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Bsc.Elec.Eng.
(Electrical Engineering!)*





you!



PAYPAL

MC

VISA

tip what
amount
to donate

ASS

Email

FROM MZANZI
YOUR DONATION
WAS USED TODAY BY SIVHO
CIT 10.55 TO BUY
A BAG OF RICE



ASS



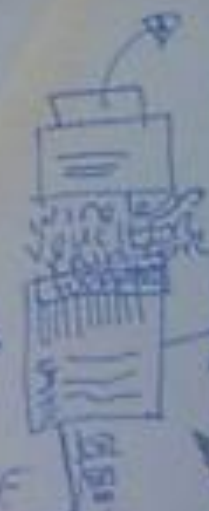
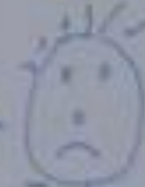
EMAIL

authenticate
message

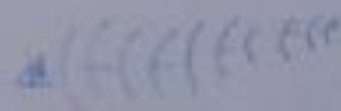
SMS
WAY
HTTP

MZANZI
mobi

SMS



hungry
with
mobile phone



...s lingers longer

TICKET OFFICE

MIAMI

zipoint

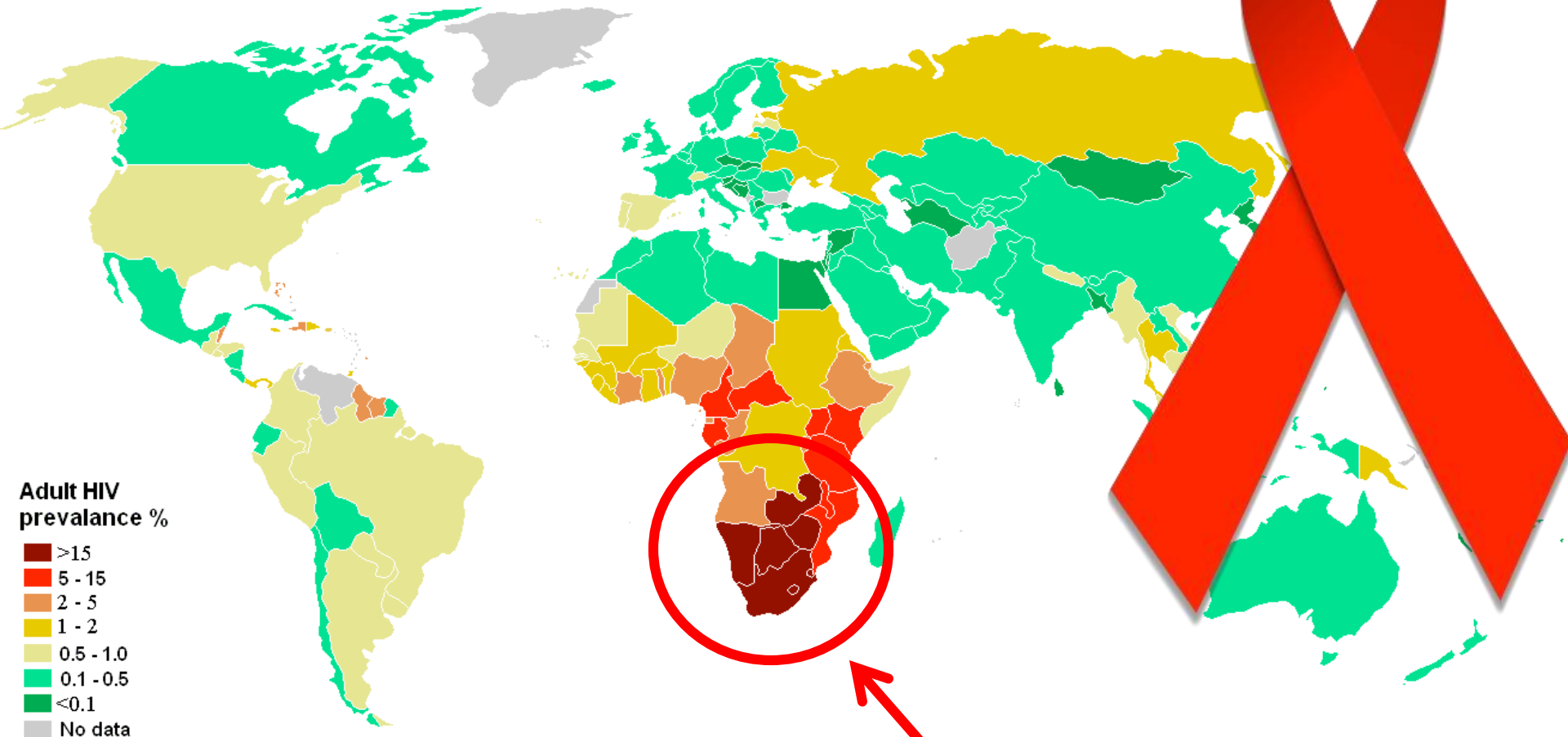
zipoint



MIAMI
POLICE



34 million cases



22 million here!!

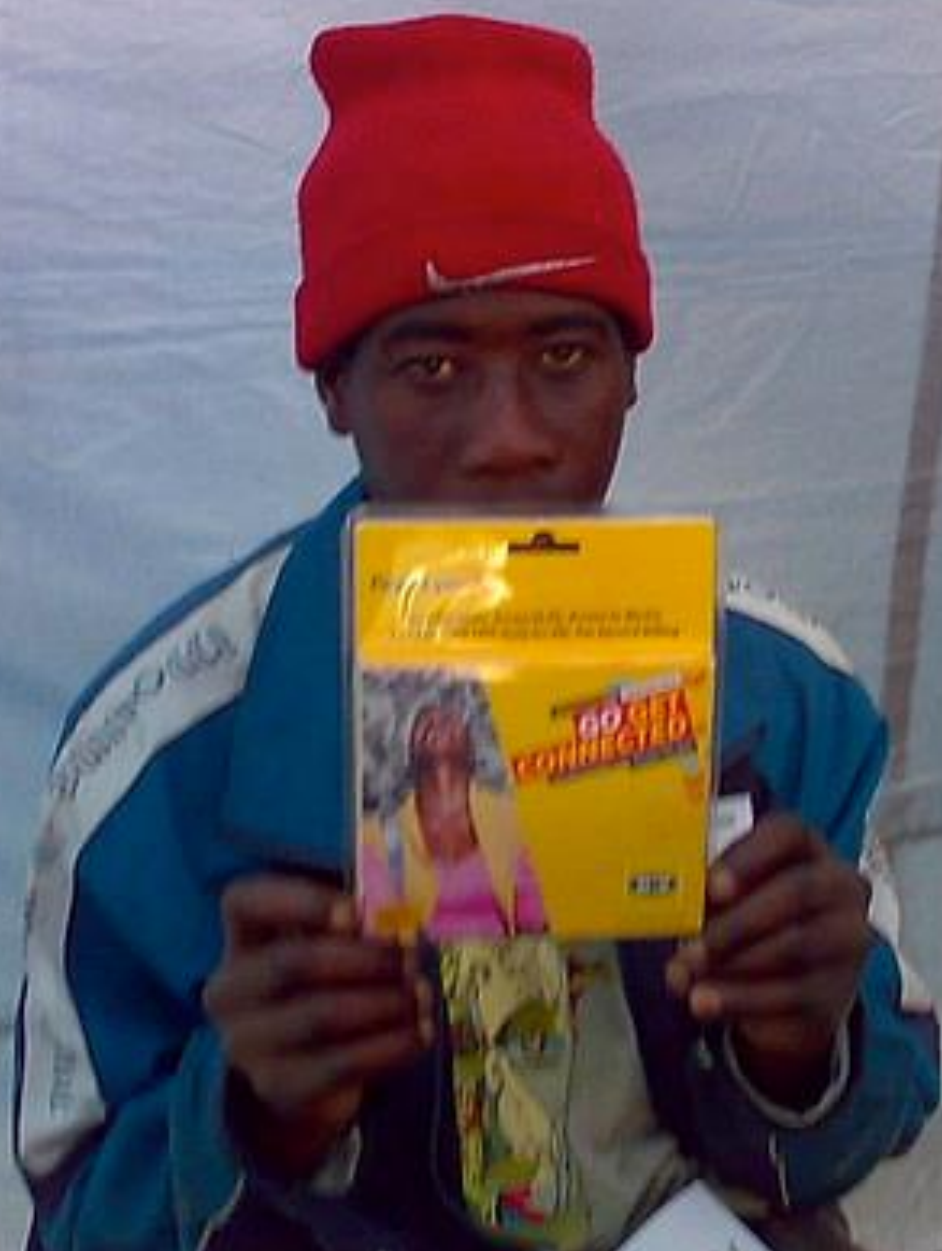
Why ?



“HIV does not cause AIDS”









How many newly diagnosed cases go to a hospital ?

18%



82%



CHANGING BEHAVIOUR
WITH INCENTIVES

The Broccoli Project is a social technology business providing an analytics platform that is answering questions* and solving problems** for donors in the aid industry.

*questions

Where did my money go ?

How many people did it help ?

What was the impact over time ?

**problems

USAID admitted that much of the investment between 1960 and 1980 has disappeared without a trace.

<http://bit.ly/az7aXw>

\$1 TRILLION

The amount the United States has spent on foreign aid since WWII. The result is debt, dependency and poverty.

<http://bit.ly/az7aXw>

<http://bit.ly/ctUot6>

\$100 BILLION

“... governments’ annual spending on aid, as measured by the OECD”

<http://bit.ly/9evfep>

At the same time it provides conditional* aid** vouchers to participants – providing aid in a way that lays a path out of the poverty cycle.

***condition**

****aid**

Attend a week
of school



\$8 per child in food /
grocery voucher.

Go for regular
Health checks



\$15 in food /
grocery voucher

Grow a sustainable
food patch.

\$15 in food /
grocery voucher

1

Participants Enroll
providing some
personal
Information and
fingerprint data.

2

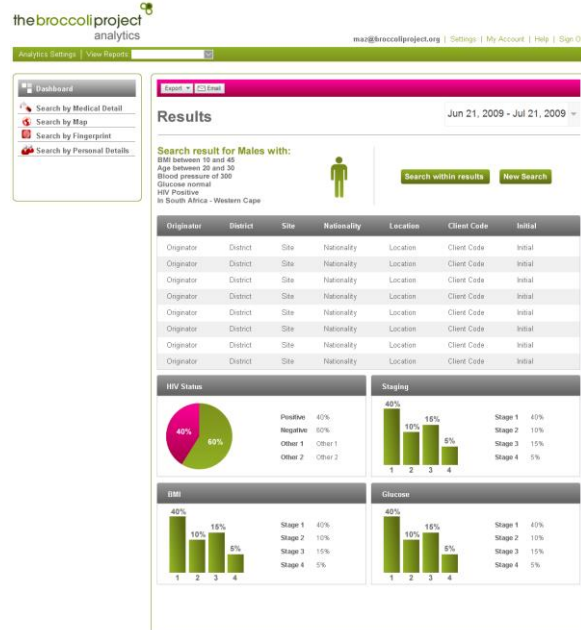
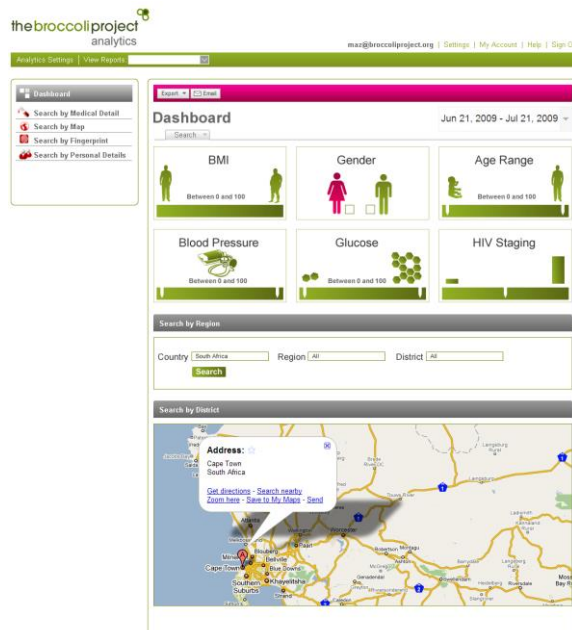
Participants 'Check-
in' at locations with
their fingerprints and
take part in socially
beneficial activities

3

Participants receive
Vouchers after a pre-
defined amount of
check ins.

Broccoli Project Real-time Monitoring & Evaluation Platform

<http://analytics.broccoliproject.org>



What an Actual Voucher Looks Like

Pick n Pay

To the Dealer: Please allow the bearer the indicated amount off the purchase of food and groceries in exchange for this voucher. The dealer may redeem the coupon by sending it to the Western Cape support office. Only valid original coupons will be accepted. Misuse of the coupon constitutes fraud. Not Redeemable for cash. Expiry date: 31/12/2010

To Verify - <https://auth.broccoliproject.org/>
Helpdesk - 082 334 3113

1▶ 102500050

2▶ **R80.00**

3▶ DTHF-AM006-001



4▶ **UUUU0051**

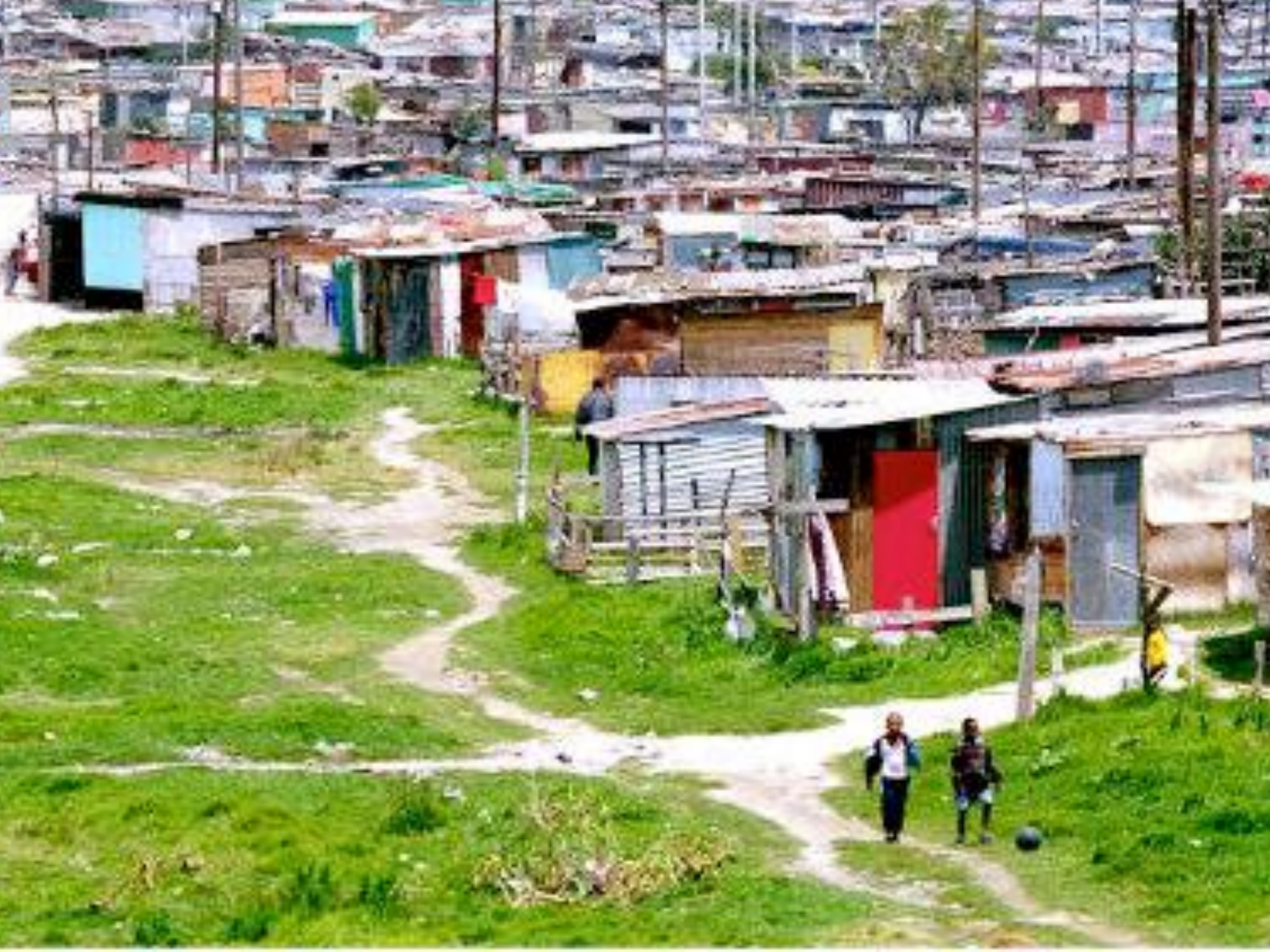
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Why do we use Vouchers ?





Many of the
Recipients
Have not
had a meal
in many
days



Why do we use Vouchers ?

Multiple parties can co-sponsor & leverage the value

Can limit usage to product groups (Food & Groceries)

Vouchers can be traced and tracked

Deferred / externalized logistics

Sources of Income

Donor /
Grant
Funding
(Trust)

Web Fundraising	■
Traditional Fundraising	■
Project Sponsors	■

+

Revenue
Generating
Activities
(BPT)

On Voucher Advertising / Co-Branding	■
Per Record Billing (SaaS model)	■
Maintenance Contracts	■
Hardware Sales	■
Interest on Breakage & Capital Amount	■
Device Licensing Fees	

“Pre-paid Philanthropy”



Launch of “Pre-paid Philanthropy” Food Vouchers





Broccoli Project



Broccoli Points



South African People

Broccoli Points

Elements of larger network that enables:

Registration to the system

Update info(accumulated points, test results etc.) of people who are currently in the system

Access current info (esp. points)

Print out vouchers

Instructions for nearest hospitals or redemption points



A Broccoli Point

Broccoli Points

Can be activated by biometric sign-in (fingerprint scan)

Available 7/24

The underlying technology is expensive. Cannot be installed every district.

They need to be “close” to districts since public transportation is not widely-used and people cannot afford it.

Your Objective;

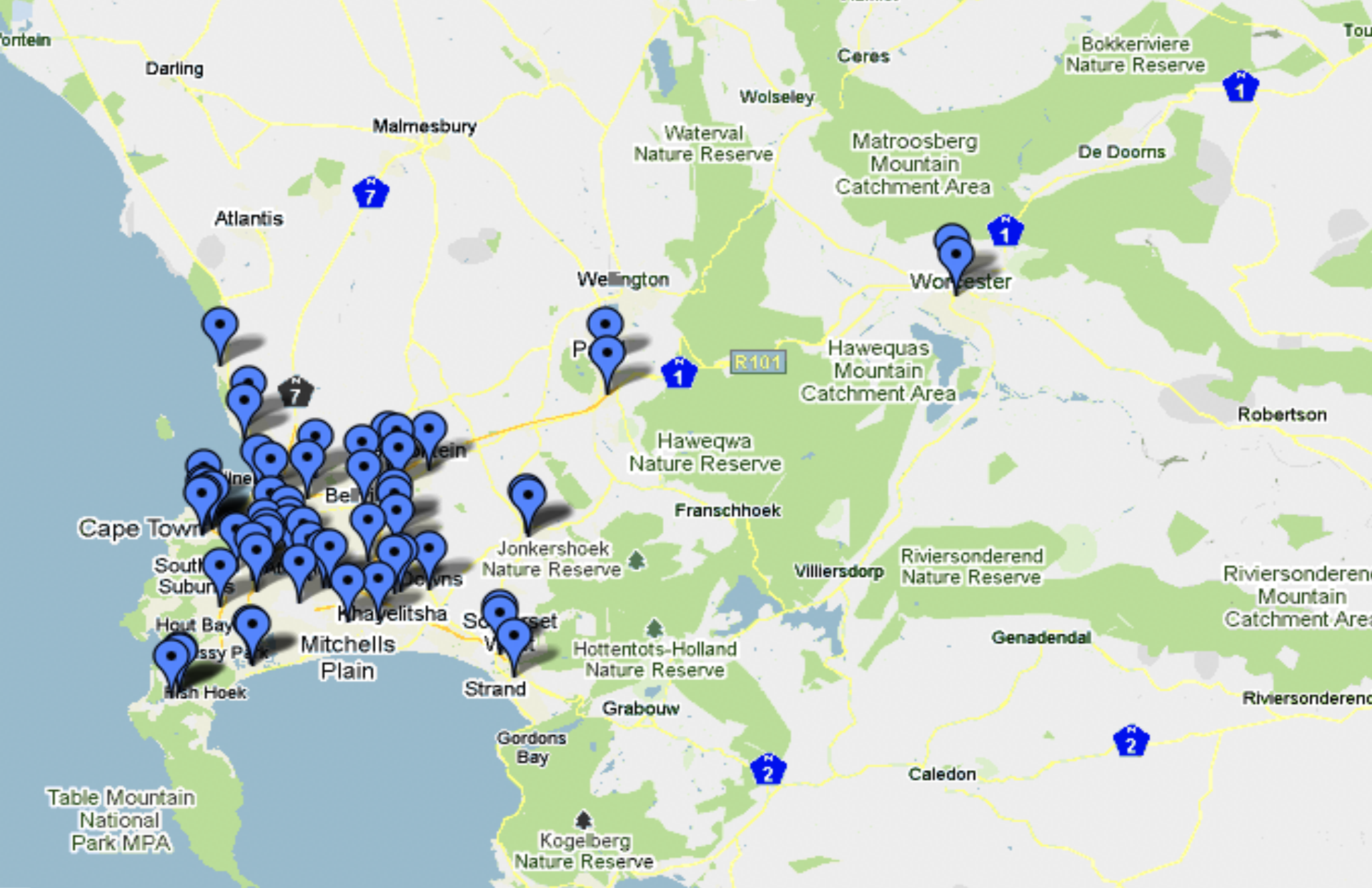
Optimum Placement of

Broccoli Points

Base Case Analysis;

Broccoli Points should be;

- “*near*” to peoples houses, so that people can reach those points,
- “*near*” to clinics so that people can go and take a test in case they do not have any points gathered when they need a food voucher,
- “*near*” to redemption points so that people can go and redeem the printed food vouchers.



Points under consideration

Base Case Analysis;

There are

- 15 districts
- 12 clinics
- 33 redemption points

Base Case Analysis;

You will be given:

- # of people living in each district
- distance matrices

Criteria:

- 1) You don't want to people walk too much.
- 2) You don't want to install too many Broccoli Points

Q1) Try to cover as many people as you can while taking into account the criteria in a systematic manner. Where do you place your BP's?

What if?

Q2) What if you wanted to minimize total distance between the districts & the Broccoli points?

Bonus Question

A *transportation voucher* is an initiative that will bridge distances that are too long to realistically travel by foot. In the case of a sick person, the distance that can be travelled can become a barrier to treatment.

Q3) The *transportation voucher* concept is a new in Cape-Town and is in the feasibility analysis phase. Provide a model, which will help in the feasibility analyses.