

# ***Designing Incentives and Leveraging Gamification***

A Workbook for Transportation  
Behavior Change

**Lead Authors:**

Kanyinsola Aibana and Vivien Caetano

**Contributing Support:**

Dominique Prieto, Rabi Abonour  
and Doug Palmer

**November 2020**

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# About ideas42



We're a non-profit looking for deep insights into human behavior—into why people do what they do—and using that knowledge in ways that help improve lives, build better systems, and drive social change. Working globally, we reinvent the practices of institutions, and create better products and policies that can be scaled for maximum impact. We also teach others, ultimately striving to generate lasting social impact and create a future where the universal application of behavioral science powers a world with optimal health, equitable wealth, and environments and systems that are sustainable and just for all.

For more than a decade, we've been at the forefront of applying behavioral science in the real world. And as we've developed our expertise, we've helped to define an entire field. Our efforts have so far extended to 40 countries as we've partnered with governments, foundations, NGOs, private enterprises, and a wide array of public institutions—in short, anyone who wants to make a positive difference in peoples' lives.

ideas42's work in the environment directly tackles climate change and its associated impacts. Reducing carbon emissions and helping adapt to the inevitable effects of climate change are critical challenges. Curbing air pollution and other climate-related threats to safety improves the global public health. We also recognize that global climate change disproportionately affects people living in poverty, who are least empowered to address it. We focus on climate mitigation among people with sufficient wealth and resources to meet their needs, and adaptation among those in poverty, with an approach to help make the world more just.

Visit [ideas42.org](https://ideas42.org) and follow [@ideas42](https://twitter.com/ideas42) on Twitter to learn more about our work. Contact us at [info@ideas42.org](mailto:info@ideas42.org)

# Acknowledgments

This workbook was developed with support from the Bloomberg Philanthropies American Cities Climate Challenge. The Climate Challenge is an initiative that empowers 25 of the largest U.S. cities to implement near-term climate goals and become primary drivers of progress towards meeting America’s pledge on climate. Recognizing that cities account for more than 70% of global carbon emissions—and that mayors have significant authority over cities’ highest emitting sectors: transportation and buildings—the Climate Challenge aims to enhance the work already being done by mayors across the U.S. and to support cities in the fight against climate change.

Vivien Caetano and Kanyinsola Aibana led the research and writing of this work book. Dominique Prieto and Rabi Abonour helped with the research and Doug Palmer oversaw the writing and editing.

We gratefully acknowledge the support of Eleni Fischer, Blessing Ogunyemi, Arielle Gorstein, Renata Tirta and Ashley Greenstein in putting this resource together.

Finally, we thank all the academic researchers and transportation demand management practitioners whose experiences and work helped inform our insights and recommendations.

**Bloomberg  
Philanthropies**

**American Cities  
Climate Challenge**

# Introduction

This workbook provides practitioners working in transportation demand management (TDM) a guide on how to design and leverage incentives and gamification to promote transportation behavior change. The effectiveness of incentives and gamification schemes depends on their design. This resource helps practitioners decide on their TDM program structure using insights from behavioral science. Specifically, it helps TDM practitioners decide whether or not to use incentives and gamification for a given transportation problem, and provides initial design ideas that would need to be tailored for each context. We outline seven steps to help you integrate findings on incentives and gamification from TDM and behavioral science literature into your work.

## Background

Incentives and gamification are one of many tools used to motivate behavior change. An incentive can be defined as a “contingent reward” that encourages an individual to complete an action; it is a positive reinforcer for a desired or targeted behavior. Incentives can also work to discourage an individual from completing an action (e.g., stop smoking); in these cases they are called disincentives.<sup>1</sup> Gamification is “the application of lessons from the gaming domain to change behaviors in non-game situations.”<sup>2</sup> The addition of “game-like elements or experiences” (e.g., leaderboards, earning points, etc.) to change behavior or increase adoption is what separates gamification from incentives.<sup>3</sup>

Research has shown that incentives and gamification motivate behavior across different contexts, including transportation behavior.<sup>4</sup> In the transportation demand management (TDM) space, incentives (i.e., subsidizing public transportation) and/or gamification have been effectively implemented to reduce public transit congestion, increase bus ridership, and reduce single occupancy vehicle (SOV) usage by encouraging carpooling or other more sustainable modes of transportation (e.g., bike riding).<sup>5</sup> Disincentives, or negative incentives, have also been used to decrease parking congestion commonly through setting parking prices and congestion pricing.<sup>6</sup>

TDM programs that include financial incentives and disincentives are generally more effective than those same programs without incentives.<sup>7</sup> While including an incentive makes it more likely your program will work, the impact of different incentive structures or gamification schemes has not been systematically documented. This lack of evidence makes it difficult to predetermine a TDM optimization strategy for all contexts.

Behavioral science, the study of human behavior and decision-making, can help us to better understand how these levers work and help practitioners develop their own optimization strategy for their given context. For example, in designing a program that incentivizes bus ridership, it is important to consider the context of the targeted population. This can include the accessibility of public transit, attitudes toward it, the cost and amount of parking, weather, socio-economic status, flexibility in travel, and more.<sup>8</sup>

Incentive schemes and gamified elements have to be thoughtfully designed to work well. In this workbook, we offer a set of steps to help TDM practitioners maximize the potential impact of their incentives and gamified elements within programs.



### Rules of thumb when designing incentive programs and leveraging gamification

- ▶ **Incentives and gamified elements should be one piece of the puzzle.** They are most successful when they are part of a larger programmatic effort. Where other efforts and programs already exist, design incentives and gamified elements with those programs in mind. This helps avoid unintended consequences and can even create synergistic effects.
- ▶ **Work with potential recipients** to make sure the incentives and gamified elements are meaningful, and that the programs address practical issues such as hassles, along with equity concerns, like the needs of people facing systemic barriers.

## How to use this workbook

For each of the seven steps below, use the space provided to answer the key questions posed.

The steps are not meant to be exhaustive. Rather, they are prompts that will help guide your decision-making. Similarly, completing these steps may not be a linear process. As you work on each step, you will learn more about your context. When you do, you may need to go back to a past step with a new perspective. This kind of learning and iteration is great! Use what you learn to develop the most behaviorally-informed program.

### 1 Step 1: Define success

**What are you trying to achieve through an existing (or new) program?** *Get specific about what success would look like in terms of transportation behavior. Do you want more people using public transportation for their commutes or fewer cars on the road?*

**Whose behavior would you have to change in order to achieve that vision of success?**

*How drastically would you need to change their behavior? Why are you targeting them?*

**Use these guiding questions to help determine your target audience:****Describe them:**

- ▶ Where do they live?
- ▶ Where do they go and how do they get there? Which of those transportation choices would you need to affect?
- ▶ What kinds of jobs do they have? What are their work lives like?
- ▶ What other responsibilities do they have in their lives?
- ▶ How diverse is the community they live in? What is the demographic breakdown of the geographic areas you're considering targeting?

**Some reasons to target a group include:**

- ▶ *They have access to a mode of transportation you'd like to encourage*
- ▶ *You have a means of reaching them (e.g., you have a partnership with their employer)*
- ▶ *They are affected by changes in policy or programs that you are supporting or trying to mitigate*
- ▶ *They are likely to change their behavior. For example, if they already are undergoing changes in their life, they are more likely to be affected by a behavior change intervention*

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**Step 2: Identify a racial or social equity outcome that you want to achieve through transportation behavior change**

What's the overarching racial or social justice goal your department is trying to achieve? How does the program you're working on fit into that overall strategy?

What does existing data tell you about the inequities in the neighborhoods and communities you're planning to target?

**What are these inequities? How did they develop? What are their root causes?**

Some examples of root causes include redlining neighborhoods, inequitable public transportation investment, zoning regulations, and interstate highway planning.

**⚠️** Reminder: As you go through this workbook continue to look at things through a racial and social equity lens. We have included prompts throughout, but encourage you to continually ask yourself how your work will help or deter you from accomplishing your equity goals.



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### Step 3: Understand the behavior you're trying to affect, the potential impact of the behavior change you'd like to see, and assess your likelihood of success

#### STEP 3A: Specify the behavior you'd like to encourage

Incentives and gamification work best when they are directed at specific behaviors and cognizant of unintended consequences. Use the questions below to refine your behavior.

#### What specific behaviors might you target with incentives or gamification?

#### Decide if you're trying to **STOP** a behavior, **START** a behavior, or **BOTH**.

See below for an example of each.



We want people to **STOP** commuting to work in single occupancy vehicles (SOV's). We don't have preferences regarding what they replace SOV's with.



We want people to **START** commuting by bus. We expect an incentive to ride the bus will reduce the number of people commuting using more carbon-heavy modes.



**BOTH:** We want people who are commuting to work in SOV's to start commuting to work by bus.

*If you're not sure yet, that's ok, pick one for now and reassess the choice as you continue to refine your goal.*

#### Incentives and gamification can be used in transportation to:

- ▶ Prompt people to act once, whether to fill out a survey or to try a new method of transportation for a short period of time. These can work when:
  - People have misperceptions about the amount of time or effort a mode of transportation requires
  - People have never considered taking a new mode of transportation (and that new mode turns out to be a reasonable alternative for them)
  - A new mode of transportation becomes available or improves
- ▶ Change people's regular transportation behavior permanently. Incentive and gamification programs that successfully achieve these usually:
  - Change the cost of a behavior (e.g., increasing the price of parking or reducing the price of commuting; tolling a roadway to discourage driving during certain period)
  - Use incentives and gamification schemes to motivate sustained behavior over an extended period (e.g., commuters earn three dollars (\$3.00) cash for each day they use a qualified commute alternative to travel to and from work within a 90-consecutive day period)

**Have you involved community members and stakeholders in developing and identifying the desired behavior? How have you adapted to their feedback about the impact of using incentives or gamification for this behavior on their community?**

### STEP 3B: Ensure your target population can respond to incentives or gamification

**Will the people you'll be targeting be able to respond to your program?**

Two key factors that will affect your program's success are **(1)** the state of the transportation options at the group's disposal and **(2)** how much flexibility your target group has in their lives. Understanding these factors requires engaging with your target population and understanding their lived experiences. To account for the impact of racial and social inequity, you should proactively engage with stakeholders from communities of color.

**Having access to safe, reliable, and predictable transportation options is critical to changing people's mode choice.** People are unlikely to switch to a mode that does not fit all three of those descriptors, even if the mode is free or incentivized. If your intention is to encourage one specific mode, that mode must be safe, reliable and predictable.

**Rate how safe the transportation option(s) you would like to encourage is:**



**Rate how reliable the transportation option(s) you would like to encourage is:**



**Rate how predictable the transportation option(s) you would like to encourage is:**



⚠ Before going too far—talk to the people you *think* have access to confirm or disconfirm your assessment. It's important to ensure that your definition and assessment of a mode of transportation as “safe, reliable, and predictable” aligns with the experiences of the people whose behavior you're trying to change.

👉 As you have conversations with your target group and stakeholders in the community, pause regularly to check that the people you are talking to reflect the racial and social demographics of the community you're targeting.

**Use the space below to describe your assessment of the safety, reliability and predictability of the transportation options you want to promote, based on conversations with your target population about their definitions and experiences.**

If the target group does not have access, and you cannot create safe, reliable and predictable options for them that would meet their needs, incentives and gamification schemes are unlikely to help promote the behavior with this group.

**How flexible are the lives of the people you'd like to target?** The less flexibility people have in their lives, the less likely they are to respond to incentives or gamification schemes. See below for some examples of types of flexibility.

**Flexible**

**Not flexible**

*Flexible work policies (e.g., telework, hours)*  
*Access to multiple modes of transit*

*Has dependents*  
*Hourly worker*  
*Works outside of typical hours*

⚠ Before going too far—talk to the people you *think* have sufficient flexibility to be able to respond to confirm or disconfirm your assessment.

**Use the space below to describe your assessment of the amount of flexibility your target population has in their lives. Update your assessment as you talk to your target population about the constraints they face.**

### STEP 3C: Assess the potential impact of encouraging this behavior on your target population

**Do you have evidence that encouraging this behavior will have a positive impact on their well-being? How have you tested your assumptions about the impact, ethics and equity of encouraging this behavior?**

#### Guiding questions to find evidence and test assumptions:

Is there evidence from academic research, expert or practitioner experience, or non-academic reports suggesting a relationship between this behavior and outcomes?

*If there is evidence of a relationship between this behavior and negative outcomes for any group of people (target audience or otherwise), you'll have to proceed with care to ensure communities of color and other underrepresented groups are not harmed by your work.*

Do you have data for your target audience that demonstrates at least a correlation between the behavior and improved outcomes for them?

*If you don't have data or evidence for the specific group you're designing for, consider the differences between them and those you do have evidence for. Are there social or societal forces such as structural or institutional racism that might reduce the positive impact of this behavior (or have a negative impact) on your target audience?*

How could encouraging this behavior increase or decrease racial and social equity?

*Speak to stakeholders from communities of color and other historically underrepresented communities. Learn about their community's experiences with transportation and the challenges they face.<sup>9</sup> Ask:*

1. *What do we need to know about this issue? How will encouraging this behavior burden or benefit their community?*
2. *What factors produce or perpetuate inequity related to this behavior?*
3. *What are ways to minimize any negative impacts (harm to communities of color, increased racial disparities, etc) that may result? What opportunities exist for increasing equity?*

If you don't have the evidence you need, use the space below to plan out how you'll collect additional evidence. Your plan may include finding and using existing data sources and documents, or collecting your own data through conversations, surveys, and observations.

*If you have exhausted your options for finding evidence, reconsider the behavior you're trying to change. What behavior do you have evidence for that would improve your target population's well-being?*

### STEP 3D: Consider other forces that could influence the impact of your program

#### What is already in place and potentially affecting this behavior?

Take a close look at all the programs and efforts that could affect someone's likelihood or ability to respond to incentives or gamification schemes and take the incentivized action. Your aim should be to remove as many features of the context that make your desired behavior less likely.

Are there other programs, policies, or efforts in place that are already trying to encourage people to take up the behavior you'd like to see?

*If yes, learn about the program, then learn from the people running the program. What's working well? What's not? Talk to participants and non-participants if possible.*

Are there existing incentive programs in place, such as transportation benefits or fines and other pricing structures that might affect how likely someone is to switch their mode?

*Remember, parking is its own incentive to drive:*

- ▶ If parking is available, direct your efforts towards increasing the cost of parking. That is most likely to get you your biggest bang for your buck.
- ▶ Guaranteed parking makes the act of driving easy and convenient.

If you're planning to encourage commuter and employee behaviors, learn about the work policies in place, including flex time policies and teleworking policies.

- ▶ How difficult is it to learn about and take advantage of the policies? Are approvals required?
- ▶ What are the norms around taking advantage of these policies? To what extent do leaders take advantage of and condone them?

Are there other programs, policies, or efforts in place that might be encouraging people *not* to take up the behavior you'd like to see?

**STEP 3 SUMMARY**

Before moving to step 4, use the space below to reflect on whether it seems incentives and gamification could actually impact the behavior you're looking to change, whether encouraging this behavior will have a positive impact on people, and how it could increase racial and social equity.

## **4** Step 4: Identify why people are not engaging in the behavior you'd like to encourage

The information you've gathered in steps 2 and 3 should help you identify key reasons people are not engaging in the behavior you'd like to encourage. In the space below, reflect on what seem to be the key barriers to the behavior you'd like to motivate. Highlight wherever you have evidence for the statements you're making (e.g., *data, insights from conversations*).

At ideas42, we leverage a few tools and resources for this step. We outline three below.

**1.**

Process mapping

**2.**

Exploring behavioral insights

**3.**

Diagnosis



## Tool 1: Process mapping

Process maps, or journey maps, chart an individual's experience when attempting to complete the desired behavior. They reveal how someone might find out about an action or program, and the steps they have to go through to complete an action or participate in a program.

Process maps are helpful for identifying hassles involved in taking an action and the financial or other costs people would incur if they took up the behavior you'd like to encourage, among other things. Hassles and costs are barriers to action that incentives and gamification can help individuals overcome.

▶ [Use these resources](#) to develop a process map.

Once you've completed your process map, write it down below.

### **Incentives and gamification schemes are a great way to motivate people to deal with hassles.**

- ▶ Hassles are small inconveniences, frictions or costs that can keep us from completing a step or engaging in a behavior.
- ▶ A successful incentive or gamification program will incorporate incentives that feel big enough to make it worth dealing with hassles. In this step, you'll want to identify all the hassles that could affect behavior.
- ▶ Could hassles be the primary reason people are not engaging in the behavior of interest? If yes, consider eliminating the hassles first. It might be cheaper!

## Tool 2: Exploring behavioral insights

Below we outline four relevant behavioral insights that help explain how incentives and gamification influence our behavior. Understanding these insights can help drive your design decisions.

Behavioral insights	Addressing these insights	When might you want to address or leverage these insights?
 <p><b>Present bias:</b> We have the tendency to choose a small reward now over a large reward later. As a result, small short-term costs can overshadow big long-term benefits.</p>	<p><i>Gamification and incentives help us overcome this bias by creating short-term rewards for the behavior, like points and badges.</i></p>	<p>Strategies like progress bars, feedback, and small short-term rewards can help motivate behavior in contexts where:</p> <ul style="list-style-type: none"> <li>• People seem to want to change their behavior, but small upfront inconveniences or costs keep them from doing so. Progress bars could be enough to help them overcome those small inconveniences or costs.</li> <li>• The behavior you are trying to encourage is a sustained behavior, where people only experience the benefits after a longer period. Incentives and gamification strategies can help remind people what they're working towards.</li> <li>• You are offering people rewards or incentives for "sets" of behaviors (like 10 carpool rides). Gamification strategies can help people keep track of their progress towards the incentive or reward.</li> </ul>
 <p><b>Overestimation of unlikely events:</b> We overestimate the probability of rare or unlikely events. As a result, the slim chance of winning a large amount of money can be more compelling than the certainty of a smaller sum.</p>	<p><i>Gamification leverages this bias by introducing probabilistic opportunities to win a larger reward, like lotteries and raffles.</i></p>	<p>The excitement of a slim opportunity to win a larger reward can help motivate behavior in contexts where:</p> <ul style="list-style-type: none"> <li>• You are trying to promote a behavior people haven't considered—the excitement of potentially winning a large reward may motivate them to try something new.</li> <li>• You have tried providing small incentives, but few people took them up—the excitement of potentially winning a bigger reward may motivate them to act.</li> </ul>
 <p><b>Loss aversion:</b> We feel losses more intensely than the same gains. As a result, we tend to avoid anything we perceive as a "loss," even if that means also avoiding a potential gain.</p>	<p><i>Gamification and incentives help leverage this bias by clarifying what we lose—rewards, points—if we don't keep up our behavior.</i></p>	<p>Loss framing, or language that highlights what you lose by not taking action, can help motivate behavior in contexts where:</p> <ul style="list-style-type: none"> <li>• People are missing out or losing something meaningful by not taking action, and that loss isn't obvious to them. Loss framing will make the loss salient and encourage people to consider what they could lose if they don't start or maintain a behavior, motivating them to act.</li> </ul>
 <p><b>Social comparison:</b> We often make decisions by comparing ourselves to peers.</p>	<p><i>Gamification leverages this bias by making others' behavior visible and making comparison easy, such as through leaderboards and competitions.</i></p>	<p>Providing individuals or groups with information about others can help motivate behavior in contexts where:</p> <ul style="list-style-type: none"> <li>• There are existing reference groups for social comparison (e.g., peers, friends, neighbors), and you believe people in those groups care how they compare against each other.</li> <li>• The behavior you're trying to motivate can be measured and compared easily, so people can quickly tell whether they're "behind" and figure out how to improve.</li> </ul>

Which of these four insights seem relevant to the behavior you're trying to encourage?

**Present bias**

**Overestimation of unlikely events**

**Loss aversion**

**Social comparison**

### Tool 3: Diagnosis

Your likelihood of success goes up significantly the more you investigate your assumptions through data and directly speak to the people whose behavior you're trying to understand and change. Diagnosis involves developing hypotheses about why you think people are not engaging in the behavior you are trying to encourage, then using tools like interviews, focus groups, data analysis, and observations to confirm or disconfirm those hypotheses.

Which diagnosis tools might you be able to use to learn more about what is making it difficult for people to engage in the behavior you'd like to encourage?

- Conducting desk research**
- Analyzing existing data**
- Talking to people whose behavior you're trying to change through short conversations, focus groups or interviews**
- Experiencing the steps someone has to take and the spaces they have to inhabit to complete the behavior you're trying to encourage**

### STEP 4 SUMMARY

Once you've used these three tools, use the space below to reflect on what seem to be the key barriers to the behavior you'd like to encourage. Highlight wherever you have evidence for the statements you're making (e.g. data, insights from conversations). Feel free to use the space below to start brainstorming solutions as well!

## 5 Step 5: Make key decisions for designing incentives and gamified elements

This is it! You're ready to make decisions about the design of your incentives and gamification scheme. Exciting as it is, this step will take some time. Use the checklist below to guide your decisions.

### STEP 5A: Identify incentive and gamification elements to incorporate

#### How to decide your incentives and gamified elements:

- Consider your budget and channels to access your target audience.
- Revisit what you know about the environment and the choices you made early on.

**In the space below, describe the incentive and gamification elements you've decided to incorporate. Explain how each one addresses or leverages a cognitive bias you identified in step 4**

#### Here are two examples of how environment can help you make choices about your program:

- ▶ *Work environments where individuals are all going to work at similar times are great opportunities to incentivize carpooling. However, flex time policies make it more difficult for employees to find others who would want to carpool at the same time as them, regardless of how attractive the incentives to do so appear.*
- ▶ *If you're trying to shift the behavior of a large or wide-ranging group of people, or of people without much flexibility in their lives, you'll likely have more success if your incentive or gamification program is flexible—e.g., so individuals are incentivized to participate using whatever method (e.g., bus, bicycle, carpool) and at whatever level (e.g., only on weekends, once a week) they are able.*

- Remember the type of behavior you're targeting and the cognitive biases or barriers you identified in Step 4, and design with those insights in mind.
- Refer to our one-pager on [incentives](#) and our one-pager on [gamification](#).

- Consider these best practices:
  - ▶ Rewards, including non-monetary ones like status, must be valuable
  - ▶ People should know about the opportunity to earn rewards
  - ▶ Participating should be easy and (dare we say) delightful
  - ▶ Barriers to people's ability to take the rewarded actions should be reduced or eliminated
  
- Make the incentives "big enough" and meaningful.

**How do you make an incentive "big enough" or pick something meaningful? There's no easy answer, but here are a few steps to take:**

- ▶ *Look at what others have done and whether they were able to motivate change with the incentive amount or the non-monetary awards they offered*
- ▶ *Take stock of the hassles people will need to overcome to complete the behavior*
- ▶ *Ask the people whose behavior you're trying to change and user test different amounts or different types of monetary and non-monetary incentives*
- ▶ *Try something, then tweak it as you learn more*

*Want to read about lessons learned and recommendation from cities in the U.S that participated in the [American Cities Climate Challenge](#)? Take a look at this [summary of our discussion on using incentives to change transportation behavior](#) and this [summary on our discussion on using gamification to change transportation behavior](#).*

## STEP 5B: Consider incentives and gamification as they relate to racial and social equity

Reengage with community members and stakeholders from communities of color and other under-represented communities to answer the questions below.

**How will the selected incentive and gamification elements increase or decrease racial and social equity?**

**What additional opportunities exist to advance racial and social equity in your program through the use of incentives and gamification?**

## 6 **Step 6: Make sure users are aware of the program and can easily participate**

### **How noticeable will the incentive and/or gamified element in the program be to people?**

People must be aware of an incentive or gamification program and able to tell if they're eligible. To make sure this is true of your program, map out the process below people go through to learn about the program, including the communications they receive. Consider the following:

- ▶ How easy (or hard) is it to find out about the program?
- ▶ How easy (or hard) is it to figure out if you're eligible for the program?

### **How easy (or difficult) will it be to participate in the program or redeem the incentive?**

A successful incentive or gamification program will be one people can act on easily. To make sure this is true of your program, map out and analyze the process people go through to participate in the program and redeem the incentive. Determine what might make it difficult to do so. Then take a look at all the communications you send out about the program—how easy is it to act on them?

## 7 Step 7: Learn, refine, and repeat

### How will you learn what is or is not working?

Designing effective incentives and gamification schemes requires iteration—and iteration requires learning about what works. There are two broad ways to think about what works: 1) Is the program operating the way it's supposed to operate? 2) Is the program making the impact on behavior change that we were hoping? These two different questions lead to two different types of evaluation: a program evaluation, and an outcome evaluation.

▶ **Program evaluation:** make sure things are working the way you expect them to work

▶ **Outcome evaluation:** determine program effectiveness by comparing the outcomes of the program to those of a comparison group

We encourage TDM practitioners to develop learning plans about how they'll capture information to answer these questions before implementing new programs and policies.

### Here are a few examples of what you might consider tracking:

#### Program Evaluation

How many people joined the program?

How many people received the emails?

What is the average number of people who rode the bus each day in the program?

Were the text messages sent as planned?

How long did it take for people to change their behavior after the program started?

How long did the behavior change last?

Did participants find value in the program?

#### Outcome Evaluation

What is a good group to compare the outcomes of this group to?

Can we randomize who is sent information to participate in the program to create a comparison group and track outcome data?

What is our ultimate outcome? Reduced parking? Increased bus ridership?

Does the average outcome differ statistically from one group to the next? In other words, did the treatment have the intended effect?

If you're piloting a program to see if the idea may work, it may be better to focus more on the program evaluation. Once you have a good pilot program developed, then you can focus on whether the program achieves its intended effect. Once you've designed your learning program, schedule time to review the data you have collected to track your outcomes and tweak the design of the program over time.



### **Be sure to track program and outcome evaluation through a racial and social equity lens**

To understand the impact of your program on equity, use demographic data to answer questions such as those listed below. Include stakeholders and community members in the analysis and reporting of results.

- ▶ Are there racial differences in program utilization? Was this expected?
- ▶ Does the data indicate that something is or is not resonating with particular neighborhoods or racial demographics?
- ▶ Does the data indicate that the program is advancing equity or continuing the status quo?

Once you understand the impact of the program on racial and social equity, engage stakeholders and community members in continuous improvement for the program to sustain advances in equity. Explore questions like:

- ▶ What can be modified in the program to advance equity?
- ▶ What resources, partnerships, or learnings are needed to improve the program's effectiveness in advancing equity?

## **Conclusion**

When we began this project, we hoped to answer a deceptively simple question: ***“what works?”*** How should practitioners leverage incentives and gamification to shift transportation behavior?

Unfortunately, the answer to that question is not straightforward. The dearth of evidence on the impact of different incentive structures or gamification schemes in transportation leaves many unanswered questions about how to optimize these tools.

One thing we do know is that incentives and gamification will only work when the barriers to individuals' behavior are amenable to them. For example, if you don't feel safe riding public transit, incentives and gamification are unlikely to help. However, if you are hesitant to bike to work because you don't know where the bike facilities are, an office-wide competition might be enough to get you started.

This toolkit outlines seven steps transportation practitioners can take to determine whether incentives and gamification could encourage behavior change, as well as what kinds of strategies might make the most sense for their context.

Although the seven steps in this toolkit may feel linear, developing an effective program rarely is. We encourage you to embrace the ambiguity, use each step as a learning opportunity, and change your answers as you gain new insights.

And if you do implement incentives or gamification strategies, share your learnings—even if they fail. It's the only way we'll find out what works.

# Incentives | BEST PRACTICES

Deciding what kind of incentives to provide requires balancing what's possible (e.g., budget, buy-in, etc.), what's been effective in other contexts, and what you think will actually work in your context based on your experience and reflections throughout this workbook.





For example, if you're working in a context where there is free parking, your incentive program should attempt to increase the cost of parking first because that's a key barrier to reducing SOV use. If you can, do this by creating a **monetary disincentive** for driving to work by charging people for using parking space. Where that's not possible, you can give people a **monetary incentive** for not using the parking space, such as through a parking cash-out. Non-monetary options, like making free parking harder to come by or less predictable, also exist where monetary incentives are infeasible or already in place. All these types of incentives can also be used in combination.

## Incentives, disincentives or both?

- ▶ Incentives are popular because people tend to respond more positively to them than to disincentives (we don't like being charged!). Some research suggests that voluntary cooperation is higher when incentives are framed as bonuses.<sup>10</sup> However, incentives can lead to some free ridership issues (i.e., rewards people who would have taken that action without a reward).
- ▶ When combined, incentives and disincentives can support each other. When combining incentives and disincentives, ensure they are working in the same direction (e.g., making parking more expensive and encouraging bus ridership).
- ▶ Disincentives are easier to implement without free ridership, and may be more effective because they tend to be more noticeable (e.g., changes to taxes are often written about in the news). If you're planning on implementing a disincentive, keep in mind that they can trigger people to want to get the most "bang for their buck." Consider whether this kind of response will support the goals of your program.

*For example, charging people for hourly parking can trigger people to want to maximize their hour (e.g., I'm not leaving before my hour is over), which means they will take a parking spot for a longer period of time.<sup>11</sup>*

## What are some examples of different kinds of incentives and disincentives?

			
<b>Monetary incentive</b>	<b>Monetary disincentive</b>	<b>Non-monetary incentives</b>	<b>Non-monetary disincentives</b>
<ul style="list-style-type: none"><li>• Cash or in-kind items that have a dollar value (e.g., coupons, vouchers, paid time off)</li></ul>	<ul style="list-style-type: none"><li>• Fines or surge pricing</li></ul>	<ul style="list-style-type: none"><li>• Rewards with social value (e.g., social recognition)</li><li>• Rewards tied to our intrinsic motivations or values (e.g., professional recognition)</li><li>• Time savings and frustration reductions</li></ul>	<ul style="list-style-type: none"><li>• Hassles such as increases in time spent completing a task (e.g., less guaranteed parking increases the time needed to find parking and how far people have to walk to get to and from their car)</li></ul>

# Gamified Elements | BEST PRACTICES

Part of the reason gamification can work to motivate behavior change is that it's built on behavioral insights and solid implementation. You can take advantage of lessons from gamification without creating a whole system.

## Best practices:

- ▶ Gamification motivates us by clarifying what we lose—rewards, points—if we don't keep up our behavior. If people are missing out or losing something meaningful by not taking action, and that loss isn't obvious to them, gamification can be useful.
- ▶ For gamification to work, however, rewards, including non-monetary ones like status, must be valuable and losses must feel concrete.

## GAMIFIED ELEMENTS TO CONSIDER

 <p><b>Progress bars and celebratory messages</b> are common gamification tools. They make the accumulation of non-monetary incentives like points, badges, and status salient and meaningful, motivating users to continue taking small steps.</p>	<p><b>What are some signs these strategies could address or leverage barriers in my context?</b></p> <ul style="list-style-type: none"> <li>▶ People seem to want to change their behavior but small upfront inconveniences or costs are keeping them from doing so.</li> <li>▶ You want to encourage sustained or habitual behavior.</li> <li>▶ Monetary or non-monetary incentives exist and should be motivating, but don't seem to be having the impact you expect. Gamification tools like progress bars can enhance and support incentives, but if you implement gamified elements and they still don't work, reconsider the incentives.</li> </ul>
 <p><b>Lotteries and raffles</b> are another common tool. Successful lotteries and raffles have prizes people want or are excited about, are well-publicized, and are easy to enter (or get defaulted into).</p>	<p><b>What are some signs these strategies could address or leverage barriers in my context?</b></p> <ul style="list-style-type: none"> <li>▶ People haven't considered taking up the behavior you're trying to motivate.</li> <li>▶ You've tried providing small incentives but few people took them up.</li> </ul>
 <p><b>Leaderboards or competitions</b> are a tool of gamification that often make others' behavior visible</p>	<p><b>What are some signs these strategies could address or leverage barriers in my context?</b></p> <ul style="list-style-type: none"> <li>▶ You can leverage existing reference groups for social comparison, and you believe people in those groups care how they compare against each other (e.g., existing friendly rivalries between groups, such as two departments or sports fans).</li> <li>▶ The behaviors you're trying to motivate are concrete and comparable, like the number of non-SOV rides someone completes in a week. Keep fairness in mind as well. Is there a way for all groups to feasibly participate and have a chance at winning?</li> </ul>

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