Maze and Gears:

Using Explanatory Metaphors to Increase Public Understanding of the Criminal Justice System and its Reform

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Introduction

The research presented here was conducted by the FrameWorks Institute in collaboration with the Charles Hamilton Houston Institute for Race and Justice at Harvard University with funding from the Ford Foundation. The research is part of an ongoing effort to develop effective strategies to communicate about public safety and the need to address the efficiency, effectiveness and equability of the criminal justice system. The end goal of the larger project is to create a set of tools that advocates can use to increase the public's ability to conceive of the justice system as a "system," to become more articulate about describing the problems with this system, and to think more productively about ways that the system could be improved. Developing *Explanatory Metaphors* is a key part of this process.

Explanatory Metaphors are frame elements that fundamentally restructure the ways that people talk and reason about issues. As such, these metaphorical communications tools are useful in efforts to shift the interpretational frameworks that people access and employ in processing information. By fortifying understandings of abstract phenomena (such as the links between social contexts and crime), Explanatory Metaphors can potentially strengthen Americans' support for policies that improve the criminal justice system.

Following its multi-disciplinary and iterative approach to communications research (Strategic Frame Analysis™ [1]), FrameWorks researchers have unpacked and distilled what Americans know about crime and the criminal justice system. This research has focused on how Americans' understandings of public safety and criminal justice are shaped by a shared set of assumptions and understandings – what anthropologists call "cultural models."[2] These shared assumptions are what allow individuals to navigate their social worlds and make sense of the experiences and information they encounter. As part of their functional role in meaning-making, cultural models can sometimes work to constrict available interpretations and make some messages and potential solutions "hard to think."[3]

Current public understanding of the criminal justice system and the potential for its reform suggest that these issues are ripe for re-framing.[4] As is the case with most systems in American public life, the scope, components and functioning of the criminal justice system are difficult for many Americans to grasp in a way that enables them to consider what can be done to improve the system and address its challenges.

The strategies that Americans use to think of this system involve the same cognitive shorthands they employ for thinking of other public systems (such as education or health care): namely, they are mentally represented by a narrow set of human actors with whom people have direct experience; any inequalities that people can recognize in

the system are understood in mainly economic terms, not racial or ethnic ones; and the experiences that individuals have in the system are judged via a moral sensibility that "they," in one sense or another, have gotten what they deserve. Thus, for many Americans it is difficult to think of the criminal justice system in terms of its inequalities, especially race-based inequalities. Similarly, seeing how those inequalities may be related to actual inefficiencies in the system is also a persistent shortcoming in American thinking. In explaining the inner workings of the criminal justice system, Explanatory Metaphors holds promise in overcoming these default perspectives.

At the outset of this project, FrameWorks conceived of a set of specific communication needs and set out to find a single metaphor that could address these needs. However, as the research process progressed, it became clear that two of the candidate metaphors being tested conferred significant benefits in helping the public think more productively about the criminal justice system. One metaphor, *Justice Gears*, worked to make the "systemness" of the criminal justice system and its inefficiencies more visible. A second metaphor, *The Justice Maze,* enabled people to better understand how biases in the system create different outcomes for different individuals and groups, and of the need for structural solutions to address these problems. The maze was not only an effective metaphor for the criminal justice system, but for structural inequality more broadly, helping people see that the paths are more constrained for some populations than for others.

It is important to note at the outset that even the best Explanatory Metaphors cannot accomplish everything that needs to be done in reframing a complex issue like public safety and criminal justice reform. Other frame elements (values, messengers, visuals, tone, explanatory chains, social math and additional Explanatory Metaphors[5]) need to be tasked with addressing other routine misdirections in public thinking. Toward that end, this report should be read as but one in a series of explorations designed to identify effective elements in a larger strategy for communicating about public safety and criminal justice reform.[6]

Executive Summary

FrameWorks' Explanatory Metaphor research process produced two effective metaphors for reframing discussions about criminal justice: *Justice Gears* and *The Justice Maze*.

Justice Gears

The Explanatory Metaphor of *Justice Gears* offered a resource for directing the way Americans talk about the criminal justice system, its inequities and its inefficiencies.

> **Justice Gears:** Right now our justice system is stuck using only one gear – the prison gear. Think about how a bicycle works and how it needs to have and use different gears to work effectively and efficiently. If that bike is going to work it needs different gears to use in different situations. The criminal justice system that we have now is trying to deal with a wide variety of situations using only one gear. We need to have other justice gears for people who come into the system, like mental health services, addiction services or juvenile justice services. We need to change the criminal justice system to make sure it has different gears for different purposes and that it's set up in a way that it uses the right gear in the right situation. If we do this we can improve outcomes and all get to where we need to go.

Strengths of the metaphor
Justice Gears is a highly communicable, usable metaphor that showed strengths in structuring how participants talked about the "systemness" of the criminal justice system and the inefficiency of aspects of the current system, as well as the differential sets of resources that are available to different populations to a greater or lesser extent.

1. **Using only "one gear" is inefficient**. The main feature of the metaphor – the notion that a mechanical system is made inefficient because it cannot or does not use all the resources available to it – lies at the heart of the metaphor's success.

2. **Thinking mechanically focuses attention at the systems level.** The metaphor helped to make the criminal justice system visible as a mechanism. The metaphor was powerful in reducing people's reliance on thinking of the criminal justice system in terms of individual factors and actors (e.g., police officers). This mechanistic understanding also makes *reform* of the system more graspable – fixing the system is a matter of finding the places where "gears don't mesh together" and addressing the problem at these points.

3. **Focus on outcomes channels thinking towards the importance of increasing public safety.** The metaphor also helped to make visible the way in which the current state of the criminal justice system, with its inefficiencies, does not improve public safety but instead creates negative outcomes and works to perpetuate inequities that are endemic to American society.

4. **Attention shifts away from individual and rational actor perspectives.** Americans often over-attribute rational thinking to people in the criminal justice system and the incarcerated. For instance, they believe that people who commit crimes do so because they know they can get away with it or that they do not perceive punishments to be severe. Thinking about *Justice Gears* focused people on the *system* and disrupted their reliance on the dominant rational actor way of thinking about crime and the criminal justice system.

5. **The metaphor leads to productive critiques of the current system.** The metaphor also enabled people to critique the efficiency and effectiveness of certain functions of the criminal justice system, particularly rehabilitation processes. People recognized the need to improve these elements of the system by resourcing the full range of alternative rehabilitation processes, and by carefully analyzing the "fit" between the individual and his/her circumstances, and intervention. People also focused on the current system's costs to society and individuals in both financial and non-financial terms.

The Justice Maze

The Explanatory Metaphor of the *The Justice Maze* offered an equally powerful resource but structured a different area of understanding – specifically, people's ability to see biases at a systems level, recognize how structural problems shape individual and group outcomes, and recognize for need for systems-level, rather than individual-level, solutions.

The Justice Maze: Even in the most difficult mazes, there's a way to get in and out. But the criminal justice system that we have now is designed without enough paths that come out of the maze. A lot of people, no matter where they come into the criminal justice system, get on a path that goes straight to prison and has no way out. We know that other routes, such as those to mental health services, addiction services, or juvenile justice services, must be made available, and that these must be two-way paths so that people can get to where they need to go. We need to redesign the justice maze with clear multiple routes so that people can get where they need to go in the most effective and efficient way possible.

Strengths of the metaphor

The Justice Maze is a highly communicable, usable metaphor that showed incredible promise in helping people to think and talk about contextual factors – either institutional structures or environmental factors – that influence outcomes for individuals and groups.

It focused attention on structures as the cause of and solutions to criminal justice issues. The metaphor creates a powerful opportunity for people to understand how contexts in which individuals are embedded influence the choices they make and the outcomes they experience. It also gives people a tool for understanding that what is ostensibly the same architecture can present different sets of choices to different populations of people. These are difficult realizations to structure for Americans, and the ability of the metaphor to perform these functions is significant and of great strategic value in the domain of criminal justice and, more generally, to social justice advocates.

FrameWorks strongly recommends the use of these two metaphors, along with other frame elements identified in the course of the larger investigation, in framing public safety. Indeed, researchers were greatly impressed by the power of these cognitive tools to quickly redirect conversations about the criminal justice system toward the kinds of policies and programs that experts identified to FrameWorks. We believe the area of criminal justice is ripe for reframing and that ordinary Americans evince a hunger for new ways to conceptualize a system that they intuit is not working to advance society's interests. The reframing tools we discuss here and in the larger suite of reports, empirically validated across methods, offer criminal justice reformers a new comprehensive narrative with which to engage the public.

What is an Explanatory Metaphor?

An Explanatory Metaphor can be thought of as a bridge between expert and public understandings. By presenting a concept in a way that the public can readily deploy to make sense of new information, the Explanatory Metaphor channels the way people think and talk about a particular topic. More specifically, FrameWorks defines an Explanatory Metaphor as a research-driven, empirically tested metaphor that captures and distills a concept by using an explanatory framework that fits in with the public's existing patterns of assumptions and understandings. An Explanatory Metaphor renders a complex and/or abstract problem as a simpler analogy or metaphor. By pulling out salient features of the problem and mapping onto them the features of concrete, immediate, everyday objects, events or processes, the Explanatory Metaphor helps people organize information into a clear picture in their minds. This has the potential to make people better critical thinkers and more careful media consumers, who are ultimately better situated to think about how policy affects issues like racial profiling, mandatory minimum sentences, community resources, rehabilitation and mass incarceration.

On the basis of this theoretical perspective, FrameWorks has built a robust, reliable protocol for determining what an effective Explanatory Metaphor looks like and how it behaves.[7] An effective Explanatory Metaphor:

(1) improves understanding of how a given phenomenon *works*;

(2) creates more robust, detailed and coherent discussions of a given target concept (e.g., inequities in policing and sentencing);

(3) is able to be applied to thinking about how to *solve* or *improve* a situation;

(4) inoculates against existing dominant but unproductive patterns of thinking that people normally apply to understand the issue;

(5) is highly communicable, moving and spreading easily among individuals without major breakdowns or unproductive mutations;

(6) is a linguistic resource for social interaction (e.g., people can incorporate it into their stories and conversations); and finally,

(7) is self-correcting. When a breakdown in thinking does occur, people using the Explanatory Metaphor can re-deploy it in its original form, where it is able once again to clarify key aspects of the issue.

Why the Criminal Justice System Needs an Explanatory Metaphor

When designing and testing Explanatory Metaphors, FrameWorks' researchers employ the results of earlier qualitative research as well as cultural models and metaphor theory to arrive at an understanding of the specific communications challenges presented by the particular topic. We conceived of the ways that an Explanatory Metaphor must work on explaining the criminal justice system as the following:

1. The metaphor should make the systemness of the criminal justice system more visible.

2. The metaphor should structure understandings of the racial inequities and biases inherent in the contemporary criminal justice system.

3. The metaphor should help people understand the specific ways that the criminal justice system is inefficient as well as inequitable.

4. The metaphor should make people more articulate about how the criminal justice system in America could be improved.

5. The metaphor should allow people to see solutions at the level of addressing the system rather than through affecting each individual's cost/benefit calculation.

6. The metaphor should provide a basis for understanding how contexts (both environmental and institutional ones) shape individuals' actions and choices.

Below, we briefly discuss the process by which FrameWorks' researchers identified, developed and empirically tested the power of *Justice Gears* and *The Justice Maze* to broaden public understanding of the criminal justice system and criminal justice reform. We then present the findings from this research and conclude with specific recommendations about how best to deploy these communication devices in messaging about public safety and criminal justice reform. The Appendix provides more specifics about the research methods employed.

Why We Test Explanatory Metaphors

Most people can easily identify and even generate metaphors in order to explain, teach or argue points and ideas. Yet, metaphors are integral to human thought at levels that evade conscious detection and reflection.[8] Each metaphor proposes a re-categorization of a concept in mind. Because concepts already exist in an internalized web of other meanings, these re-categorizations implicate and activate other concepts. These consequences may also interact with culture-specific interpretations and default cognitive preferences, endangering the very communications goals that the metaphor is intended to serve.

Because of this potential for metaphors to have unintended, negative effects in relation to communications goals, FrameWorks tests its Explanatory Metaphors in order to observe and measure the *actual* directions that metaphors take in social interaction and discourse. These tests allow us to look at the "cognitive downstream" – to observe what happens to metaphors as they live and breathe in complex cultural, political and linguistic ecologies. Testing metaphors further enables us to avoid subjective responses to metaphors and inoculate against arguments about a metaphor's effectiveness based on from-the-hip assessments of "what most people think" or "what most people know." That is, testing metaphors allows us to see their *actual* effects on cognition and meaning-making, and to avoid potentially disastrous armchair predictions.

A final reason for testing is that many of the most persistent metaphors that we use in our daily language have evolved over long periods to fit their cultural circumstances and be usable by human brains. We use such metaphors because they are present in our language and our culture, and they are so because they have outlasted other related attempts or proven themselves to be more cognitively fit. Because issue advocates do not have the luxury of waiting for long periods to see what might emerge naturally, we compress this evolutionary schedule to produce a metaphor with immediate cognitive and social fit. Our methods of testing Explanatory Metaphors are designed with these considerations in mind.

The Appendix provides details on the methods employed to empirically test Explanatory Metaphors.

Two Effective Explanatory Metaphors for the Criminal Justice System

Employing the research process outlined in the Appendix, FrameWorks' research team identified, refined and empirically tested numerous Explanatory Metaphor categories and a total of 11 iterations across those categories. Two of these Explanatory Metaphors, *Justice Gears* and *The Justice Maze*, emerged as highly effective tools for aligning public and expert thinking around the challenges facing the criminal justice system and the reforms necessary to improve this system.

Below, we review the development of these Explanatory Metaphors through the iterative research process. We discuss their general effects, summarize the empirical evidence that demonstrates their explanatory power and describe the specific strategic advantages they confer when used to communicate about the criminal justice system.

I. General Effects

Justice Gears and *The Justice Maze* were highly effective in redirecting Americans' views about criminal justice toward more productive patterns of thinking.

Useful parts of the *Justice Gears* metaphor include:

- The criminal justice system is like machine: a bicycle with multiple gears.

- Multiple gears on a bicycle are assets that allow the bike to function optimally.

- *Not* using multiple gears, or being stuck in a single gear, is wasteful, inefficient and ineffective.

- Right now the criminal justice system is stuck using only one gear: prison.

- This over-reliance on a single gear causes inequity and inefficiency in the system and compromises outcomes.

- Ensuring that we have the right gears on the bike and are able to use them all appropriately improves the effectiveness of the criminal justice system and increases public safety.

Useful parts of the *The Justice Maze* metaphor included:

- Right now the criminal justice system is a maze.
- Like a maze, the criminal justice system has been constructed so that there are too many dead-end paths and not enough ways to get out.
- The structure of the maze determines the shape and availability of paths, and through those paths, the destination and outcome of the journey.

II. Evidence from On-the-Street Interviews

FrameWorks' researchers conducted On-the-Street Interviews with 42 people in Atlanta, Georgia and Baltimore, Maryland. These interviews tested the ability of seven candidate metaphors to enable more productive and robust discussions about the criminal justice system.

Informants were first asked a set of questions about how the criminal justice system works; what, if anything, might be wrong with it; and how it might be improved. Then they were then presented with one of the candidate Explanatory Metaphors. After the metaphor was presented, they were asked the earlier questions in a rephrased form. Two researchers independently analyzed the resulting video data, looking for patterned ways in which each of the candidate metaphors affected thinking and talking about the criminal justice system. The analysis also focused on isolating the reasons *why* each of the tested metaphors was having its respective effects.

Justice Gears and *The Justice Maze* were inspired by the positive performance in On-the-Street Interviews of other metaphors like *Justice Triage*, which sought to explain systemic inefficiencies by comparing the justice system to an ineffective hospital. *Justice Gears* was developed as a way to take advantage of the positive results observed in the *Triage* metaphor while avoiding some of the metaphor's less productive effects (for example, the entailment that criminals are "sick"). Researchers also observed that the *Justice Highway* metaphor produced positive effects in On-the-Street Interviews. These interviews showed that the "construction" aspect of the *Highway* metaphor – that the system is designed and built – was promising, as was its ability to help people connect structural conditions to individual outcomes. *The Justice Maze* was designed as a way of leveraging these positive effects.

III. Evidence from the Quantitative Experiment

Using the results from the On-the-Street Interviews to winnow the set of candidate metaphors and refine existing iterations, FrameWorks designed a large-scale experimental survey to quantitatively assess the efficacy of the refined set of metaphor candidates. This test, a head-to-head comparison using random assignment techniques, enables FrameWorks' researchers to chart how well each Explanatory Metaphor achieves the goals that we described above. Five metaphors and one control condition were tested using the same set of questions. (Examples of these questions are provided in the Appendix.) Figure 1 provides the results from the experiment.

Figure 1: Metaphor Effectiveness Scores
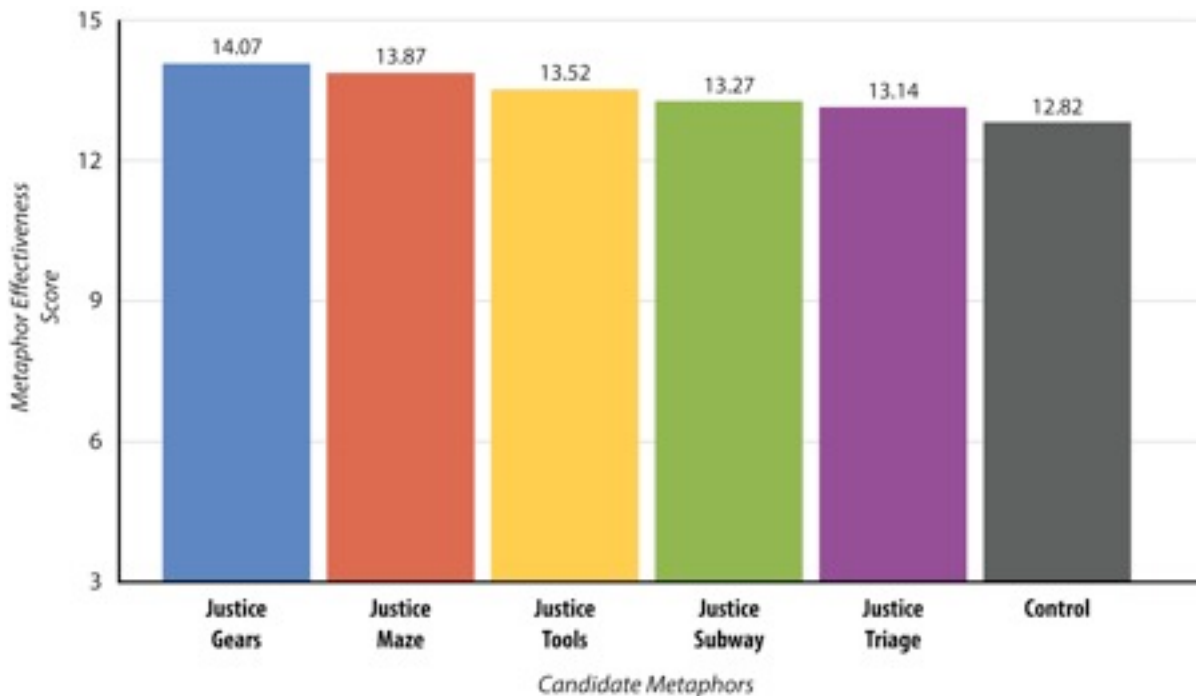
The metaphor effectiveness scores of both *Justice Gears* and *The Justice Maze* were statistically significant at the p < .05 level in relation to the control and worst performing metaphor. Based on these results, FrameWorks' researchers took these two metaphors forward into the final stage of research – Persistence Trials.

IV. Evidence from Persistence Trials – Justice Gears

FrameWorks held Persistence Trials in Philadelphia, Pennsylvania and Jacksonville, Florida, for a total of six sessions with 36 participants, on two candidate metaphors: *Justice Gears* and *The Justice Maze.* In a persistence trial, an initial pair of participants is presented the Explanatory Metaphor, first as text and then conversationally by the researcher. The participants then discuss the Explanatory Metaphor with the moderator before teaching it to a subsequent pair of participants. Following the transfer, the second pair explains the Explanatory Metaphor to a third pair. Finally, the first pair returns to hear the transmitted metaphor from the third pair. This last step allows us to see whether the metaphor has persisted over the session and to enlist participants in explaining any changes that may have occurred to the metaphor. In each city, there was one session devoted solely to African-American participants. All other sessions were recruited to represent variation in race, among other demographic variables.

In these Persistence Trials, some participants (the first and third pairs) were given a set of statistics about policing and incarceration rates that highlighted racial disparities characteristic of the current system. This was done in order to see how participants, either in mixed groups or all African-American groups, reacted when race was explicitly cued.

Below we review the effects of *Justice Gears* and *The Justice Maze* in terms of various metaphor functions.

Justice Gears

1. Application

Persistence Trials showed that participants applied the *Justice Gears* metaphor in the following ways.

A focus on systems. At a general level, the metaphor was highly effective in channelling people's focus and attention towards systems and structures, and as discussed below, away from individual-level thinking about the causes of and solutions to crime. The mechanical nature of the gears metaphor was instrumental in this channelling. Thinking about a machine and mapping this mechanistic thinking onto the issue of criminal justice immediately focused people's attention on aspects of the system, the aspects' functions and their "fit" with other dimensions of the system.

The need for alternative approaches. One of the most striking features of the metaphor was its power in helping participants see 1) the need for interventions other than

incarceration when dealing with people in the criminal justice system, and 2) that prison is not the only way, nor the best one, to improve public safety.

> *Participant*:
> We have ten gears that we could use, but we're only using one of them! If we broaden what is available and use these other gears, we can gear up and gear down, and move forward and be a little more exploratory in our methods rather than just "put them in jail." Prison to me is "one gear."
> --
> *Participant*:
> The point is instead of solely relying on incarceration, we need to have drug treatment, alcohol treatment, parenting skills, anger management programs...these are all other gears on the bike.

Thinking specifically about a bike was productive when participants began talking about the function of bicycle gears – that they are the mechanism that makes the bike more efficient and effective in covering various terrains. This notion of "terrain" became associated with the factors or causes associated with criminal offenses, factors that ought to be taken into account by the adjudication process. The following interaction shows how the bicycle domain structures conversation in this way:

> *Participant 1:*
> There are many things we think are wrong with the criminal justice system. If we want different outcomes, we need to have different sorts of approaches.
>
> *Participant 2:*
> How would a different gear lead to a different outcome?
>
> *Participant 1:*
> Because if you're in first gear, that's an easier gear to pedal on, whereas if you're on 15th gear, it's harder to pedal on that – but it's appropriate depending on the terrain. If you're going uphill you don't want it on gear 15, because it's going to be harder and it's not going to work.
>
> *Participant 2:*
> I'm trying to relate this to breaking out of the system. Maybe the accused person doesn't need to go to a criminal court but needs to get treatment for something.

It is also important to note that, when participants talked about "bicycling on a terrain," it generated discussions of "avenues" and "paths," including "different paths." These discussions of "different paths" structured participants' focus on

the need for alternatives to prison in order to improve efficiency and, ultimately, outcomes.

> *Participant 1*:
> Bikes have different gears and we use different gears for different reasons. When you're going uphill you don't want the highest gear on the bike, you want the lowest gear, so each gear has its purpose. Just like with the bike, we think there could be different gears in the criminal justice system, in order to send people down the right path, in other words, depending on what the terrain is.

> *Participant 2*:
> Terrain could be the situation that led to whatever happened. Then the changing of a gear could be a different avenue, as opposed to just court.

Outcomes are key. As mentioned above, *Justice Gears* led participants to discuss paths, travel and frequently, *destinations*. This focus on destinations in the metaphor domain (i.e., bikes and bicycling) was applied to thinking about the criminal justice system. This mapping focused participants' attention on the fact that the criminal justice system is currently ineffective in generating positive outcomes, and that reform of the system needs to focus not only on punishment but on generating better outcomes. Put another way, the metaphor highlighted the responsibility of the criminal justice system to improve *outcomes* for individuals and society.

> *Participant:*
> Almost everything you experience going through that one gear is punitive. Some people are stronger than others. The experience doesn't affect them as much while other people are totally broken and they're left that way. I don't know how you got there, but that doesn't make you better.
> --
> *Participant:*
> People are being channeled down this one pike, this one path, but maybe there could be different outcomes if you evaluated the reasons for the crime rather than evaluating just the crime.

Improving the fit between the offense and response would improve effectiveness. In one persistence trial, participants strongly picked up on the gear association but the bicycling aspect of the metaphor dropped away. Thinking more generally about gears proved powerful in helping participants generate lists of problems and solutions *and in focusing on the importance of having appropriate "fit" between these concepts.* Participants drew on the common understanding that gears must fit together tightly in order to work and mapped this onto areas where the criminal justice system needed

improvement. This discussion tended to highlight methods for changing or repairing the system, rather than demolishing or destroying it and starting over from scratch. Two of the gears that needed to "fit" in the criminal justice system were offenses and responses to those offenses. The following quote exemplifies the thinking inspired by this productive re-interpretation of the metaphor.

> *Participant:*
> We thought about the criminal justice system and started to come up with some problems that we saw – things like inequities and prisoners getting treated poorly. If you were to sit and talk about it for a little while, you'd come up with a bunch of ideas of what is wrong with the system, but [what] we're talking about is a gear approach to correcting some of these problems to make the criminal justice system fairer, more efficient, less expensive, better at serving the public and better at serving prisoners. So we're using this gear approach to think about what some of the problems are but also in thinking of how we can fix some of those problems. We need to mesh those [problems and solutions] together, in the way that gears in a car transmission mesh together.

This same conclusion – that the system needs to recalibrate its responses to crime to increase its effectiveness – was also reached by groups who discussed *bicycle* gears more specifically.

> *Participant 1:*
> We're trying to relate criminal justice to the gears of a bike. So what we feel is that people who go to the criminal justice system or are accused of a crime may not be being evaluated properly before they get to court and maybe they should come up with evaluation to see if there's other things that led to the criminal acts that happened. Like psychological issues. Substance issues....
>
> *Participant 2*:
> There are a number of them, but the people are being channeled down this one path. You go to court, you get locked up. There are different reasons why people are where they are. So if there are different reasons, there should be different responses.
>
> *Participant 1:*
> I guess what the gear would do is switch the system and judgment to look at whatever led to the act.

Generates productive critiques of the system. Past FrameWorks research has shown that Americans have an easy time complaining about the actions of "crooked cops", or "old racist judges."[9] However, without the aid of a framing tool, Americans have a harder time lodging critiques at the *systems* level. A powerful effect of *Justice Gears* (both in its bicycle instantiation and the more general instantiation as gears of an engine or machine) was that it structured criminal justice criticisms at the *systems* level, in ways that aligned with the critiques offered by criminal justice experts and advocates.

> *Participant:*
> I think we spend way too much money and time on attorneys and attorney fees. Whenever a kid goes to jail, the attorneys make their millions of dollars. We don't see them again. So we're stuck in a rut because no one has been rehabbed. That kid is going to come back again and go through the system. I still believe, instead of taking a plea bargain or going to jail for three to five years, there ought to be other options for that kid.
> --
> *Participant*:
> The point is instead of solely relying on incarceration that maybe we do have drug treatment, alcohol treatment, parenting skills, anger management treatment.... These are potential other gears on the bike.
> --
> *Participant:*
> Some of the things you hear regularly about the system, is things like mental health and addiction and background and race and how all these factors come into play, and people being sent to specific places for incarceration because certain judges are getting paid. That all these things are part and parcel of gears [of the system] that aren't meshing right. What can we do to get some of the gears to mesh better, or figure out what gear that one is supposed to attach to?

Heightened visibility of bias – both economic and racial. In conversations following exposure to the metaphor, participants were articulate and very willing to talk about economic biases in the criminal justice system, mainly in the area of sentencing and adjudication. Participants explained that wealthier and more prominent people are able to afford better lawyers and therefore avoid serious punishments. Primed with the metaphor, participants recognized this as a bias *built into the design* of the criminal justice system. The metaphor also helped participants, especially African-American participants in solely African-American sessions, discuss racial biases inherent in the current system. While these discussions of racial bias shifted in relation to unprimed conversations observed in previous research,[10] they remained less frequent than those of class.

Participant:
For white people, they're using all the gears. For African Americans, they're using one gear.
--
Participant:
I know for me some of the biggest problems that I see and hear about is the fact that there seems to be, at least from the punishment phase, there are two different types of justice in terms of who you are, what you look like, whether or not you've had the money to pay a good attorney who will fight to the death to lessen the charges. It seems to be the punishment phase [is] very unfair.
--
Participant:
Well, for white men, they are using more of those different gears, just looking at those statistics, that's the conclusion you could draw. And for African Americans, they aren't.
--
Participant:
I thought the terrain was representing the loopholes, the political hoops that you jump through going through the criminal justice system. Because that terrain is going to look different for different people. It is what it is. It's going to look different for a black kid from the city than it is for Joe from Swarthmore.

2. Inoculation

Justice Gears also showed an ability to *inoculate* against – or channel people's thinking away from – several powerful default cultural models that lead people in unproductive directions when thinking and talking about the criminal justice system.

Against the Individualism model. When people focus on the actions and motivations of individuals as the causes of events, it becomes difficult to recognize the appropriateness and importance of systems-level reforms. *Justice Gears* was powerfully effective at inoculating against such an individualistic perspective and in channelling attention towards systems and the need for systems-level reforms.

> *Participant*: What we're trying to convey is that what's wrong with the criminal justice system is the system – there are many things that are wrong with the criminal justice system and they all lead to the same outcome. So if we want to have different outcomes, we need to have different sorts of approaches, different paths.

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> *Participant*: Part of what is wrong is the fact that the criminal justice system has become its own economic force. There's money to be made from the criminal justice system.

Against the Determinism model. Justice Gears also inoculated against a powerful tendency, documented in previous research,[11] for Americans to view the criminal justice system as too big, complicated and opaque to meaningfully improve. The justice gears metaphor was effective in invigorating a strong sense that there are ways and concrete steps that can be taken to improve the system – in short, that the system *can* be "fixed." This is likely because people have significant experiences with bikes and engines breaking and being repaired, and thus view gears as highly "fixable" things.

> *Participant 1:* What can we do to improve the criminal justice system? It's like a giant machine that has broken down. And all these parts of the criminal justice system need to be fixed. If you don't fix this [one] part, this [other] part will never get fixed.

> *Participant 2:* Because the engine, the machine won't run – the parts aren't working correctly.

> *Participant 1:* So you got your arresting officers, [they] are the first part, then the court and the judge are the next, then the punishment for the crime. Then the prison and the prison guards, and all of that, so each division needs to be fixed. Each one has to be fixed in order to have the criminal justice system work.

Against the rational actor model. In unframed discussions, Americans often employ a rational actor model of crime, in which individuals commit crimes based on a rational and intentional cost/benefit analysis. According to this assumption, people commit crimes because they have determined that the benefits of such actions outweigh the costs. The following exchange between two African-American participants demonstrates the power of this cultural model.

> *Participant 1*: It's never going to be perfect and it's always going to have to have many faults because of us, because of people, because of society. So listen, "stop doing stupid stuff and getting in trouble and going to jail," and guess what? The criminal justice system changes, and becomes more manageable. And at the rate we have – and especially black men – the rate that we get in trouble and go to jail....

> *Participant 2*: Why is that?

> *Participant 1*: To me, that's the result of society and economics, and that leads into that issue – but it's not an excuse.

> *Participant 2*: We all have choices....

Despite the strength of this mode of thinking, the *Justice Gears* metaphor, with its strong systems focus, disrupted the rational actor model by making more visible the broader social ecology that produces crime.

> *Participant*: What we're doing here is comparing the justice system to a ten-speed bicycle that has gears on it. And the issue is that the criminal justice system can be very difficult, and it kind of has a revolving door type of atmosphere to it. People come in and they see the judge and there's a public defender, and they're in and out, when actually there are mitigating circumstances that could lessen the severity of the crime because of other factors that might have contributed to why the crime was done, but that's not being taken into account by the criminal justice system.

3. Self-correction

Self-correction refers to an Explanatory Metaphor's ability to "snap back" to its initial form following a deterioration or mutation of the concept in discussion. At times, one structural feature of the metaphor may be forgotten, drop out of conversation, or devolve into an alternative formulation. An important measure of an Explanatory Metaphor's strength, self-correction occurs when these features fall out of conversation and then re-assert themselves in subsequent discourse *without being re-cued by the moderator*. When communicated in the public sphere, Explanatory Metaphors are likely to break down. It is therefore important that a concept have sufficient internal coherence to recover from devolutions – to encourage people to arrive at key understandings despite partial or inaccurate communication of the Explanatory Metaphor.

There were several occasions in which *Justice Gears* devolved to some degree and then "snapped back" into its original form. In one session, the functionality of the gearing – that it actually matters for the efficient functioning of the system – dropped out as the metaphor was passed between the second and third groups. However, this key feature of the metaphor reasserted itself in the third group's conversation without prompting by the moderator. The following interaction shows how the third group found their way back to this important feature of the metaphor:

> *Participant 1*:
> On the one hand, we're using the analogy, and I'm thinking, you use gears on a bike because it helps you pedal faster.

Participant 2:
Well, it helps you to be more effective. Could we be more effective if were were utilizing more gears on this bike?

Participant 1:
Absolutely. I think what you need, you use the analogy along with the types of crimes we're talking about, and we say, okay, some of them all start out in one gear or another depending on what kind of crime it is, but based on the rehabilitation, you're either going uphill or downhill or you're going to a straightaway, and you need to go use the different gears in order to match the crime, the person and the time.

4. Communicability

Communicability refers to the faithfulness of the transmission of the Explanatory Metaphor among participants. Analyzing video of Persistence Trials, FrameWorks researchers look for the repetition of exact language and key ideas, as well as the stability of the central metaphor as it is passed between individuals. Communicability varies significantly between the Explanatory Metaphors that we test, making it an important metric in gauging the effectiveness of any one Explanatory Metaphor.

The notion of "gears" and a bicycle with only "one gear" persisted easily across the transmissions. One reason for the "stickiness" of the metaphor is the wide range and large number of related idiomatic expressions, such as "stuck in a rut," "changing gears," "destination," "different path," "mesh together," "cross purposes," "fixed" and "overhauled." These expressions show the richness of the gears domain – a feature that is essential to a highly communicable metaphor.

Another characteristic of a metaphor with a high degree of communicability is that, when participants use it or talk about it, they make gestures with their hands and fingers.[12] In the case of *Justice Gears*, participants frequently illustrated "gears" working, turning and particularly, fitting together with their hands. When such gestures accompany a metaphor, they indicate that the metaphor has been powerfully incorporated into deep parts of the participant's cognition and meaning-making – in short, from a cognitive perspective, such gestures indicate that the metaphor has a high degree of "thinkability." This is an important aspect of communicability and of the metaphor's more general power as a communications tool.

The Justice Maze

The Justice Maze was another highly productive metaphor, but one that performed different conceptual work in communication about public safety and the criminal justice system. In the following section we describe the functions of this metaphor.

1. Application

Persistence Trials showed that participants applied *The Justice Maze* metaphor in the following ways.

A contextual picture of crime. The Justice Maze productively channeled and checked the public's dominant focus on individuals and individual rational decisions as the causes of and solutions to issues of public safety. Through its focus on the *structure that people move through* (the maze), and the way in which this structure influences individual behavior, decisions and, importantly, *outcomes*, the maze was successful in providing a contextual foil to the public's dominant individual focus. FrameWorks has struggled with the contextual blindness that results from the foundational American models of individualism and rationality in previous work; this way of thinking about social issues represents perhaps the most obstinate perceptual barrier to support for progressive social policies. The ability of *The Justice Maze* to contextualize individual behavior and outcomes – to help people realize that individual behaviors and decisions are shaped and restricted by the context and structures in which they are embedded – should not be understated. Put simply, by focusing people's attention on the maze and getting them to apply this focus to the criminal justice system, the metaphor shifts people's attention from the individual to the contexts and systems in which they are embedded. From this perspective, people can better appreciate arguments about the biases that are built into the current system and the need to address these biases at a systems and structural level. This is the major utility of *The Justice Maze* and a vital conceptual task in reframing the issue of criminal justice.

> *Moderator*:
> So they [the previous pair of participants] put drug rehabilitation centers and mental health service and the juvenile justice system in the maze. Are those part of the maze?
>
> *Participant*:
> I think they can also be little roads out of the maze. You can be in the maze and then you can go to the juvenile justice system and someone says, "we're going to get you some legal help because you were 17 when you committed this crime. We're going give you the benefit of the doubt. We're going to expunge your record, here's your do-over card – now go

do better."

--

Participant:

The criminal justice system is sometimes looked at as a cycle and a maze because once inside the system, it's hard to get out. There are factors that people bring into the prison like mental illness and drugs, and the job of the prison is to get them out to be productive citizens and break the cycle while they are inside. But the problem is, this system doesn't exist, and the cycle just keeps going. They don't offer job training skills so people end up right back in the system.

Alternatives are needed. As with *Justice Gears*, *The Justice Maze* was highly effective at getting people to see how alternatives to incarceration are needed. The language around "only one path" was particularly effective at structuring productive critiques of the fact that prison is currently the "only path" or "the only end" in the system. The idea of "dead ends" was also highly effective in getting people to recognize and robustly discuss recidivism – the fact that once you have been in prison there is no route to a productive life.

Participant:

The maze system is the system and prison is the only exit, but it's not really an exit – it's the end result. And everybody is lumped together. You're going to go through the maze, and when you come around that corner, you're going to get dumped out into prison.

--

Participant:

We're going to explain the maze and how people go in but they don't really come out. You know how you come to a maze and you know, that's not the way out, they're hitting the brick wall, maybe they have to change lawyers, or you were talking about how somebody might be in limbo. They're not progressing through. That's not efficient. They want it to be over already. And they talked about how all convictions lead to prison rather than other ways to integrate people. Instead of just close the book at the end of the maze and say, this is your crime, this is the time you're going to serve, and that's it.

The current system is inefficient and ineffective. As with *Justice Gears*, *The Justice Maze* gave people cognitive and linguistic tools for characterizing what is wrong with the criminal justice system and what needs to change. In the main, this concerned the adjudication and the incarceration/rehabilitation processes.

Participant:

If everybody that went in came out at the same time, it might be efficient, but it's not efficient. People get held up in various sections of the maze before they're spit out. You have people who are there for litigation, you have people who are just held and charged for months, years, at a time. It could be efficient, but it's not.
--
Participant:
What I got out of the maze is that something needs to be fixed. There are roadblocks everywhere for people going into the system. And then there's no way out of that maze.
--
Participant 1:
I would think it's, you're re-filtering back into the maze people who are, they know they're going back into the roadblocks and the struggles they went into before.

Participant 2:
Habitual offenders, there needs to be something done for them. Sending them back into prison repetitiously – there has to be a better way to do things.

2. Inoculation

The Justice Maze also showed an ability to inoculate against several powerful default cultural models that lead people in unproductive directions when thinking and talking about the criminal justice system.

Against the rational actor model. As noted above, Americans frequently attempt to understand criminal behavior through a rational lens and attribute a discrete cost/benefit analysis to people in the criminal justice system. As with *Justice Gears, The Justice Maze* disrupted this perspective, suggesting other determinants of behavior, such as social conditions, environments or developmental stages. The maze was a *powerful* inoculant against the rational actor perspective. Again, this is the major strength of this model.

Participant:
I think also what could happen is, that in addition to training them and giving them tools to reintegrate into society, you could help them by examining the different cases, and trying to see what the commonalities are, and trying to address the root causes that you can find. Is there a common factor that brought all of those felons from Philadelphia? Is there something they all came from? Is there something social going on?
--

Participant:
There is no redemptive function in that system. If you have a felony, forget it, you have no chance. Once you have a record, you're screwed. It's really hard for you even to get a job. If you don't give a person a *chance* to provide some kind of livelihood for themselves, you are *driving* them to a life of crime. So that's the maze, once you're in it you can't get out of it.

Against individual responsibility. Along with the rational actor model comes the notion that the criminal justice system responds purely on the basis of crimes committed and therefore that any differences between groups of Americans are due to shortcomings of those individuals or groups. Put bluntly, using this model, people explain the predominance of young men of color in the system as due to moral failings, not to systematic and structural discrimination. The maze was effective in inoculating against this way of thinking about group differences by, again, focusing attention on the structures that people move through – on the paths available, rather than on the individuals moving through them. Participants also used the maze as a way to talk about how the system's permutations and paths change for different populations, explaining that different people go through different mazes. In this way, participants productively modified *The Justice Maze* into a notion of justice *mazes,* as a way of discussing the structural bias of the system. In such discussions, participants not only focused on bias in productive ways, but they grounded and rooted these biases in structural aspects of the system.

3. Communicability

The Justice Maze was easily communicated and highly persistent. Perhaps most indicative of its communicability was the number of expressions related to paths and structures that participants used, such as "multiple outlets," "multiple options," "exits," "dead ends," "hitting a brick wall," "coming around a corner," "not progressing through," "alternative exits," "one way routes" and "roadblocks." More broadly, the underlying conceptual metaphor of "life as a path" or "life as a journey" was highly visible in these discussions and underlay the metaphor's high degree of communicability. Similarly, the conceptual metaphor of "institutions as structures" was also highly effective and sticky as the metaphor was passed between participants. Most of the effectiveness of *The Justice Maze* stems from the way that these two domains blend in productive ways. The metaphor's path component helps people see individuals and groups in the system, while its structural component contextualizes the way that individuals move through the maze, revealing how the structure shapes outcomes and must be addressed to improve them. The maze metaphor was sticky across the transmissions and did not degrade. This strength in communicability meant that researchers had no chance to observe its ability to self-correct.

Using Justice Gears and The Justice Maze

For the reasons described above, FrameWorks confidently offers both *Justice Gears* and *The Justice Maze* as two new strategic frame elements to aid in reframing the public conversation about public safety and criminal justice reform. Each metaphor has strengths that lend themselves to a particular set of communication challenges.

Here we offer iterations of the two metaphors and provide recommendations for when users might want to employ them.

Justice Gears

Right now our justice system is stuck using only one gear – the prison gear. Think about how a bicycle works and how it needs to have and use different gears to work effectively and efficiently. If that bike is going to work it needs different gears to use in different situations. The criminal justice system that we have now is trying to deal with a wide variety of situations using only one gear. We need to have other justice gears for people who come into the system, like mental health services, addiction services, or juvenile justice services. We need to change the criminal justice system to make sure it has different gears for different purposes and that it's set up in a way that it uses the right gear in the right situation. If we do this we can improve outcomes and all get to where we need to go.

The Justice Maze

Even in the most difficult mazes, there's a way to get in and out. But the criminal justice system that we have now is designed without enough paths that come out of the maze. A lot of people, no matter where they come into the criminal justice system, get on a path that goes straight to prison and doesn't have a way out. We know that we need to make other routes available, like to mental health services, addiction services, or juvenile justice services and that these need to be two-way paths so that people can get to where they need to go. We need to take the justice maze and redesign so that it clearly lays out multiple routes to get people where they need to go in the most effective and efficient way possible.

The following are research-based suggestions about when to use *Justice Gears* and *The Justice Maze*.

Use *Justice Gears* if you are communicating about:

- The inefficiencies of the criminal justice system, as they relate to policing, adjudication, and rehabilitation/punishment.

- The need to employ alternative measures to improve public safety and create better outcomes for those who come in contact with the criminal justice system.

- The ways in which the system works differently for different groups of people.

Use *The Justice Maze* if you are communicating about:

- How structural aspects of the criminal justice system shape individual and group outcomes.

- Systemic inefficiencies and biases.

- The need for reforms to address structural aspects of the system.

- How the structure of society predetermines inequitable outcomes for some populations.

We conclude with the following general recommendations for how to use the metaphors.

Justice Gears

1. Compare the system to a machine with gears – try to get people to see the system through their understandings of machines.

2. Emphasize the need for multiple gears if the system is to work well and generate quality outcomes.

3. Explain that the current system is relying too heavily on one gear and that this is creating problems.

4. Talk about the need for fit between terrain and gears to make efficiency and effectiveness arguments.

5. To emphasize the need for and feasibility of reforms, employ the notion that the problems with gears and the systems that they are part of can be diagnosed and fixed.

The Justice Maze

1. Make clear that the current system is a maze and that its dysfunction is due to aspects of its construction.

2. Use the maze to talk about problems with the current system (too few paths, one-way directionality, maze changes for different populations).

3. Use the maze to make it clear that *outcomes are shaped by the structures that people move through*.

4. Leverage the resulting systems understanding to emphasize that improving outcomes involves addressing the maze.

APPENDIX: The Methodological Approach to Identifying and Testing Explanatory Metaphors

I. PHASE 1: MAPPING THE GAPS

In the first phase of this Explanatory Metaphors research process, FrameWorks employed an interview method called Cultural Models Interviewing. Using a detailed interview guide, interviewers asked questions to get at how average Americans understand public safety and criminal justice.

More generally, Cultural Models Interviews reveal the cognitive "terrain" on a given issue by focusing on the implicit patterns of assumptions – or cultural models – which individuals employ to process incoming information on an issue. These patterns are the "mental bins" into which people try to fit incoming information, and represent both potentially productive and damaging ways of making sense of information. To uncover the gaps in understanding on the target issue, the findings from Cultural Models Interviews were held up to data gathered from experts on public safety and criminal justice. FrameWorks calls this process "mapping the gaps."

II. PHASE 2: DESIGNING EXPLANATORY METAPHORS

After identifying the gaps in understanding, the second phase of the Explanatory Metaphors research process aimed to generate a set of candidate Explanatory Metaphors that were then empirically explored and tested in the third research phase. The result of the design process is a list of both metaphorical categories (e.g., *Structures*) and multiple iterations, or "executions," of each category (e.g., *Platforms*). FrameWorks' linguist analyzes all of the transcripts from the "mapping the gaps" phase of the research process. Then, the linguist generates a list of metaphor categories that represent existing conceptual understandings that can be recruited, as well as metaphorical language and concepts shared by the experts and the general public. The linguist generates metaphor categories that capture the *process* element (how the thing works) of the expert understanding in metaphors that, given the data gathered from the general public, have the potential to be easily visualized and incorporated into thinking about the issue under consideration.

FrameWorks researchers who are cultural models and cognitive theory specialists conduct a cognitive analysis of the Explanatory Metaphor categories. The analysis examines the *expected* public response to the metaphors, based on cultural models theory and existing FrameWorks research on cultural models that Americans employ in understanding crime, public safety and justice. Researchers then use this analysis to review the metaphor categories, adding new possibilities and suggesting ones to be cut. At this stage, researchers also compare the candidate metaphors to the data from the initial Cultural Models Interviews. Metaphor categories that contain elements or

aspects of metaphors found to be damaging or distracting in the public's thinking about the topic are eliminated from the candidate list. On the other hand, Explanatory Metaphor categories containing elements of more productive cultural models are highlighted as particularly promising.

During the process of designing candidate Explanatory Metaphors, FrameWorks also assesses the metaphors' abilities to be incorporated into practice by journalists and advocates/practitioners. In some cases, this practical assessment has suggested that some candidate metaphors are too provocative or problematic to pass into the public discourse. These metaphors are removed from the working list. The refined list is then returned to the linguist, who begins to compose iterations or executions of the categories on the list. The list of categories and iterations is sent back to FrameWorks' researchers for additional revisions.

III. PHASE 3: TESTING EXPLANATORY METAPHORS – THREE TESTS OF MODEL EFFECTIVENESS

Test 1: On-The-Street Interviews

As the initial opportunity to test candidate Explanatory Metaphors, On-the-Street Interviews present an ideal opportunity to gather empirical data on the effectiveness of candidate Explanatory Metaphors: which specific elements of the metaphors are functioning well, and which aspects are less successful in clarifying concepts and shifting perspectives.

The metaphors are written up as "iterations," paragraph-long presentations that cue the listener/reader to two domains of meaning, one that is typically referred to as the "source," the other as the "target." In the metaphorical statement "encyclopedias are goldmines of information," the source domain of meaning is "goldmine" and the target is "encyclopedias." In FrameWorks' terms, "encyclopedias" is the target because it is the object or process that the application of knowledge about goldmines is meant to illuminate.

Iterations on the following metaphors were brought to this stage: *Justice Highway, Pinball Justice, Bowling for Justice, Justice Arcade, Gambling with Justice, Focusing Justice, Runaway Justice, Quacky System, Take Two Pills and Call Me in the Morning.*

In 2012, FrameWorks tested a total of seven candidate Explanatory Metaphors in Atlanta, Georgia and Baltimore, Maryland. Each candidate Explanatory Metaphor was presented orally, in separate interviews, to 42 informants in each location for a total of six interviews per metaphor, comprising a data set of 42 ten-minute interviews. All informants signed written consent and release forms, and interviews were video- and audio-recorded by a professional videographer. The seven

metaphors represented executions of six different candidate Explanatory Metaphor categories. Data from the interviews were used to winnow and refine categories, as well as to refine the individual executions of metaphors within categories.

Subjects
Twenty-one informants were recruited on site in each of the two locations. A FrameWorks researcher approached individuals on the street or walking through a mall and asked if they would be willing to participate in a short interview as a part a research project on "issues in the news." The recruiting researcher paid particular attention to capturing variation in gender, ethnicity and age.

Data on each informant's age and party affiliation, as self-identified, were collected after the interview. Efforts were made to recruit a broad range of informants. However, the sample is not meant to be nationally representative. Although we are not concerned with the particular nuances in how individuals of different groups respond to, and work with, the Explanatory Metaphors tested in these interviews, we recognize the importance of between-group variation and take up this interest in quantitative testing of Explanatory Metaphors. There, the virtues of quantitative sampling techniques can effectively and appropriately address issues of representation and across-group variation.

The Interview
FrameWorks had the following goals in designing and conducting On-the-Street Interviews: (1) identify particularly promising Explanatory Metaphor categories; (2) refine those categories with more mixed results; and (3) eliminate highly problematic categories in which the underlying *concept* created problems that could not be overcome by refining existing executions or designing new ones. FrameWorks' approach to this winnowing process is highly conservative to assure that only the most unproductive categories – those beyond repair – are eliminated.

However, winnowing is a necessary feature of a process that intentionally produces a large set of possible iterations, but that culminates in the one most effective Explanatory Metaphor. More specifically, interviews were designed to gather data that could be analyzed to answer the following questions.

A. Did the informants *understand* the Explanatory Metaphor?

B. Did they *apply* the Explanatory Metaphor to talk about problems with the criminal justice system?

C. Did the Explanatory Metaphor *shift* discussions away from the dominant thought patterns that characterized the initial responses?

D. How did informants respond to the questions about problems with the criminal justice system?

E. Did exposure to the Explanatory Metaphor *lead to more articulate answers and robust, fully developed conversations* of issues that informants had problems discussing prior to being exposed to the model?

Test II: Quantitative Experimental Research

After analyzing On-the-Street Interview data, FrameWorks subjected the refined set of Explanatory Metaphors to an online quantitative experiment. The overarching goal of this experiment was to gather statistically meaningful data on the metaphors' effectiveness, which provided an empirical basis for selecting one or two metaphors that were most successful relative to a set of theoretically-driven outcome measures. In the end, experimental data were used to select and refine two Explanatory Metaphors that were then taken into the final stage of the empirical testing process. The metaphors that emerged as successful in On-the-Street Interviews were built out to include other iterations.

In April, 2013, FrameWorks conducted the survey, which measured the performance of five candidate Explanatory Metaphors in relation to a set of outcome measures. Twelve hundred respondents were drawn from a national online panel, and data were weighted on the basis of gender, age, race, education and party identification to ensure that the sample was nationally representative.

Experimental Design
Following exposure to one of six "treatments" – paragraph-long iterations of candidate metaphors – participants answered a series of questions designed to measure a set of theoretically-based outcomes. Effects were compared both across and within categories, meaning that general categories were tested against other general categories, and specific iterations were tested against other iterations both within and across categories. Outcomes measured included *understanding* and *application.*

Treatments
In total, five specific Explanatory Metaphor iterations were developed. Each treatment consisted of a paragraph that described the metaphor, as in the following example for *Justice Tools.*

Right now our justice system is like builders who aren't using all of their tools. Builders use different tools depending on their jobs. They don't cut wood with a screwdriver or measure lengths with a hammer. But our criminal justice system is doing exactly that – everyone who comes in goes straight to prison, even

though there are justice tools available, like mental health services, addiction services, or juvenile justice services. We need to reform the criminal justice system so it uses the appropriate tools with offenders so they can join their communities.

Among the metaphors, the only differences were the name of the Explanatory Metaphor (e.g., *Justice Tools*), structural features specific to that metaphor and appropriate lexical items or phrases. This balance of *variation* between metaphors and *standardization* in construction and language is designed to ensure that any differences in effect were due to differences among the metaphors themselves, and not to some unintended confounding variable.

Outcome Measures
After receiving the treatment paragraph, participants were asked 27 multiple-choice questions to test each metaphor's performance in relation to several areas: How did people understand the problems facing the criminal justice system, and could they apply the metaphor to thinking about several issue areas, including prison over-crowding, unequal treatment, juvenile justice, sorting and overall efficiency. The numerical outcomes of this experiment were provided in the main body of this report.

Respondents were asked questions such as:

Given the <insert metaphor name>, which is probably true about mental health and crime in America?
    a. There are more mentally ill people in prison than in hospitals.
    b. The legal system routes mentally ill people away from prison.
    c. Offenders use the insanity plea too often to avoid being punished.

Please complete this sentence. *We could reduce the number of people in prison by:*
    a. Putting more resources into schools and making sure people graduate high school.
    b. Increasing the number of police in inner cities.
    c. Using the death penalty more often to deter crime.

Given the <insert metaphor name>, which of the following statements is true?
    a. Fewer people in this country could be in prison.
    b. Basically the right number of people in this country are in prison.
    c. Not enough people in this country are in prison.

Open-Ended Questions

One goal of the Explanatory Metaphor testing process is to discover the minimally effective linguistic unit that produces the largest cognitive change, as measured in discourse. In this project, both in On-the-Street Interviews and in a pilot study, we endeavored to check people's immediate reactions after they were given the most basic formulation of the metaphor (e.g., that "the justice system is like a bicycle that's only using one of its gears"). In this pilot study, people were given open-ended opportunities to react to the Explanatory Metaphors.

Control

A control treatment was included in this study, in which participants were asked to "Take a few moments to think about the criminal justice system and answer the following questions." All of the candidate metaphors outperformed the control measure.

Test III: Persistence Trials

After using quantitative data to select the most effective models, FrameWorks conducts Persistence Trials to answer two general research questions: (1) *can* and *do* participants transmit the Explanatory Metaphor to other participants with a reasonable degree of fidelity? and (2) *how* do participants transmit the Explanatory Metaphor? In other words, the method examines how well the Explanatory Metaphors hold up when being "passed" between individuals, and how participants use and incorporate the metaphors in explanation to other participants.

The Persistence Trial

A Persistence Trial begins with two participants. The researcher presents one of the candidate Explanatory Metaphors and asks the two participants a series of open-ended questions designed to gauge their understanding of the Explanatory Metaphor and their ability to apply the model in discussing the target domain (here, how the criminal justice system might be improved). For example, the researcher asked how the participants understood the Explanatory Metaphor, then probed how well they could use it to explain what is wrong with the criminal justice system and how to improve it. Questions and analysis were also designed to locate any terms or ideas in the execution of the Explanatory Metaphor that participants had difficulty with or explicitly recognized as problematic.

After 15 to 20 minutes of discussion between the two initial (Generation 1) participants and the interviewer, Generation 1 was informed that they would be teaching the Explanatory Metaphor to another pair of participants (Generation 2). Generation 1 was given five minutes to design a way of presenting the Explanatory Metaphor, after which they had five minutes to present it to Generation 2. Generation 2 then had five to 10 minutes to ask Generation 1 questions about the

presentation. During this time, the interviewer generally allowed dialogue to unfold naturally between the two groups but periodically probed for additional information on ideas that emerged.

Generation 1 then left the room and the interviewer asked Generation 2 an additional set of questions designed to elicit their understanding of the Explanatory Metaphor and their ability to apply the concept. This questioning lasted for approximately 10 minutes, at which point Generation 2 was informed that they would be "teaching" the idea to two new participants (Generation 3). Generation 2 had five minutes to plan their presentation, after which Generation 3 entered the room and the two groups went through the same steps and questions as described above.

Typically, a Persistence Trial ends when Generation 1 returns to the room. Generation 3 teaches the model to Generation 1 (without being told that Generation 1 is already familiar with it), and they are allowed to debrief with Generation 1 on the direction the metaphor has taken. The interviewer then reads the original paragraph-long iteration and asks questions about its transmissibility. However, for this project, the session ended after the four participants in Generations 1 and 3 were presented with a set of statistics regarding racial categories and the criminal justice system, and given the opportunity to comment on the statistics in light of the previous discussion.

For the criminal justice research discussed here, FrameWorks tested two candidate Explanatory Metaphors, *Justice Gears* and *The Justice Maze,* in Philadelphia, Pennsylvania and Jacksonville, Florida. There were three sessions on each metaphor. All informants signed written consent and release forms prior to participating in the sessions, and interviews were video- and audio-recorded by professional videographers.

Subjects
A total of 36 informants participated in Persistence Trials. These individuals were recruited through a professional marketing firm, using a screening process developed by FrameWorks and employed in past FrameWorks research. Informants were selected to represent variation along the domains of ethnicity, gender, age, educational background and political ideology (as self-reported during the screening process). One session in each research location was composed solely of African-American participants in order to pay particular attention to how these participants used the metaphors and responded to facts about the criminal justice system, and to explore any differences in metaphor usability.

Analysis

In analyzing data from Persistence Trials, FrameWorks sought to answer the following specific questions in relation to each Explanatory Metaphor.

A. Were participants able to *apply* the Explanatory Metaphor; and, more specifically, what were the ways in which they applied the model?

B. Was the Explanatory Metaphor *communicable?* Were each Generation's presentations of the Explanatory Metaphor faithful to the initial model presented by the interviewer? How did the groups' presentation of the model differ from the interviewer's presentation (i.e., did they use different language, use different ideas related to the metaphor, emphasize different entailments, etc.)?

C. Did the Explanatory Metaphor *inoculate* against dominant default cultural models? That is, did it prevent discussions from falling back to the dominant unproductive cultural models? Furthermore, if one of these cultural models did become active, could the Explanatory Metaphor prevent the discussion from veering narrowly in these perceptual directions?

D. Did the Explanatory Metaphor *self-correct*? That is, if one Generation's presentation was not faithful to the original Explanatory Metaphor or left out a key component, did the ensuing Generation's interpretation and/or presentation self-correct?

E. What specific *language* did the groups use in discussing the model? Was there language that participants used that was not included in the original execution of the Explanatory Metaphor?

As described in the main body of this document, both *Justice Gears* and *The Justice Maze* made significant contributions to meeting different aspects of the communication challenges surrounding criminal justice.

About the FrameWorks Institute

The FrameWorks Institute is an independent nonprofit organization founded in 1999 to advance science-based communications research and practice. The Institute conducts original, multi-method research to identify the communications strategies that will advance public understanding of social problems and improve public support for remedial policies. The Institute's work also includes teaching the nonprofit sector how to apply these science-based communications strategies in their work for social change. The Institute publishes its research and recommendations, as well as toolkits and other products for the nonprofit sector, at www.frameworksinstitute.org.

Please follow standard APA rules for citation, with FrameWorks Institute as publisher.

Kendall-Taylor, N. (2013). *Mazes and gears: Using Explanatory Metaphors to increase public understanding of the challenges facing the criminal justice system.* Washington, DC: FrameWorks Institute.

Endnotes

[1] For more about Strategic Frame Analysis™, see www.frameworksinstitute.org/sfa.html

[2] Quinn, N., & Holland, D. (1987). Culture and cognition. In D. Holland & N. Quinn (Eds.), *Cultural models in language and thought* (pp. 3-40). New York, NY: Cambridge University Press.

[3] See: Lévi-Strauss, C. (1963). *Totemism*. Translated by Rodney Needham. Boston, MA: Beacon Press; and Lévi-Strauss, C. (1966). *The savage mind*. Chicago, IL: University of Chicago Press.

[4] Bunten, A. C., Kendall-Taylor, N., & Lindland, E. (2011). *Caning, context and class: Mapping the gaps between expert and public understandings of public safety*. Washington, DC: FrameWorks Institute; Gilliam, F. (2011). *How public safety experts present their story.* Washington, DC: FrameWorks Institute.

[5] For an overview, see www.frameworksinstitute.org/ezine8.html and www.frameworksinstitute.org/assets/files/PDF/framingpublicissuesfinal.pdf. For more on causal chains, see www.frameworksinstitute.org/ezine31.html. For more on tone, see www.frameworksinstitute.org/ezine17.html

[6] See the following link for more information about the larger effort to reframe public safety and criminal justice reform: http://www.frameworksinstitute.org/pubsafety.html

[7] Kendall-Taylor, N. (2010). *An empirical simplifying model research process: Theory and method*. Washington, DC: FrameWorks Institute.

[8] Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago, IL: University of Chicago Press.

[9] Bunten, A. C., Kendall-Taylor, N., & Lindland, E. (2011). Op. cit.

[10] Bunten, A. C., Kendall-Taylor, N., & Lindland, E. (2011). Op. cit.; Lorick-Wilmot, Y., & Lindland, E. (2011). *Strengthen communities, educate children and prevent crime: A communications analysis of peer discourse sessions on public safety and criminal justice reform.* Washington, DC: FrameWorks Institute.

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[12] Krauss, R., Chen, Y., & Chawla, P. (1996) Nonverbal behavior and nonverbal communication: What do conversational hand gestures tell us? In M. Zanna (Ed.), *Advances in experimental social psychology* (pp. 389-450). San Diego, CA: Academic Press; Alibali, M. W., & Kita, S. (2010). Gesture highlights perceptually present information for speakers. *Gesture*, *10,* 3-28; Alibali, M., Spencer, R., Knox, L., & Kita, S. (2011). Spontaneous gestures influence strategy choices in problem solving. *Psychological Science, 22*(9), 1138-1144.