

The 5 R's How-To Guide

What is it?

- A five-question framework to help us understand the broad "system" around an area of work, such as a Vision Zero or Safe System-related initiative, to inform strategic planning and action.
- Helps individuals or groups define meaningful measures, ensure engagement of all relevant stakeholders, and design action that is mindful of available resources, rules (e.g., constraints, norms), and key relationships. Supports individuals in describing these key features of the current system and/or a system they might want to create.

Why do we use it?

- To guide individual brainstorming, idea synthesis, and group discussion about a new initiative coming together or to support strategic planning and action in a current initiative.
- To help a group of partners, with knowledge about different parts of the system, develop a shared understanding of the system and context.
- To help pinpoint opportunities we might not have considered (e.g., resources, potential relationships) for our initiative and potential pitfalls early on (e.g., rules, relationships)
- To improve decision-making and inform action with a more holistic view of the system around a complex area of work (e.g., transportation safety).

How to walk through a Five R's brainstorming session

1. On a white board, with paper, in a google document (or other shared document), or in a Jamboard (or other

electronic tool), create 5 distinct spaces/pages for brainstorming. On each space or page, write one of the following Rs:

RESULTS	ROLES	RESOURCES
RULES	RELATIONSHIPS	

2. On the first page or in the first space (for RESULTS), individually or as a group, place sticky notes or jot down notes to brainstorm on the following probe:
 - RESULTS: what are the meaningful outcomes that would indicate success for your initiative or area of work? Think broadly about what REALLY matters in this work.

Once brainstorming is complete, it can be helpful to group sticky notes or ideas into themes. You should then decide together (if working with a group) on the measure or theme that you feel is most important to the group. This will anchor brainstorming around the remaining four Rs.

3. With the selected Result, next place sticky notes or jot down notes to brainstorm on the remaining probes on each of their pages or distinct spaces:
 - ROLES: who are the stakeholders that affect or are affected by changes in the key result or outcome?
 - RESOURCES: what resources exist—including people, organizations, policies, strategies, physical and social environment--to create change in the result/outcome?

- **RULES** (formal and informal): what are the policies, laws, traditions, and norms that impact or could impact the key outcome or result?
 - **RELATIONSHIPS**: what are approximately 3-4 critical relationships that affect or are affected by the focal outcome—could be relationships between people, groups, organizations, the environment, etc.?
4. As with the first R, spend some time grouping themes that emerge from the remaining Rs.

Table 1 provides transportation-related examples for each R and guiding questions to use during brainstorming and during debriefing sessions after working through the 5 Rs framework.

Completed brainstorming frameworks should be used to:

- Discuss consolidated results, using the guiding questions below as a starting point. As a group, discuss what is missing, prioritize results to focus on, identify/prioritize resources, relationships, rules to change. Weave these findings into your strategic planning process or action plans.
- Keep this as a living brainstorming tool—ask stakeholders who may join an initiative/group to add their perspective.
- Return to the 5 Rs periodically to reflect on how the system is changing, allowing you to “step back” and inform discussion about new priorities and action, as needed.

TABLE 1. The Five Rs Framework for Exploring Transportation Safety “Systems”

Specific R and Definition	Transportation-related Example	Guiding Questions to Inform Brainstorming & Discussion
RESULTS are the meaningful outcomes that would indicate success.	<p>An increase in the number of people with accessible and affordable access to transit.</p> <p>An increase in the proportion of back seat car passengers wearing a seatbelt.</p> <p>A decrease in impaired driving.</p>	<p>What are the most meaningful indicators or signs of success?</p> <p>What are some system-produced results that could be the focus of change efforts?</p> <p>How are results evaluated or measured?</p> <p>What positive results should the new system produce?</p> <p>How will the new results be evaluated or measured?</p>
ROLES are those affecting or affected by changes in the key results. They are the functions that actors (individuals, organizations, and other entities) play in a system.	<p>A state health department working to establish a traffic injury surveillance system.</p> <p>Local zoning officials working to establish presumptive parking requirements for new developments.</p>	<p>Who are the people or groups of people that affect or are affected by these results?</p> <p>What roles are actors performing? Are any performing multiple roles?</p> <p>Are there any roles that seem to be missing?</p> <p>What roles will actors need to perform in an improved system?</p>
RESOURCES are what exists—including people, organizations, policies, strategies, physical and social environment—to create change.	<p>Affordable housing advocates.</p> <p>Street design guidelines.</p> <p>Tools for authentic, equitable community engagement.</p>	<p>What resources are being used in the system?</p> <p>Are there resources needed that are missing, insufficient, or can be more equitably distributed?</p> <p>What resources are available that can help improve results?</p>

TABLE 1. The Five Rs Framework for Exploring Transportation Safety “Systems” (continued)

Specific R and Definition	Transportation-related Example	Guiding Questions to Inform Brainstorming & Discussion
<p>RULES are the regulations, policies, incentives, norms, and expectations that shape the ways that a system operates and therefore shape the key results. Rules can shape roles, impact availability and access to resources, and affect relationships. Rules can be formal or informal.</p>	<p>Local street design standards.</p> <p>State infrastructure funding laws.</p> <p>Norms related to driving a few mph above the posted speed limit.</p>	<p>What rules affect the way the system functions? What rules affect results?</p> <p>What are the relevant formal and informal rules?</p> <p>What rules are needed for the system to function effectively and produce desirable results?</p> <p>How effectively are rules enforced?</p> <p>How equitably are rules enforced?</p>
<p>RELATIONSHIPS are the interdependencies between two or more factors associated with the result. They could exist between people/roles, between roles and resources, or between rules and resources, etc.</p>	<p>Distances between affordable housing and transit, biking and walking networks, employment, and essential services.</p> <p>Coordination between transit and car-sharing services and alcohol-serving establishments.</p>	<p>What are the important relationships that exist in the system between roles or other factors (e.g., roles and resources)?</p> <p>How strong are the relationships among people and groups working on the problem?</p> <p>Are there relationships that are missing, weak, or unnecessary?</p> <p>What types of relationships would need to exist to improve the system?</p>

The 5 R's Case Study: Applying a Systems Thinking Tool to Facilitate Multi-Stakeholder Collaboration and Advance Transportation Safety

Addressing complex problems like transportation injuries requires collaboration among multiple individuals and organizations (including community organizers, government agencies, lawmakers, and research institutions). However, collaboration can be challenging. Each individual and organization has its own needs and priorities. Furthermore, organizations often have unequal levels of resources and different views on the nature of the problem. For these reasons, to create successful partnerships, collaborations need to develop a shared understanding of the system they are embedded within and an appreciation for each other's perspectives and roles in the system. Systems thinking tools, like the 5 R's, offer a simple but structured way to facilitate this.

What is the 5 R's framework?

The 5 R's framework identifies and prompts stakeholders to describe and understand critical aspects, or dimensions, of a system they may be working in, namely the **Results, Roles, Relationships, Rules, and Resources** surrounding their work. These key aspects influence the way the system works to generate outcomes we observe (e.g., transportation injury and death).

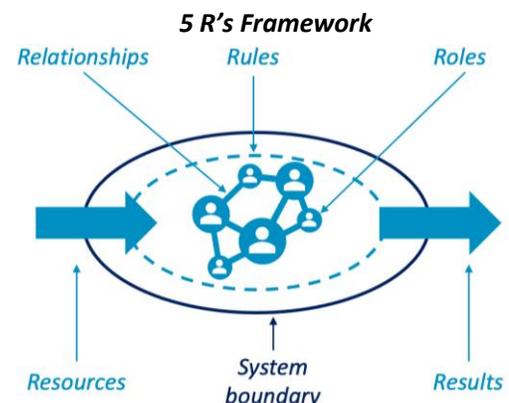
Specifically, "**Results**" represent meaningful outcomes of the current system or desired end states a group would like to achieve. "**Roles**" are the functions that different stakeholders (including individuals and organizations) perform within the system (or as part of efforts to change the system). In the area of transportation safety, an important result might be the number of fatal traffic injuries, while a meaningful role might be a state health

department establishing a surveillance system to track traffic injuries and deaths.

"**Resources**" include assets (e.g., individuals, organizations, policies, as well as the physical and social environments) that are needed for the system to work and/or to create change. For example, the availability of funds to repair rural roads or the presence of safety advocacy organizations can be assets for change.

"**Rules**" represent formal and informal norms, as well as regulations, incentives, and expectations that influence the results of the system by shaping roles, influencing resource availability, and affecting relationships. For instance, state infrastructure laws can influence the way money can be spent on road improvements or repairs.

Finally, "**Relationships**" refer to the interdependencies among roles, resources, and rules that affect the results of the system. A relevant example in the area of transportation safety might be degree to which state laws (rules) allow for community input (resources) in the way funds (resources) are used to upgrade current infrastructure (resources).



Normally, the 5 R's framework is used in the context of a group activity involving individuals and organizations collaborating in a particular space. In this work, participants are first asked to define the **"boundary of the system"**, that is, to clearly specify the problem and context on which they are focusing. For example, participants might choose to focus on reducing child and adolescent pedestrian injuries in city X over a 5-year period (therefore clearly specifying the "what", the "who", the "where", and the "when"). After that, participants are asked to sequentially brainstorm about each one of the R's to develop a deeper understanding of the inner workings of the system. Participants can think through the R's in any order, but some might find it easier to start from the Results as this can help center the discussion and set the "boundary."

It is often useful to use guiding questions to initiate group discussions around each one of the R's. These questions can be about both the current state of the system (e.g., what results are we observing now?) and potential strategies for system strengthening (e.g., what relationships do we need to foster, and which resources do we need to secure, to achieve change?). For instance, in the case of Results, relevant questions include "What are some system-produced results that could be the focus of change efforts?", or "What positive results should the new system produce?". You can find a complete list of relevant questions for each R in the accompanying 5 R's "How-to" Guide.

Why is this helpful?

The 5 R's framework helps participants think about the key objectives and goals that they want to achieve as part of their collaboration and identify stakeholders that need to be engaged. In addition, it can help them consider resource availability, system norms and key relationships among stakeholders as they begin strategic planning. Because it is usually used in the context of a group activity, the 5 R's framework can also contribute to a more honest and transparent partnership. Through discussion, stakeholders can overcome assumptions about the needs, roles, and priorities of their partners. Finally, the 5 R's are an efficient and relatively fast way to develop an initial understanding of the system. Preliminary findings from this exercise can then be used as a starting point to delve deeper into each of the R's using other systems thinking tools. For instance, "Causal Loop Diagramming" and "Balance of Petals Diagramming" can be used to explore Relationships in more depth, while "System Support Mapping" can yield useful insights around Roles and Resources. You can find more information about these tools in the other case studies included in this toolkit.

Real World Example

We applied the 5 R's framework during a virtual, four-day, state-wide Leadership Team Institute aiming to support local teams working to reduce traffic-related deaths and

injuries in different parts of the state. This event brought together 8 local teams, which included stakeholders ranging from planners and engineers to community organizers and public health experts.

We used the first of the four days to set the stage for the work. On the second day, we focused on using systems- and equity-aware thinking to help refine community-specific goals around transportation safety. We started with a group discussion about the structural factors that contribute to a disproportionate burden of traffic injuries among lower income groups and racial minorities. After that, we introduced the 5R's framework and created virtual breakout rooms so that local teams could brainstorm about the Rs within the context of their own communities.

We sent each local team a link to a Jamboard whiteboard. Jamboard is available through Google's G suite and allows simultaneous editing of an online whiteboard. Although we chose Jamboard, other online tools (e.g., Mural, Zoom's whiteboard, Miro) offer similar functionalities. We asked participants to focus exclusively on Results, Rules, and Relationships, paying particular attention to equity within each of these. Once participants finished discussing these first three R's within their local teams, they were asked to share and discuss with the wider group, paying particular attention to the equity implications of each R (i.e., what results would be more effective in reducing disparities?). At the end, we asked local teams to refine their team transportation safety-related goals based on the insights from this exercise.

On the third day, we started by highlighting the importance of collaboration to achieve systems change. We then explained how exploring the remaining two R's (Roles and Resources) and re-examining Relationships could provide useful insights into how to initiate or strengthen collaborations by identifying key assets, stakeholders, and interdependencies that need to be leveraged for success. Again, participants were asked to discuss these R's within their teams before sharing with the wider group.

What did the 5 R's reveal?

As mentioned above, each one of the 8 participating local teams applied the 5 R's to their own community. Although there were similarities across teams, each team gained insights specific to their local contexts. Taking this into account, we focus our description on the findings from a team working in a racially diverse, rapidly growing mid-sized city (City X).

For City X's team, meaningful **Results** were centered around prevention of traffic-related fatalities and injuries; a general reduction in traffic speed within the city limits; an increase in biking, walking and transit use; and greater responsiveness to community needs. Important **Rules** to achieve these results included, among others, requirements for (new) streets and developments to accommodate different modes of

transportation (including transit, walking, and biking), stricter enforcement of speed limits and “no parking” on bike lanes, and the use city/county/state logoed vehicles as “behavior modelers” for safe driving standards.

Given the need for cross-sector collaboration to advance transportation safety, this team identified the need to involve multiple stakeholders to fulfill different **roles**. These included city/county/state transportation and planning agencies and policy makers (for rule setting), schools, disability and safety advocacy organizations, victims of traffic crashes or their families, as well as the media (for awareness raising). In addition to these stakeholders, multiple **Resources** were considered important, including sufficient funding for biking/walking and public transit infrastructure, technical/research expertise to introduce evidence-based policies and evaluate them, and time and skills to undertake true community engagement (see Jamboard screenshot below).

Finally, in terms of **relationships**, City X’s team highlighted how the degree to which planning decisions respond to community needs and input directly impacts community trust and cohesion (and how critical this was to achieve their equity-centered results). Furthermore, the team emphasized the need to develop fluid relationships with specific community

groups, funders, and decision makers, as this was essential to ensure the success of the transportation safety collaborative.

Next steps

5 R’s insights across the 8 local contexts were synthesized to better understand the system dimensions affecting transportation-related injuries and deaths in different communities. The tool provided a structured way to advance conversations about priorities and next step actions focused on equity-centered results.

Conclusions

The 5 R’s framework is a tool that offers a simple but structured way to explore the key dimensions of a system. It can be used to start developing a consensus understanding of the system and problem and to brainstorm about the key objectives and goals of a collaboration. In addition, it can help identify (additional) stakeholders to engage, critical resources to obtain, key relationships to form or leverage, and important rules to consider.

This tool is often used as a first step for a diverse group of partners to help gain a more in-depth sense of the inner workings of a system and to discuss the prioritization and potential design of system strengthening interventions.

