



open**SAP**

InfraSmart

MONITOR YOUR CITY'S ROADS, BRIDGES & TUNNELS AND KEEP THEM SAFE!

Story

The city infrastructure director wants to monitor the different infrastructure items in his city such as roads, bridges and tunnels. He wants a single platform that enables him to check their health, conditions and problems to help him make informed decisions.

The director wants such information in real time so he can fix potholes in roads, pollution in tunnels and fractures in bridges faster and predict their occurrence in advance by gathering information, analyzing recommendations and making efficient decisions faster.

The director wants to make his actions based on this real time and smart data to efficiently use the time of his workers and to save the city's budget money.



Adam Smith

New York Infrastructure Maintenance Director

“I want the infrastructure of my beloved city to be safe and to operate with best conditions”

ABOUT

- As the one in charge of one of the busiest cities in the world, I need to meet the balance of saving its assets and at the same time save cost, ensure safety and increase productivity
- I'm passionate about the latest trends in IoT technology and preventive maintenance

❖ RESPONSIBILITIES

- Overlook the operation and maintenance of 55 roads, 3 bridges and 5 tunnels
- Manage the city maintenance budget of 11 million dollars annually
- Develop the city's predictive and preventive maintenance programs and initiatives.
- Manage a workforce of 150 maintenance workers.

❖ NEEDS

- I need a system to act as an alternative to visual inspection and routine maintenance
- I need to focus the maintenance efforts of my team on the roads, bridges and tunnels that needs it first.

❖ MAIN GOALS

- Early detection of the deterioration and quality degradation of roads, bridges and tunnels.
- Holistic view of the status of all infrastructure items in the city.
- Intelligent recommendations and prioritization for maintenance plans throughout the city
- Auto procurement of parts needed for items that needs replacement

❖ PAIN POINTS

- Routine maintenance and visual inspection are timely and costly, hence they are not frequent.
- Data quality issues when inspection is done manually.
- Different data sources and lack of a holistic single view

Point of View

As the **Infrastructure Maintenance Director** of New York.

I need a way to **monitor the health** of all the roads, tunnels and bridges in the city

So that I can make **fast and informed decisions** regarding the **operation, safety and maintenance** of the infrastructure items to **save the city budget and my workers effort**.

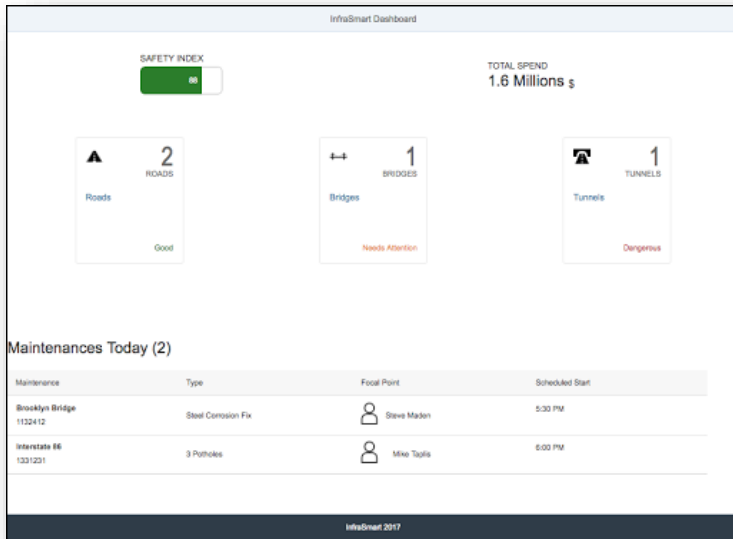
User Experience Journey

ACTIONS	<p>Check the maintenance schedule of the day</p>	<p>Dispatch the workers to the different infrastructure items in the city</p>	<p>Monitor the maintenance activities through the cities</p>	<p>Check the inventory and procure extra parts for items with low stock</p>	<p>Review the maintenance report summary of the day</p>
MINDSET	<p>“We have too many items to check, which one to do first?” “ “I have only 3 workers available, where to start?”</p>	<p>“Who should I send to inspect the Edison tunnel?”</p>	<p>“Why it is taking you so long to fix that pothole in Manhattan?”</p>	<p>“we are out of XX, we should replenish ASAP” “How much should I order?”</p>	<p>“the bridges we missed to inspect last week, failed today ☹️)</p>
FEELING	<p>😊</p>				
	<p>☹️</p>				
TOUCH POINTS	<p>ERP System</p>	<p>Phone Email</p>	<p>Phone</p>	<p>ERP System Phone Email</p>	<p>Reports</p>

MOCKUPS

The IoT application “**InfraSmart**” is a platform to manage and get insights on any city’s infrastructure by collecting data via different sensors across the city. Main Features are :

- Monitor the health and quality metrics of the roads, tunnels and bridges in the city
- Get smart recommendation on which infrastructure to inspect next i.e. predictive maintenance
- Track and optimize the expenditure on the maintenance activities
- Track the progress of maintenance workers working across the city

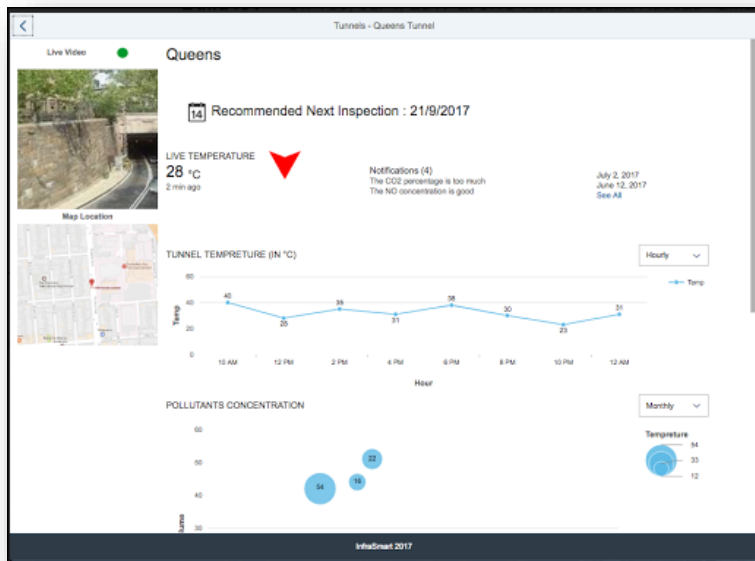


Landing Page & Dashboard

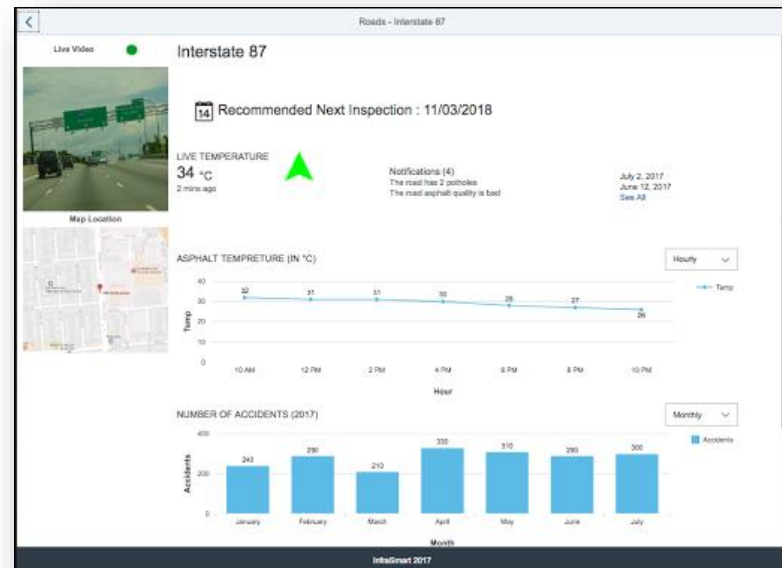
The Infrastructure Details page shows a list of 4 items:

Type	Item	Area	Status
⚠️	Interstate 86 ID 2231	Manhattan	Excellent
⚠️	Fifth Avenue ID 2241	Downtown	Excellent
🚧	Brooklyn ID 1143	Brooklyn	Good
⚠️	Queens ID 1143	Queens	Dangerous

Infrastructure Items List



Tunnel Details



Road Details

Build Prototype → <https://goo.gl/7ZJEmc>