



COLUMBIA | SIPA

School of International and Public Affairs

Evaluation of Feedback Mechanisms to Improve Water and Sanitation Service Delivery in Informal Settlements in Cape Town

Date: 04/26/2021

Client: City of Cape Town

Team: Crystal Avila, Alvaro Contente, Pankti Dalal, Hiroaki Ishihara, Mihir Mulloth

Instructor: Daniel Shemie



MEET OUR TEAM



Daniel Shemie
Supervisor
New York, USA



Crystal Avila
Client Liaison
New York, USA



Alvaro Contente
Project Manager
Santiago, Chile



Pankti Dalal
Field Work Coordinator
Mumbai, India



Hiroaki Ishihara
SIPA Liaison
Tokyo, Japan



Mihir Mulloth
Deliverable Editor
Scranton, USA

Executive Summary 1/2

Under the United Nations Sustainable Development Goals, Goal Six highlights the importance of ensuring availability and sustainable management of water and sanitation for all. In 2018, Cape Town, South Africa became known as the city that almost ran out of water. Our research found that the group most disproportionately affected are residents living in informal settlements. Yet, the number of water and sanitation complaints received by the City of Cape Town from formal settlements is six times higher than those received from informal settlements.

In this context, the City of Cape Town, South Africa has tasked the Columbia Capstone team with providing informed recommendations on how to improve customer feedback and City responsiveness for the effective provision of water and sanitation services in informal settlements. The team utilized a variety of qualitative and quantitative assessments in order to determine its ultimate recommendations.

The team designed the project around three guiding researching questions, them being:

1. **What is the current status quo of WASH feedback mechanisms for informal settlement residents in Cape Town?**
2. **How can the City of Cape Town increase community adoption and participation of WASH feedback mechanisms within informal settlements?**
3. **How can the City of Cape Town increase internal capacity and improve performance with regards to its WASH feedback mechanisms?**

Specifically, the team utilized a methodology consisting of desk research, stakeholder interviewing and customer surveying to develop recommendations. The main findings of the project highlighted that improving accessible communication channels, stakeholder partnership, community awareness, context-specific problem-solving, and data management processes have the greatest potential to increase the success of service delivery feedback in informal settlements in the City of Cape Town.

Executive Summary 2/2

The team generated recommendations intended to increase community adoption and participation as well as increase internal capacity and improve performance.

1. **Councillor Code:** Complaints reported to local councillors are not directly registered in the formal service management system. Therefore, by registering complaints with the constituency code of the local councillors, the elected representatives would be able hold the city administration accountable and be active players in service delivery.
2. **Toll-Free Number:** By providing a toll-free number the city would further be able to bolster the number of complaints received and therefore increase access to disadvantaged groups in seeking grievance redressal.
3. **Develop Customer-Centric KPIs:** Creating key performance indicators built within the C3 system can help the City of Cape Town better analyze the data they receive and adapt current processes to be more responsive to the community. That would allow the executive leadership to transition from an anecdotal to a quantitative decision making process.
4. **Increase Interdepartmental Communication:** Several departments and divisions are involved in the delivery of basic services. Creating efficient lines of communication and investing in collaboration with other departments providing basic services can minimize redundancies and incentivize the sharing of innovations.
5. **Invest in Overall Capacity Building:** Due to the expansion of informal settlements, increasing overall capacity and staffing can greatly reduce the burden and increase the overall ability to deliver quality services. An expansion of the janitorial services through the EPWP is one possible solution to consider to combat this growing issue.

Table of Contents

Background	6
Methodology	12
Main Findings	23
Stakeholder interviews	24
Process Mapping	27
Customer Survey	35
Desk Research	39
Case Studies	42
Recommendations	50
Ideating Solutions	51
Key Recommendations	54

01

...

BACKGROUND



A Tale of Two Cities

Cape Town is the legislative capital and the second most populated city in South Africa. In South Africa, every person has a constitutional right to safe water and sanitation. It is an institutional obligation for the government to provide adequate and safe access to basic services. This provision originates from the country's colonial past, where historically marginalized communities were cut off from essential services under the apartheid rule.

Today, around 12% of the residents in Cape Town live in informal settlements. Similar to the economy, the urban landscape of the city is deeply divided; low-income neighborhoods tend to have large populations of residents who continue to face infrastructure barriers. This difference is shown in the figure on the right, where it can be seen that areas with higher concentration of informal settlements fall behind in terms of WASH infrastructure and overall access.

Moreover, townships are not all the same either, including in terms of quality of WASH services. These particularities have been recognized by the City in its discourse, but remain a challenge in the City's approach and actions to the informal settlements' situation.

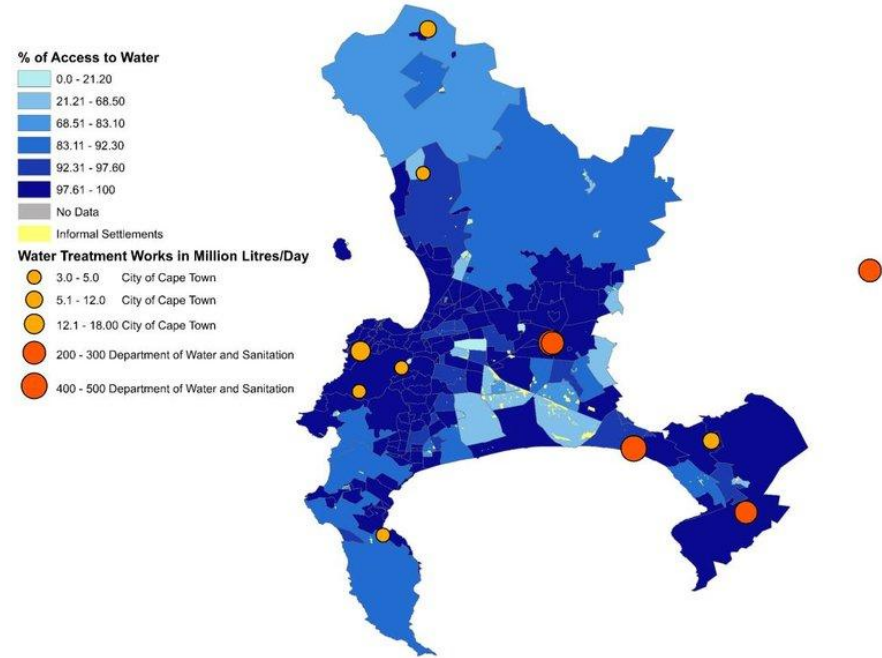


Figure: Percentage of Access to Water
Data Source: City of Cape Town

Varying Levels of Access

Comparison of selected demographics and technology penetration to city average and informal settlements in Cape Town

Indicator	CCT average	Informal settlements
GDP per capita (ZAR PPP)	\$439,410 (1)	\$69,788* (2)
Mobile phone usage	95%* (3)	94%* (4)
Smartphone usage	82%* (5)	63%* (4)

* Value is a proxy, taken from similar group or population.

South Africa's **income inequality** is a pervasive force that hinders access and quality to a variety of services for the less privileged. Moreover, Cape Town's Water and Sanitation department experiences an overarching conundrum: the growth of informal settlements outpaces the department's capacity and resources.

Given that **technological penetration** has broken the access barrier set by inequality (see table on the left), every project targeting informal settlements should consider what role technology and ICTs can play to improve outcomes. As stated in World Bank's International Bank for Reconstruction and Development **"mobile ownership at the base of the pyramid level in South Africa is relatively high compared to other African countries and tracks the rest of the pyramid access and usage patterns very closely"** (6).

Sources:

- (1) [Brookings Global Monitor Report 2014](#)
- (2) [Own elaboration from CCT \(2016\) - Enumeration Report: Kosovo Informal Settlement Pocket](#),
- (3) [Geopol - Mobile penetration in South Africa \(2021\)](#)
- (4) [Clark et al \(2016\) - Improving Service Delivery to Informal Settlements through Data Management, Water Services and Urban Water Cycle](#)
- (5) [ITWeb - SA smartphone penetration now at over 80%, says ICASA](#)
- (6) [World Bank - Mobile Usage at the Base of the Pyramid in South Africa](#)



Cape Town receives
6X the amount of
service complaints per
household in formal
settlements compared
to in informal
settlements.

Source: Calculations from W&S Directors Report, May 2020 and CCT household statistics.

Nic Bothma/EPA Steven dosRemedios, Borgen Magazine

WASH Services for Informal Settlements Falling Behind

The City of Cape Town's responsiveness to water and sanitation (WASH) service requests and needs is not meeting the desired customer service levels within informal settlements.

63%

Informal settlement residents stated they would choose another WASH service provider rather than the City of Cape Town, if given the choice.

8%

Informal settlement residents stated that their community had been consulted regarding water issues in the past year.

51%

Informal settlement residents stated they are NOT satisfied with their water availability.

Residents in informal settlements face many barriers to accessing WASH services. Some of these contextual barriers include widespread poverty, limited infrastructure and the temporary nature of residence in these communities. Due to the challenges informal settlements pose to service delivery, it is imperative that there is appropriate service delivery feedback which would help inform the City's efforts to understand each particular settlement and provide better services. Current situation of the figures above might be different, suggesting the need of shorter intervals of time between each Customer Perception and Satisfaction Survey.

Little Feedback Yields Fewer Results

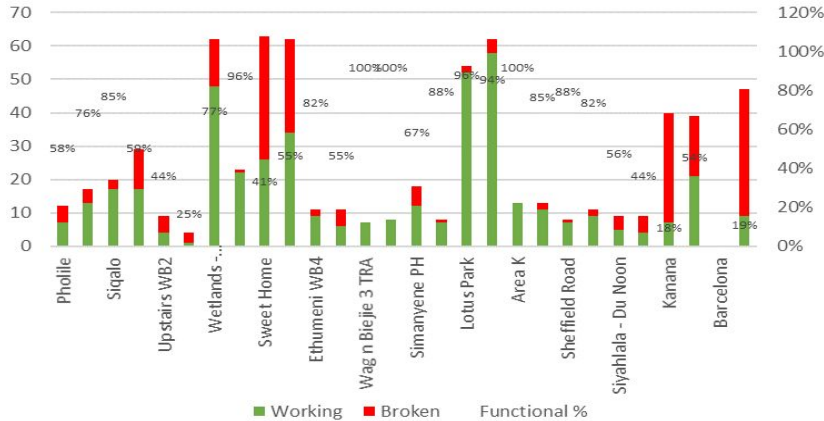


Incomplete Customer Feedback

Non-performing Assets (Taps, Toilets, Pipes)

Poor Services and Higher Maintenance Costs for CCT

Functional assets in selected informal settlements of Cape Town



The lack of service feedback allows for WASH service assets (such as toilets, water taps, and pipes) to become non-performing. This happens because as assets become damaged, there are no efficient feedback services that allow for employees to fix these assets. This results in poor WASH services overall for residents of informal settlements and higher maintenance costs for the City of Cape Town.

The graph on the left compares the percentage of functional vs. nonfunctional assets in selected settlements, as reported by the Future Cities initiative in October 2020. It can be seen that while for a majority of the settlements most of the installed assets are working, there are also some settlements with a concerning level of stranded assets. Since the current service ratio targets that the City keeps relates to the installed capacity and not with the working capacity, getting more complete customer feedback would give the city a better understanding of the actual service levels it is providing.

02



METHODOLOGY



Guiding Research Questions

Drawing from the Terms of Reference, the Columbia consulting team devised three guiding research questions to drive the engagement process.

01	What is the Current Status Quo of Cape Town?	<ul style="list-style-type: none">• End-to-end Process Mapping• Targeted Interviews with Civil Society• Background Literature Review
02	How can the City of Cape Town increase community adoption and participation?	<ul style="list-style-type: none">• Targeted interviews with Informal Settlement Residents• Background Literature Review• Case Study Analysis
03	How can the City of Cape Town increase internal capacity and improve performance?	<ul style="list-style-type: none">• Targeted Interviews with Staff at the Water & Sanitation Department• Background Literature Review

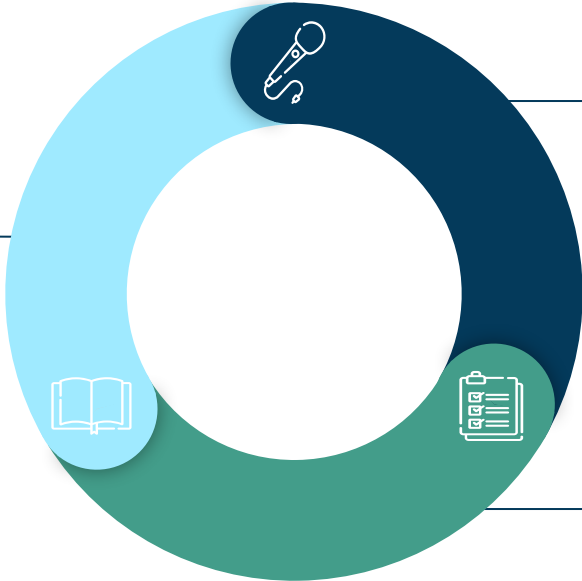


Project Toolkit

The consultant team employed a mixed-methods approach to answer the City's questions, principally relying on:
1) stakeholder interviews, 2) customer surveys, and 3) desk research.

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS

Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town

CUSTOMER SURVEYS

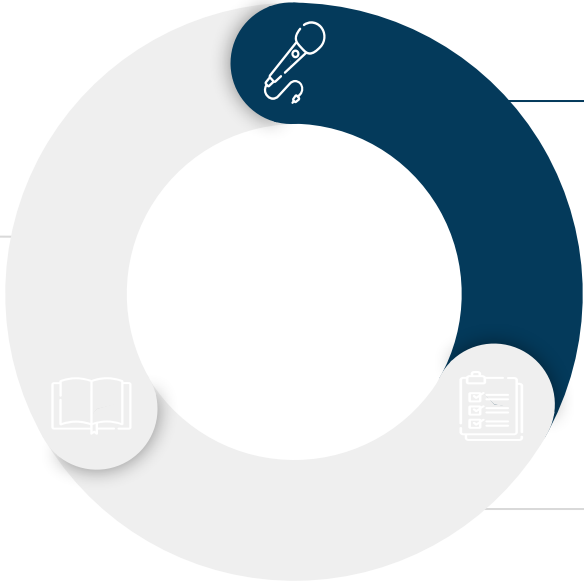
Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



Project Toolkit

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS

Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town

CUSTOMER SURVEYS

Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



It Takes a Village

14 individuals were interviewed across sectors, with a primary focus on City government staff. A full list of interviewees is included in the Appendix.

CSOs/NGOs/Consulting
Firms

3 INTERVIEWEES



City of Cape Town
Government Staff

9 INTERVIEWEES



Academics &
International Dev.
Organizations

2 INTERVIEWEES



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD



THE WORLD BANK
IBRD • IDA

Project Toolkit

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS

Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town

CUSTOMER SURVEYS

Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



Customer Surveys

Although the City conducts its own Customer Satisfaction Survey (CSS) (the most recent being the 2017/2018 report), the consulting team developed its own survey to assess the current situation of feedback mechanisms in informal settlements. These results would then be compared with the ones from the previous CSS report to gain perspective on what the residents' main concerns are.

Utilizing feedback gathered from the stakeholder interviewing process, the consultant team reached out to the nonprofit Community Organisation Resource Centre (CORC) in order to partner with them for this project. CORC has extensive experience working in informal settlements on issues such as evictions, basic services and citizenship. The organization also has a high level of technical expertise in survey data collection.

The mandated surveys were conducted in four different informal settlements with around 50 residents from each settlement. The following are the main demographics of the participants:

- 6% were community leaders.
- 65% household's heads and an additional 12% of partners/spouses of the household heads.
- 65% females.



On the Ground Perspective

Each informal settlement has its own history, demographics and idiosyncrasies. Each one was established in an unique area where topography and access to services are also variable. Through the use of field work we tried to highlight these differences, bringing 4 settlements from different suburbs and with different sanitation typologies. Due to the time restriction and an impending global pandemic this was finally not possible and all 4 settlements were selected from the Khayelitsha neighborhood in the Cape Flats suburb, where CORC had better networks so the activity could be done faster.

The selected settlements are the following:

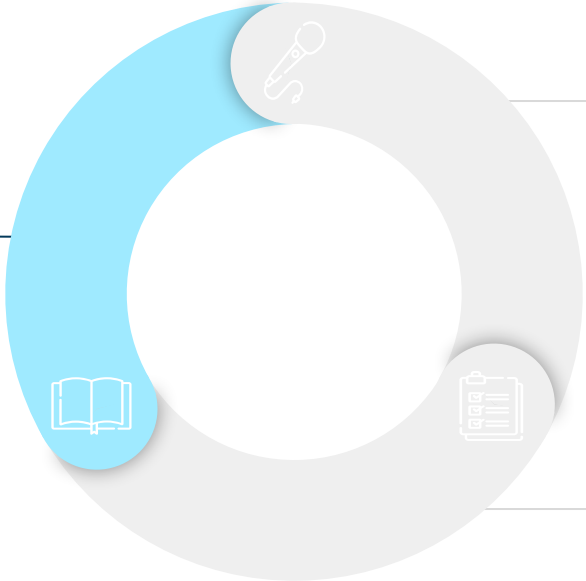
- Silvertown (also known as SST) → Full Flush & Chemical Toilets
- Island (Msindweni Makhaza) → Full Flush & Chemical Toilets
- Qandu Qandu (Green Point) → Chemical Toilets
- UT gardens (T section) → Full Flushing Toilets



Project Toolkit

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS

Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town

CUSTOMER SURVEYS

Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



Desk Research: Process Mapping

Given the sheer number of customers the City has, it is only reasonable to make use of every technological channel available to connect with them. However, for the ease they provide, these mechanisms also entail intrinsic communication difficulties to users which relate to **culture, education and preconceived notions**. In light of the **Design Thinking** methodology, the consulting team mapped each feedback channel process with the purpose to foreshadow possible **bottlenecks and pain points** that may appear when informal settlements' residents contact the City. In the figure below, it can be seen the 4 steps the consulting team took to accomplish these mappings.

Compile

Compile information about currently available communication channels.

Test

Personally testing feedback channels + interviewing city officials & stakeholders about each process.

Map Out

Visualize the workflow of complaint processing from the viewpoint of residents (primarily front end).

Insights

Identify Pain Points that can contribute to feedback improvement.



Insights from Around the World



The consultant team looked at over 17 academic research papers and case studies that concerned with providing effective service delivery and feedback mechanisms in informal settlements. Given that developing countries around the world face a rapidly urbanising population and limited resources, the following criteria was used to find best practices from cities around the world that would be relevant and replicable to Cape Town.

CRITERIA:

- Countries: Developing Economies
- City Population: Metropolis over 3M, Income Inequality
- Services: Basic (WASH, Electricity, Waste)
- Years: 2010 - 2021

03



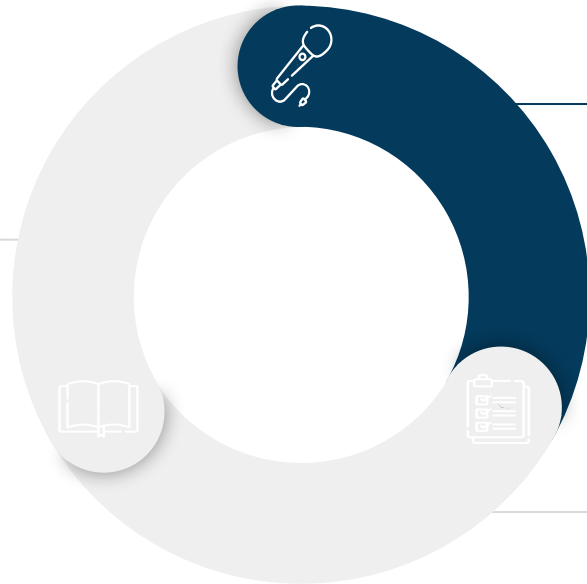
MAIN FINDINGS



Project Toolkit

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS

Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town

CUSTOMER SURVEYS

Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



During the interviews with City government staff, a recurring theme surfaced regarding how macro-level population trends are straining government capacity. Informal settlements show rapid growth which has only been exacerbated by the COVID-19 pandemic, with settlements sprouting up in new locations around Cape Town, including on private land or land not suitable for habitation. Paired with persistent safety and vandalism concerns within these communities, the challenge of adequately servicing residents within informal settlements extends beyond the Water & Sanitation department and is outpacing City staffing and resources.

*"In informal settlements, **the approach we've been using is not optimal. We've been treating these settlements as temporary...**but our view is that actually these informal settlements aren't going to go away. If anything they're going to grow..so we need to shift the way we're actually servicing these informal settlements to recognize them as permanent and allow for more formal servicing to take place."* - City of Cape Town Staff

*"Informal settlements have riots. **Then and now it affects us to send in teams to work because whatever is happening in the area is not safe.** And also the **vandalism of our infrastructure.** Currently we've got 25 pump stations that are vandalized...Now we first need to fix the pump stations, which is costing more than 2.5 million per pump station. So that is the huge challenge we are facing."* - City of Cape Town Staff

*"The amount of new structures entering informality far outstrips our current ability to provide services at that scale. So **we really are fighting a losing battle** in terms of the amount of settlements and the amount of sanitation we are able to provide in the interim."* - City of Cape Town Staff

“...while we have perhaps the technical acumen to design and implement projects, it’s always doing something on behalf of communities, and not necessarily working with communities to find solutions.”





Communication is Essential

Findings from Feedback Channels' Process Mapping

There are several communication channels available for Cape Town residents. However, none of them were designed **specifically** for informal settlements **customers**.

When communication channels are tailored to successfully reach informal settlements' residents, then customers feel as though officials want to hear their concerns, which **increases trust** in the city government.

It is critical for the communication channels to be not only reliable but accessible to the populations that will use them. Therefore, the consulting team analyzed selected communication channels. Through this process mapping **and stakeholder interviews**, we identified several pain points and insights to improve the system.

Current Feedback Channels

One part of our analysis entailed recreating the process of submitting complaints from a user perspective for each of the feedback channels.

Call Center

- Most Requests Come from Calls or Reports to Janitors

Email

- 2-way Communication
- Rarely Used

SMS

- Can't Verify Information
- One way Communication

Website

- Currently not used well
- User interface issue

WhatsApp/CT app

- Not currently available

Janitors in the Field

- Preferred because face-to-face comm.

Walk-in Centres / Mobile Offices

- Limited location
- Calls are free

Local Representative

- Highly influenced by politics.

Civil Society /NGO

- Submit complaints on behalf of residents

Check IT app

- Reported by Field Workers hired by NGO
- On going in 3+ settlements

Easily Available, Logistically Difficult, Currently Not Available

Source: Diagram based on materials provided by CCT and team's assumptions.

non-official/temporary path

Call Center

After a complaint is submitted, only the Call Center operator can communicate back directly with the customer, but not the other way around, leaving residents unable to easily check the status of the complaint.

Customer Needs to Submit a Complaint

Search for Call Center Number (086 010 3089)

Call and Talk with Call Center Operator

Backend Process

Check the Status through Call



Specially useful for people that don't have a smartphone, but then how do they find where to call?



187 Free call lines are available in municipal buildings and mobile offices (as per 2019)



Call centre number could be more readily available in the City's website.



Finding the number partially depends on how technologically literate is the client.



Single-window for all call requests



Call fee is paid by the customer



Single number for all issues means more time waiting to be directed to corresponding operator



Operator needs to locate the faulty asset only through conversation and geographical cues provided by the customer



Average WASH related call takes 3 minutes and it cost ~R 4.5.



Operator manually inputs complaint to C3 system → possibility of human error



Client cannot easily track the status of the complaint



Could the call centre automatize the process of status checking (having a automatic message once the customer enters the tracking number)

Sources:

- 1) CUSTOMER PERCEPTION AND SATISFACTION SURVEY 2017/18.
- 2) Customer experiences and perceptions of Water and Sanitation services in Informal Settlements (2020).
- 3) <https://mybroadband.co.za/news/cellular/281759-the-cheapest-way-to-make-a-voice-call-in-south-africa.html>

E-mail

While a convenient channel, lack of uniformity from customer emails makes it difficult to respond to complaints made in this manner

Customer Needs to Submit a Complaint

Search for email Address

Send Complaint

Backend Process

Check the Status through Email



Several email addresses are available in the City's website, not single-window



May be useful to discourage this channel in favor of others more easily manageable for the City (webform?)



There are no instructions on the required information to submit a complaint through this channel



The client can submit complementary information to accurately locate the asset or show the fault (images, Google Maps, etc.)



Are auto-replies providing sufficient status feedback?



Operator manually inputs complaint to C3 system → possibility of human error



Replies from operators take more time than other channels.



Client cannot easily track the status of the complaint



How is inbox being managed by the Customer Services Dept.?

SMS

SMS is one of the most commonly used feedback channels within informal settlements in Cape Town, although it is lagging behind compared with more modern tools available

Customer Needs to Submit a Complaint

Search for SMS Number (31373)

Send Complaint

Backend Process

Check the Status through Call



This mechanism is seen by the city as more useful for one-way communication from the city to residents (i.e. notice of planned interruptions)



Different numbers for WASH and electricity



May be useful to discourage this channel in favor of others more easily manageable for the City (webform?)



Required data in the SMS:
1) Issue, 2) Physical Address, 3) Name of Resident. (there are no address for informal settlements)



Max length of message of 160 characters may be insufficient



Approximate cost of sending an SMS message: R0.5, WhatsApp is much cheaper



When message doesn't come with required information, operator calls back the client



Operator manually inputs complaint to C3 system → possibility of human error



Reference number is given which can be used later on by client



Is it possible to provide clients the chance to check status without incurring in the cost of a call

Website

Informal settlements' residents should be able to specify their location

Customer Needs to
Submit a Complaint

Search Link to web
form

Complete the form



One of the cheapest options available currently as internet use is cheaper than SMS and calls at this time



Web form is hard to find through web search



QR codes in assets, mobile offices and municipal buildings could possibly make access easier



Drop-down lists have too many options



Map feature is too difficult to use and too slow



No possibility to select an asset in informal settlements, no address.

Reporting to Janitors in the Field

Reporting complaints directly to janitors is one of the most commonly used feedback channels within informal settlements. Janitors are often residents of informal settlements themselves and are trusted in their communities.

Customer Needs to Submit a Complaint

Search for Janitor

Report to Janitor

Backend Process

Check the Status through Janitors



Depends on availability of janitor, there is no regular schedule to reach them



Janitors are not present in all settlements (depends on the toilets being used)



Janitors could be trained to teach residents about other ways of submitting complaints



Janitors might not be able to check the issue immediately



Should the City give economic incentives to the janitors to gather more complaints?



Janitors must relay complaints to supervisor, who calls the Call Center to submit it



Sometimes janitors fix the issue immediately, not submitting the complaint in the C3 system later on → less legibility for the City officials



Checking status through Janitors might interrupt their work

Feedback Service Pain Points

1 Geolocation

Hard to find the location of the service requests.

2 Two-Way Communication

Often cannot re-engage with complaint filing customers

3 Siloed Corporate Communications

Lack of in-house complaint management within the W&S department

Common Pain Points Gathered by this Analysis:

- Geolocation is a major need in informal settlement areas.
- Inability to interact with customers reduces the opportunity to receive quality feedback and optimize service delivery
- While there are current efforts to address this, as it stands, much information is lost through miss or under communication between collaborating departments.

Project Toolkit

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS

Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town

CUSTOMER SURVEYS

Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



Summary Statistics

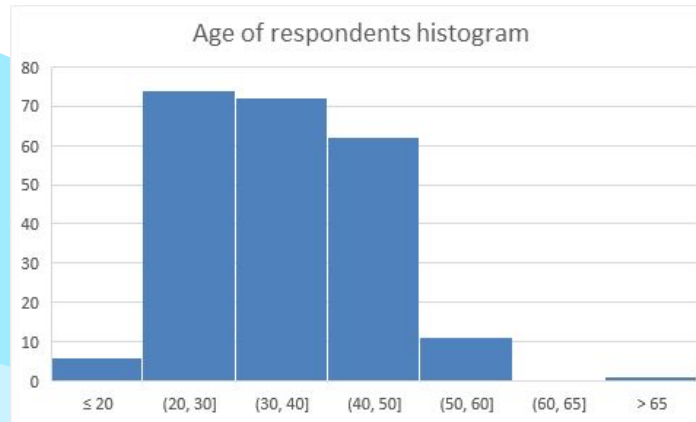
The following are the key statistics of the consulting team survey process conducted by CORC in Cape Town informal settlements.

Relationship to the Household	Frequency	Percent
Household head	148	65,5%
Child of household head	41	18,1%
Partner of household head	15	6,6%
Spouse of household head	13	5,8%
Dependent of household head	6	2,7%
Boarder/Non relative	3	1,3%

Percentage of people that know that they can report issues to WASH dept.	
Emsindweni/Island	97,6%
Qandu-Qandu	93,2%
SST	90,6%
UT Gardens	92,3%
Variance	0.0009

Settlement Name	Frequency	Percent
Emsindweni/Island	85	37,6%
Qandu-Qandu	44	19,5%
SST	32	14,2%
UT Gardens	65	28,8%
Total	226	

Sex of respondent	Frequency	Percent
Female	147	65,0%
Male	79	35,0%
Total	226	

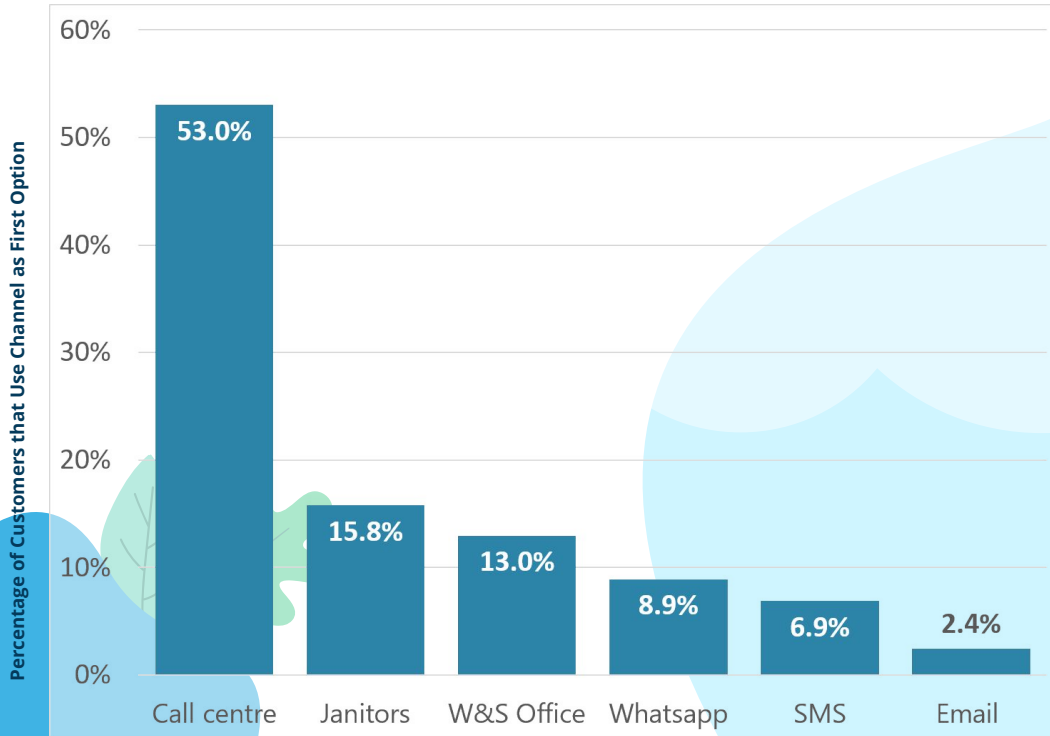


Based on the results for the question "Did you know you can report issues with the water & sanitation services to the City?" we can infer that the results are consistent across the different informal settlements surveyed.

Client's Insight

Findings from the surveyed informal settlements: Silvertown, Msindweni Makhaza, Qandu Qandu, and UT Gardens.

Current Most Used Feedback Channel based on field research carried out by CORC on behalf of Columbia University Research Team (April 2021).



Our Household Customer Surveys showed that the most used mode of communication to reach the W&S department nowadays in the selected settlements is the call centre, followed by approaching the janitors and going directly to an office. At least in the chosen settlements there are practically no issues with acknowledgement of the possibility to report to the W&S department. This result might mean that the W&S should consider focusing their publicity efforts in pointing residents to the most valuable and efficient mode of communication instead of advertise all channels in general.

See full questionnaire in the Appendix.

94.3% of respondents knew that they could report faults to the W&S dept.

Heard Around Town

The challenges highlighted by residents mirror the reforms they desire.

There were open ended questions in the surveys conducted by CORC. When asked about challenges and wanted reforms, customers expressed the following themes, a majority of which relate simply to better customer service communications

Voiced Challenges



Wanted Reforms



Communication that Generates Trust

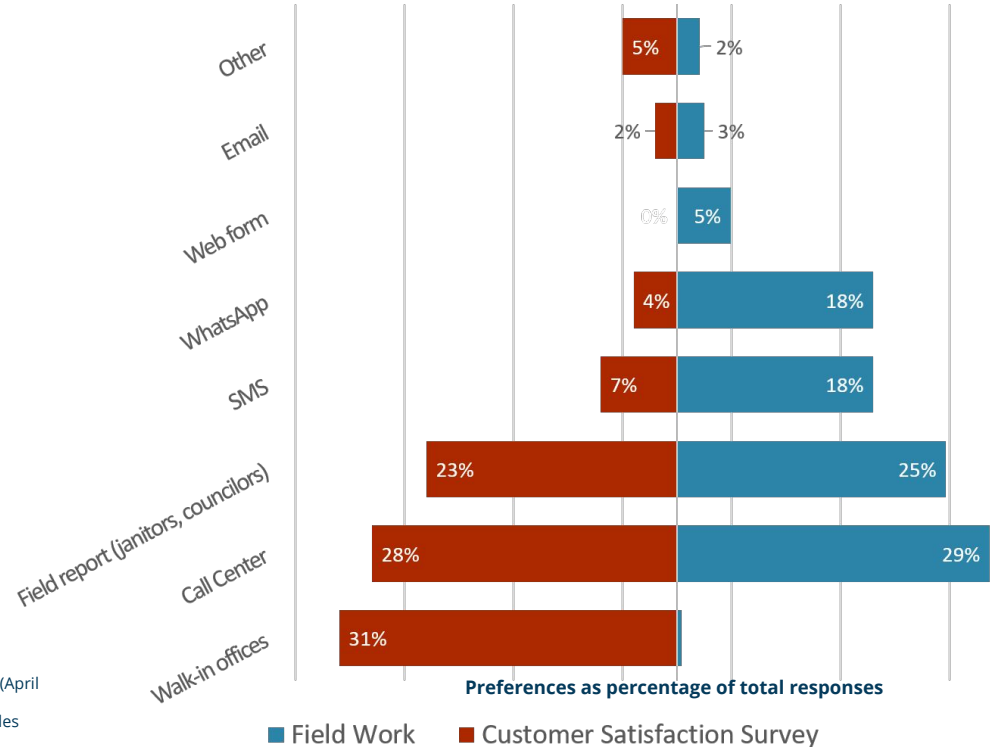
Findings from CORC Surveys Contrasted with Customer Satisfaction Report 2017/2018



One important finding from the customer surveying is that the preferred modes of communication for residents are those that allow **two-way communication**, such as field reports and calling by phone. The graph on the right compares the results for preferred channels of communication according to the last Customer Satisfaction Report from the CCT and the field work results.

Communication through devices ranked higher in the survey. This result may be explained by COVID-19 and the impossibility of in-person communication. Furthermore, it should be noticed that walk-ins and mobile offices were not available for part of 2020 due to COVID restrictions. It is recommended that as the pandemic is overcome the City should reevaluate these results to see if the increased preference for device communication is a persistent change in culture or preferences shift back to walk-in offices and other in-person means of communication.

Preferred Feedback Channels for informal settlements' residents according to consulting team field research and Customer Perception and Satisfaction Survey

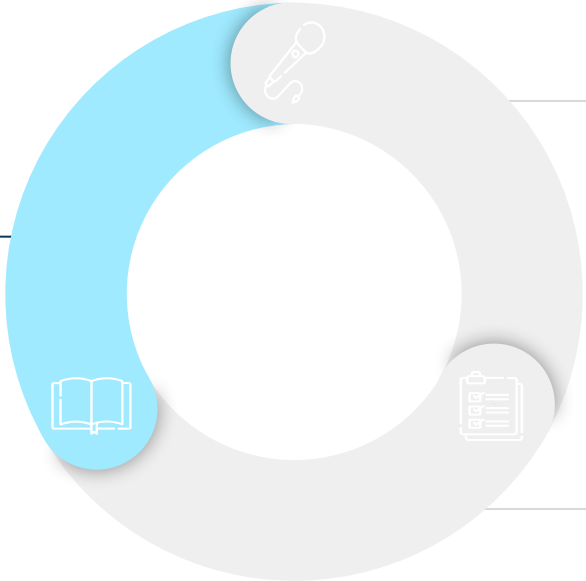


Sources: Field research carried out by CORC on behalf of Columbia University Research Team (April 2021) and Customer Perception and Satisfaction Survey (CPSS) 2017/18, Results Report by Department of Water and Sanitation, City of Cape Town (August 2019). Field report only includes councilors for the CPSS.

Project Toolkit

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS







Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town

CUSTOMER SURVEYS







Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



Key Highlights from International Best Practices 1/2

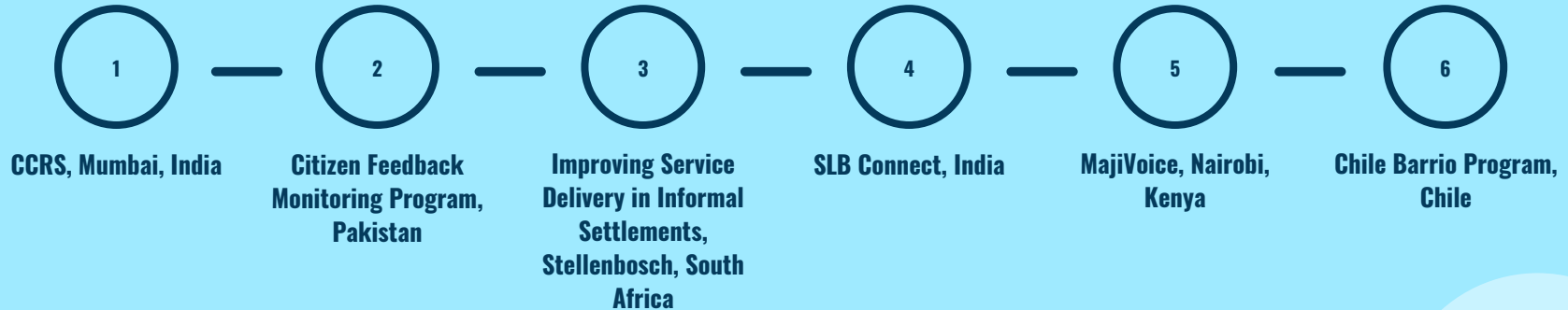
	Description	Associated Case Study	CCT Status
 Generation of KPIs Dashboard	<ul style="list-style-type: none">• Dashboard to evaluate KPIs on a real-time basis.• Helps identify performance gaps.• Helps benchmark resolution time.	<ul style="list-style-type: none">• MajiVoice, Kenya• CCRS, India• Citizen Feedback Monitoring Program (CFMP), Pakistan• SLB-Connect India	
 Develop Capacity of Field Staff	<ul style="list-style-type: none">• Developing the capacity of field staff to build trust when engaging in informal settlements.	<ul style="list-style-type: none">• Innovation Challenges of Utilities, East Africa	
 Councillor Code as Geographical Workaround	<ul style="list-style-type: none">• This would enhance accountability from elected representatives.• Allow tracking of complaints made informally.	<ul style="list-style-type: none">• CCRS, India	

Key Highlights from International Best Practices 2/2

	Description	Associated Case Study	CCT Status
 Complaints & Asset Mgmt Integration	<ul style="list-style-type: none"> Integrating feedback systems where complaints can help manage current assets. 	<ul style="list-style-type: none"> Stellenbosch, South Africa 	
 Interdepartmental Communication	<ul style="list-style-type: none"> All departments working in providing different services should be looped in together for coordination in service delivery. 	<ul style="list-style-type: none"> Stellenbosch, South Africa 	
 Use of Phone Based Apps	<ul style="list-style-type: none"> Mobile penetration is high in developing countries therefore phone based applications can be used to receive citizen feedback. 	<ul style="list-style-type: none"> MajiVoice, Kenya Citizen Feedback Monitoring Program (CFMP), Pakistan SLB-Connect India 	
 Accountability Builds Trust	<ul style="list-style-type: none"> Select data should be accessible to residents to monitor progress. Higher accountability results in greater community partnership and trust. 	<ul style="list-style-type: none"> MajiVoice, Kenya Citizen Feedback Monitoring Program (CFMP), Pakistan SLB-Connect India 	

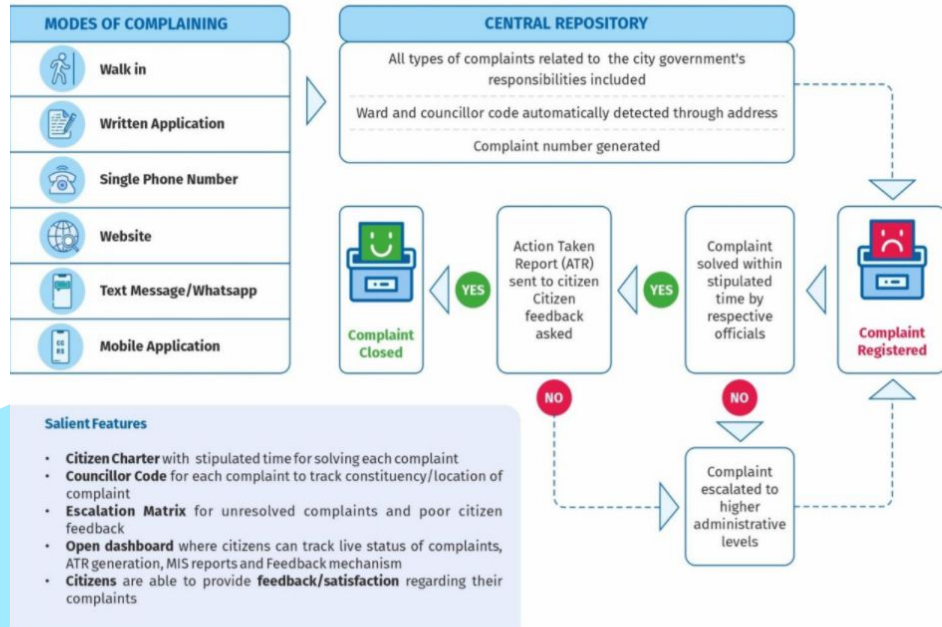
Case Study Analysis

A major portion of the desk research consisted of assessing various international examples of successful service delivery feedback innovations. To this end, the team analyzed six different case studies from across the globe, each one highlighting a policy or procedure. The specific case studies were chosen because their specific demographic contexts are similar to those in informal settlements in Cape Town or the feedback solution discussed is easily adaptable to a Cape Town context.



Centralised Complaint Registration System (CCRS)

Mumbai, India



The Complaint Management System of MCGM provides for a complaint number (1916), an online portal on the MCGM website, or written complaint to the complaint officer in the ward, where complaints can be registered.

The complaint is referred to the respective department for taking necessary action and if not solved within the stipulated time is escalated to the next level of administration. This is based on the 'escalation matrix' which has been adopted by the MCGM to address the problem of complaints remaining stuck at the lower level of the civic administration.

A part of this complaint management system is the Councillor Code. The councillor code is the constituency number of the councillor that is to be fed into the management system for locating the constituency of every complaint.

Figure: Ideal Working of Centralized Complaint Registration System for City Governments
Source: Praja Foundation, Civic Report 2020.

Citizen Feedback Monitoring Program Pakistan

The CFMP Process



The Citizen Feedback Monitoring Program (CFMP) is a feedback mechanism that **proactively conducts outreach to citizens** who have utilized public services to collect their feedback on service delivery. The goals of CFMP are to improve service delivery, curb corruption, increase citizen participation, and build citizen trust. CFMP is led by the Government of Punjab, and since 2008, has scaled to cover 26 public services across all 36 districts. Between February 2012 and December 2016, CFMP outreach culminated in:

- 19.44 million citizens' data recorded
- 12.64 million citizens' contacted
- 1.75 million citizens responded
- 272,000+ reported corruptions/complaints

In addition, based on a 2014 World Bank study, results indicated that 55% of surveyed respondents said overall service delivery improved; 71% said staff attitude improved; and 63% said timeliness of services improved.

Outreach relies on the use of robotic calls and SMS, which has enabled scaling efforts. Officials then have real-time access to the data.

The CFMP model has inspired similar innovations across Pakistan, and has also been replicated by Romania and Albania.

Sources:

[The CFMP Insider](#) (March 2017)

[Calling Citizens, Improving the State: Pakistan's Citizen Feedback Monitoring Program, 2008 – 2014](#) (2014)

Improving Service Delivery in Informal Settlements

Stellenbosch, South Africa

The goal of this project was to identify communication platforms and data management solutions to improve the service delivery process to informal settlements under the jurisdiction of Stellenbosch Municipality, South Africa.

The following recommendations were suggested to the Stellenbosch municipality.

- **Community profiling** to supplement data collected through **enumeration** were recommended for the Stellenbosch Informal Settlement Management Unit (ISMU).
- In order for the community members to clearly identify services when reporting a problem, **a numbering system was developed that could be tagged** onto each tap, skip, electrical pole, and ablution facility. This numbering system would be used to efficiently report service requests to the municipality through the use of **a suggested WhatsApp messaging system**.
- Facebook and Twitter should be supplements to WhatsApp as additional platforms for general updates from the municipality. To accommodate people without smartphones, the use of **SMS short code service request system was suggested**.
- **Slack was recommended as an interdepartmental communication platform** to replace email and make the process more reliable and organised. **Busybot is an additional program embedded into Slack that will generate lists of service tasks automatically**. This will aid in tracking service requests and providing periodic feedback to all parties. This platform would have at least two representatives from each relevant department.
- To maintain constant improvement in Stellenbosch's systems, some sort of **communication** should be formed between the **ISMU in Stellenbosch Municipality and its counterpart in the City of Cape Town**.

SLB Connect India

Implementation of SLB-Connect

PIMPRI-CHINCHWAD - Proof of concept

1.7 million population; 47 water zones
Survey in 2012 - 5,200 HHs

MEHSANA -

180,000 population; 14 wards
Survey in 2013 - 1,400 HHs
Partnership with Gates project

DELHI- Community level (2 slum settlements)

Survey in 2014 - 300 HHs & 600 HHs
Partnership with CURE (NGO)

PCMC -- Repeat exercise

Telephone survey in 2014 - Over 3000 HHs
+ SMS Pulse survey in 2015

Scaled up demonstration

5 cities in 3 provinces
Surveys in December 2014 to April 2015
Approx. 28,000 HHs

Integrated with national urban program and World Bank funded project

Note: HHs: households; NGO: nongovernmental organization.

SLB Connect (SLB-C) was launched by the Government of India's Water and Sanitation Program, in partnership with the Ministry of Urban Development. SLB-C collects and analyzes citizen feedback on water supply and sanitation services.

As of early 2017, SLB-C had been implemented in eight cities covering six states. Notably, in 2014 the initiative was launched in two slum settlements in Delhi in partnership with an NGO, the Centre for Urban and Regional Excellence.

Across the five cities in which scaled up demonstrations were implemented (reaching ~28,000 households), between 4% to 48% of survey respondents within each city resided in slum areas.

Overall, feedback has been collected from over 35,000 households using various methods, principally the Mobile Aided Personal Interview (MAPI) method, followed by telephone surveys and SMS polls.

One relevant finding is that within cities in which service delivery was a municipal responsibility (ex. Pimpri Chinchwad, Jabalpur), citizens preferred channeling their complaints through councilors (especially residents living in slums).

Source: [Mainstreaming citizen feedback on service delivery using ICTs Findings and lessons from ICT-based feedback surveys on water supply and sanitation services in Indian cities](#) (2017)

MajiVoice

Nairobi, Kenya

MajiVoice, originating in Nairobi, Kenya, is a WASH complaints processing program. Through its creation, Nairobi has been able to streamline the way it receives and process complaints while decreasing resolution time for solving WASH service issues.

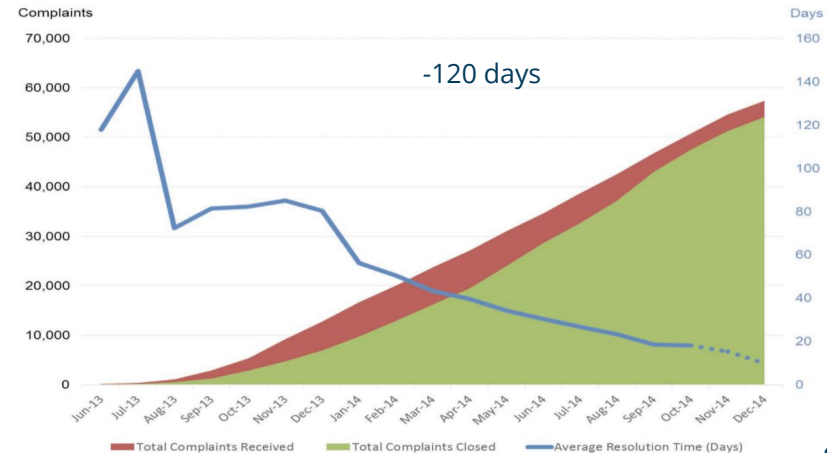
Nairobi is not a perfect corollary to the context of Cape Town. While MajiVoice was created with Nairobi's urban poor population in mind, the city does not have informal settlements very similar to Cape Town's. Furthermore, their WASH regulatory services are organized differently than the City of Cape Town's, as seen in the figure on the right.

However, the MajiVoice system was able to achieve some of the goals the City of Cape Town is wishing to as well. Specifically, MajiVoice helped Nairobi **increase the number of WASH service complaints received and resolved while decreasing the average resolution time for closing a complaint**. MajiVoice was able to achieve these successes because all complaints are integrated into a singular, organized database regardless of how a complaint is logged. Furthermore, the **hierarchical nature of their organizational structure increases their efficiency in resolving complaints**. While there are clear delineation of roles and responsibilities for each department, everything is overseen by one regulatory board that focuses on the holistic view of service delivery and feedback.

MajiVoice's "Accountability Chain" Organizational Structure



MajiVoice Complaints at Nairobi City Water and Sewerage Company



Chile Barrio Program

Chile

The Chile Barrio program from Chile was a nationwide program that began in 1997, with the purpose of improving the capacity of informal settlements' residents to rise out of their condition of social and economic marginalization. Lasting until 2006, there were four components to the program:

1. Housing and Neighborhood Improvement (which included the provision of Basic Services)
2. Community Development and Social Insertion
3. Labor and Productive Habilitation
4. Institutional Strengthening of Programs Targeting Poverty Reduction

One key learning from the Chile Barrio case is that while it attempted to be intersectorial, it was not able to achieve this goal. This is due to the fact that the different relevant institutions responsible for implementing the programs had a hard time collaborating. The study emphasized that the primary reason for this "silo" phenomenon was a lack of a strong coordinating entity to guide the appropriate departments on how to work together, causing a lack of drive to accomplish the program's goals. The department that was placed in charge of project implementation, the Ministry of Housing, didn't prioritize the program because it required too many adjustments to their already entrenched operating model. To be able to successfully work together **there must be a willingness and enthusiasm among all parties in order to change habits and buy-in to new ideas.**



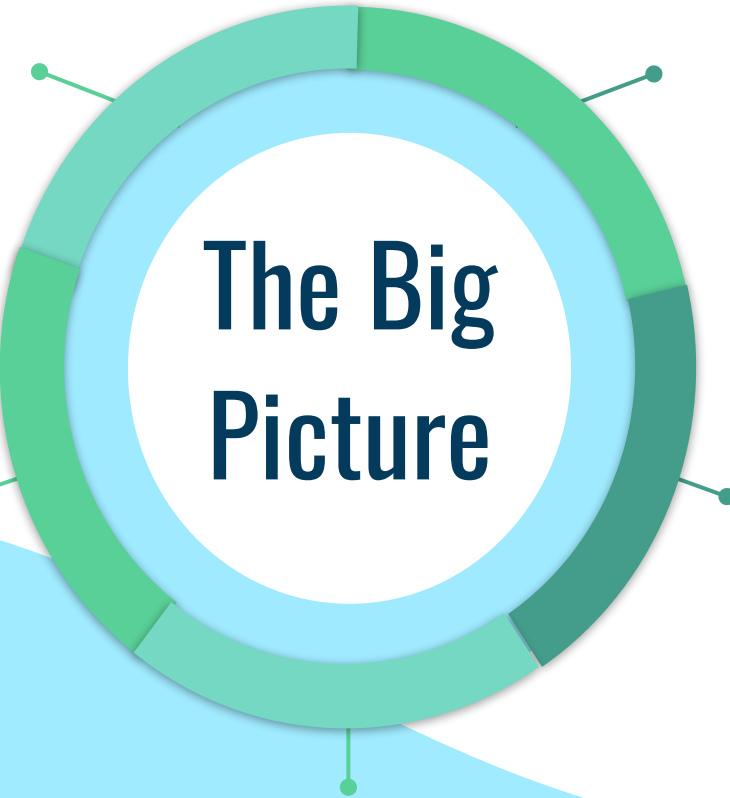
Source: ESTUDIOS DE CASOS 88 N°98 "Diagnóstico y Evaluación de la Gestión del Programa Chile Barrio". Claudio Martínez Villa.

Accessible Communication Channels

Essential that residents and support staff are able to easily communicate with each other to guarantee feedback is heard and acted upon

Partnership is Key

Collaboration between all stakeholders involved (including residents, civil society groups, NGOs, and various governmental departments) is necessary to ensure quality service is provided



No “One-Size-Fits-All” Approach

All settlements pose their own service challenges that require different, context-dependent solutions

Community Awareness is a Must

Often residents of informal settlements do not know about the services that are already available

Improved Data Collection & Management

Customer data must be thoughtfully organized in order to streamline request services



04



RECOMMENDATIONS



Ideating Solutions

Based on the results of the stakeholder interviews, desk research, and customer surveys, the Columbia consulting team mapped out recommendations that had surfaced throughout the engagement process using an Action Priority Matrix. The horizontal axis measures feasibility (how easily can a given recommendation be advanced and implemented), and the vertical axis measures its potential for impact. Based on this framework, recommendations with high feasibility and high impact were considered as **“Quick Wins”**, those with low feasibility but high impact as **“Major Projects,”** those with both low feasibility and low impact as **“Thankless Tasks”**, and finally those with high feasibility and low impact as **“Fill-Ins.”**

The consulting team developed two matrices, in which the potential recommendations were organized by the following guiding research questions:

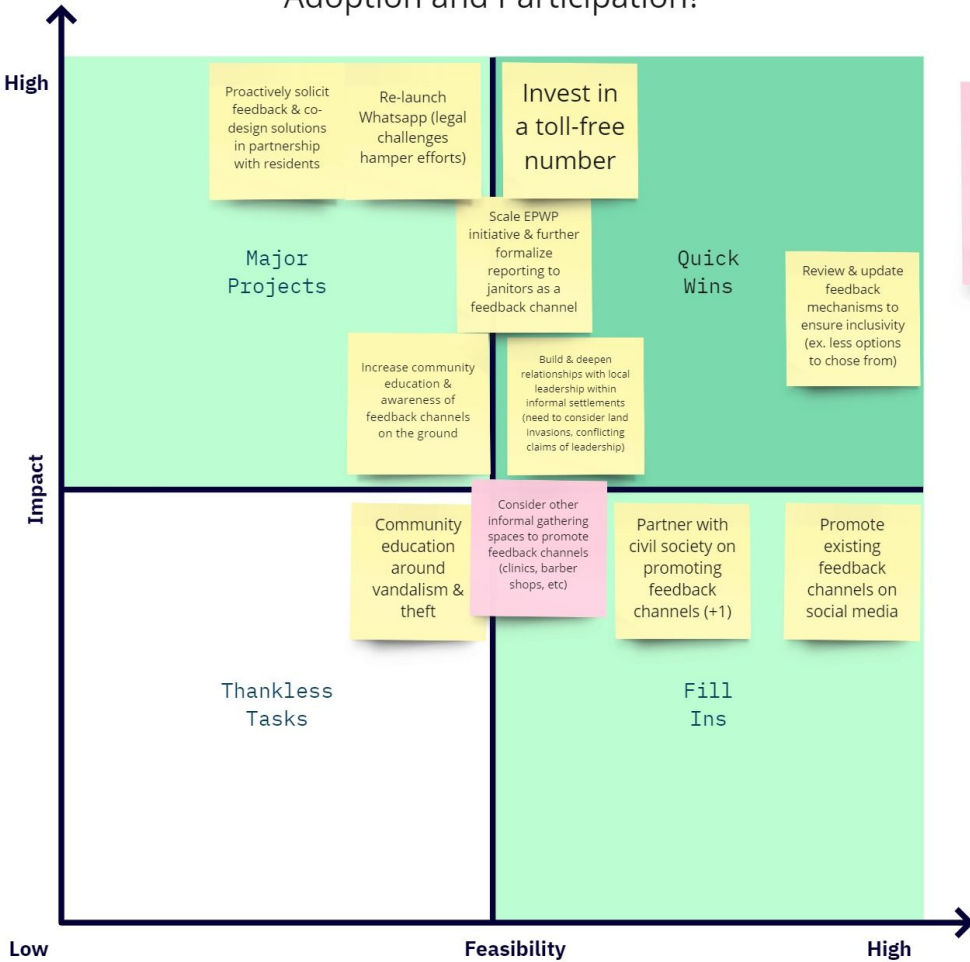
- **How Can the City of Cape Town Increase Community Adoption and Participation?**
- **How Can the City of Cape Town Increase Internal Capacity and Improve Performance?**

On April 13, 2021, during the final client call with City of Cape Town governmental staff, the consulting team led an interactive brainstorming session to:

- 1) Validate where recommendations should fall on the feasibility/impact matrix
- 2) Determine whether there were any missing key potential solutions
- 3) Identify which recommendations generate the most excitement

The final matrices developed through this exercise can be viewed on the following page, complete with notes taken throughout the discussion.

How Can the City of Cape Town Increase Community Adoption and Participation?



Janitors are appointed for short-term contracts which is a challenge -- hard to retain good workers (should reconsider length of contracts)

Why has a toll-free number not been done? Expect it's not easy to do
-eThekweni may have a toll free number (or at least had)

Call centers have option of installing toll-free line, just must be secure

The 6-month employment period may be a partly "political" decision in the sense that shorter duration results in increased number of job creation opportunities to report on

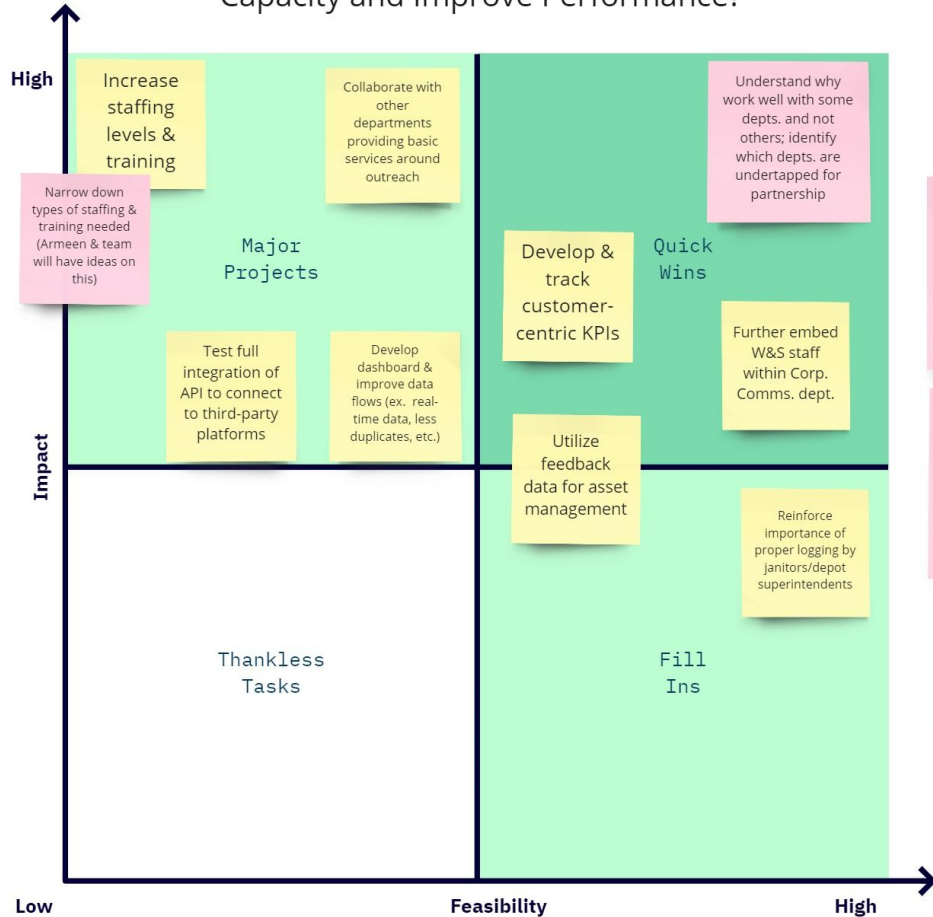
Results of Action Priority Matrix Exercise 1/2

Legend

City of Cape Town staff feedback

Proposed ideas by Columbia SIPA team

How Can the City of Cape Town Increase Internal Capacity and Improve Performance?



Results of Action Priority Matrix Exercise 2/2

Legend

City of Cape Town staff feedback

Proposed ideas by Columbia SIPA team

W&S department already working well with Corp. Comms. dept. (good collaboration between teams)

Find it easier to work with some depts. vs. others (ex. work well with Environmental Health, less so with Human Settlements) - they are increasing capacity of various line depts.

Might need a coordinator role to support inter-departmental collaboration - someone focused on informal settlements

urban management have a key role to play here

Mike most exciting about re-engaging political space (councillors) and looking at inter-departmental communication; think have under-utilized capacity within the city

Based on the insights gained through this brainstorming exercise, the consulting team narrowed down the scope to five key recommendations, highlighted on the subsequent page.

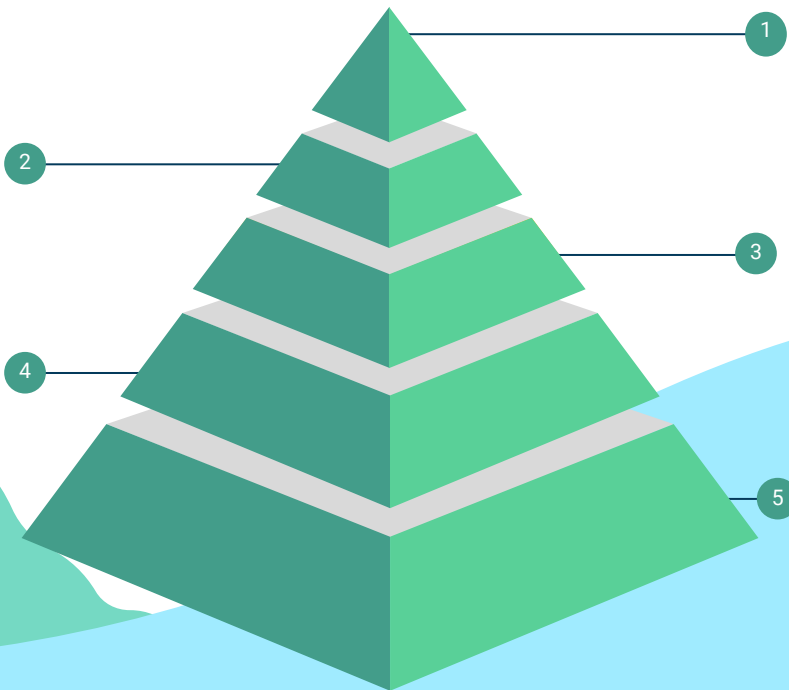
Our Key Recommendations

Invest in Toll-Free Number

The call center is the primary avenue through which residents communicate when filing a complaint. A toll-free number would increase access to this avenue as well as increase the amount of complaints received

Increase Interdepartmental Communication

Creating efficient lines of communication and investing in collaboration with other departments providing basic services can minimize redundancies and incentivize the sharing of innovations



Councillor Code

Linking political councillors with unique identification numbers increases accountability to constituents and incentivizes politicians to better understand the nature of informal settlements

Develop Customer-Centric KPIs

Determining key performance indicators can help the City of Cape Town better analyze the data they receive and adapt current processes accordingly

Invest in Overall Capacity Building

Due to the expansion of informal settlements in Cape Town, increasing overall capacity and staffing can lead to improved response times and service delivery

Feasibility

Councillor Code

A significant proportion of complaints are received informally through local councillors. In order to leverage the use of this feedback channel, the consulting team proposes that the City adopt a councillor coding system to support its tracking of complaints.

How Does It Work?

- The councillor code is the constituency number of the councillor that is to be fed into the complaint management system for locating the constituency of every complaint.
- This means that all complaints entered through the C3 system should also include the name of the administrative ward/councillor constituency. When entering the address of the complaint the code can also automatically be detected based on the zipcode of the location in the system.

How Does This Help?

- This enables the councillor to be aware of complaints filed and to hold the administration accountable for addressing complaints in a timely manner.
- Proper implementation of mandatory entry of councillor code for every complaint must be done for better accountability in the system.

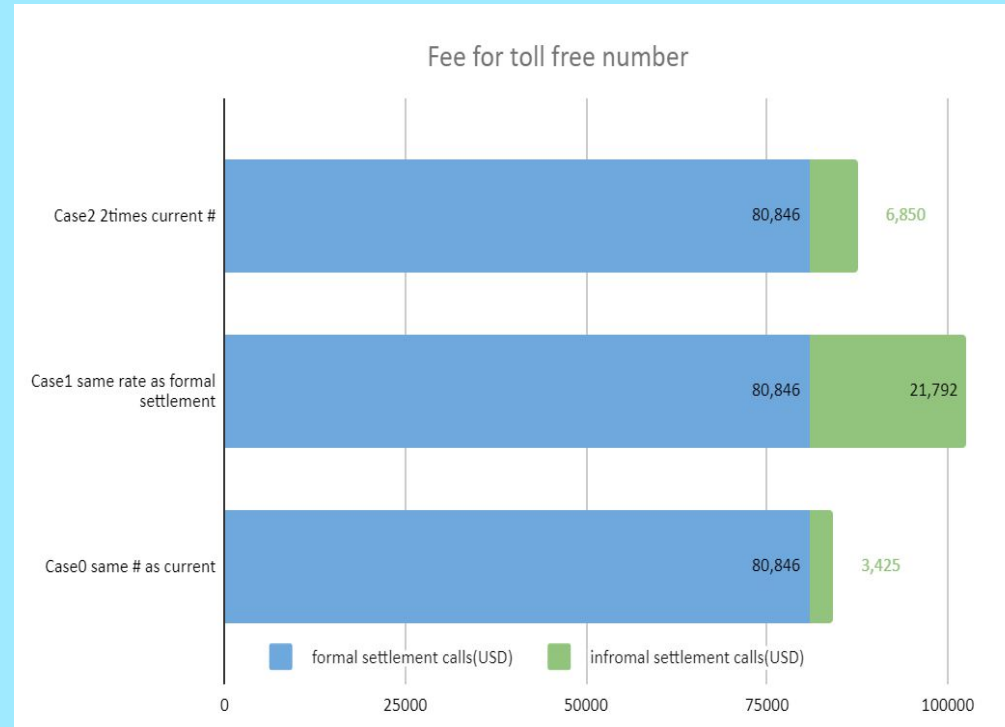
Implementation in Mumbai:

- In Mumbai, under the centralised complaint management system followed by the city, entering the name of the administrative ward in the online form has been made compulsory. As of 2019, councillor code was filled in 22% of the total complaints received by the city.

Toll Free Number

The call center is a primary avenue through which informal settlements' residents communicate when filing a complaint. A toll-free number would increase access to this channel as well as increase the amount of feedback received.

- Having a toll free number would mean the use of walk-in centres for these use would reduce.
- The consulting team generated a rough estimate on the cost to the City of providing a toll free number for WASH related issues using information from CCT's 2020 Customer Experiences and Perceptions of Water and Sanitation Services Report .
- The key assumptions for these exercise are:
 - fixed costs of \$30-50/month
 - variable costs of \$0.03-0.07/min*
- Three examples were generated to approximate the cost of a toll free line
 - Case0 = Estimation of Yearly Cost for Toll Free Line if Informal Settlements' Complaints number stays the same.
 - Case1 = Estimation of Yearly Cost for Toll Free Line if Informal Settlements complain at same frequency as formal settlements
 - Case2 = Estimation of Yearly Cost for Toll Free Line if Complaints doubled for Informal Settlements.
- The estimated total cost of a toll free number would then range between **\$83K and \$102K USD per year**



* Example of toll free number service providers: callhippo.com, [Toll Free Numbers South Africa](#)

** See detail calculation in appendix

Dashboard of KPIs to Improve the Decision-Making Process

Operations (Day-to-Day) *Descriptive*

- Resolution Time/Complaint
- Total # of complaints
- Complaints/Asset

Tactics (1-2 Years) *Diagnostics - Predictive*

- Last Check-Up or Repair/Asset
- % Complaints Resolved on Time
- % of Assets in Need of Repair or Servicing

Strategy (+ 5 Years) *Prescriptive*

- Customer Satisfaction
- # of Complaints/Service Depot Worker/Month
- % of Households with Adequate Toilet and Water Access

Creating a Dashboard of KPIs to track the status and progress of the City's WASH assets and delivery of services would require a considerable investment, but one that would bring substantial efficiency gains not only to the operations but also to the department's strategy.

As a first part of the journey to realize the potentiality of ITCs, the department should make decisions on the following key questions:

- Which department and staff within the municipality structure will govern and champion this Data Analytics project?
- How much technical involvement will the City have throughout the development of the project? How will the City pursue contracting services (ie. SaaS, tailored development)? What training will City officials have in order to fully operate the platform?
- What spatial granularity would be needed from the data? From assets → quadrants (how big?) → Settlements.
- Will this be a joint effort from W&S and other departments (ie. health, education, police)? Will it share the same database and platform or will it be done through API queries?

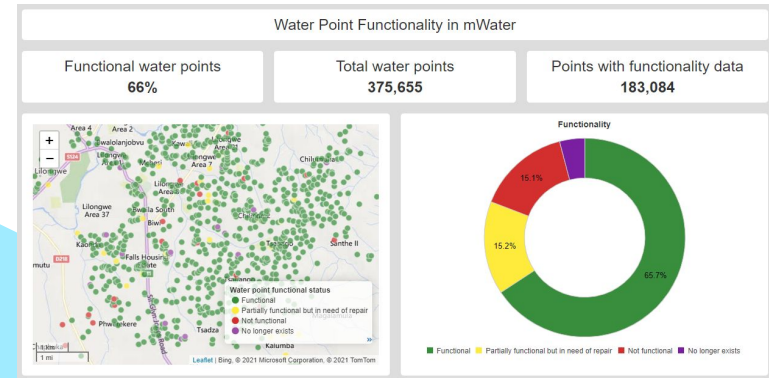
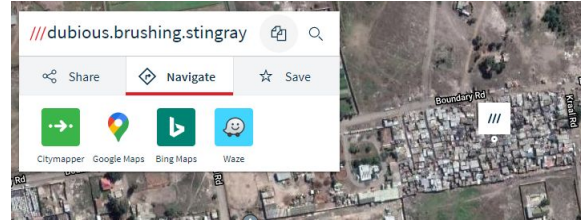
A Hawk-Eye for the City

GIS as Complement for a Dashboard

According to data from Future Cities, WASH assets registry in the CoCT is updated every 2 years. Why does it take so long? There's a lack of ICT tools to automate and make the job easier. That is one of many reasons why the City should evaluate optimize its use of **Geographical Information Systems**.

The CoCT already has a great tool to build upon GIS projects; the C3 system based in SAP, which can be integrated into GIS. One of the first challenges the city would have to address is how to locate assets in a highly fluid environment as informal settlements. One low-tech, low-cost option could be to localize assets through the use of QR codes, which can be read by cell phones (the La Reina municipality in Chile, uses QR codes to register trees). Another alternative is [What3words](#), which assigns a three word tag for each three-meter square of land in the world.

Finally, one complete data management solution worth noting is the [MWater](#) platform, an open access software used in 180 countries, which could be use as template by the City.



Interdepartmental Communication

In order to foster innovation and minimize the duplication of efforts, the Water & Sanitation Department should deepen interdepartmental communication, particularly with other departments also providing basic service delivery. Included below is an illustrative list of other departments that provide basic services.

- City Health Department
- Electricity Generation and Distribution Department
- Fire and Rescue Service Department
- Law Enforcement, Traffic and Coordination Department
- Human Settlements
- Metropolitan Police Services Department
- Solid Waste Management Department
- Transport Department

While it is not expected that the W&S team prioritize deepening relationships with all of these departments, the consulting team encourages the W&S department to consider:

- Which departments does the W&S team currently collaborate well with, and why?
- Which existing relationships should the W&S team prioritize deepening - why and how?
- What new relationships may help the W&S department advance its strategic priorities and goals, and how might the team begin cultivating those relationships?

Given that the **Customer Relations Department** manages service requests and complaints across City departments, Customer Relations is uniquely positioned to advance opportunities for cross-departmental collaboration.

In addition, the Water & Sanitation Department may consider creating a staff/coordinator position exclusively dedicated to fostering interdepartmental collaboration in order to formalize these efforts within the department.

Building Internal Capacity through the EPWP Janitorial Program

The Expanded Public Works Programme (EPWP) is a national government that provides employment opportunities for individuals within the communities in which they live. Those in the EPWP working as a janitorial service worker are employed by the City of Cape Town's Water and Sanitation Department. Our team found that these janitors are not only front line workers, but a major channel of communication between the W&S Department and residents of informal settlements as many log complaints informally through them.

However, currently janitors enrolled in the EPWP can only work up to 6 months and then are transitioned out of the role. The temporary status of the work means that every 6 months the City is losing an essential worker with institutional knowledge as well as connections with their community.

Further expanding the nature of EPWP with regard to janitorial service workers could address the city's need to build capacity while ingratiating itself with the communities it serves. **Options to accomplish this goal:**

- **Option 1:** increase the number of janitors hired through the EPWP.
- **Option 2:** extend the time frame for janitorial workers in the EPWP from 6 months to 2 years. This way, skilled workers are not instantly replaced and hard gained institutional knowledge is not lost.
- **Option 3:** Create avenues where skilled janitorial workers can become permanent or semi-permanent employees based on recommendation from W&S supervisors. Supplying opportunities for advancement within the department can help retain good staff that act as bridges to the settlements.

Changing attributes of this policy would require a political effort from the CoCT leaders to convince at the national government level.



Option 2:
Increasing Time Frame of
Janitorial Service Worker
Contracts



Option 1:
Increase the amount of
janitors hired through the
EPWP



Option 3:
Develop programs for advancement for
skilled janitorial service workers that
allows them to continue working after
the expiration of the EPWP contract.

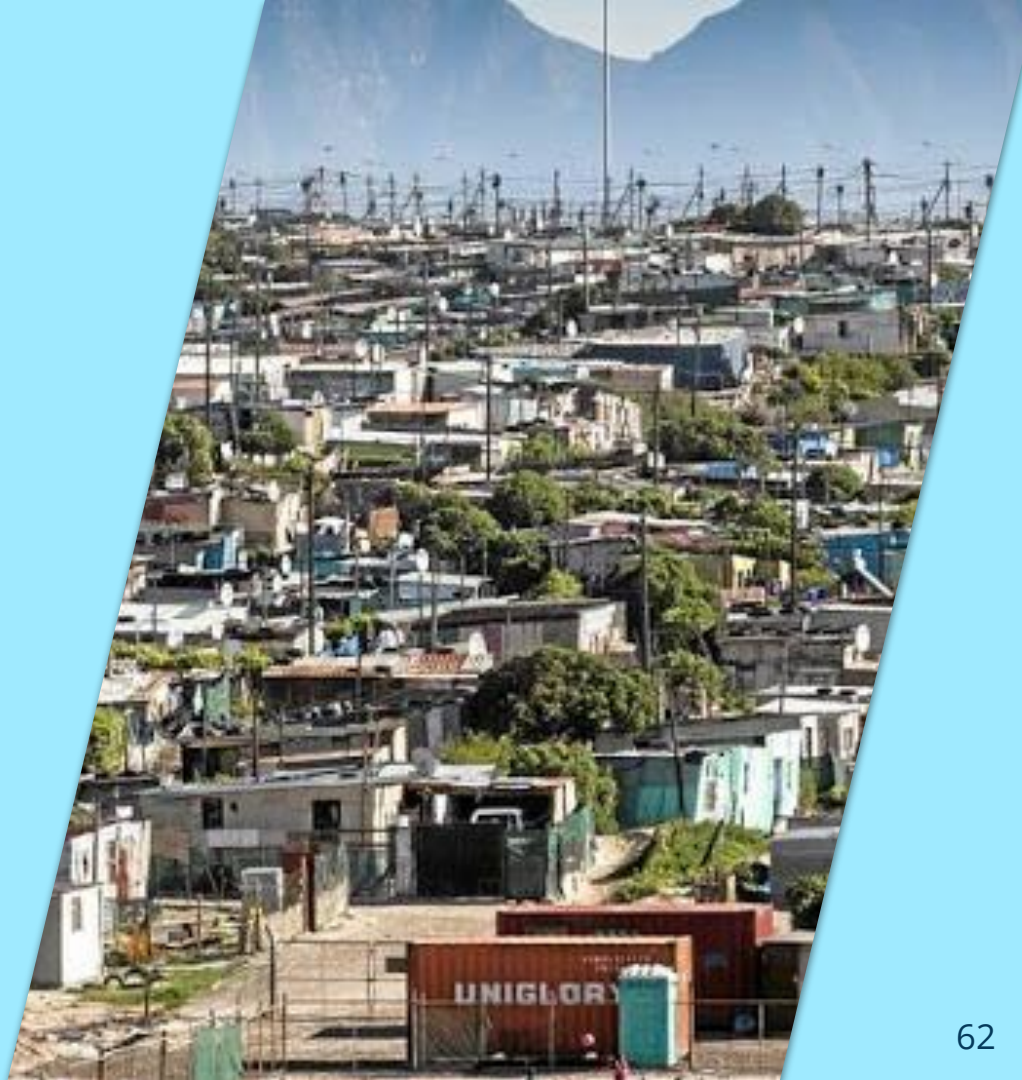
*	Cost	Feasibility	Impact
Option 1	●	●	●
Option 2	●	●	●
Option 3	●	●	●

* Calculations for chart are estimates determined from our literature review and stakeholder interviews

Color-coded to indicate relative ease in designated category

• • •

Appendix



Project Toolkit

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS

Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town



CUSTOMER SURVEYS

Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



Questionnaire for Field Survey

Questions:

1. Did you know you can report issues with the water & sanitation services to the City? (Yes or No Question)

2. When you face an issue with your water and sanitation services, how do you file complaints/provide feedback with the city department? (select all applicable, multiple choice)

3. How would you like to approach the city government when you face water and sanitation service issues? (Select 1st preferable option)

Possible Answers (2-3):

1. Call Center
2. Email
3. SMS
4. Water and Sanitation Department Website
5. Whatsapp
6. Janitors/ EPWP workers on field
7. Walk in Centres/ Mobile Offices
8. Elected Local Representative
9. Local leadership within settlement (non-elected)
10. Civil Society/Local NGO
11. Check IT app
12. City PFO (Principle Field Officer)
13. Others (Please specify)

4. What is your preferred mode of communication in your daily life? (choose the 2 most preferable ones)

5. What are some of the challenges you face when communicating about water and sanitation issues with the city? (Open-Ended Question)

6. If there was anything to change what would it be? (Open-Ended Question)

7. Is there anything else you would like to share with us? (Open-Ended Question)

Possible Answers (4):

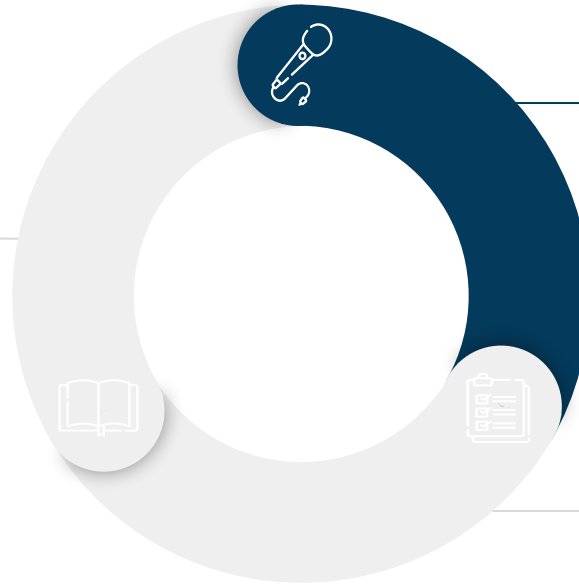
1. Phone call
2. SMS
3. Radio
4. Whatsapp
5. Email
6. Facebook
7. Twitter
8. In-Person conversation
9. Others (Please specify)



Project Toolkit

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS

Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town



CUSTOMER SURVEYS

Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



Interviews: City of Cape Town Governmental Staff

First Name	Last Name	Role
Michael	Webster	Executive Director
Armeen	Mallick	Acting Manager for Informal Settlements Basic Services (ISBS)
Nonzuzo	Jacob	Supervisor, Manager of Operations, Contact Center
David	Sekels	Administrative Officer 3: Informal Settlements Basic Services
Thembisa	Gqamane	Senior Professional Officer: Water Demand Management and Water Conservation, Water and Sanitation, ISBS-COVID-19 Response Programme
Mogamad Zahier	Abrahams	Professional Officer: Informal Settlements Basic Services – Water and Sanitation
Nolufefe	Mondliwa	Head (ISBS) of Operations and Maintenance
Deelin	Naidoo	Lead: Strategy Implementation Support Unit
Helourine	Seyffert	Senior Professional Officer: Customer Relations, Corporate Services

Interviews: External Stakeholders

Name	Title	Organization
<i>CSOs/NGOs/Consulting Firms</i>		
Nick Graham	Managing Director	Palmer Development Group
Thembelihle Ngcuka	Project Support	CORC
Nadine Coetzee	Architect and Project Support	SA SDI Alliance
Claire Pengelly	Water and Agriculture Programme Manager	GreenCape
<i>Academia/ International Development Organizations</i>		
Gina Ziervogel	Associate Professor, Dept. of Environmental & Geographical Science	African Climate & Development Initiative (ACDI), University of Cape Town
Maximilian Hirn	Formerly supported MajiVoice	World Bank Group

Interview Template

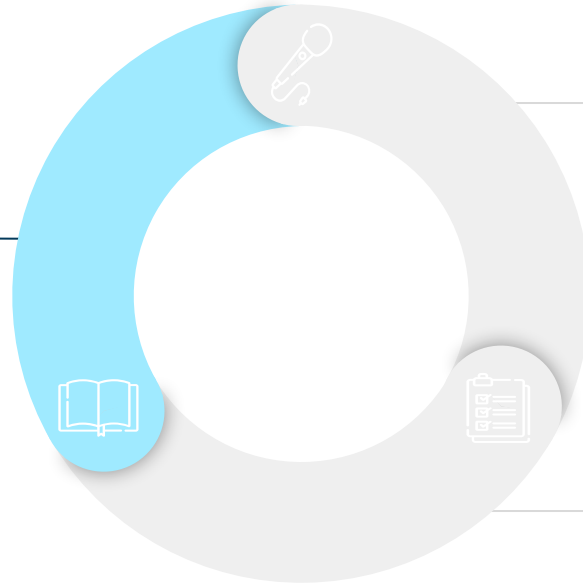
Highlighted below are sample interview questions used with City of Cape Town staff. However, it should be noted that we tailored our interview questions to each individual, based on their organizational affiliation, expertise/experience, and role.

- What brought you to the Water & Sanitation department and this work? What does your current role entail?
- What is the most exciting part of the water strategy?
- With regards to improving service delivery and communication within informal settlements, where has the department had success in the past? How does the department currently track its progress?
- How does service delivery within informal settlements fit into the overall strategy of the department? Where do you see this work headed moving forward, and where do you see the greatest opportunities for growth?
- What are the key challenges to improving feedback mechanisms within informal settlements? What internal capabilities may need to be strengthened in order to support this work?
- How do you envision success in this work, and how might you measure it? What KPIs would you use?
- Are there any specific local or international examples related to this work that you know of that you recommend we look into?
- Is there anything we did not get to that you would like to add?

Project Toolkit

DESK RESEARCH

Analysis of Current Operating Model, Governance Structure, and International Best Practices



STAKEHOLDER INTERVIEWS

Targeted Remote Interviews with members of Civil Society and Governmental Departments in the City of Cape Town

CUSTOMER SURVEYS

Targeted Surveys with Informal Settlement Residents (via partnership with CORC)



Case Study References

Description	Case Type	Scale	Location	Key Takeaways/Important Points
Data Management, Stellenbosch Municipality, South Africa	Analysis/ Recommendations	City-wide	Stellenbosch, South Africa	Community Profiling, Asset Management, ICT-SMS/Whatsapp, interdepartmental communication platform
Centralised Complaint Registration System (CCRS), Mumbai, India	Analysis/ Recommendations	City-wide	Mumbai, India	Citizen Charter, Resolution Time, Action Taken Report, Citizen feedback, Councillor Code, Complaints Dashboard
Local Management Systems of Rural Water Facilities	Case Study	Rural district	Sekyere East District, Ghana	Rural, Community Partnership
Citizen Feedback Monitoring Program (CFMP)	Case Study	National	Pakistan	Citizen Feedback Monitoring Program, Social Audit, Service Performance Benchmarks, Data-driven responses
Innovation Challenges of Utilities	Analysis/Case Study	City-wide	Analysis of Multiple East African Cities	Organisational Capacity Building, Local Opportunities, Trust Building, Nature of Informality
SLB-Connect	Case Study	National	India	Citizen Surveys, Sanitation Rankings, Transparency-Open Data, Accountability, Data-Driven Responses, ICT
Maji Voice	Case Study	City-wide	Nairobi, Kenya	Accountability, Resolution Rate, Statistical Analysis, Online Monitoring Platform, Integrated Inputs
Chile Barrio	Case Study	National	Chile	Housing Improvement, Community Development, Social Insertion, Poverty Reduction Programming

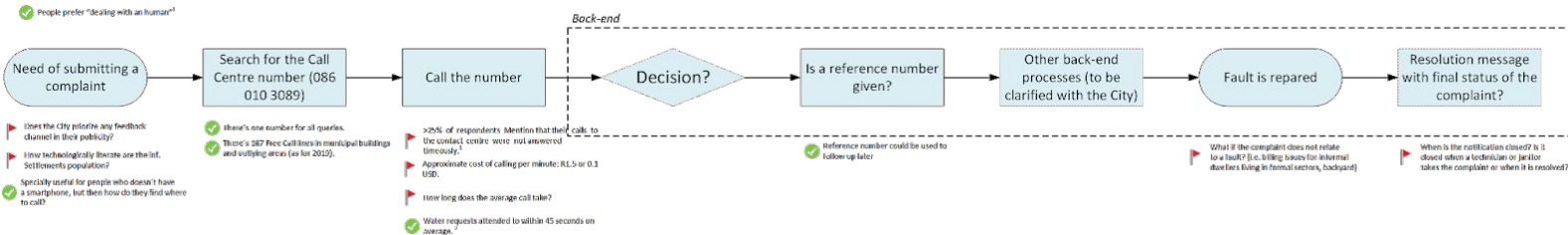
Additional References

Title	Author	Interest Area (Scale, Cost, Replicability, Impact)	Location
Customer Satisfaction Survey 2017-18, Cape Town	City of Cape Town	Impact, Scale	City of Cape Town
Citizenship: the right to flush and the urban sanitation imaginary	Morales et al.	Impact	Buenos Aires, Argentina
System Approaches to Water, Sanitation, and Hygiene: A Systematic Literature Review	Valcourt et al.	Replicability, Impact	Various
Turning Slums Around: The Case for Water and Sanitation	Timeyin Uwejamomere (WaterAid)	Cost	Dhaka, Bangladesh
Leaving no one behind? Analysis of trends in access to water and sanitation services in the slum areas of Nairobi, 2003–2015	Chikozho et al.	Replicability	Nairobi, Kenya
Unlocking the Potential of Information Communications Technology to Improve Water and Sanitation Services: Summary of Findings and Recommendations	Mouhamed Fadel Ndaw	Impact, Scale	N/A
Citizen Feedback and Delivery of Urban Services	Deichmann and Lall	Impact	Various
Assessing equity: a way to improve sanitation service delivery in South African informal settlements	Pan, Armitage and van Ryneveld	Replicability	Cape Town, Johannesburg and eThekweni
Estimating the cost of sanitation infrastructure for selected sites in Khayelitsha in City of Cape Town	Cornerstone Economic Research	Impact, Scale	City of Cape Town

Detailed Cost Estimation for Toll Free Number Rollout

	Number of Notifications, Cost, or Calls/Year	Calculation
2019-2020 WASH Notification (Number of Notification/Yr)	300,970	(From Customer experiences and perceptions of Water and Sanitation services in Informal Settlements:15 October 2020 CCT document)
From Informal Settlement (Number of Notification/Yr)	12,233 Notifications/Yr	Same Source as Above
From Formal Settlements (Number of Notification/Yr)	288,73 Notifications/Yr	Same Source as Above
Fee For Toll Free Number Call from Formal Settlement (USD)	\$80,846/Yr	= 288,737* 10 Minutes per Call* \$0.07/ mi,*40% of Total Notification
Case0: Estimated Current # of Informal Calls (Number of Calls/Yr)	4,893 Calls/Yr	=12,233*40% (assume 40% of total notification is from Call))
Case1: Estimated # of Informal Calls at Formal Rate (Assume the Number of Calls Increased to the Same Rate of Notification per Household as Formal Settlement) (Number of Calls/Yr)	31,132 Calls/Yr	=0.43 (Number of C3 Notification /Number Household , Formal Settlement)*181,000 (Household Informal Settlement)*0.4 (40%come via Call Center)
Case2: Double Estimated # of Informal Calls (increased by 2X current #) (Number of Calls/Yr)	9,786 Calls/Yr	=4893.2*2
	Formal Settlement Cost (USD/yr)	Informal Settlement Cost (USD/yr) =Number of Calls/Yr*10 min*\$0.07/Min
Case0 (Estimated Current # Informal Calls)	\$80,846/Yr	\$ 3,425/Yr
Case1 (Estimated at Same Rate as Formal Settlement)	\$80,846/Yr	\$21,792/Yr
Case2 (Double Estimated Current # Informal Calls)	\$80,846/Yr	\$ 6,850/Yr

Call center User Experience Flowchart



Sources:

- 1) CUSTOMER PERCEPTION AND SATISFACTION SURVEY 2017/18.
- 2) Customer experiences and perceptions of Water and Sanitation services in Informal Settlements (2020).
- 3) <https://mybroadband.co.za/news/cellular/281759-the-cheapest-way-to-make-a-voice-call-in-south-africa.html>

Cost of call³

Operator	1GB Bundle	Price per MB	Cellular Call - Per minute	Whatsapp Call - Per minute
Vodacom	R149	R0.15	R1.53	R0.06
MTN	R149	R0.15	R1.59	R0.06
Cell C	R149	R0.15	R1.59	R0.06
Telkom	R99	R0.10	R1.98	R0.04
Rain	R50	R0.05	N/A	R0.02

Google search results for "call centre city of cape town water and sanitation".

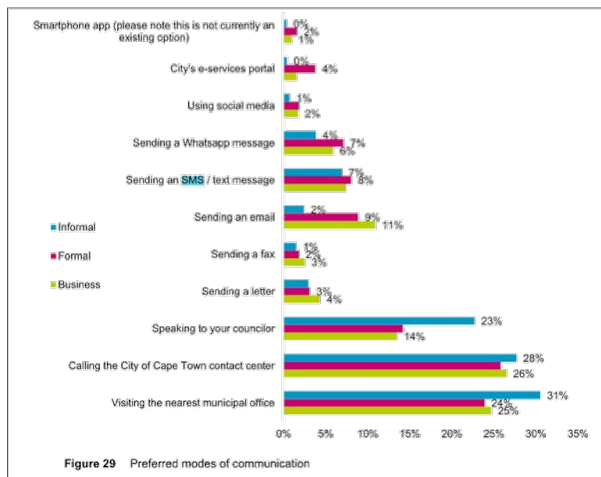
Accounts: 086 410 3089 accounts@capetown.gov.za

Water & Waste: 086 410 3089 Contact Us@capetown.gov.za

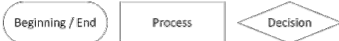
Roads: 086 410 3089 TRUCKS@capetown.gov.za

Service Delivery: 086 410 3089 Contact Us@capetown.gov.za

Water: 086 410 3089 water@capetown.gov.za



Legend:



- ✓ Key inflection / minor good implementation
- ⚠ Flagged issue

Email User Experience Flowchart

Need of submitting a complaint

Search for the Email address

Send Email

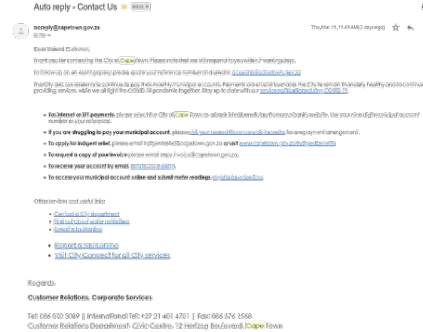
Auto reply

Reply from operator

Back-end process
maybe not working for informal settlement


Fault is fixed


Auto Reply

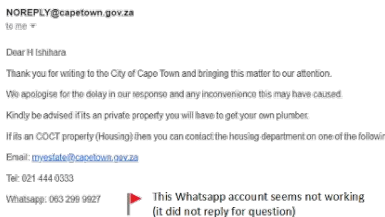



Disclaimer: This e-mail (including attachments) is subject to the disclaimer published at: <http://www.capetown.gov.za/government/department/department>. Please read the disclaimer before opening any attachments taking any other action in terms of this e-mail. If you cannot access the disclaimer, kindly send an e-mail to disclaimer@capetown.gov.za and a copy will be provided to you. By replying to this e-mail or opening any attachment you agree to be bound by the provisions of the disclaimer.



Reply for question  Only applicable for formal settlement
No response about informal settlement

RE: complaints on communal tap or toilet  



 This Whatsapp account seems not working
(it did not reply for question)

For the latest updates and information, please see:

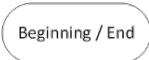
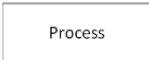



- Stay up to date with our [service notifications during COVID-19](#)

- Other services and useful links:
- Contact a City department
 - Find out about water restrictions
 - Report a fault online
 - Visit City Connect for all City services

Regards,
M.Thomas

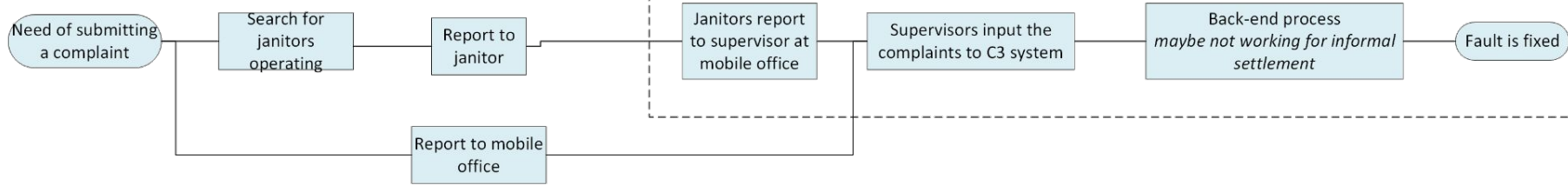


Legend:

-  Beginning / End
-  Process
-  Decision
-  Key distinction / current good implementation
-  Flagged issue



Janitor Report User Experience Flowchart



🚩 There can be time lag till complaints are registered to system

✅ Residents feel less hurdle to submit complaints since janitors are also residents

Legend:

Beginning / End

Process

Decision

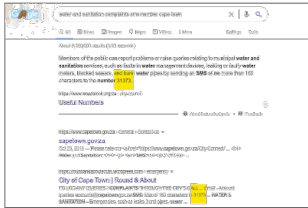
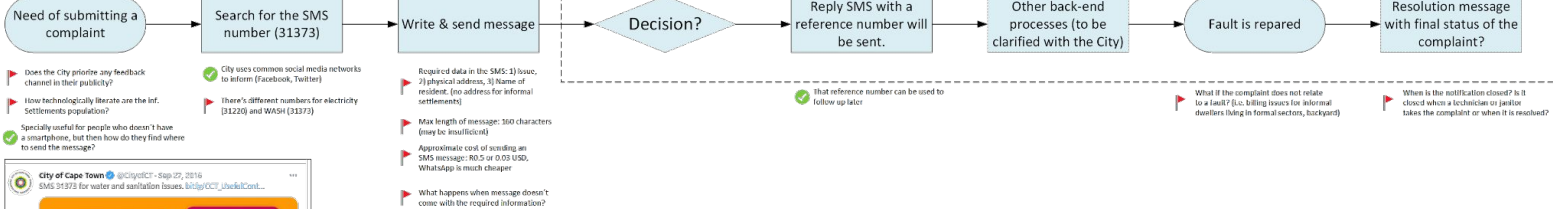
✅ Key distinction / current good implementation

🚩 Flagged issue



SMS User Experience Flowchart

Apparently this mechanism is seen by the city as more useful for one-way communication from the city to residents (i.e. notice of planned interventions)



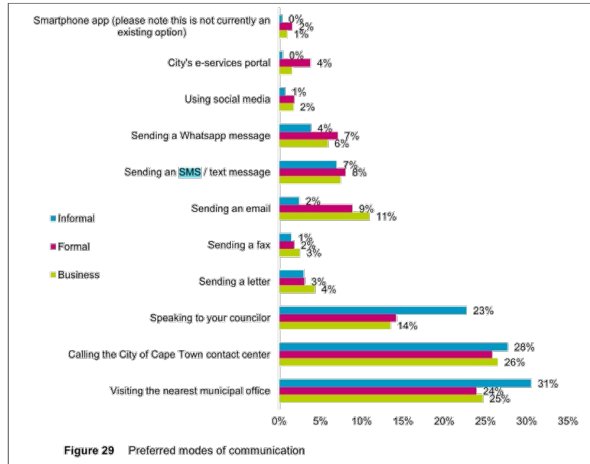
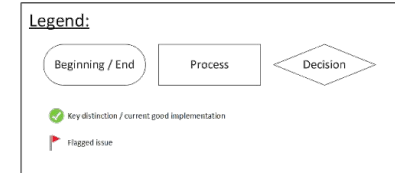
SMS price

Operator	Standard Tariff	160 SMS Bundle
Vodacom	R0.22	R0.23
MTN	R0.20	R0.21
Cell C	R0.20	R0.21
Telkom	R0.20	R0.23
Rain	N/A	N/A

Whatsapp message price

Operator	Price
MTN	R0.0050
Vodacom	R0.0050
Cell C	R0.0045
Telkom	R0.0050
Rain	R0.0050

Source: <https://mybroadband.co.za/news/whatsapp-vs-sms-pricing-in-south-africa.html>



Source: CCT Dept W&S - Customer Satisfaction Survey Results Report



Web form User Experience Flowchart(Smartphone)

Need of submitting a complaint

Search for the web page

Fill the C3 form

C3 system

Wrok order

Fault is fixed

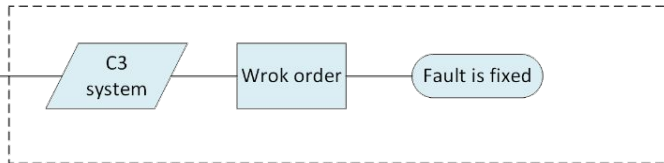
▶ Hard to find the web form from search engine without knowing C3 request system exists

Group

Sewer Service

Water Service

▶ May not be MFCCE options



Legend:

- Beginning / End
- Process
- Decision
- Key distinction / current good implementation
- Flagged issue

▶ Screen got frozen. (could not submit complaint)

✔ Account number is not required



CREDITS: This presentation template was created by **Slidesgo**, including icons by **Flaticon**, infographics & images by **Freepik** and illustrations by **Stories**

Columbia SIPA Capstone Project: Evaluation of Feedback Mechanisms to Improve Water and Sanitation Service Delivery in Informal Settlements in Cape Town

