# Digging Beneath the Surface: Techniques for Identifying the Root Causes of Procurement Problems

Authors: **Elena Hoffnagle, Hope Patterson**

Contributors: **Kailey Burger Ayogu, Colin Erhardt**

## Introduction

Every purchasing team encounters problems in their day-to-day work – it's inevitable! But oftentimes, the solutions that governments design address only the symptom of a problem rather than its root cause. To fix tricky problems, you'll need to dig deep beneath the surface of the issue to figure out what's causing it.

Imagine you sit in a public works department and are responsible for writing a solicitation to repave aging streets. You probably know that the government is procuring a solution to potholes and disrepair, but you might not understand all the dimensions of that problem. What's causing these potholes to appear? Why are some roads in a worse state than others? Is the number of newly reported potholes higher or lower than last year? Which residents are most likely to report potholes to 311? Sometimes framing a problem statement for a procurement requires deep exploration.

In this quick read, you'll learn three techniques to dig deep into root causes and understand how to create user-centric problem statements, ultimately designing solutions that address the root cause of the problem:

1. Asking the Five Whys
2. Asking the Four W's
3. Using fishbone diagramming

*Note: While we're big fans of these techniques, the Harvard Kennedy School Government Performance Lab (GPL) certainly did not invent these methods. However, we have deployed these techniques successfully in multiple GPL-led projects. Read more about the origins of the [Five Whys](#) technique, the [Four W's](#), and [fishbone diagramming](#) (also known as Ishikawa diagrams).*

# Four Reasons to Invest Time in Identifying the Root Cause

**1** It facilitates the design of better solutions that aren't patchwork fixes targeting a symptom of the problem, allowing the problem to creep up once again. This prevents staff from having to deal with the same problem later, saving time and money.

**2** It brings a more creative approach to problem solving, prompting you to think more deeply about what motivates a person, team, or organization to act in a certain way. Developing this skill will pay dividends beyond just problem diagnosis and solving. You can take a more creative approach to process improvement, stakeholder engagement, and even data analysis.

**3** It moves your team away from a problem-hopping mindset in which you shift focus from problem to problem without fully solving anything. Identifying the root cause may help your team learn how to get to the bottom of issues and stick with a solution.

**4** It builds trust with your team and with residents. A robust root cause analysis is more likely to involve multiple stakeholders and generate a solution that suits the problem, yielding better results for the staff and residents who had to deal with the problem's impact. Once you've established this trust, it's easier to generate buy-in for future fixes.

## Technique 1: the Five Whys

What may appear at first glance to be the source of a problem is often not the true root cause, and asking the Five Whys can help you find the real issue. The Five Whys are an iterative, interrogative technique used to explore the cause-and-effect relationships underlying a particular problem by repeating the question "Why?" five times (or however many times needed – whether that's three times or ten times) to get to a root cause that feels right. This root cause may be completely different than what you initially suspected, or it may make you realize that your solution is only addressing a symptom of a problem.

This technique is often applied to adaptive problems, which are often complex and ambiguous in nature, as opposed to technical problems, which can be solved with an existing or new technical solution or the knowledge of experts. But consider that a problem that may at first appear to be technical likely has a major human dimension – sometimes an adaptive problem is masquerading as a technical one! For example, if you're planning to switch over to a new Enterprise Resource Planning (ERP) system and staff are having a hard time using the new system, the software itself may not be the problem – it could boil down to your staff's technological competency and their desire to learn how to use a new software program.

Let's look at a few examples of the Five Whys technique in practice.

## Application 1: Procurement Process Problems: Solicitation Outreach

**Problem Statement:** We are delayed by more than two years in rolling out electric vehicle (EV) charging stations in downtown Citylandia, which negatively impacts our goal of reducing the city's carbon emissions and has led to multiple complaints from residents who own EVs or hope to purchase one in the future.

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| **WHY** were you delayed? | We had no bidders on our previous RFP looking for partners to work with the city to install, operate, and maintain EV charging stations. |
| **WHY** were no bids received? | We believe that prospective vendors in this specialized field never became aware of the contracting opportunity. |
| **WHY** didn't the right vendors hear about the opportunity? | We only advertised in the local newspaper and to our current list of registered vendors. |
| **WHY** didn't we spread notice of the opportunity more widely? | The team working on the RFP in the Transportation Department thought that it was the job of the Purchasing Team to build a list of prospective vendors and to directly promote the solicitation to them. |
| **WHY** did the Transportation Department think that was the Purchasing Team's job? | The last time the Transportation Department issued an RFP, the Purchasing Team created the list of prospective vendors and directly promoted the solicitation, so Transportation assumed that is what would happen for this solicitation as well. |

From this exercise, we might conclude that the root cause of the problem isn't a lack of firms who want to install and operate EV charging stations, but rather a lack of clarity on roles and responsibilities when advertising a contracting opportunity. The solution to this updated problem is very different from the solution for the initial hypothesized challenge; perhaps you'd like to make it clear that the Transportation Department should own the solicitation outreach process, or you could add a touchpoint when the Purchasing

Director reviews the final RFP to verify there's a strong list of prospective vendors. You could even create custom vendor outreach plans for high-priority RFPs such as this one.

Without this problem exploration, you might have made some very different assumptions, such as that building EV charging stations isn't viable for Citylandia given the limited interest from vendors.

## Application 2: Procurement Outcome Problems: Vendor Performance

**Problem Statement:** One of Citylandia's vendors for trash pickup, Acme Recycling and Trash, Inc., is consistently missing trash pickups on five specific blocks in Citylandia. Many residents have been complaining.

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| **WHY** isn't the vendor picking up trash on those five blocks? | We recently expanded the area of the city where this vendor is responsible for picking up trash (due to not renewing another vendor's contract), so the vendor hasn't yet finalized the new trash pickup routes. |
| **WHY** haven't they finalized the new trash pickup routes yet? | The vendor seems like they've been very overwhelmed with all the additional work; they have clients in neighboring cities that they must serve too. |
| **WHY** hasn't the vendor hired new staff to add capacity? | The vendor told us that they don't plan to hire new staff until they receive their next payment from the city. They are worried about being able to make payroll. |
| **WHY** hasn't the city paid the invoice for this vendor? | The vendor wasn't correctly registered in our financial system, so we haven't been able to process their recent invoices. |
| **WHY** wasn't the vendor correctly registered in the financial system? | The vendor's new W-9 form was sent in by mail and it ended up getting routed to Accounts Payable where it sat for a few weeks before being redirected to the appropriate department. |

This problem is far more nuanced than how it appears at first glance – that the vendor simply isn't performing well. By exploring the problem's root cause, you can go to the vendor with a very different framing of how you can be helpful, rather than jumping to accuse the vendor of not doing their work. It also sounds like Citylandia needs to find a better way to collect W-9s and pay vendors on time!

As you get started asking the Five Whys, keep the following tips in mind:

- **Write a strong problem statement.** Your problem statement should have real consequences of the problem described that feel meaningful and important for many stakeholders in your government, not just for your immediate team.

- **Dig deep to explain the *why* behind each reason given in response to the previous "Why?" question asked.** You may not know the why immediately and may need to ask around to gather more information for questions such as "Why wasn't the vendor correctly registered in the financial system?" Put your detective hat on!

- **Continue asking "Why?" until all stakeholders agree that you have reached the root cause.** It's imperative to build consensus around the root cause so that you can generate buy-in for the eventual solution. Keep digging until you find the root cause.

- **You can use this technique individually when you encounter a problem or as a group exercise.** It's common in group exercises to suspect a few different whys at each stage, and you may arrive at more than one root cause.

## Technique 2: the Four W's

Asking the Four W's invites you to explore a problem by understanding the perspectives of the end users who are most impacted by the issue. As the name implies, this technique involves asking four questions beginning with W:

1. Who is experiencing the problem?
2. What is the problem, as you've observed it or heard it from users?
3. Where does the problem occur, in terms of context?
4. Why does it matter to the end user (and to your department, agency, or government) that this problem be addressed?

Answering these questions can help you develop the problem statement you'll eventually include in a solicitation, or it can help you think more deeply about how different groups of end users are impacted. Those end users could be prospective

vendors, who might struggle to navigate your procurement processes, or government staff, who might have to grapple with manually combining data sets from different systems when a simple tech integration could produce this data. But most often, those end users are the residents of your community, who may be facing challenges accessing a senior meal program, enjoying park facilities overgrown with weeds, or crossing a busy intersection without a crosswalk.

Let's look back at a problem statement that we examined using the Five Whys technique above. This problem statement is a good start, but there's a lot more to consider by looking at the perspective of the end users – the residents impacted by the problem. You can use the Four W's to flesh it out further. Below you'll find the problem statement and sample notes from a meeting in Citylandia using the Four W's:

**Problem Statement:** One of Citylandia's vendors for trash pickup, Acme Recycling and Trash, Inc., is consistently missing trash pickups on five specific blocks in Citylandia. Many residents have been complaining.

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| **WHO** is experiencing the problem? | We have heard via 311 calls from residents on the following streets that their trash hasn't been picked up for the last five weeks. But not every resident is going to report issues to 311. I wonder if this problem is affecting others too – and whether this has been going on for longer than five weeks. The vendor took over this service area six weeks ago from a previously underperforming vendor. |
| **WHAT** is the problem as you've heard it? | Residents have told us that their trash is not being picked up consistently. The vendor sometimes comes on the wrong day when residents haven't put out their trash, or residents have never had their trash picked up. One resident told us, "I put out my bags on trash day, and they sat outside in the hot sun for five days. By then the rats had already eaten through the trash bags." |
| **WHERE** does the problem occur? | The blocks where these problems are occurring are all completely residential. Residents put out their trash expecting it to be picked up. When the trash is not picked up, residents must take it to a garbage facility themselves (which is especially challenging for those without cars), or it rots on the street for days. |

**Problem Statement:** One of Citylandia's vendors for trash pickup, Acme Recycling and Trash, Inc., is consistently missing trash pickups on five specific blocks in Citylandia. Many residents have been complaining.

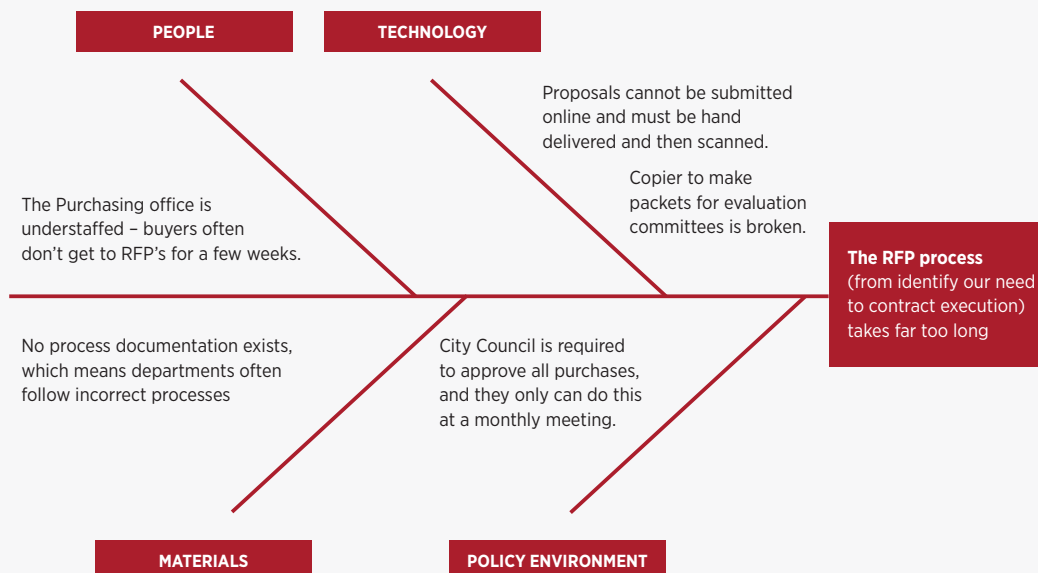| **WHY** does it matter to the user that the problem be addressed? | For residents living in the service area: frustration, time wasted by having to take trash directly to Citylandia garbage facility, health hazards. <br> For other residents: an unpleasant street environment when visiting or doing business in the service area, (potentially) a citywide increase in the number of vermin and pests. <br> For city leaders: political risk (picking up trash is one of the most basic functions of city government!), unflattering local media coverage. |
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## Technique 3: Fishbone Diagramming

Creating a fishbone diagram is another way to visualize the root cause(s) of a problem by grouping potential causes into various categories and considering deeper contributing factors.

Start out by writing the problem statement at the head of the fish. Next, note possible contributing causes on the bones of the fish and group them into thematic categories (e.g., technology issues; rules, procedures, or policies; resource constraints). List potential sub-causes by adding smaller branching bones off each cause. The Five Whys technique is an effective way to drill down into these sub-causes.

This technique can help teams envision very specific root causes that stem from underlying process and systematic problems resulting in sub-optimal outcomes, often revealing that there may be three or more root causes all contributing to the same complex problem.

Below is an example of a fishbone diagram that a Purchasing team might draw on a whiteboard to interrogate contributing factors to a slow procurement process. Potential causes span across different categories: people, technology, materials, and policy environment.

**PEOPLE**  **TECHNOLOGY**

Proposals cannot be submitted online and must be hand delivered and then scanned.

The Purchasing office is understaffed – buyers often don't get to RFP's for a few weeks.

Copier to make packets for evaluation committees is broken.

**The RFP process** (from identify our need to contract execution) takes far too long

No process documentation exists, which means departments often follow incorrect processes

City Council is required to approve all purchases, and they only can do this at a monthly meeting.

**MATERIALS**  **POLICY ENVIRONMENT**

## Conclusion

Although it may seem counterintuitive to spend as much time (or more time!) thinking about the problem as the solution, investing time upfront to carefully diagnose the problem pays big dividends in the long run. By identifying the root cause of a problem, you're empowered to design a solution that tackles more than just the problem's symptoms.

The three techniques described in this quick read can help you get started conducting this root cause analysis. Asking the Five Whys and the Four W's can help you go beyond the obvious to dig deeper into what's behind a problem from the perspective of the people experiencing it. A fishbone diagram can help you organize those findings clearly or reveal new contributing factors you may not have considered. Ultimately, with the knowledge of the root cause of a problem, you'll be equipped to design a human-centered solution to tackle it!

The **Procurement Excellence Network** is an initiative of the Government Performance Lab designed to help public sector leaders use government procurement as a tool to improve resident outcomes and advance equity. The **Government Performance Lab**, housed at the Taubman Center for State and Local Government at the Harvard Kennedy School, conducts research on how governments can improve the results they achieve for their citizens. An important part of this research model involves providing hands-on technical assistance to state and local governments. Through this involvement, we gain insights into the barriers that governments face and the solutions that can overcome these barriers. By engaging current students and recent graduates in this effort, we are able to provide experiential learning as well.

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