Problem statement

- **Definition:**
  A simple statement which
  (a) identifies the current state,
  —> lack of broadband asset inventory
  (b) lays out the future/intended state
  —>
  (c) covers the difference/gap between the two.
  - Is this the WHY? If not, expand more on this.

Research:

[How to Write an Effective Problem Statement]

Our Notes on this articles (the essence, we can use this for a page in our project wiki):

Distractions:
1. Symptoms
2. Solutions
3. Causes
4. Blame

“In short, a great problem statement must be free of causes, solutions and blame, and careful consideration must be given to ensure symptoms do not become a distraction.”

“A problem statement should describe an undesirable gap between the current-state level of performance and the desired future-state level of performance. A problem statement should include absolute or relative measures of the problem that quantify that gap, but *should not include possible causes or solutions!”*

“Key elements of an effective problem statement include:
Gap: Identify the gap (pain) that exists today.
Timeframe, location and trend: Describe when and where the problem was first observed and what kind of trend it is following.
Impact: Quantify the gap (cost, time, quality, environmental, personal, etc.)
Importance: To the organization, the individual, etc. to better understand the urgency.”

The Statement :

An insufficient understanding of broadband assets and access to it due to the lack of a broadband asset inventory restricts our ability to explore trends and patterns in broadband access.

Statement Drafts:

An insufficient understanding of broadband assets and access to it due to the lack of a broadband asset inventory restricts our ability to explore trends and patterns in broadband access.

Current state:
insufficient understanding of broadband assets and access to it

Gap:
lack of broadband inventory

Future state:
see trends and patterns in broadband access

Thoughts to combine into one statement:

- In the tri-state region, a lack of broadband accessibility is evident(percenta
- In future, would like allow broadband access to greater part of the region, especially those houses/business in rural areas
- In order to do so, work with thrive reps to create inventory to assess needs and current resources
- Bring statistics so far that Thrive has in regards to the current known coverage and the already known(presumed) gaps.
    + Possibly include some maps/graphs from their presentation/website online

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- **Deliverable:**
    - Wednesday, June 30. 9:30AM.
    - 3-5 minute presentation (with slides). Presentation starts with the statement itself, and then is followed by breaking down each component of the statement.

Article

A problem is a statement about an area of concern, a condition to be improved upon, a difficulty to be eliminated, or a troubling question that exists in theory or in practice that points to the need for meaningful understanding and deliberate investigation.

Why Is It So Hard to Write an Effective Problem Statement?

One of the challenges in writing a great problem statement is the distractions that can come from a variety of sources.

- **Symptoms associated with the problem add to the confusion when trying to describe a problem. For example, arriving at the physician's office and stating, "Doctor, I am experiencing pain in the back of my thigh down to the lower part of my leg! I need you to 'fix' my leg!" It is only after a thoughtful evaluation that the doctor concludes that your problem lies with your sciatic nerve and originates in your lower back.**
- **Solutions are often an early consideration when wrestling with a problem. When one is faced with a problem, alleviating that pain as quickly as possible is a natural, almost reflexive, action. It is, however, extremely important to avoid jumping to solutions until a profound understanding of the current state is achieved.**
- **The search for causes of your pain is a natural reaction that also needs to be avoided when first describing a problem. Establishing the root cause will be a part of the ensuing investigative procedure but should be reserved for the appropriate time in the lifecycle of the problem-solving method.**
- **Blame is also a natural reflex when one is afflicted with a problem. A quote attributed to John Burroughs, American naturalist and nature essayist, may be all that needs to be said on this subject: "You can get discouraged many times, but you are not a failure until you begin to blame somebody else and stop trying."**

In short, a great problem statement must be free of causes, solutions and blame, and careful consideration must be given to ensure symptoms do not become a distraction.

What Is in a Problem Statement?

A problem statement should describe an undesirable gap between the current-state level of performance and the desired future-state level of performance. ***A problem statement should include absolute or relative measures of the problem that quantify that gap, but should not include possible causes or solutions!***

Key elements of an effective problem statement include:

- **Gap: Identify the gap (pain) that exists today.**
- **Timeframe, location and trend: Describe when and where the problem was first observed and what kind of trend it is following.**
- **Impact: Quantify the gap (cost, time, quality, environmental, personal, etc.)**
- **Importance: To the organization, the individual, etc. to better understand the urgency.**

What Method Can I Employ to Author a Great Problem Statement?

The ability to articulate an effective problem statement is not simply a business skill – it is a life skill. How can children, youth and adults begin to solve problems if they haven't been able to adequately describe them? This holds true for continuous improvement specialists.

The 5W2H (what, when, where, why, who, how, how much) method is deceptively simple. Ask the right questions in the right order and let the answers lead you to a great problem statement.

Example of Developing a Problem Statement

Let's walk through the 5W2H method for manufacturing and call center examples.

Question 1: What is the problem that needs to be solved?

- **Manufacturer: Window frames and parts are ending up in the assembly department missing required weep holes or slots.**
- **Call center: The assessment call is too complex, time consuming and administratively heavy, resulting in a diminished experience for the client as well as the staff member performing the work.**

Question 2: Why is it a problem? (highlight the pain)

- **Manufacturer: If identified (visual inspection), the affected parts must be sent back for rework, thereby increasing the overall cost of manufacturing, creating higher inventory levels (WIP) and increasing risk since some of the defects may not be detected until later in the process, or worse, they may end up being incorrectly shipped to the job sites.**

- **Call center: This results in higher variability and length of call handling time, clients having to repeat their "story" as the move through the assessment and downstream case worker (meeting) process, clients providing more information than may be required, increased workload for the assessment worker and increased wait times in the (telephone) queue. The overall impact is reduced service levels as well as diminished client and assessment worker experience.**

Question 3: Where is the problem observed? (location, products)

- **Manufacturer: This problem is observed in the assembly department, downstream departments as well as ultimately in the field with customer complaints and costly field repairs and replacements.**
- **Call center: This problem is observed in all assessment calls but will vary in magnitude depending on the client (needs and circumstance), assessment worker (experience) and other factors that contribute to variation in the handling of assessment calls.**

Question 4: Who is impacted? (customers, businesses, departments)

- **Manufacturer: This problem affects the assembly department that is tasked with trying to inspect for the error and react accordingly, rework occurring in the department/work cell responsible for weep holes and slots, the company as a whole in terms of cost, brand and reputation, and, most importantly, the customer who is affected by this problem if it makes it to the field.**
- **Call center: This affects the client associated with the call, clients waiting in the queue, client's families, and the organization and employers in the community being served.**

Question 5: When was the problem first observed?

- **Manufacturer: This has been an ongoing issue going back as far as memory serves in the long-term employees, but with increased volume and more customization and higher complexity in design, the impact and severity of this problem has increased rapidly over the last two years.**
- **Call center: This is a latent problem that has always existed but has become more evident with recent changes, including changes in funding, legislation, demand for services, client demographics and recent integration efforts in the organization as part of their ongoing commitment to continuous improvement of service pathways and client experience.**

Question 6: How is the problem observed? (symptoms)

- **Manufacturer: Customer (in-field installation and service) complaints, increased warranty costs, manufacturing non-conformance reports (NCR), complaints from assembly department team and increased costs in fabrication.**
- **Call center: This problem is observed in the variation in call-handling times, wait times in the telephone queue, call abandon rates, increased stress in front-line staff (workload and client anxiety/dissatisfaction) and ambiguity in call handling protocols.**

Question 7: How often is the problem observed? (error rate, magnitude, trend)

- **Manufacturer: There is an observed 62,000 parts per million (PPM) for this specific defect, taking into consideration rework completed in-house and observed defects in the field. The PPM is derived from the number of weeping holes and slots required per unit assembly versus the actual number of deficiencies overall observed for the same number of units.**
- **Call center: This is a daily operational occurrence but increases in call complexity related to changes in the knowledge base – multiple programs and changes in the environment (client demographics and needs/circumstances, legislation, etc.) – have resulted in an increase in severity and stress on the system.**