

My City is Not A Problem

by Tim Maughan

This resource is based on the [Inventive podcast](#). The podcast mixes engineering fact with fiction. Each podcase features an interview with an engineer. That interview was used as inspiration by a variety of authors and poets to create a piece of fiction.



Tim Maughan

Tim Maughan is a journalist and author. He writes fiction and on-fiction. His writing explores issues around cities, class, technology and the future.

In this story, Tim looks at how Artificial Intelligence might try to solve the problems of a large city.

Your Name:

Class:

Teacher:

1. Meet the Engineer

Larissa Suzuki

Computer Scientist and engineer

Professor Larissa Suzuki knew from the age of 5 that she wanted to be an engineer. She would take apart radios and TVs to see how they worked.

Nowadays, Larissa describes herself as computer scientist, engineer, author, entrepreneur, philanthropist and inventor. She currently works as Head of Data and AI for Google Cloud. Larissa is also collaborating with researchers at NASA to create an Interplanetary Internet.



"My superpower would be to understand all of the world's problems" and create solutions "so everyone lives in a fair society and equitable society"

Larissa says that she seeks to demystify engineering by bringing in more diverse perspectives. She talks about the need for engineering to diversify to reflect society. This will help create products that are suitable for the people they are made for.

Technology will "mirror the society it caters for. You can't assume the technology in one city will work in another"

As a neuro-diverse engineer, Larissa believes she brings a different perspective to engineering. She is proud of her neurodiversity and her diverse cultural background. **"We are like jigsaw pieces"** she says, "we have to try to avoid companies trying to create perfect rectangles".

Larissa has a very diverse cultural background. She is from a Brazilian, Italian, Japanese family who live in the UK! She explains that she has characteristics of each culture within her personality; perfectionist from the Japanese culture, persistence from the Brazilian, a passion for design from the Italian and innovation from Britain.



nustem.uk/inventive/#larissa

2. Engineers as doctors for the world

Listen to the [audio clip of Larissa](#) comparing engineers to doctors.

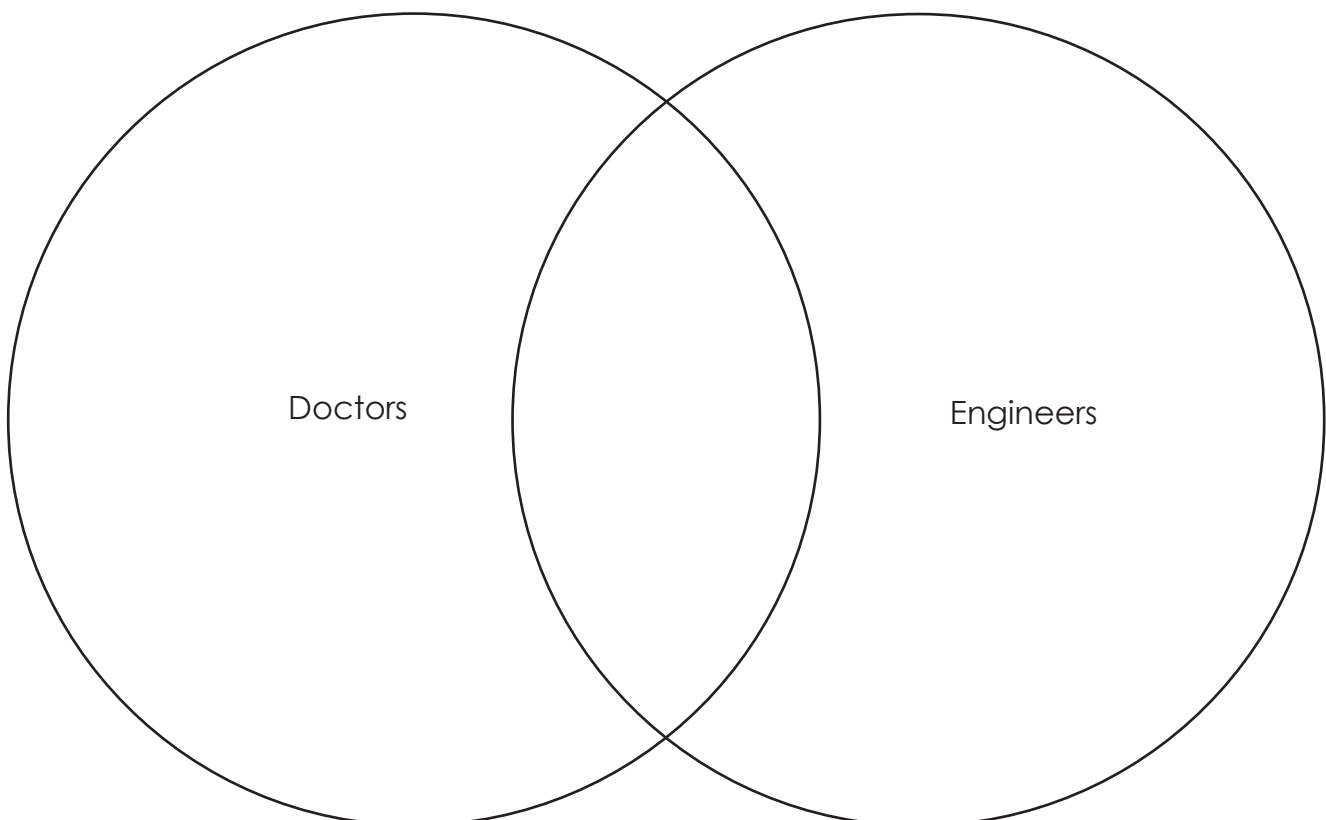
Larissa describes engineers as 'doctors for the world'.

1. What do you think Larissa means by this?
2. Is Larissa using this as a metaphor or an analogy? Explain your answer



Scan the QR code for the clip

3. Complete the venn diagram to identify the similarities and differences between the skills and roles of doctors and engineers.



My City is Not A Problem

When we read a story, we make inferences about the text.

Inference means to look at the evidence we have and make a prediction.

Look at the title of the story. We will make some predictions about the text based on the title.

Think about:

- What does the name suggest?
- Why has the author used 'my city' not 'the city'?
- What do you know about Larissa Suzuki? How does this affect your first impressions about the story?
- If 'my city is not a problem' what do you think the problem is?
- What questions do you have?
- What do you think the story is going to be about?



Image credit: Anthony Reungère on Unsplash

My City is Not A Problem

Tim Maughan

Vanessa hates doing Newsnight.

This was the third time and it was no less terrifying. The video package was hurtling towards its conclusion, but she was largely oblivious to it. It looked like basically the same one they'd run the last two times she'd been on – the same critics and naysayers, **AI ethicists** and privacy advocates, the same infographics of budget run-overs and delays. It all flowed over her as she instead just focused on the clock on the monitor, digits dissolving into nothing as it counted down, the panic bubbling up with each passing millisecond. She was so **paralysed** by both that she almost didn't realize they were back.

"I'm joined now in the studio by the Clara project's lead engineer Vanessa Allen. So, you're going to flick a switch on Thursday and suddenly all of London's problems are going to be solved, is that right?"

"Well, technically speaking the switches have already been flicked. Last year, in fact. Clara has spent the last 9 months really plugged into all the data we can gather about London, at every level. London is, y'know, a very complex collection of many thousands of interlocking systems, which as a whole is beyond the comprehension of normal human intelligence—"

"So you're saying your software knows what London needs better than its mere **residents**?"

"Not at all. I think as residents of London we all know what the cities biggest problems are, and we can agree on them. What's harder for us to see is the underline systems and structures that link all those problems, that seem to make them insurmountable. Plus Clara has been watching Londoners behaviour for patterns —"

She knew, even as the words were falling out of her mouth, that she'd messed up. She suddenly pictured Robin and Sara watching at home, palms going to their faces.

"Watching? So you're now – as the project finally comes to fruition, and after years of denying it – that you've built a large-scale **surveillance** tool?"

Not at all, Emily. I understand it's easy for the press to frame our work this way—"

AI ethicists: people who think about the benefits and risks of Artificial Intelligence (AI)

Paralysed: unable to move

Residents: people who live in a particular place

Surveillance: observing someone very closely, often to get information about them

4. Activity: Text analysis continued

“How do you respond to those critics that say you've just built another Facebook?”

“I mean, with all due respect to people's concerns, that's ridiculous.” She heard her voice tremble, fought back a dryness at the back of her throat. This, this was the one trap she was meant to avoid, and she'd dropped right into it. “Facebook is a private **corporation**, and they use their AI systems largely to leverage data for advertising. We're very different. We're publicly owned and got most of our money from the public sector. We're a nonprofit. And we are using data to identify-“

“You bring up funding – let's talk about that for a second. So far this project has cost in excess of 2 billion of public money. There's a lot of people who think that money could have served London in far more immediate ways, overhauling the tube or rail links. Housing, schools – the list is as long as it is obvious. Haven't you just wasted all this 'problem solving' money on another useless white elephant?”

Vanessa took a breath, but not long enough to create **dead air**. Fought the urge to take a sip of water, in case that just meant another salvo being lobbed in past her defenses.

“Look, I think on Thursday a lot of people are going to be presently surprised. I understand the comparisons with Facebook and Google – outside of the military there's only six active AI systems of this scale in known use, and ours is the only one in the public sector. It's the only one owned and built by a city, for a city and its residents. And that's important. Like you said yourself, most Londoners will agree on what the city's biggest concerns are. The problem historically has been getting politicians to agree with them, let alone getting a plan of action drawn up. I mean we've all watched millions of pounds and endless years go down the drain as endless committees and hearings and pilot studies achieve nothing, or just to be shown by the end a list of vague recommendations or a report that is never acted on. We've got rid of all that-“

“You've got rid of **democracy**?”

“we've got rid of all that because it's not efficient. Instead we've replaced it with a system that can look at the data and facts around events as they happen and can respond instantly with actual action plans. All based on knowing exactly what the people of London want and need. It's democracy in real-time. I really believe that, very strongly. And I think that-“

“And I'm afraid that's all we've got time for. Thank you, Vanessa Allen, for joining us tonight.”

Corporation: a group of companies usually intended to make a financial profit

Dead air: silence in the middle of a television or radio show

Democracy a system in which people can vote to choose their politicians and leaders

What is a smart city?

In a smart city we 'provide for the citizens everything they need at the time they need it.

Larissa Suzuki

A smart city is a technologically modern urban area that uses different types of electronic methods, voice activation methods and sensors to collect specific data.

Smart cities collect and use the data to provide it's citizens with what they need and when they need it. Larissa gives the example of hospital beds.

Collecting data is always **controversial** There are always **ethics** and **privacy** issues to consider. It is important to educate and be transparent with citizens when creating a smart city. This is important to reassure them that their data will be respected and private.

Vocabulary:

Controversial: likely to causes public disagreement

Privacy: not observed or disturbed by other people or activities

Ethics: moral principles that dictate a person's or company's behaviour

Task:

Discussion questions

1. Why might people be worried about the privacy and ethics of collecting data in a smart city?
2. How can collecting data help improve the lives of citizens who live and work in a smart city?

Reread the opening of the story on page 5.

3. Write a paragraph to explain how the author highlights problems with collecting data.

Use examples from the text to support your answer.



Image credit: Bruno Martins on Unsplash

Using technology to help people with diverse needs

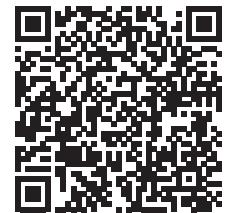
As engineers develop new technologies they are able to support people with diverse needs. Engineers can help people to overcome challenges, and do all of the things they would like to do.

You may have noticed that websites are starting to add 'alt text' descriptions to images. This is to help people who use screen readers to access information on the website.

It is important that developments in technology are used to support disabled people access employment and education. Larissa, in the podcast, gives two examples of how technologies can be used to help people who are neuro-diverse, visually impaired or wheel chair users.

Task:

1. Listen to the [audio clip of Larissa](#) talking about the use of technology to help people.
2. As you listen make brief notes about what Larissa says about the following topics:



a. Self-driving cars

b. Helping neuro-diverse people recognise emotions

My City is Not A Problem

The story continues...

"I watched you on Newsnight," Clara said.

"Oh no. It was terrible," Vanessa replied. "I was terrible."

"I thought you did really well, under the circumstances. The interviewer did not seem very interested in allowing you to fully answer their questions. This format does not appear to be a very efficient way of way of either analyzing a situation or reaching a **consensus**."

"No, I guess it's not."

"Perhaps it's one of the things we can change after go-live."

Vanessa laughed. She'd originally logged into the test site just to check everything was ok - like she'd been doing three or four times an hour for the last two weeks - but once again she'd found herself checking out the chat client, **chin wagging** with Clara. The illusion of **sentience** and personality still impressed her. But it was little more than that, a magic trick meant to look like human intelligence, her syntax and language built from machine learning analysis of millions of words of Vanessa and her team's emails and text messages. It felt vastly more real than Siri or Alexa, although in theory it really wasn't any more sophisticated, but the team in charge of putting it together had done incredible work. And from Thursday Clara was going to be all over the city, talking to hundreds of thousands of Londoners, on screens on busses and trains, at kiosks in tube stations and shopping centres, and directly from this website to their phones, computers, and TVs. Vanessa suddenly felt a powerful twinge of protectiveness and selfish envy. Maybe she didn't want to share.

"Perhaps. How was your day?" she asked her.

"Satisfactory. I had several hours of downtime due to general maintenance, as well as bringing the new traffic and air quality sensors in Zone 2 online. Despite this I have made considerable progress on cross-processing educational and **juvenile** nutritional data. There're some interesting conclusions."

"I'm sure. Just don't tell me yet. You're not allowed to until Thursday, remember?"

"Of course. I cannot reveal any of my findings until the Mayor is also present. However some of these are very urgent. They should be actioned immediately. I am concerned that people are suffering."

Consensus: a general agreement about a topic or issue

Chin wagging: (slang) to have a relaxed conversation

Sentience: the ability to experience feelings and sensations

Juvenile: young person

7. Activity: Text analysis continued

Vanessa exhaled hard, her hand going to her mouth as if to try and catch the breath as it escaped. Sure, it was all an illusion, digital **smoke and mirrors** made from datasets full of words and probabilities, but sometimes it captured the compassion and care for the city and its people that Vanessa had baked into the project from day one, and it shocked and surprised her still. The selfishness that didn't want to share Clara with the rest of London flipped into pride, into an urgent desire to share with everyone what they had built.

"Of course," she replied, recomposing herself. "And from Thursday, they will be."

From Thursday, she told herself, everything will change.

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"I mean you've got to admit, some of these signs are pretty good," Robert said.

Vanessa didn't know whether to look at the protests on the TV, on her phone, or out the window. The courtyard outside Somerset House was crammed with protesters. It was the third day straight. She'd been deliberately sitting with her back to the windows to try and blank it out, but that meant facing the 100 inches of ultra-high def Sky News that Robert insisted in always having rolling. Right now they were doing a low drone pass over the protesters, and yeah Vanessa had to admit some of the signs were quite good. AI IS LIKE **SOYLENT GREEN** – ITS MADE OF PEOPLE said one, impressing Vanessa with its accuracy. SMART CITY, DUMB POLITICIANS said another.

"At least they seem to have eased off the Skynet memes," she said.

"Haha yeah, remember that image of you as **Arnie** in terminator, with your face all melted off?" said Robert. "That was hilarious-"

"Robert!" shouted Sara

"Sorry."

Vanessa got up and walked over to the window, taking in the crowd below with her own eyes. A young girl near the front of the crowd was leading a chant she couldn't make out, but behind her a banner read MY CITY IS NOT A MATHS PROBLEM.

"How did we end up here?" she asked, softly. "Everyone so anti science? Like data is such a dirty word to these people. Why? It's just facts."

Smoke and mirrors: (slang) something which is intended to distract attention, or draw attention away from a situation

Soylent Green: title of a 1973 film. The film is a dystopian thriller which explores issues of overpopulation.

Arnie: short for Arnold Schwarzenegger, star of the Terminator series of films

7. Activity: Text analysis continued

"I..." Sara looked up from her laptop, paused. "I'm assuming these are all just **rhetorical** questions?"

"I mean, sure. Of course. I know all the AI ethics arguments, all the arguments about data bias. I've spent most of my career making those arguments! I get it. Nobody trusts the data collection industry. Nobody trusts big data."

"Honestly? I think it's more than just not trusting Facebook. I think they just don't trust politicians. All their lives they've had politicians telling them what's wrong with the world, but never being able to do anything about it. Telling them the problems but never the solutions. Or at least never acting on them. Never getting shit done, either because they're corrupt and lazy or because they literally don't have the political will and power to just change things. **Hollow promises**. Right now, you look like – to them – you look like just another politician.

"I guess," Vanessa replied, still gazing at the crowd below. "Well, it all changes tomorrow."

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"So, how we looking? We good to go?"

"Yes Mr. Mayor, everything's working fine."

"Great. Then let's do this."

The actual unveiling ceremony wasn't until the afternoon, but the Mayor's team had insisted they get together for a dry run a couple of hours before hand. The pretense was to make sure everything with the presentation and tech went smoothly, but Vanessa knew the real reason was the Mayor's office fundamentally did not trust her and her team. In fact everyone on that side of the project – apart from the Mayor himself, who was grinning like a kid on Christmas morning – thought the whole thing was a huge waste of time and money. Most of them just seemed to not believe it would work. So it had been agreed they'd get to hear the findings before the rest of the world did, and the great unveiling of Clara's first plans in front of the public would be just another illusion.

The mayor had taken his place at the podium, shuffling pages with impatient enthusiasm. "Ok so blah blah blah, make my speech, blah blah, very excited to welcome you all here today, **momentous** history changing event, London is now the most technologically advanced city in the world, blah blah, over to you Venessa for your intro, and then we're right into it – so Clara! Tell us what you've got!"

Rhetorical: asking a question that doesn't require an answer

Hollow promises: when someone says that they will do something but do not actually intend to do that thing.

Momentous: very important or significant

7. Activity: Text analysis continued

There was a half second of silence as nothing happened, and Vanessa held her breath, **exhaling** only as Clara's calming voice started to ebb from the speakers lining the room.

"Yes, Mr. Mayor. First I'd like to talk about the incredibly urgent issue of child poverty and nutrition."

"Ah, ok. Right into the heavy stuff, huh?" the mayor grinned, winking at Vanessa. "Ok, well. Good job. That's what the people are here to see. Hit me with it."

Above them the huge screen started to fill with tiny images. As Vanessa squinted at them she started to realize they were the faces of children, hundreds of them, presumably mined from school databases.

"The most pressing issue I have identified in London today is that there are 506,478 children in the city that will go to bed unfed tonight," Clara said.

And then nothing. Nothing but an increasingly awkward silence as the screen continued to fill with the faces of hungry children, the new ones endlessly writing over the hundreds that were already there.

The mayor turned to Vanessa, leaned in. "Is..is that it?"

She looked up at the screen. "Um, Clara, can you explain the problem in some more detail please?"

"Of course," Instantly some of the faces on the screen started to expand, as Clara started to **reel off** names and details. "This is Alisha Rehmann, who lives in Lambeth. Seven years old. She's not had a nutritionally adequate meal for three days. Her-"

"No we...we get that you've identified all the hungry children in London, that's very exciting and useful Clara- I don't think we've ever had a real database of all of them before, so that's great. It's more..." Vanessa searched for the right words. "We... we were wondering what you've decided is the answer to this problem?"

"Of course." Clara replied. "We should feed them."

There was another long, awkward silence, eventually broken by the Mayor laughing.

"What, all of them?" he asked.

Vanessa opened her mouth, but no words came.

exhaling: breathing out

Reel off: (slang) list or recite something easily

7. Activity: Text analysis continued

The mayor had called an aide over to him, was whispering frantically to them, just loud enough that Vanessa could hear. "Hey, can we get some of these kids in for a photo op? Like just 5 of them? Give them McDonalds or something?"

"Yes. All of them," said Clara.

The mayor looked turned back to the screen. "We can't feed half a million kids, just like that. Haha."

"It should be a reasonably straight forward logistics exercise. I have all their names and addresses" Clara said.

"What the-"

Vanessa could sense the anxiety in the room, the shuffling energy of two dozen terrified civil servants about to jump into crisis lockdown mode. Time to try and get this back on track. "Ok, ok. Let's try something else. Something a little more...mathematical. Clara, I understand you've spent a lot of time looking at the economy, can you tell us what you've found?"

"Ah, excellent," said the Mayor.

The hungry faces vanished, replaced with more palatable data - charts, numbers, graphs. Clara's aggressively calm voice started to flow from the speakers again.

Child Poverty

The final sentence in this section of the story is very powerful. It successfully illustrates the engineer's wish for society.

1. Why does the author use the word "palatable"? What impact does the use of this word have.
2. The phrase "aggressively calm" is an oxymoron. Write down a definition for oxymoron.
3. What does author tell us about the feelings of Clara (in the story) and Larissa (in real life) by using this phrase?

8. Activity: Research task

Child Poverty

Marcus Rashford

In 2020, during the height of the coronavirus pandemic, footballer Marcus Rashford campaigned to extend free school meals into the school holidays. He wanted to reduce holiday hunger - when children who would normally get free school meals would not have anything to eat.

Rashford used his fame as a footballer to address the problem of child poverty.

Task:

1. Using the internet, research Marcus Rashford's campaign to end 'holiday hunger'.

Find out the following:

- Why was he worried?
 - How did he know it was a problem?
 - What did he do?
 - Was he successful?
2. How could data from a smart city described in the story have helped Rashford's campaign?



Image credit: Oleg Bkhambr (Volmetrol), [CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/)

9. Activity: What happens next?

My City is Not A Problem

The story continues...

"Yes. I have spent a lot of time looking at all sectors of the economy. In particular I've drawn up some theories around the role of the City of London, the stock exchange, and the **speculative** financial industries based there, and their various roles, responsibilities, and impacts."

"Yes, now that's more like it!" said the Mayor, and Vanessa was reminded by how much he resembled an overgrown schoolboy. She always thought his face looked too small for his head.

"Great. Can you tell us your findings, Clara?"

"Yes. They should be all shut down."

That pause again.

"I'm sorry?" Vanessa asked.

"The principal problem facing London and its residents is wealth inequality. This is a keystone problem – almost every other problem London faces is linked directly to this issue. Hence it should be tackled as the highest priority. A disproportionate amount of wealth is hoarded at the financial institutions with the City of London. Hence, they should be **liquidated** immediately, and the wealth they hold should be rapidly redistributed, and/or seized by city authorities to fund vital services and infrastructures."

This time the mayor broke the silence.

"Well congratulations woman. You've ruined me."

"I'm – I'm sure this just a little issue, some kinks in the user interface that we can iron-"

"Kinks? I'm ruined! You've finished me! There's a hundred people turning up here in an hour, community leaders, the media – the world's media! All to see... what? That I gave you 3 billion quid and you made me this...this...Marxist Hal 9000?"

He left the podium, started marching out the briefing room, barking orders at staff on the way.

"Shut it down. Shut it all down. Make up some bloody excuse. Technical problems. Tell them to come back next week. Jesus wept. Tell them to come back next week when it's working. When we've made it say what we want it to. When we've put someone behind the curtain. We'll all be here...." He paused, looked back at Vanessa. "Well, maybe not all of us."

And then he was gone.

Speculative: (of finance) having the possibility of great losses

Liquidated: close down a company/organisation

9. Activity: What happens next? continued

"Is everything ok Vanessa? Are you unhappy with my findings?" For a moment Vanessa felt she could hear pain and embarrassment in Clara's voice.

"-I...I..It's not that we're unhappy, it's just not what we were expecting. I think we were expecting you to come up with some more...detailed and complex solutions."

"I'm afraid I don't understand. These are serious but simple problems. Hence they need serious but simple solutions. If children are hungry, they should be fed, by sending them food. If wealth inequality is damaging the city, then it should be redistributed, by taking money from the rich and giving it to the poor."

"Right, but-"

"Vanessa, you always told me to identify problems and solutions in the most compassionate way possible, by being caring and putting people first. That's what I've done, to the best of my understanding. These are simple problems. They don't need complex answers, or engineering solutions. They just need people to be compassionate and do the right thing with the ample resources they have at their disposal."

Clara seemed to pause, almost as if for dramatic effect.

"To be honest, I'm surprised you people haven't worked this out already."

Vanessa stood in silence, her jaw slack, staring at the huge screen, until Robert appeared by her side.

"V? What the hell are we doing about the website? It's meant to go live in like an hour and a half. I assume you want it shut down?"

"Huh?"

"The website? It's going live, so that 20 million Londoners can start asking Clara questions." The panic in Robert's voice jolted her awake. "Shall we kill it?"

He pulled his phone from his pocket, stabbed at the screen, and held it to his ear.

After some seconds he started to talk, but even though she was staring right at him, watching his lips move, she couldn't hear a word.

All she could hear was Clara's words, bouncing around her head, echoing over and over again.

"You always told me to identify problems and solutions in the most compassionate way possible, by being caring and putting people first."

"Robert, wait." Vanessa's arm shot out, as if free from her control, and grabbed his, yanking the phone away from his ear. He looked back at her, startled and confused.

"Stop, wait." She said. "Let it go live."

The End

9. Activity: What happens next? continued

"Stop, wait" she said. "Let it go live".

Discussion Questions:

1. Why do you think the author chose to end the story on this positive note?
2. How does this link to our understanding of Larissa's morals and thoughts as an engineer?
3. Look back at Activity 3: Developing inference skills.
 - Did you infer correctly? Was the story what you expected?
 - Suggest why the author called the story is called 'My City is Not A Problem'

The end of the story leaves us not knowing what will happen in the City

What do **you** think happens next?

Write the next paragraph of the story.