

SOUTH AFRICAN BRT EXPERIENCES

WHAT CAN WE LEARN?



WORLD BANK GROUP

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INTEGRATED RAPID PUBLIC TRANSPORT NETWORK PROGRAMS

- BRT inspired by Latin American Cities' BRT model for dense cities
- Most CAPEX with National Funds.
- Expectations of no/reduced OPEX subsidies



Source: <https://coffeebeansroutes.com/wp-content/uploads/2014/12/Soweto-Futures-rea-vaya-web.jpg>



Source: MyCiti

BRT Implementation approach

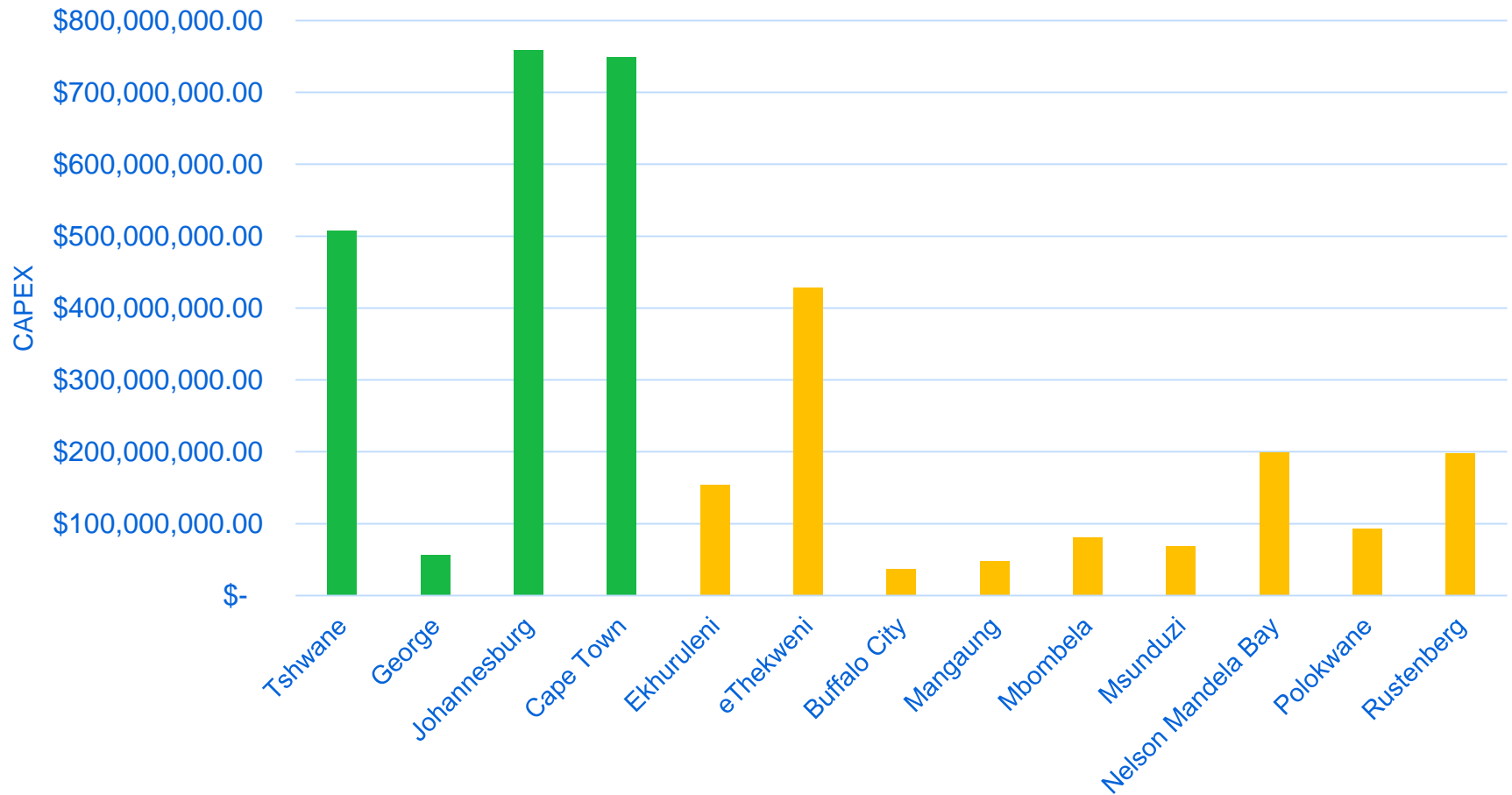
Predict and provide, replace and reform...



Source: D Bosch, City of Cape Town

Costs to Date

Total costs for the whole program since 2009 has been \$3.4bn.



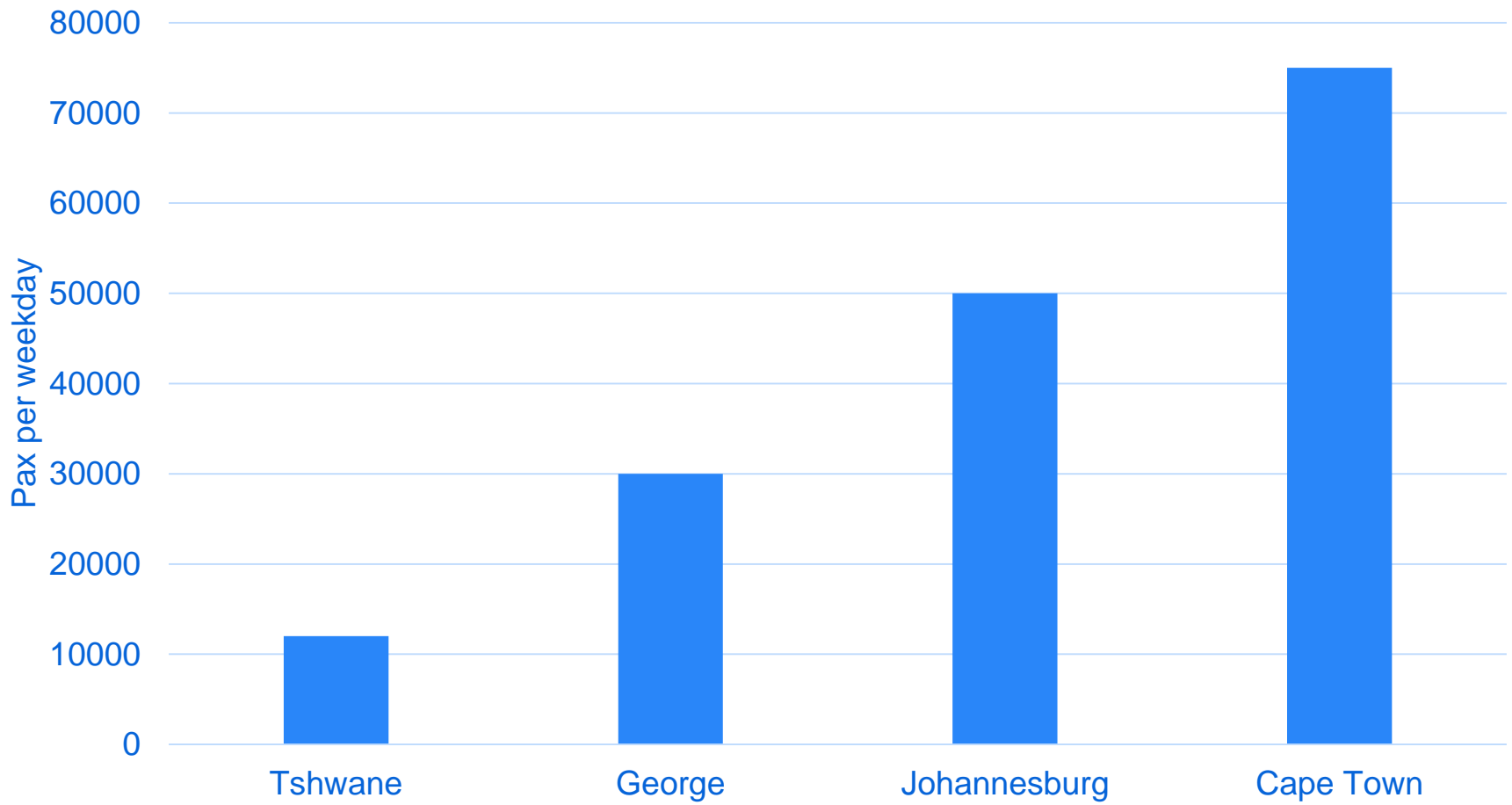
What has been bought with this money?

Average cost of \$15m per kilometer in operational cities

City	Ded. right of way (km)	Mixed traffic (km)	Closed station	Bus stops	Depots	Vehicles			
						18m	12m	9m	6m
Tshwane	16	23	12	0	1	0	119	0	0
George	0	110	1	454	1	0	69	0	15
Joburg	43	4	48	231	2	82	195	0	0
Cape Town	32	108	42	765	3	52	105	220	0
Total	91	245	103	1450	7	134	488	220	15

Performance: operational cities

~165000 weekday pax across the system



Creation of Vehicle Operating Companies

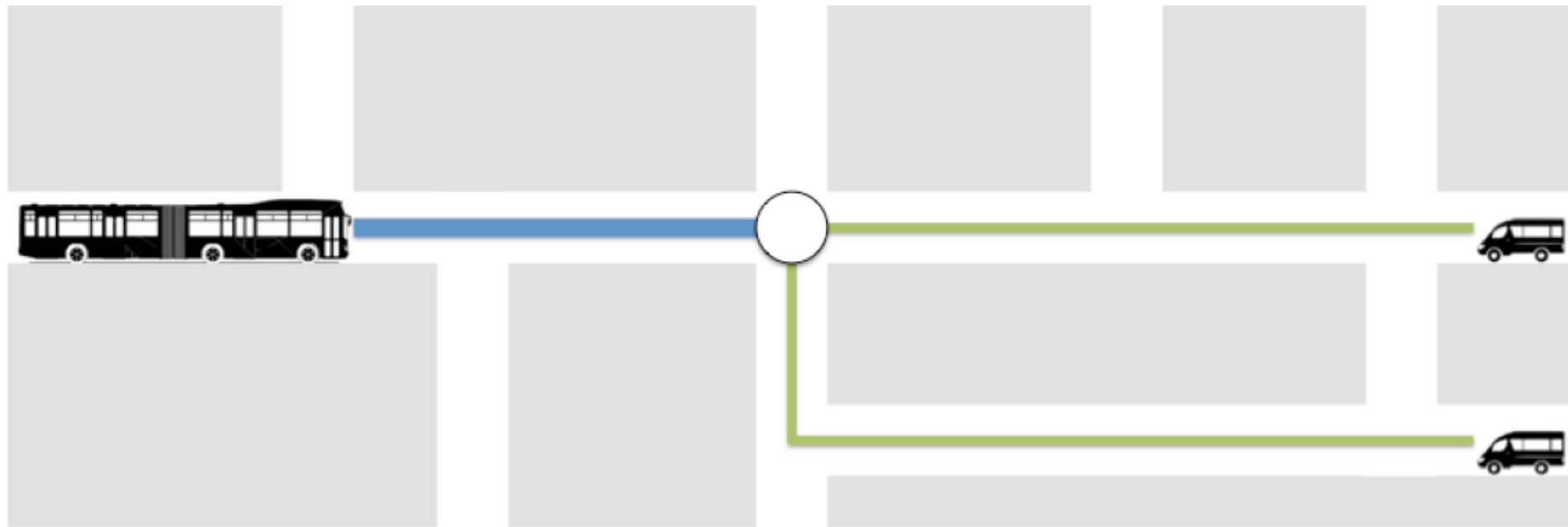
- **Main points:**
 - Existing MBT operators must form nucleus of VOC's
 - Negotiated 12yr contracts with incumbent MBT operators
 - No loss of employment amongst drivers (or payouts as required)
 - Gross contracting model
- **Cities tied into impossible bargaining positions with MBT sector**
 - **Opex costs 25-40% higher than original estimates**

THE CASE FOR CHANGE

In South Africa, replacing the paratransit sector with BRT-type bus services is simply too costly and unsustainable.

Authorities have begun to accept the role of the paratransit sector in the urban mobility environment and are working on ways to improve the sector.

PARATRANSIT AS FEEDER SERVICES



Legend

-   Trunk services operated by the formal sector
-   Feeder services operated by the paratransit sector
-  Formal trunk station where interchange between formal and paratransit modes occurs.

Note:
Line widths difference between formal and paratransit modes depict variations in demand.

THE EVOLUTION OF PARATRANSIT REFORM

Ignore

Regulate

Enforce

Recapitalize

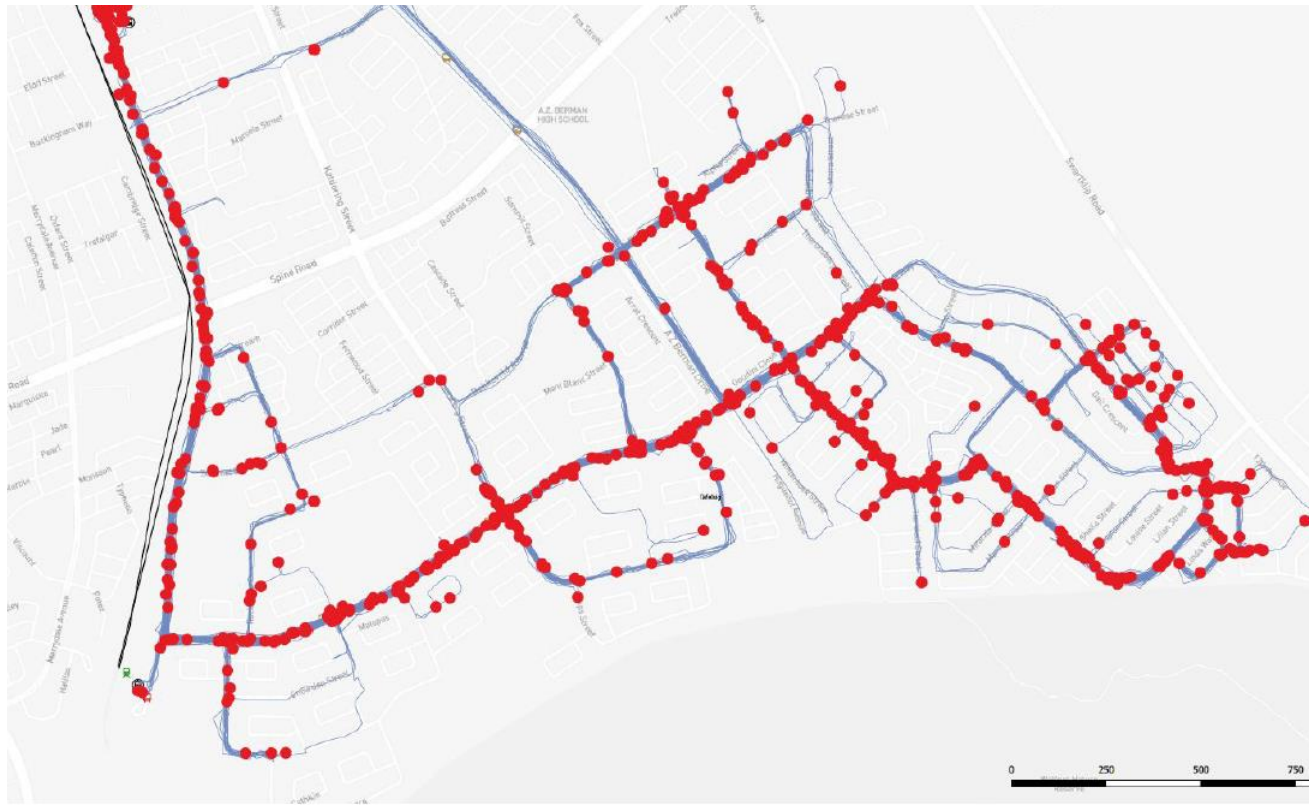
Replace

Improve



Step-wise Paratransit Improvement

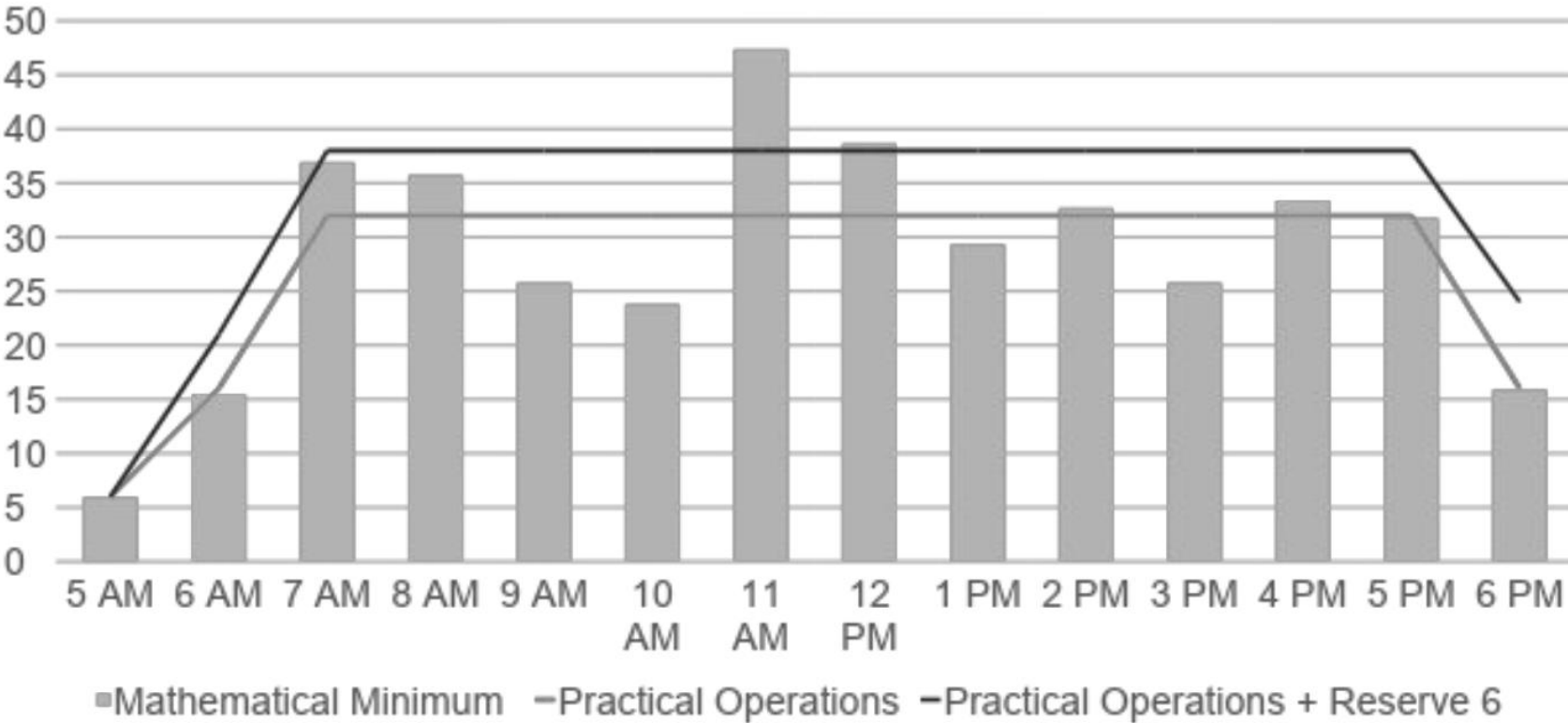
1. Collect detailed data on MBT demand and operations



- Data collection assists with the assessment of operational efficiency of MBT operators.
- Used to help operators streamline operations and develop viable business planning for formalization

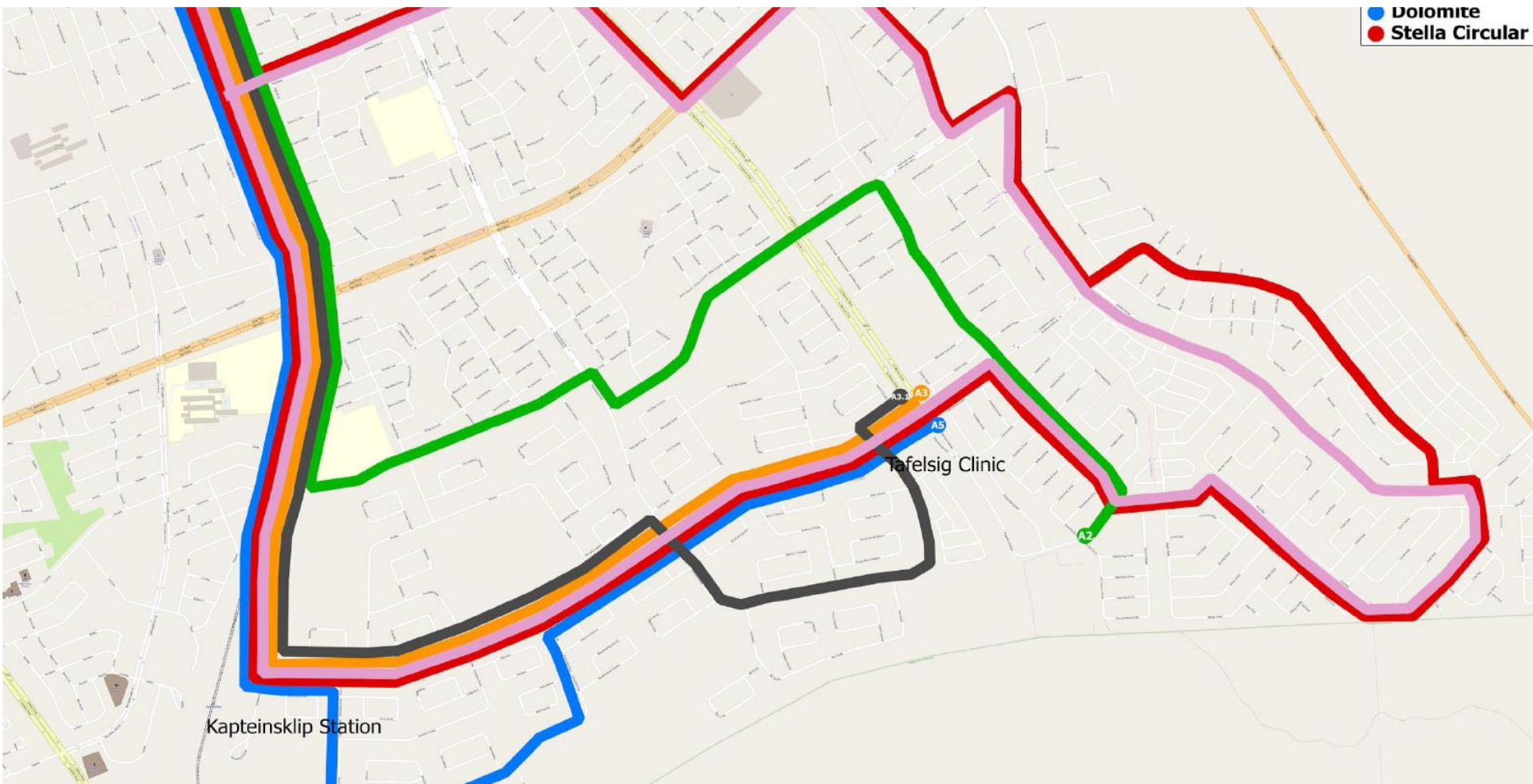
Step-wise Paratransit Improvement

1. Develop improved ops plans for paratransit operators



Step-wise Paratransit Improvement

1. Develop improved ops plans for paratransit operators



Step-wise Paratransit Improvement

Trip Adherence report

Operator Home / Reports / Trip Adherence report

Date Select

Trip Select

Report View

Trip 1 at 04:51



PASSED

1 December, 2018

Driver Peter Johnson

Vehicle CY10101

Stop Adherence

78%

PASSED

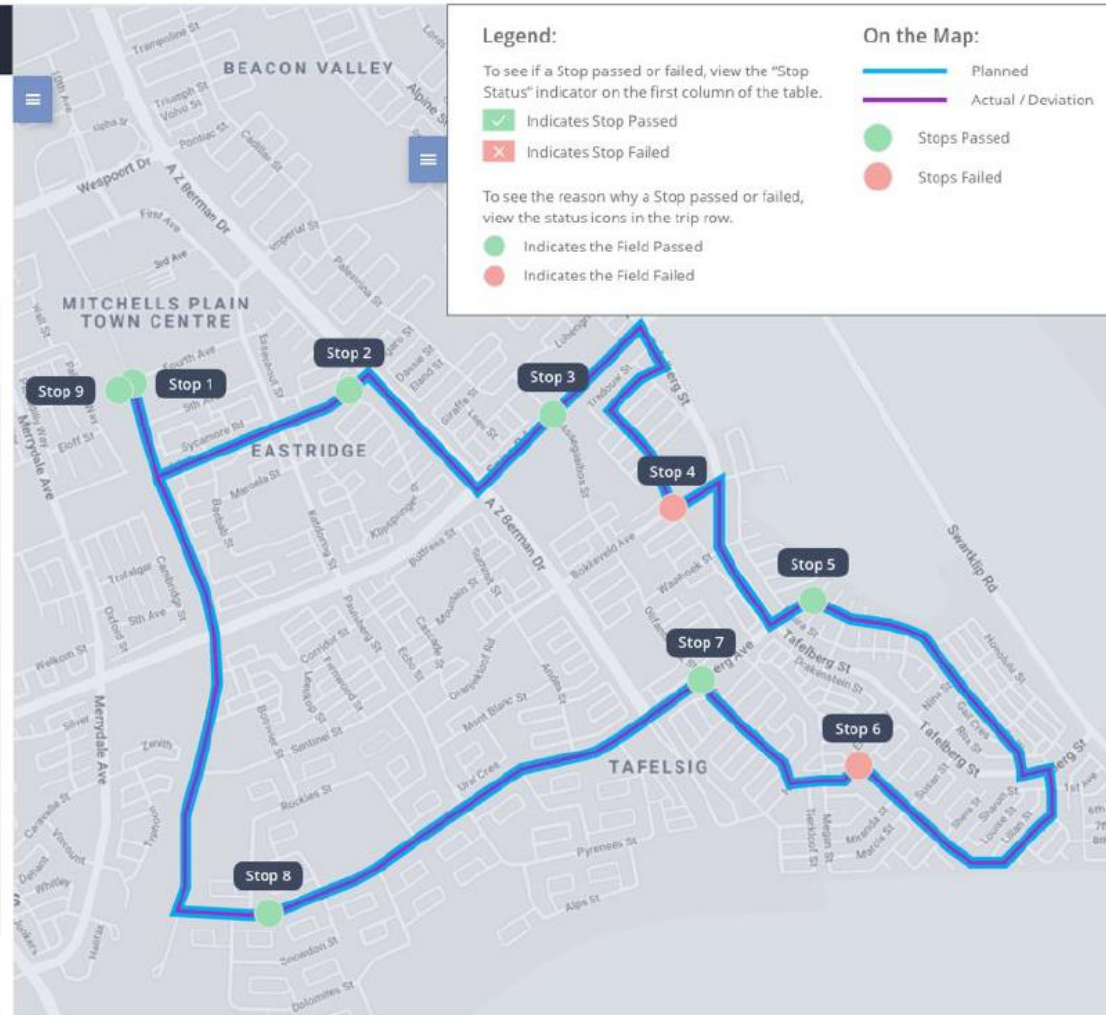
* Required: 60%

Route Adherence

PASSED

* No deviations allowed

Stop Status	Stops	Scheduled Arrival Time	Actual Arrival Time	Arrival Time Difference	Scheduled Departure Time	Actual Departure Time	Departure Time Difference	
✓	Stop 1 - Departure	Pre-Trip	Pre-Trip	Pre-Trip	04:51	04:51	+00:00	●
✓	Stop 2	04:53	04:55	+00:02	04:56	04:58	+00:02	●
✓	Stop 3	05:03	05:05	+00:02	05:07	05:09	+00:02	●
✗	Stop 4	05:14	05:17	+00:03	05:16	05:19	+00:03	●
✓	Stop 5	05:20	05:21	+00:01	05:21	05:22	+00:01	●
✗	Stop 6	05:25	05:25	+00:00	05:26	05:29	+00:03	●
✓	Stop 7	05:34	05:35	+00:01	05:37	05:37	+00:00	●
✓	Stop 8	05:41	05:40	-00:01	05:42	05:42	+00:00	●
✓	Stop 9 - Destination	05:46	05:45	-00:01	Post-Trip	Post-Trip	Post-Trip	●



Back to Trip Select

View the Trip's Duty

Export the Trip Report

PDF CSV Excel Print

Step-wise Paratransit Improvement

Duty Adherence report

Operator Home / Reports / Duty Adherence report

Duty 1001

Duty Issued 04:48 01/12/2018

Driver: Peter Johnson

Legend:

To see if a Trip passed or failed, view the "Trip Status" indicator on the first column of the table.

✓ Indicates Trip Passed

✗ Indicates Trip Failed

To see the reason why a Trip passed or failed, view the status icons in the trip row.

● Indicates the field Passed

● Indicates the field Failed



Trip Status	Vehicle	Trip No	Route No	Route Adherence	Stop Time Adherence	Scheduled Departure Time	Actual Departure Time	Departure Time Difference	Scheduled Arrival Time	Actual Arrival Time	Arrival Time Difference	Action
✓	CY10101	Trip 1 at 04:51	A1	Y	7/9	04:51	04:51	+00:00	05:46	05:45	-00:01	View Trip
✗	CY10101	Trip 2 at 05:51	A3	N	2/9	05:51	05:56	+00:05	06:46	06:52	+00:06	View Trip
✗	CY10101	Trip 3 at 06:51	A4	N	6/9	06:51	06:51	+00:00	07:46	07:45	-00:01	View Trip
✗	CY10101	Trip 4 at 07:51	A5	N	5/10	07:51	07:51	+00:00	05:36	05:40	+00:04	View Trip
✓	CY10122	Trip 5 at 08:51	A6	Y	8/10	08:51	08:52	+00:01	05:51	05:51	+00:00	View Trip
✓	CY10101	Trip 6 at 09:42	A9	Y	9/10	09:42	09:41	-00:01	05:14	05:19	+00:05	View Trip
✗	CY10101	Trip 7 at 10:45	A4	N	2/10	10:45	10:45	+00:00	05:29	05:35	+00:06	View Trip
✓	CY10101	Trip 8 at 11:40	A11	N	5/5	11:40	11:41	+00:01	05:36	05:40	+00:04	View Trip
✓	CY10101	Trip 9 at 12:00	A4	Y	2/2	12:00	12:00	+00:00	12:20	12:20	+00:00	View Trip

Step-wise Paratransit Improvement

1. Develop improved ops plans for paratransit operators



Step-wise Paratransit Improvement

	Before	After	Change	
Number of vehicles	90	38	52	-58%
Number of Seats	29,624	19,698	9,926	-34%
Number of Riders	18,839	18,839	0	0%
Number of trips	2,116	1,407	709	-34%
Average Trip Length	8	8	0	0%
KM driven per day	16,928	11,256	5,672	-34%
KM driven per year	5,078,400	3,376,800	-1,701,600	-34%
CO2 kg/km	0,45	0,33	0,12	-27%
Emissions Created (t)	7.6	3.7	3.9	-51%
Reduction in daily emissions (t)	3.9			
Reduction in 1 year (t)	1,170			
Reduction in 5 years (t)	5,854			

Step-wise Paratransit Improvement

2. Transform Associations into Taxi Operating Companies:

- Govt facilitates company formation processes
- Make funding available for capacity building
- Make land available for depots and fuelling facilities
- Make available PTI management contracts (cleaning, security, maintenance) to industry – also allow revenue generating activities at PTI for new TOC
- Potential for feeder bus contracts and other revenue streams (staff/scholar) services.

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THANK YOU



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