rank all potential projects based on how well they are likely to perform in advancing the state's identified objectives. They develop performance measures to evaluate all projects consistently and give them a score based on the sum of how well they perform in each policy category.

Developing a numeric project scoring system based on goals is the most important step states can take to prioritize investments based on outcomes. The following considerations are crucial to establishing a successful scoring process.

Identify a small number of measures to use in scoring projects

Project scoring systems work best when states develop a short list of measures (ideally 1-3 for each policy goal) to use in project prioritization.

As states figure out how to meet federal performance management requirements and integrate performance measures into their planning processes, many are finding themselves with long laundry lists of measures and indicators to consider pursuing based on a combination of the required federal measures, relatively easily measurable outputs (ex. "miles of sidewalk added"), currently available data, and priorities raised by their partner agencies and stakeholders. However, tracking a long list of performance indicators like this can require significant legwork and capacity and ultimately do little to advance the region's goals. As the saying goes, "if everything matters, nothing does."

Further, with a long list of measures, it can be difficult to avoid double counting some of the benefits across policy categories. For example, some regional agencies evaluating and scoring projects have measured congestion reduction several times throughout the scoring framework: as a benefit in its own right, as a "freight" benefit, and as an economic benefit. This approach places more weight than these regions intend on congestion reduction in relation to other policy goals by counting the same benefit in two places.

States must identify the most important things to measure that best reflect the highest priorities in order to identify criteria to use in project prioritization. Rather than try to be comprehensive in capturing every significant priority, states should strive to select a few measures that capture most of the top priorities under each goal.

Make sure the measures used are directly relevant to policy goals

The scoring criteria should be based as directly as possible on the specific priorities identified in the states' long range plans. For example, if a region has a goal of "Increasing Mobility for All Users," looking at a variety of indicators such as miles of sidewalks and bike lanes added, transit service headways, multimodal level of service, and others could all help address aspects of the goal. However, choosing a single targeted measure such as access to necessities can more directly capture what the region is trying to achieve in a way that is simpler to measure, easier to convey to policy-makers and the public, and directly focused on desired outcomes rather than outputs.

Use measures with data that is available or could be made available

One the one hand, the measures used to prioritize projects should not be based exclusively on what data is currently easiest to access since there will likely be a mismatch between what the region already measures and its top policy goals. However, all of the measures will need to have enough information behind them to support consistent evaluation of benefits across projects throughout the region. This will likely mean that states will need to do some analysis or outreach upfront to collect the necessary data. Looking to other state agencies often results in additional data sources that can be adapted for transportation purposes and/or data that can measure health or economic outcomes.

Make sure the measures used actually help differentiate between proposed projects

For the purposes of project prioritization, some measures that are well aligned with planning goals may not make sense to include in a scoring framework because they will not help states differentiate between the relative merits of proposed investments (though they can still be used in planning and general tracking). For example, measures of housing and transportation affordability are useful on a system-wide scale but hard to use in isolating the impacts of individual projects. Likewise, measures will not be useful for this purpose if most or all projects would receive the same score, or designs would not be impacted by application of the measures.

Select measures that are easy for the public to understand

States will need to be able to explain the new criteria used to score projects in a relatively straightforward way to a variety of stakeholders with different levels of technical transportation knowledge. Even if the methodologies behind the scoring criteria are complex, the concepts should be easy to convey and not overly technical or vague—for example, "access to jobs" is a more straightforward concept than "level-of-service."

**Work toward measuring outcomes in the scoring process.**

Some states have established project scoring frameworks that primarily measure outputs. For example, the Minnesota DOT recently established a new project scoring system in response to state legislation, but most of the proposed scoring criteria reflect current conditions rather than outcomes. They prioritize projects based on the magnitude of the problem (number of crashes, current pavement condition, current traffic volume, etc.) rather than how well the proposed project will actually address the need. This practice makes sense—current conditions and outputs are simpler to measure in a defensible way than expected outcomes—but it does not consider whether the proposed investment is the best and most cost-effective solution for the need.

States should look for opportunities to replace the current measures with outcome-focused measures with every iteration of the project scoring process. New data and tools are making it easier every year to evaluate the likely impacts of investments across a range of goals. For example, several states DOTs have pioneered the practice of measuring accessibility to jobs, including the Virginia Department of Transportation's work to prioritize investments based on how they will improve accessibility to jobs and other destinations for several years through Smart Scale (profiled in greater detail below).[1]

**Consider costs as well as benefits.**

States should consider the cost of projects within their project selection framework. Without consideration of costs, the process will naturally bias larger-scale projects that provide a greater number of benefits, regardless of whether they are a cost-effective use of limited funds.

There are two primary ways states can incorporate cost into how they evaluate and score projects: as a component of the overall project score, or by adding up all of the points each project receives and dividing them by the cost after the benefits have been tallied. The latter approach is the best way to consider costs consistently across project types. Because the process provides a numerical score for each project, states can consider cost-effectiveness without a full monetary benefit/cost analysis for each project.

**Do a pilot project scoring round even if the approach is not perfect.**

Developing a prioritization process based on statewide goals is not a science. All transportation agencies with an established project scoring framework started with something they knew was not perfect and continued to refine the approach with each round of scoring. In some cases, states have revised their scoring approaches because measures did not work as anticipated or better data or methodologies have become available.

For example, VDOT has made several changes to the measures used in its Smart Scale project scoring process since the first round of scoring. In the initial round of scoring,

[1] Virginia Department of Transportation in partnership with the State Smart Transportation Initiative. Accessibility in Practice. July 2017. https://www.ssti.us/2017/07/accessiblity-in-practice/

VDOT gave projects points in its environment category if they did not negatively impact wetlands. However, VDOT discovered that this approach rewarded projects simply for avoiding something negative on the same magnitude that it rewarded positive benefits. As a result, some projects that had relatively few merits otherwise scored competitively simply for being relatively low-cost and not negatively impacting wetlands. VDOT opted to address the issue in later rounds by weighting the environmental score based on the overall benefit score for a project. Now, if a project receives a low total benefit score, VDOT reduces the weight of the environmental impact score so that it does not skew the results.

The key is to start somewhere, set clear expectations that the process will evolve with each round (and provide details about how this evolution will occur as noted below), and begin to build buy-in.

**Conduct extensive outreach around the new scoring framework round.**

Building buy-in around a new project prioritization approach—before, during and after an initial round—will require significant outreach and education, but the results will be worth the effort. States should consider doing targeted one-on-one outreach to local partners and key stakeholder groups individually in addition to larger group sessions for stakeholders and board. States should also make the scoring criteria and process that will be used readily available online. Strategies to support effective engagement include:

- Develop a standard "road show" to educate localities whenever new elected officials take office: States should present in each of the regions after major elections to provide basic information and framing. Establishing a standard process and orientation will help address the loss of understanding and buy-in when local decision-makers turn over.
- Create intergovernmental affairs positions: State DOT should consider increasing its capacity to do stakeholder education by creating positions, or modifying existing positions, that have time dedicated to doing regular education around the state.
- Create and train a team of career staff to do this outreach on an ongoing basis: States will not be able to educate elected officials and other stakeholders if there is a high level of turnover in its own staff tasked with conducting that education. States should build a team of staff who can do this type of outreach on an ongoing basis over time and provide them with regular training as it expands its library of examples and tools that can be used for education.
- Use existing tools more consistently: States can also use existing tools and guidance more routinely to help educate local decision-makers and reduce the loss of awareness as elected officials turn over.

**Update project selection criteria regularly**

States should update their project scoring criteria with each round of scoring based on future long range plans. States will also likely determine that other revisions to the scoring criteria are needed based on the results of each round of scoring, either because the

measures did not work as anticipated or better data or methodologies have become available. This will mean setting the expectation from the beginning that the approach will evolve with each round of scoring, which can help reduce concerns from skeptics.

## Examples

### Virginia DOT's Smart Scale

In 2014 and in response to new legislation, VDOT established a new performance-based project scoring framework called Smart Scale to ensure that the state picks the right transportation projects for funding and makes the best use of limited tax dollars.

The legislation explicitly established six factors to be used in the scoring process, but tasked VDOT with developing the methodologies for measuring each. The factors are congestion mitigation, economic development, "accessibility," safety, environmental quality, and (in areas with a population over 200,000) coordination with land use.

The new scoring approach applies to all new capacity projects that receive state funding across transportation modes, which represent about half of VDOT's overall program (a different scoring process applies to state of repair projects).

VDOT first screens projects for eligibility based on whether they meet an identified need in the state's long-range plan. All projects that pass the eligibility screening are scored by VDOT to determine their cumulative benefits in the six factor areas based on a combination of state and locally submitted data. VDOT assigns up to 100 points to each project under each of the six scoring factors.

VDOT then divides the total benefit score by the cost requested from the state to determine the final Smart Scale score and rank compared other projects. This approach provides a number of benefits, including encouraging localities to make their projects more competitive, either by identifying innovative ways to accomplish their objectives through smaller improvements or by identifying local matching funds to offset the funding needed from the state.

VDOT has conducted three rounds of project scoring so far using the new approach, and has made minor adjustments to the scoring methodology with each round of prioritization. VDOT also continues to conduct meetings with stakeholders to build buy-in and address concerns, including VDOT staff across the Commonwealth, metropolitan planning organizations, planning district commissions, and counties, cities, and towns.

The Smart Scale project prioritization process has largely been received positively for taking politics out of the process and has made clear to the taxpayers why projects are funded and how projects not chosen for funding can be improved in order to receive funding in the future. It has allowed the state to put priorities like multimodal accessibility to jobs on par with other, more typical transportation measures, like congestion mitigation and safety.

### Hawaii DOT SmarTRAC

The Hawaii DOT plans to implement a new project selection framework based partially on Virginia's Smart Scale framework but with greater emphasis placed on system preservation and safety. Smart Growth America has developed a proposed approach for the new prioritization framework as a starting point, which HDOT is currently considering.

Under the recommended approach, each capital project is rated on the extent to which it:

- Improves safety;
- Preserves the current system;
- Provide access to jobs and services;
- Reduce traffic congestion;
- Protect the environment and cultural assets; and
- How the total benefits compare to the cost of the project to the state.

The majority of points will go to safety and state of repair, as these are the top state priorities currently, with some additional points for improving vehicle movements, increasing jobs access and protecting cultural and sensitive lands. Projects were rated for inclusion in the State Transportation Improvement Program during the fall of 2018.

### TDOT's Multimodal Sustainability Index for ranking projects

As part of a broader initiative to improve safety for all roadway users, TDOT has developed a Multimodal Suitability Index to help the department evaluate projects based on need for better accommodate all modes of travel—an area that many states have struggled to measure comprehensively in project evaluation. The new index offers a tool and methodology for scoring, ranking, and prioritizing projects for funding based on four factors.

- Safety: Presence of crashes involving bicyclists and pedestrians on the segment.
- Equity: Location of the project in relation to populations that may have more difficulty accessing resources, including low-income and non-white populations, people under age 18 and over 64, and zero car households.
- Demand: Whether the project is located in an area with the potential for high pedestrian activity based on population density and proximity to trip generators like schools, retail, jobs, and transit stops.
- Supply: An evaluation of the roadway's existing characteristics, including posted speed limits, number and width of travel lanes, presence or lack of sidewalks and bike facilities, and traffic volume.

The new tool was developed in-house by TDOT's Data Visualization section and has the potential to be used to help prioritize projects across a variety of funding programs, including the Multimodal Access Grants TDOT provides to localities. It can also be customized to the goals of specific programs by modifying the weighting of the four factors within the overall score, which all have a weighting of 25 percent by default. For example, TDOT could choose to place a greater emphasis on equity for a given prioritization process.

*The Governors' Institute on Community Design worked throughout 2017-2018 helping a small group of state departments of transportation question and assess the underlying assumptions that result in giant highway solutions for every transportation problem. This memo is part of a series about the states that are finding success through what's known as practical solutions, a way for transportation departments to meet changing demands and plan, design, construct, operate, and maintain context-sensitive transportation networks that work for all modes of travel.*

*The Governors' Institute on Community Design, a program of Smart Growth America, helps state leaders address economic development, housing, transportation, and other pressing issues that relate to how communities grow and develop.*

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