

Ideation Phase

Empathize & Discover

Date	28 January 2026
Team ID	LTVIP2026TMIDS84448
Project Name	Project – Civil Engineering Insight Studio
Maximum Marks	4 Marks

Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes. It is a useful tool to help teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

Civil Engineering Insight Studio

Civil engineering challenges are among the major issues faced in modern infrastructure development. Rapid urbanization, increasing population, and growing construction demands have led to complex project planning, safety concerns, cost overruns, and sustainability challenges. Inefficient design decisions and lack of real-time analytical insights often result in structural risks, material wastage, and delayed project execution. Maintaining accurate visibility into structural performance, material usage, and project progress at every stage is essential for authorities and planners to make informed decisions related to infrastructure expansion, resource optimization, and sustainable urban development.

To address these challenges, data-driven analytics and AI-assisted engineering insights provide effective solutions by analyzing historical project data, structural parameters, material properties, and environmental factors. Such systems enable performance evaluation, risk identification, cost optimization, and sustainability assessment across various civil engineering projects. By leveraging analytical models and intelligent data processing, Civil Engineering Insight Studio supports engineers and decision-makers in designing safer, more efficient, and sustainable infrastructure systems.

Empathy Canvas Map for the Project:

Template

The template features a central profile of a person's head containing an empathy map. The map is divided into four quadrants and includes sections for 'GOAL', 'PAINS', 'GAINS', and 'SEEKING'. Various icons and text boxes provide specific examples for each quadrant.

Empathy Map Canvas

TrafficTelligence: Advanced Traffic Volume Estimation With Machine Learning

Goal: People should have more time for others.

Pains:

- WHO are we empathizing with? Who is the person we want to understand? Who are they interacting with? What is their role in the situation?
- People who have to deal with heavy traffic.
- People who are worried about traffic jams and its impact on their daily life.
- People who are worried about the environment and its impact on their health.
- Concerns about the economy and its impact on their job security.
- Concerns about the safety of their loved ones and the impact of traffic on their well-being.
- Concerns about the impact of traffic on their mental health and stress levels.
- Concerns about the impact of traffic on their physical health and exercise routines.
- Concerns about the impact of traffic on their social life and relationships.
- Concerns about the impact of traffic on their work-life balance and productivity.
- Concerns about the impact of traffic on their overall quality of life.

Gains:

- What are their wants, needs, hopes, and dreams?
- Improved understanding of traffic patterns and analysis of real-time data.
- Cost-effective and easily implementable solutions.
- Confidence in using advanced technology for traffic management.
- Improved communication and collaboration between different departments.
- Improved decision-making and problem-solving through data-driven insights.
- Reduced costs and inefficiencies in traffic management.
- Improved safety and well-being for drivers, passengers, and pedestrians.
- Reduced environmental impact and sustainable development.
- Improved user experience and satisfaction with traffic management systems.

SEEKING:

- What do they need to DO? What pulse is there? What is their motivation? What will be their key to success?
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- There is a need for vehicles to control traffic.
- Local traffic control systems in roads.
- Ambulances getting blocked.
- What do they see? What do they see in their environment? What are they looking for? What are they watching and reading?
- What do they say? What have we heard them say? What can we imagine them saying?
- "We need accurate and reliable traffic volume data."
- "Concern traffic estimation methods when traffic is at its peak."
- "We want a systematic way to implement and operationalize."
- "Accurate traffic estimation methods will help us better manage traffic and reduce unnecessary costs."

HEAR:

- What do they hear? What are they hearing others say? What are they hearing from themselves? What are they hearing from colleagues? What are they hearing from friends?
- Receive feedback from traffic Police.
- Listen to technical reports from the public.
- Receive complaints from their loved ones about traffic jams.
- What do they DONT? What do they do today? What behaviors have we observed? What can we imagine them doing?
- Search for data requirements to enhance traffic management.

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