

Chatbots research: Highways show and tell

05 April 2019

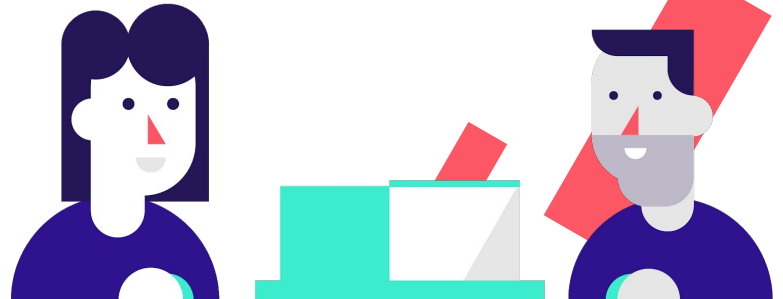
[Link to video of show and tell](#)

Key findings

Users

We interviewed **8 users** in total - we identified two main experiences. Reporting an issue or Requesting an improvement & Complex urban planning enquiries.

- The key motivation for engaging with the council was around safety and reducing both existing and potential negative impacts on daily life and community (issues with traffic, road safety, parking...)
- Users were predominantly frustrated about not feeling heard. Not getting a response, not getting meaningful justifications, not getting reassurance that they are not asking for the unreasonable.
- This is a subjective issue - how do you classify a dangerous a pothole? How does the council classify and prioritise? Do residents agree with this?
- Confusion around how councils are organised, who is responsible for what, who should they call?

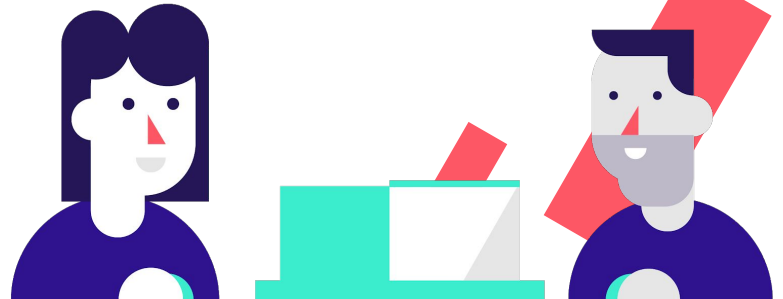


Key findings

Users

We interviewed **8 users** in total - we identified two main experiences. Reporting an issue or Requesting an improvement & Complex urban planning enquiries.

- Users expect councils, organisations and departments to have and display joined up thinking. This is a key root of concern and frustration - particularly with complex urban planning enquiries.
- Users expect the councils to have established processes for commonplace issues such as potholes - from information sharing, to reporting to reimbursements for personal damage.
- Users feel that it is their civic duty to report issues and work with the council to plan and deliver what is best for the community - understanding that resources need to be prioritised.



Key findings

Experience maps






We interviewed **8 users** in total - we identified two main experiences.

- Reporting an issue or Requesting an improvement
- Complex urban planning enquiries



Experience map – Plans, Infrastructure and Community Impact

Highways: **Surrey County Council**


	Push: Awareness	Community Meeting	Follow Up	Escalation	Resolution
User Needs	<p>I want to be kept up to date with community news</p> <p>So I can respond and challenge plans I don't agree with</p>	<p>I want to meet with the council</p> <p>So I can express my concerns and objections</p>	<p>I want to be kept informed</p> <p>So I can know my voice has been heard & find out next steps</p>	<p>I want to contact someone with authority</p> <p>So I can make my voice heard</p>	<p>I want to have a considered and informed response</p> <p>So I can understand justifications and impacts on my community</p>
Actions + Tasks	<ul style="list-style-type: none"> Stay engaged with community Be aware of issues Capture evidence 	<ul style="list-style-type: none"> Meet with council as a result of council comms Express concerns and objections, ask questions 	<ul style="list-style-type: none"> Read follow up communications from the council 	<ul style="list-style-type: none"> Contact councillors Contact MP's Contact Borough Councils 	<ul style="list-style-type: none"> Read follow up communications from the council Evaluate next steps
Channels + Devices	<div>IN PERSON</div> <div>COMMUNITY HUB</div> <div>PHOTOS: PHONE</div> <div>RESIDENTS NEWSLETTER</div>	<div>LETTER FROM COUNCIL</div> <div>IN PERSON</div>	<div>LAPTOP</div> <div>LETTER FROM COUNCIL</div> <div>EMAIL</div>	<div>MOBILE</div> <div>LAPTOP</div> <div>CALL CENTRE</div> <div>EMAIL</div> <div>LETTER</div>	<div>LAPTOP</div> <div>LETTER</div> <div>EMAIL</div>
Emotional	<p>"Parking is a nightmare in our driveway. I cant police it myself!"</p> <p>"Its already dangerous, this is going to make it worse"</p> 	<p>"We left feeling like we weren't listened to and that nothing will come of it"</p> 	<p>"It was a platitude - 'we have heard your concerns' - it wasn't meaningful"</p> 	<p>"I would have at least expected an acknowledgements to my email. I got none from either"</p> 	<p>"I got a curt response from the MP that infrastructure is not taken into consideration in planning"</p> 
Pain Points	<ul style="list-style-type: none"> Historical / systematic issues Issues getting progressively worse Frustration with lack of proactivity / action 	<ul style="list-style-type: none"> Speaking to a representative with no apparent authority - opinions not recorded Decisions had already been made - meeting more of a formality 	<ul style="list-style-type: none"> Feeling like voicing concerns have got me nowhere Realisation of poor inter-department communication / planning within councils 	<ul style="list-style-type: none"> Understand a need for prioritisation - but not even a reply or acknowledgement 	<ul style="list-style-type: none"> Not feeling listened to - email / letter can get lost with all the others Frustration at lack of collaboration between council departments
Compelling forces	<ul style="list-style-type: none"> Anxiety: health and safety fear Push: current practical impact and inconvenience on life and community 	<ul style="list-style-type: none"> Anxiety: my voice has not been heard / what will happen now Push: at council's mercy 	<ul style="list-style-type: none"> Anxiety: hopelessness Push: getting nowhere means I have to try alternatives to get my voice heard 	<ul style="list-style-type: none"> Anxiety: options running out to get some meaningful action Anxiety: no reassurance that decisions are well informed and considered 	<ul style="list-style-type: none"> Anxiety: fear at lack of rationalisation or information on anticipated changes to community (traffic / parking)

	Push: Event	Search	Report / Request	Response	Resolution
User Needs	<p>I want to be aware of things happening in my community</p> <p>So I can respond and ensure I live in a safe place</p>	<p>I want to know who is responsible for different issues</p> <p>So I can get in touch with the right person / organisation</p>	<p>I want to report an issue / request improvements</p> <p>So I can get the council to make my community safer / better</p>	<p>I want to be kept informed</p> <p>So I can know I have been heard and understand council's intended next steps</p>	<p>I want to see that the problem is being resolved</p> <p>So I can have peace of mind</p>
Actions + Tasks	<ul style="list-style-type: none"> Be aware of issues Capture evidence 	<ul style="list-style-type: none"> Google: "How to report a pot hole?" Search local directory Connect with community 	<ul style="list-style-type: none"> Report issue on council website / third party website Write and submit report with requested changes 	<ul style="list-style-type: none"> Wait for a response by the council 	<ul style="list-style-type: none"> Check results, or, Follow up comms to try and resolve issue, or, Give up
Channels + Devices	 IN PERSON  MOBILE PHOTOS	 LAPTOP  DIRECTORY  GOOGLE  WEBSITE	 LAPTOP  REPORT  WEBSITE  CTC  POST	 MOBILE  LAPTOP  CALL CENTRE  EMAIL	 IN PERSON  MOBILE  LAPTOP  CALL CENTRE  EMAIL
Emotional	<p>"There is an outcry on the condition of Surrey roads"</p> <p>"Emergency vehicles can't reach us! Its a safety issue!"</p>  	<p>"I didn't know who was responsible for painting yellow lines. I had to call the borough council and ask"</p> 	<p>"I won't report it on the spot because I'm driving! I'd like to do it on the laptop (bigger screen)"</p> 	<p>"It just goes into the ether - it would be nice for the council to respond and tell me what they are going to do about it"</p> 	<p>"Seeing that neon spray paint is reassuring"</p> <p>"We are not asking for anything outrageous"</p>  
Pain Points	<ul style="list-style-type: none"> Feeling that council is apathetic How resources are shared / applied across different areas 	<ul style="list-style-type: none"> Don't know who is responsible for different tasks Don't know what process to follow / how long it will take to get a resolution 	<ul style="list-style-type: none"> Common occurrence - especially for cyclists Don't know how councils are organised - who to contact to get intended result 	<ul style="list-style-type: none"> Not getting a response Not knowing if the council is aware of concern Not knowing when things will get fixed 	<ul style="list-style-type: none"> Time taken to get a response Need to re-engage if no response Feeling that a minimum safety request is de-prioritised
Compelling forces	<ul style="list-style-type: none"> Push: it is my civic duty to do something about this Anxiety: this is a safety risk to me and my community 	<ul style="list-style-type: none"> Habit: Google it / directory Anxiety: Will this get fixed? How long? 	<ul style="list-style-type: none"> Push: clear and visible online functionality 'report it' Anxiety: Will this get fixed? How long? 	<ul style="list-style-type: none"> Push: not getting a response might warrant a follow up call Anxiety: Will this get fixed? How long? 	<ul style="list-style-type: none"> Pull: ability to use road safely again Anxiety: problem still not fixed - not feeling heard or valued

User interview quote

“I might not have agreed with it... but I expected some kind of response, some kind of answer, justification or rationalisations for plans - at least awareness of anticipated changes to traffic”

“We are a bit demoralised about the time its taken to do this. Most of us working in private industry - if it took us 6 months to respond we would have been fired!”

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Key findings

Stakeholders

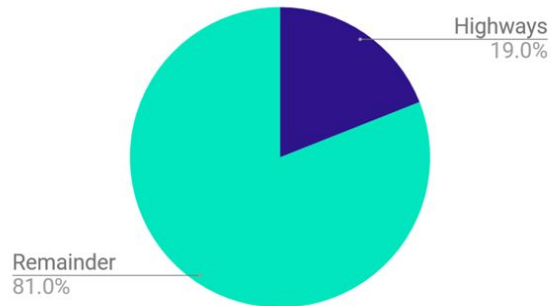
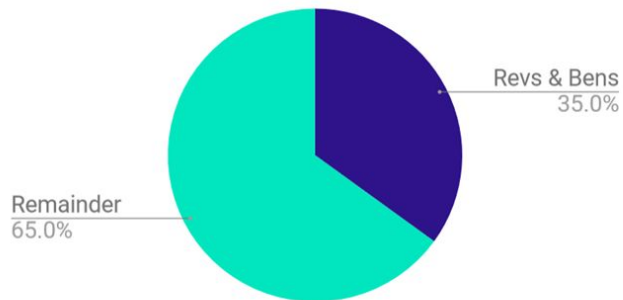
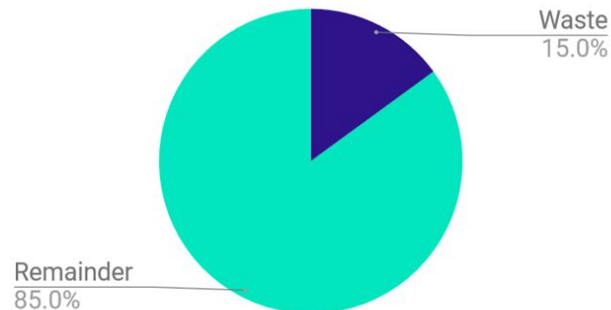
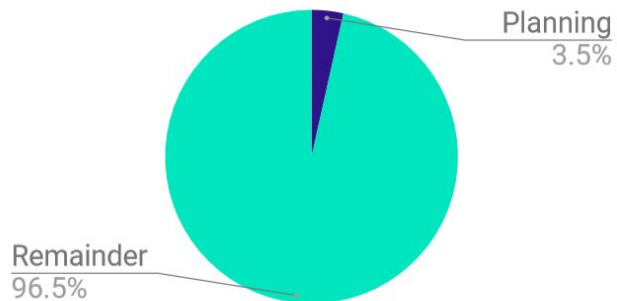
Summary of our key findings from the stakeholders interviewed:

- The majority (73%) of Highways defects are reported online via self-service. 10% improvement year-on-year
- Very large number of different reasons for calling the council compared to other council services - this dilutes the opportunity for a chatbot that focuses on a single, specific use-case.
- Confusion from the two-tier authority system. “Should I be contacting Surrey County Council, or my Borough or District Council?”
- Large number of contractors with unique systems which don’t integrate into the council CRM. This also leads to issues with website content being up-to-date.
- These are emotional, complex journeys, with users exhibiting a preference for human conversation. The risk for chatbot confusion is high.



Key findings

Share of Call Centre Volumes



Key findings

Top-level Call Volumes Savings

£38.4k

Planning

£165k

Waste & Recycling

£305k

Revs & Bens

£106k

Highways

Key findings

Call centre ability to handle

43%

Planning

99%

Waste & Recycling

5%

Revs & Bens

64%

Highways

Key findings

Call Volumes x Resolution Rate

£16.5k

Planning

£163.2k

Waste & Recycling

£15.3k

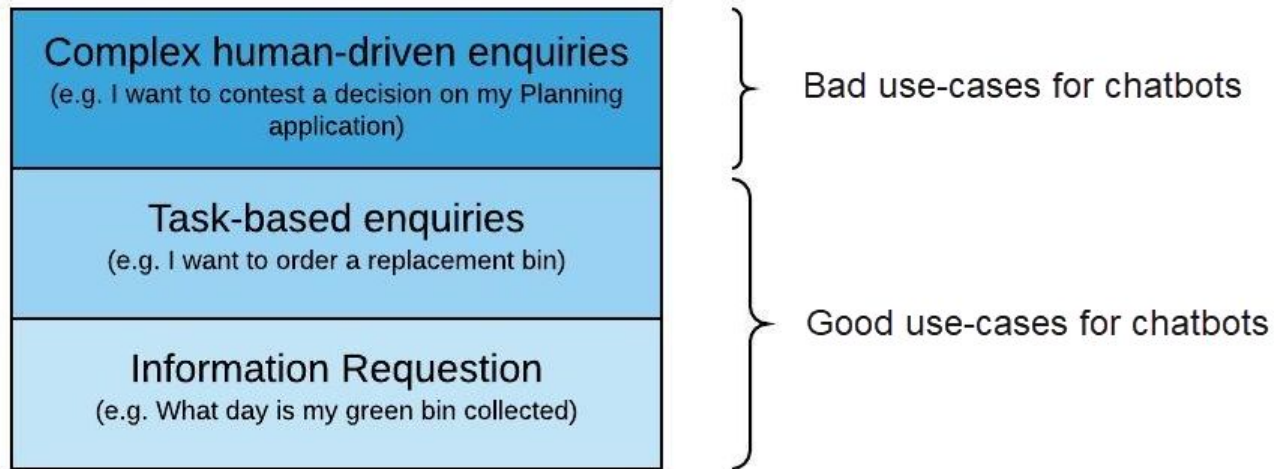
Revs & Bens

£68.3k

Highways

Key findings

Use Cases for Chatbots



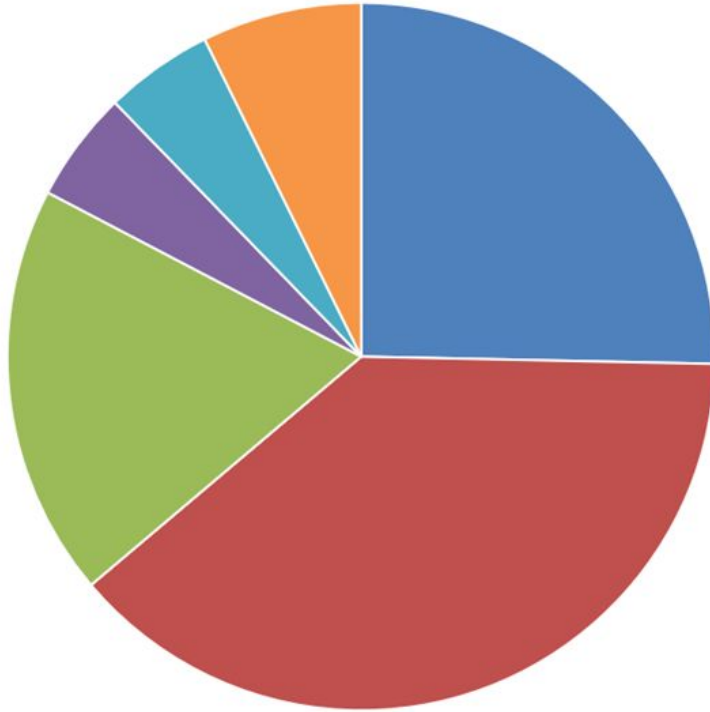
Reasons for Contact

Reason	Volume	Type
Pothole	7.7%	Task
Roadworks Info	6%	Information
Roadworks Enquiry	5.2%	Task
Trees & Vegetation	5%	Task
Insurance Claim Enquiry	4.8%	Information
Condition of Carriageway	4.7%	Task
Vegetation Enquiry	4.6%	Information
Street Works Enquiry	3.7%	Information
Street Lighting Issue	3.1%	Task
Carriageway Enquiry	3%	Information
Parking Enquiry	3%	Information

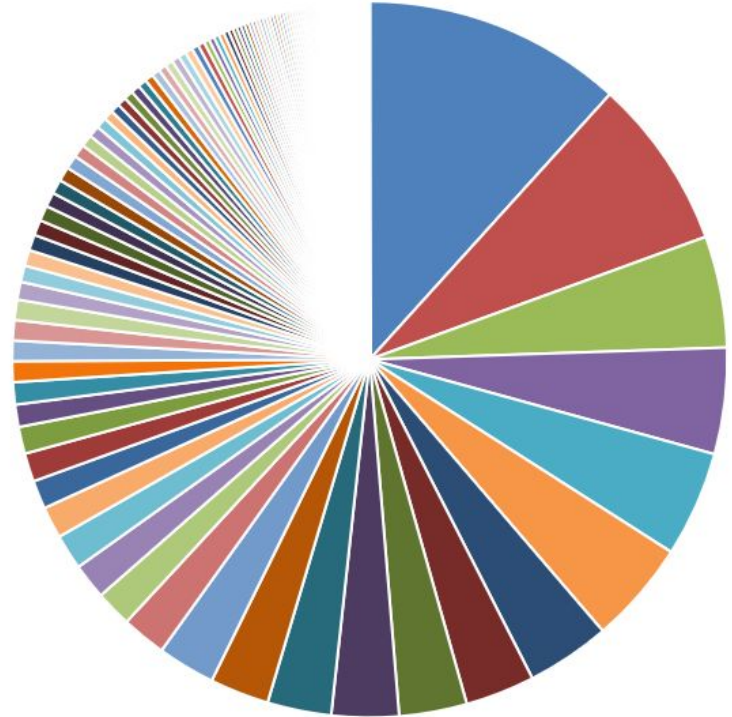
Reason	Volume	Type
Pavement	2.9%	Task
Crossover Enquiry	2.7%	Information
Parking Restrictions Enquiry	2.6%	Info / Task
Road Safety Enquiry	2%	Task
Ironwork	1.6%	Task
Blocked Drain	1.6%	Task
Crossover Application	1.6%	Task
Footway Enquiry	1.4%	Information
Gully Enquiry	1.3%	Information
Grass verge enquiry	1.3%	Information
Other	29%	Human

Reasons for Contact

Waste & Recycling



Highways



Most Common Reasons for Contact

Highways

- Biggest single reason for contact is reporting potholes (4,400 calls annually)
- Potholes enquiries make up 7.7% of Highways calls, and 1.3% of all calls to the council
- Potential savings from narrow-domain chatbot = £11,478

Waste & Recycling

- Biggest single reason for contact is reporting dumped rubbish (36,895 calls annually)
- Dumped rubbish enquiries make up 38% of Waste & Recycling calls, and 5.3% of all calls to the council
- Potential savings from narrow-domain chatbot = £70,100

Key findings

Summary Observations

- Disparate tech systems not speaking to each other presents a challenge for a reliable AI solution
- Surrey has already done an excellent job of reducing Highways calls by improving the ability for customers to self-serve.
- It is currently under consideration to stop providing any mediated telephone service for Highways
- Web chat is about to be rolled out for Highways
- Proliferation of reasons for contact makes it harder for an alpha chatbot to show significant return on investment because a narrow domain bot would only reduce a small number of calls.
- Strong opportunity to use conversational AI in certain areas: e.g. visual classification of potholes, reporting issues, providing updates on reported issues, photos of resolved state, etc.

Stakeholder quote

“There’s a real opportunity to prevent people from reporting potholes by sharing news and updates with them. We should follow the model of Inform, Interact, Transact, and proactively push information out there.”

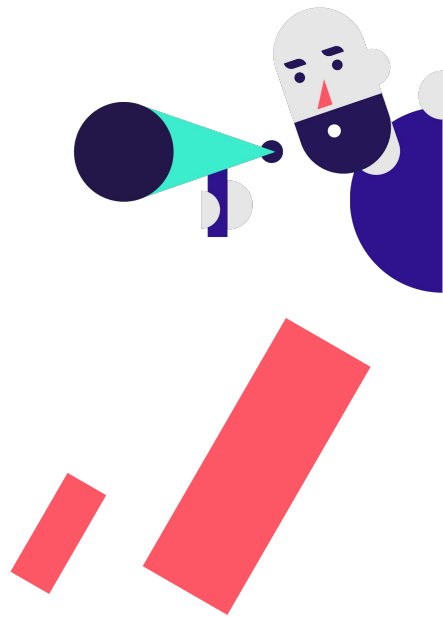


Key findings

Councils

Here's a summary of the councils' experience this past week

- What were your key findings?
- Lessons learned
- What you're still not sure about



What's next

- **What's next?** Final deliverables to be shared on Thursday 18th. Final show and tell TBC.
- **Any questions, please get in touch**

Torchbox

The logo for Torchbox features the word "Torchbox" in a bold, white, sans-serif font. A red flame icon is positioned above the final 'x' of the word.