TIME AND TRAFFIC SURVEYS AT OSBPs IN EAC



END LINE SURVEYS SUMMARY REPORT 2016 -2017 HOLILI -TAVETA; BUSIA; MUTUKULA MIRAMA HILLS - KAGITUMBA

CONTRACT REFERENCE: PO/20130225

Prepared by: Nick Porée & Associates (Pty) Ltd P O Box 2495 Prestondale 4021 Tel: +27 31-5723258 Fax: +27 862723145 Email: nick@npagroup.co.za Prepared for: TradeMark East Africa (TMEA) Equatorial Fidelity Centre P O Box 31300606 Nairobi Kenya

TIME AND TRAFFIC SURVEYS AT OSBPs IN EAC

End Line Surveys Summary Report

1. INTROD		1
1.1 OSI	3P Project Background	1
1.2 Rep	port Structure	1
1.2.1	Survey Programme	1
1.2.2	Individual Border Analyses	2
1.2.3	Inter-border Comparison	2
1.2.4	Economic Impact comparisons	2
1.2.5	Observations and Recommendations	2
2. BORDE	R REPORTS	3
2.1 Hol	ili-Taveta	3
2.1.1	Traffic Counts	3
2.1.2	Time Surveys	4
2.1.3	User Satisfaction Survey	5
2.1.4	Community Survey	6
2.1.5	Border Summary	8
2.2 Bus	sia Kenya-Uganda	. 10
2.2.1	Traffic Counts	. 10
2.2.2	Time Survey	. 10
2.2.3	User Satisfaction Survey	. 12
2.2.4	Community Survey	. 13
2.2.5	Border Summary	. 15
2.3 Mut	ukula – Mutukula: Uganda-Tanzania	. 16
2.3.1	Traffic Counts	. 16
2.3.2	Time Surveys	. 17
2.3.3	User Satisfaction Survey	. 19
2.3.4	Community Survey	. 20
2.3.5	Border Summary	. 22
2.4 Mira	ama-Kagitumba	. 23
2.4.1	Traffic Counts	.23
2.4.2	Time Surveys	. 24
2.4.3	User Satisfaction survey	. 25
2.4.4	Community Survey	.26
2.4.5	Summary	. 28
3. COMPA	RATIVE ANALYSIS	. 29
3.1 Inte	r-Border Comparisons	. 29
3.2 Ecc	nomic Impact Comparisons	. 34
4. LESSO	IS LEARNT AND RECOMMENDATIONS	. 36

TIME AND TRAFFIC SURVEYS AT OSBPs IN EAC Monitoring the Development of OSBPs End Line Surveys Summary Report 2016-2017

1. INTRODUCTION

1.1 OSBP Project Background

TradeMark East Africa (TMEA) has since 2010, been implementing a multi-faceted programme supporting EAC partner states and their public and private institutions to ensure sustainable development for the region through increased trade. One of the key strategic objectives of the programme is increased physical access to markets, delivered through infrastructure-related projects, particularly at ports and One Stop Border Posts (OSBPs) in order to reduce the cost of transporting goods.

The establishment of OSBPs is intended to enhance the effectiveness of cross border transport by improving border post infrastructure facilities and promoting efficiency of border agencies. TMEA is supporting the reconstruction of a number of border posts into OSBPs, including Mutukula, Busia, Holili/Taveta, Kabanga/Kobero, Mirama Hills/Kagitumba, Elegu/Nimule, Moyale and Tunduma/Nakonde. The reconstruction of Malaba OSBP is supported by the World Bank.

TMEA's immediate target is a 30% reduction in the time it will take a truck to cross the border. Time and traffic surveys were undertaken previously to establish the baseline crossing times for each of the border posts. The measurement of the changes against the baselines of the OSBPs serves to inform TMEA and the various stakeholders which are supporting the program, including;

TMEA donors, who are represented on the Programme Investment Committee (PIC) include the following;

- National Oversight Committee (NOC) members (including government, private sector, civil society and donor representatives at the national level);
- Staff involved in oversight and implementation of OSBPs;
- Implementing partners at regional and national level; and
- Ultimate beneficiaries (producers, transporters, clearing and forwarding agents, consumers) of TMEA's programme support.

The surveys are being performed by Nick Porée and Associates (NP&A) and Transport Logistics Consultants (TLC) which were commissioned by Trademark East Africa (TMEA) as part of the support programme described above.

1.2 Report Structure

1.2.1 Survey Programme

This summary report provides a condensed analysis of the data from the Baseline Study, the Impact Study and the End Line Study at the four border posts which have reached fully operational status by the end of 2017. The Survey programme has covered the period from October 2015 to October 2017 with a total of 26 surveys of individual border posts performed at 7 different borders to date.

The borders at which End Line surveys were performed are Holili –Taveta (HT), Busia- Busia (BB), Mutukula-Mutukula (MM) and Mirama-Kagitumba (MK).

Border Post	Survey Type	Survey Date
Holili	Impact	10.26 October 2015
Taveta	Impact	19-26 October 2015
Mirama	Impact	14.20 March 2016
Kagitumba	Impact	14-20 March 2018
Ntungamo Junction	Impact	17-20 March 2016
Elegu – Kenya	USS	21-28 March 2016
Busia Kenya	Impact	6 12 June 2016
Busia Uganda	Impact	0-12 Julie 2016
Mutukula Uganda	Impact	19.24 July 2016
Mutukula Tanzania	Impact	10-24 July 2018
Holili	End Line	15.21 October 2016
Taveta	End line	15-21 October 2016
Busia Rerun Kenya	Rerun	1 10 October 2016
Busia Rerun Uganda	Rerun	4-10 October 2016
Kobero	Impact	14 10 December 2016
Kabanga	Impact	14-19 December 2016
Mutukula Uganda	Endline	10.25 June 2017
Mutukula Tanzania	Endline	19-25 Julie 2017
Busia Kenya	Endline	27 1000 2 101/ 2017
Busia Uganda	Endline	27 Julie – 3 July 2017
Holili	End line	10.25 Sontombor 2017
Taveta	End line	19-25 September 2017
Mirama	Endline	20 September 5 October 2017
Kagitumba	Endline	
Ntungamo Junction	Endline	29 September – 5 October 2017

1.2.2 Individual Border Analyses

In this report the results of the surveys at both sides of each border are described with the data from the Baseline, Impact and End Line surveys compared in tables and graphs. The intention is to provide a condensed evaluation of the overall impact of the OSBP development. The parameters described are as follows;

- Freight Traffic Volumes
- Passenger Traffic volumes
- Total Traffic volumes
- Border Crossing (dwell) times
- User Satisfaction Surveys
- Community Surveys

1.2.3 Inter-border Comparison

In the inter-border comparison, the same data are illustrated graphically to provide concise overviews of the comparative impacts of the OSBP developments at the different borders.

1.2.4 Economic Impact comparisons

A brief comparative analysis of the impact of the time reductions for the four completed borders.

1.2.5 Observations and Recommendations

2. BORDER REPORTS

In this section, very brief summaries of the relevant data for each border post are given as background to the comparative analyses in the later sections of the report.

2.1 Holili-Taveta 2.1.1 Traffic Counts

a) Traffic Count: Holili

Comparison of the present volumes through Holili with the impact survey shows that the total traffic volumes have increased by 25% and passenger vehicles by 34%. The total traffic recorded in 2011 was 490; in 2015 it was 537 (an increase of 6%) and 666 in 2017 (increase of 25%) as shown in the table below.

Survey	Buses	Passenger Vehicles	Containerised Trucks	Other Trucks	Total
2011	47	175	74	194	490
2015	72	310	52	103	537
2017	80	416	79	91	666



b) Traffic Count: Taveta

Comparison of the baseline survey done in 2011 with the Taveta OSBP Impact survey in 2015 and end line survey in 2017 shows that the total traffic volumes have increased steadily; 2011 (437) in 2015 (492) and 2017 (563).

Survey	Buses	Passenger Vehicles	Trucks	Other	Total
2011	33	243	56	105	437
2015	90	252	49	101	492
2017	56	283	72	152	563



2.1.2 Time Surveys

It is important to note that there were differences in methodology from baseline to endline. The baseline survey in 2011 showed the queue time and processing times for commercial traffic (trucks) as transit only; whereas the Impact and Endline surveys disaggregated the crossing times by movements; Arrival to Customs; Customs Processing Time; Customs to Gate Out; and Total Dwell Time (Crossing Time).

a) Time Survey: Holili

Total dwell time for all trucks has decreased from 26:57 in 2011 to 2:55, whilst for container trucks dwell time has increased to 05:58 in 2017 (for reasons described in later sections).

Surveys		Queue Time (h:mm)	Customs Processing (h:mm)	Total Dwell Time (h:mm)	Time Difference (h:mm)	Time Variance from Baseline (%)
All Trucks	2011 - Baseline	7:53	19:04	26:57	0:00	0%
	2016 – Impact Survey	6:41	13:32	20:13	6:44	25%
	2017 – End Line Survey	0:06	1:59	2:55	17:18	89%
Containers	2011 - Baseline Survey	7:53	19:04	26:57	0:00	0%
	2016 – Impact Survey	3:44	46:04	49:48	22:51	-85%
	2017 – End Line Survey	0:07	3:57	5:58	43:50	78%



b) Time Survey: Taveta

Total dwell time for all trucks has reduced from 06:36 to 01:41 (74%) and container trucks to 1:51 a reduction of 72%.

Surveys		Queue Time (h:mm)	Customs Processing (h:mm)	Total Dwell Time (h:mm)	Time Difference (h:mm)	Time Variance from Baseline (%)
All Trucks	2011 - Baseline	1:56	4:40	6:36	0:00	0%
	2016 – Impact Survey	0:27	0:46	1:13	5:23	82%
	2017 – End Line Survey	2:20	0:56	1:41	0:28	74%
Containers	2011 - Baseline Survey	1:56	4:40	6:36	0:00	0%
	2016 – Impact Survey	0:31	0:24	0:55	5:41	86%
	2017 – End Line Survey	2:42	0:28	1:51	0:56	72%



2.1.3 User Satisfaction Survey a) User Satisfaction Survey – Holili

Overall Average: Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	96%	97%	94%
Joint Examination	82%	91%	65%
Decreased time	88%	91%	83%
Security	90%	91%	89%
Search -gender	100%	100%	100%
Maintenance	88%	91%	82%
Cleanliness	91%	94%	83%
Toilets -M/F	94%	97%	88%
Warehouse	54%	61%	38%
Signage	86%	88%	83%
Parking	73%	80%	57%
Separation of . Pass/goods	89%	90%	88%
HIV Signage	11%	13%	6%
Disabled facilities	61%	69%	47%
Overall level of satisfaction	89%	91%	84%
Average Score (%)	80%	83%	73%

Overall Average: Satisfaction
Total Male Female

	Total	wate	remaie
Parameter	%	%	%
Centralised Operations	93%	93%	95%
Joint Examination	89%	90%	88%
Decreased time	68%	58%	90%
Security	97%	95%	100%
Search -gender	100%	100%	100%
Maintenance	84%	84%	85%
Cleanliness	97%	95%	100%
Toilets -M/F	97%	95%	100%
Warehouse	68%	69%	67%
Signage	87%	83%	95%
Parking	87%	82%	100%
Separation of . Pass/goods	91%	91%	89%
HIV Signage	20%	26%	6%
Disabled facilities	59%	62%	54%
Overall level of satisfaction	72%	70%	76%
Average Score (%)	81%	80%	83%

Legend





70-100 50-70 0-50

b) User Satisfaction survey – Taveta

Overall Average: Satisfaction					
	Total	Male	Female		
Parameter	%	%	%		
Centralised Operations	88%	85%	93%		
Joint Examination	84%	82%	88%		
Decreased time	85%	84%	88%		
Security	80%	79%	81%		
Search -gender	90%	88%	94%		
Maintenance	82%	81%	83%		
Cleanliness	90%	88%	94%		
Toilets -M/F	93%	97%	88%		
Warehouse	64%	58%	75%		
Signage	86%	87%	83%		
Parking	71%	68%	82%		
Separation of . Pass/goods	69%	71%	65%		
HIV Signage	7%	3%	17%		
Disabled facilities	45%	50%	33%		
Overall level of satisfaction	87%	82%	95%		
Average Score (%)	75%	74%	77%		
Legend	70-100				
		50-70			
		0-50			

Overall Average: Satisfaction

Overall Average. Satisfaction	1				
	Total	Male	Female		
Parameter	%	%	%		
Centralised Operations	95%	91%	100%		
Joint Examination	65%	55%	76%		
Decreased time	80%	77%	82%		
Security	100%	100%	100%		
Search -gender	98%	95%	100%		
Maintenance	93%	91%	95%		
Cleanliness	70%	81%	59%		
Toilets -M/F	98%	95%	100%		
Warehouse	80%	75%	85%		
Signage	95%	90%	100%		
Parking	88%	86%	90%		
Separation of . Pass/goods	84%	73%	95%		
HIV Signage	14%	14%	15%		
Disabled facilities	82%	76%	89%		
Overall level of satisfaction	66%	59%	73%		
Average Score (%)	81%	77%	84%		
Legend		70-100			
		50-70			
	0-50				

User Satisfaction at Holili increased from 80% to 81% and at Taveta from 75% to 81%.

2.1.4 Community Survey a) Community Survey – Holili

What Impacts

Response	All	%	Males	%	Females	%
Improved Business	6	26%	6	33%	0	0%
Reduced Business	9	39%	7	39%	2	40%
Time saving	5	22%	4	22%	1	20%
New Business Development	2	9%	1	6%	1	20%
Increased Population	1	4%	0	0%	1	20%
Other	0	0%	0	0%	0	0%
None of these Impacts	0	0%	0	0%	0	0%
Total	23		18		5	



Positive Features of the OSBP

Response	All	%	Males	%	Females	%
Good Service Levels	2	15%	1	9%	1	50%
Improved Time	5	38%	4	36%	1	50%
Growth	2	15%	2	18%	0	0%
Service & Time	3	23%	3	27%	0	0%
Service and Growth	1	8%	1	9%	0	0%
Other (Specify)	0	0%	0	0%	0	0%
Total	13		11		2	



b) Community Survey – Taveta

What Impacts

Response	All	%	Males	%	Females	%
Improved Business	13	48%	9	45%	4	57%
Reduced Business	8	30%	6	30%	2	29%
Time saving	2	7%	2	10%	0	0%
New Business Development	0	0%	0	0%	0	0%
Increased Population	1	4%	1	5%	0	0%
Other	3	11%	2	10%	1	14%
None of these Impacts	0	0%	0	0%	0	0%
Total	27		20		7	



Positive	Features	of the	OSBP	

Response	All	%	Males	%	Females	%
Good Service Levels	11	48%	9	56%	2	29%
Improved Time	3	13%	2	13%	1	14%
Growth	7	30%	4	25%	3	43%
Service & Time	0	0%	0	0%	0	0%
Service and Growth	1	4%	0	0%	1	14%
Other (Specify)	1	4%	1	6%	0	0%
Total	23		16		7	



Community comments were somewhat mixed, with low levels of anticipated improved business and growth, and comments showed concerns about management of the border.

2.1.5 Border Summary a) Holili

Summary Table – Holili

Measure	Baseline	Impact	Endline	Variance from Baseline	% Variance
Traffic Count (Trailer		-			
Trucks)	74	52	79	5	0.07
Traffic Count (Other					
trucks)	194	103	91	-103	-0.53
Traffic Count (Passenger)	175	310	416	241	1.38
Traffic Count (Buses)	47	72	80	33	0.70
Traffic Count (Total)	490	537	666	176	0.36
Time Survey (All Trucks)	26:57	20:13	2:55	-1442	-0.89
Time Survey (Containers)	26:57	49:48	5:58	-1259	-0.78
User Satisfaction		80%	81%	1	0.01
Community					
Increased business			26%		
Good Service Levels			15%		

Trailer Truck volumes were more or less unchanged, but All Trucks reduced by 53%.

Border crossing time for All Trucks decreased from 26:57 to 2:55 (89%) and for Container trucks to 5:58 (78%).

Passenger vehicles increased by 138% and buses by 70%.

User Satisfaction increased from 80% to 81%.

The Community Survey showed 26% expectation of improved business and 15% commented on Good Service Levels.

b) Taveta

Summary Table – Taveta

Maaaaaa	Deceline	Imment	Fadling	Variance from	%
	Baseline	Impact	Endline	Baseline	variance
Traffic Count (Trailer		10		10	
l rucks)	56	49	72	16	0.29
Traffic Count (Other					
trucks)	105	101	152	47	0.45
Traffic Count (Passenger)	243	252	283	40	0.16
Traffic Count (Buses)	33	90	56	23	0.70
Traffic Count (Total)	437	492	563	126	0.29
Time Survey (All Trucks)	06:36	01:13	01:41	-295	-0.74
Time Survey (Containers)	06:36	00:55	01:51	-285	-0.72
User Satisfaction		75%	81%	6%	0.08
Community					
Increased business			48%		
Good Service Levels			48%		

Trailer Truck volumes increased by 29% and Other Trucks by 45%.

Border crossing time for All Trucks decreased from 06:36 to 01:41 (74%) and for Container trucks to 01:51 (72%)

Passenger vehicles increased by 16% and buses by 70%

User Satisfaction increased from 75% to 81%.

The Community Survey showed 48% expectation of improved business and 48% commented on Good Service Levels.

2.2 Busia Kenya-Uganda

2.2.1 Traffic Counts

a) Traffic Count Busia – Kenya

The composition of the traffic flow has changed significantly from the base line survey. The total number recorded in 2011 from Uganda to Kenya through Busia (as a Two-stop Border post) was 2644 and in 2016 (as an OSBP) it was 1907 (a decrease of 3%) and in 2017 it was 3324 (an increase of 29%), as shown in the table below.

Survey	Buses	Passenger Vehicles	Trailer Trucks	Other Trucks	Total
2011 (Baseline)	216	1000	607	821	2644
2016 (Impact)	94	638	318	857	1907
2017 (End Line)	234	796	557	1737	3324



b) Traffic Count: Busia - Uganda

From 2011 to 2017 total traffic volumes have decreased significantly; the total traffic volume was in 2011 was 3621; in 2016 it was 1694 (-53%) and in 2017 it was 1784 (+14%). From 2011 to 2017 trailer trucks decreased from 880 to 261 and passenger vehicles from 1488 to 629.

Survey	Buses	Passenger Vehicles	Trailer Trucks	Other Trucks	Total
2011 (Baseline)	242	1488	880	1011	3621
2016 (Impact)	60	317	258	1059	1694
2017 End Line)	104	629	261	790	1784



2.2.2 Time Survey

a) Busia – Kenya

The average total dwell time for all trucks was 39 minutes in 2017, a reduction of 55% from the baseline data. For container trucks the end line total dwell time was 43 minutes, a reduction of 50%.

	Surveys	Queue Time (h:mm)	Customs Processing (h:mm)	Total Dwell Time (h:mm)	Time Difference (h:mm)	Time Variance from Baseline (%)
All Trucks	2011 - Baseline	0:36	0:48	1:26	0:00	0%
	2016 – Impact Survey	0:02	0:15	0:17	1:09	80%
	2017 – End Line Survey	0:16	0:23	0:39	1:38	55%
Containers	2011 - Baseline Survey	0:38	0:48	1:26	0:00	0%
	2016 – Impact Survey	0:01	0:25	0:26	1:00	70%
	2017 – End Line Survey	0:00	0:43	0:43	1:26	50%



b) Time Survey Busia – Uganda

The average total dwell time for all trucks was 3:40 minutes in 2017, a reduction of 74% from the baseline. For container trucks the end line total dwell time was 14:25 minutes, which is slight increase in time from the baseline.

	Surveys	Queue Time (h:mm)	Customs Processing (h:mm)	Total Dwell Time (h:mm)	Time Difference (h:mm)	Time Variance from Baseline (%)
All Trucks	2011 - Baseline	1:12	13:08	14:20	0:00	0%
	2016 – Impact Survey	2:44	0:13	2:57	11:35	79%
	2017 – End Line Survey	1:41	2:06	3:40	0:10	74%
Containers	2011 - Baseline Survey	1:12	13:08	14:20	0:00	0%
	2016 – Impact Survey	2:07	0:24	2:31	11:49	82%
	2017 – End Line Survey	2:20	10:04	14:25	6:30	-1%



2.2.3 User Satisfaction Survey a) Busia Kenya

Overall Average :Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	72%	74%	69%
Joint Examination	91%	94%	83%
Decreased time	<mark>58%</mark>	67%	44%
Security	91%	89%	94%
Search -gender	72%	70%	75%
Maintenance	<mark>63%</mark>	59%	69%
Cleanliness	<mark>59%</mark>	59%	57%
Toilets -M/F	92%	97%	83%
Warehouse	45%	52%	27%
Signage	83%	81%	89%
Parking	38%	37%	38%
Separation of . Pass/goods	42%	45%	36%
HIV Signage	14%	18%	0%
Disabled facilities	11%	15%	0%
Overall level of satisfaction	<mark>58%</mark>	54%	67%
Average Score (%)	<mark>59%</mark>	61%	55%
Legend		70-100	

50-70 0-50

b) User Satisfaction survey – Busia Uganda

Overall Average :Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	100%	100%	100%
Joint Examination	91%	86%	100%
Decreased time	70%	60%	90%
Security	100%	100%	100%
Search -gender	95%	96%	94%
Maintenance	100%	100%	100%
Cleanliness	100%	100%	100%
Toilets -M/F	95%	92%	100%
Warehouse	97%	100%	92%
Signage	98%	96%	100%
Parking	98%	96%	100%
Separation of . Pass/goods	93%	93%	94%
Disabled facilities	3%	5%	0%
Overall level of satisfaction	93%	93%	94%
Average Score (%)	82%	81%	84%

Legend



Overall Average :Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	90%	91%	89%
Joint Examination	89%	89%	89%
Decreased time	91%	94%	86%
Security	95%	93%	100%
Search -gender	95%	93%	100%
Maintenance	93%	90%	100%
Cleanliness	95%	92%	100%
Toilets -M/F	100%	100%	100%
Warehouse	71%	72%	69%
Signage	95%	92%	100%
Parking	66%	73%	53%
Separation of . Pass/goods	89%	92%	84%
HIV Signage	27%	18%	42%
Disabled facilities	22%	19%	27%
Overall level of satisfaction	70%	69%	71%
Average Score (%)	79%	78%	81%

Legend

70-100 50-70 0-50

Overall Average :Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	98%	96%	100%
Joint Examination	96%	96%	95%
Decreased time	93%	92%	94%
Security	100%	100%	100%
Search -gender	100%	100%	100%
Maintenance	96%	96%	95%
Cleanliness	98%	96%	100%
Toilets -M/F	96%	96%	95%
Warehouse	60%	58%	63%
Signage	96%	96%	96%
Parking	42%	43%	42%
Separation of . Pass/goods	98%	100%	95%
Disabled facilities	63%	64%	63%
Overall level of satisfaction	79%	71%	88%
Average Score (%)	86%	85%	86%

Legend



User Satisfaction at Busia –Kenya increased from 59% to 79% and at Busia –Uganda from 82% to 86%.

2.2.4 Community Survey

a) Busia Kenya

What Impacts

Response	All	%	Males	%	Females	%
Improved Business	18	67%	9	60%	9	75%
Reduced Business	2	7%	1	7%	1	8%
Time saving	2	7%	2	13%	0	0%
New Business Development	2	7%	2	13%	0	0%
Increased Population	2	7%	0	0%	2	17%
Other	1	4%	1	7%	0	0%
None of these Impacts	0	0%	0	0%	0	0%
Total	27		15		12	



Positive Features of the OSBP

Response	All	%	Males	%	Females	%
Good Service Levels	15	52%	8	53%	7	50%
Improved Time	6	21%	2	13%	4	29%
Growth	3	10%	3	20%	0	0%
Service & Time	1	3%	1	7%	0	0%
Service and Growth	3	10%	1	7%	2	14%
Other (Specify)	1	3%	0	0%	1	7%
Total	29		15		14	



Community comments at Busia –Kenya were positive regarding improved business and improved service levels.

b) Busia Uganda

What Impacts										
Response	All	%	Males	%	Females	%				
Improved Business	4	16%	2	15%	2	17%				
Reduced Business	6	24%	2	15%	4	33%				
Time saving	10	40%	6	46%	4	33%				
New Business Development	1	4%	1	8%	0	0%				
Increased Population	0	0%	0	0%	0	0%				
Other	2	8%	1	8%	1	8%				
None of these Impacts	2	8%	1	8%	1	8%				
Total	25		13		12					



Positive Features of the OSBP

Response	All	%	Males	%	Females	%
Good Service Levels	2	8%	1	8%	1	8%
Improved Time	16	67%	6	50%	10	83%
Growth	3	13%	2	17%	1	8%
Service & Time	0	0%	0	0%	0	0%
Service and Growth	1	4%	1	8%	0	0%
Other (Specify)	2	8%	2	17%	0	0%
Total	24		12		12	



2.2.5 Border Summary a) Busia - Kenya

Summary Table – Busia – Kenya

				Variance from	~ · · ·
Measure	Baseline	Impact	Endline	Baseline	% Variance
Traffic Count (Trailer					
Trucks)	607	318	557	-50	-0.08
Traffic Count (Other trucks)	821	857	1737	916	1.12
Traffic Count (Passenger)	1000	638	796	-204	-0.20
Traffic Count (Buses)	216	94	234	18	0.08
Traffic Count (Total)	2644	1907	3324	680	0.26
Time Survey (All Trucks)	01:26	00:17	00:39	-47	-0.55
Time Survey (Containers)	01:26	00:26	00:43	-43	-0.50
User Satisfaction		59%	79%	20	0.34
Community					
Improved business			67%		
Good Service Levels			52%		

Compared to baseline, the number of trailer trucks reduced slightly but other trucks increased by 112%, and the total vehicle count increased by 26% to 3324 for the survey period.

Border crossing times for all trucks reduced from 1:26 in 2011 to 0:39 in 2017 (55%) as most trucks crossing into Kenya through Busia were empty returns (3340 out of a total of 3804 (88%). It must also be noted that as the baseline survey was conducted in the peak period in December 2011, the resulting traffic congestion, could also have contributed to the longer border crossing times experienced during that survey period.

User satisfaction increased from 59% to 79%. The Community survey indicated 67% expectation of improved business and 52% score for good service levels.

b) Busia – Uganda Summary Table – Busia – Uganda

				Variance from	
Measure	Baseline	Impact	Endline	Baseline	% Variance
Traffic Count (Trailer					
Trucks)	880	258	261	-619	-0.70
Traffic Count (Other					
trucks)	1011	1059	790	-221	-0.22
Traffic Count (Passenger)	1488	317	629	-859	-0.58
Traffic Count (Buses)	242	60	104	-138	-0.57
Traffic Count (Total)	3621	1694	1784	-1837	-0.51
Time Survey (All Trucks)	14:20	02:57	03:40	-640	-0.74
Time Survey (Containers)	14:20	02:31	14:25	5	0.01
User Satisfaction		75%	86%	11	0.15
Community					
Improved business			16%		
Good Service Levels			8%		

There was a reduction of 70% in trailer trucks and other 22% in other trucks compared to baseline. The total traffic count reduced by 1784 vehicles (51%).

Cross border time for all trucks reduced from baseline of 14:20 to 3:40 but container truck crossing time increased slightly to 14:25.

User satisfaction increased from 75% to 86%. The Community survey reported very low levels of anticipated improved business (16%), but 8% score for good service levels.

2.3 Mutukula – Mutukula: Uganda-Tanzania 2.3.1 Traffic Counts

2.3.1 Traffic Counts

a) Traffic Count: Mutukula - Uganda

Comparison of the current volumes with the baseline survey shows that the total traffic volumes have reduced since 2011. The total number of in 2011 was 1557, in 2016 it was 383 (a decrease of 75%) and in 2017 it increased to 542 an increase of 42%.

Survey	Buses	Passenger Vehicles	Trailer Trucks	Other Trucks	Total
2011	254	1061	57	185	1557
2016	33	166	29	155	383
2017	28	205	43	267	542



b) Traffic Count: Mutukula -Tanzania

The total traffic volume has decreased significantly since 2011. The baseline survey in 2011 recorded total traffic volumes of 1366, in 2016 it was 472 and 2017 it increased to 568.

Survey	Buses	Passenger Vehicles	Trucks	Other	Total
2011	78	903	34	351	1366
2016	31	256	40	145	472
2017	36	236	45	251	568



2.3.2 Time Surveys

a) Time Surveys: Mutukula - Uganda

The total dwell times for all trucks has reduced from 45:49 in the baseline survey to 4:37 h:mm (90%). For container vehicles the reduction has been from 45:49 to 5:51 (87%).

a) Time Survey Mutukula - Uganda

	Surveys	Queue Time (h:mm)	Customs Processing (h:mm)	Total Dwell Time (h:mm)	Time Difference (h:mm)	Time Variance from Baseline (%)
All Trucks	2011 - Baseline	0:49	20:55	45:49	0:00	0%
	2016 – Impact Survey	1:31	6:29	8:00	13:49	83%
	2017 – End Line Survey	1:05	2:56	4:37	3:23	90%
Containers	2011 - Baseline Survey	0:49	20:55	45:49	0:00	0%
	2016 – Impact Survey	0:51	12:38	13:31	-7:24	70%
	2017 – End Line Survey	2:06	3:51	5:51	-7:40	87%



b) Time Survey: Mutukula – Tanzania

The total dwell time for all trucks was 3:24, compared to baseline of 10:12 a reduction of 67%. For container trucks the total dwell time has increased from 10:12 to 11:28 (12%).

	Surveys	Queue Time (h:mm)	Customs Processing (h:mm)	Total Dwell Time (h:mm)	Time Difference (h:mm)	Time Variance from Baseline (%)
All Trucks	2011 - Baseline	2:20	7:52	10:12	0:00	0%
	2016 – Impact Survey	0:39	3:53	4:34	9:07	55%
	2017 – End Line Survey	0:21	2:54	3:24	1:10	67%
Containers	2011 - Baseline Survey	2:20	7:52	10:12	0:00	0
	2016 – Impact Survey	0:03	10:44	10:48	+0:36	-6%
	2017 – End Line Survey	0:16	11:45	11:28	+0:30	-12%



2.3.3 User Satisfaction Survey a) User Satisfaction survey - Mutukula Uganda

Overall Average :Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	100%	100%	100%
Joint Examination	90%	93%	86%
Decreased time	43%	56%	29%
Security	88%	94%	79%
Search -gender	14%	27%	0%
Maintenance	86%	88%	83%
Cleanliness	98%	97%	100%
Toilets -M/F	100%	100%	100%
Warehouse	86%	84%	88%
Signage	3%	6%	0%
Parking	61%	75%	44%
Separation of . Pass/goods	<mark>59%</mark>	72%	37%
HIV Signage	5%	9%	0%
Disabled facilities	53%	48%	58%
Overall level of satisfaction	83%	81%	85%
Average Score (%)	<mark>65%</mark>	69%	59%

Legend

70-100 50-70 0-50

Overall Average :Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	98%	96%	100%
Joint Examination	90%	100%	76%
Decreased time	65%	62%	69%
Security	89%	93%	86%
Search -gender	7%	5%	9%
Maintenance	91%	93%	89%
Cleanliness	95%	96%	94%
Toilets -M/F	100%	100%	100%
Warehouse	48%	45%	55%
Signage	95%	100%	91%
Parking	74%	71%	52%
Separation of . Pass/goods	56%	90%	71%
HIV Signage	0%	0%	0%
Disabled facilities	76%	76%	76%
Overall level of satisfaction	79%	85%	72%
Average Score (%)	71%	74%	69%



Centralised Operations

Joint Examination

Decreased time Security

Search -gender

Maintenance

Cleanliness

Toilets -M/F

Warehouse

HIV Signage Disabled facilities

Signage

Parking

Parameter



%

57%

57%

83%

56%

88

939

Total Male Female

%

839

73% 57%

84

53%

84%

74%

80%

79%

95%

94'

949

899

%

1009

95% 56%

90%

59%

95%

83%

879

93%

93%

87%

85%

93%

80

b) User Satisfaction survey - Mutukula Tanzania Overall Average :Satisfaction

Overall Average : Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	86%	85%	91%
Joint Examination	91%	89%	100%
Decreased time	37%	38%	30%
Security	95%	94%	100%
Search -gender	46%	50%	36%
Maintenance	84%	88%	67%
Cleanliness	85%	86%	83%
Toilets -M/F	31%	29%	42%
Warehouse	86%	87%	83%
Signage	78%	79%	73%
Parking	88%	90%	78%
Separation of . Pass/goods	95%	94%	100%
HIV Signage	77%	80%	67%
Disabled facilities	60%	57%	75%
Overall level of satisfaction	62%	65%	50%
Average Score (%)	73%	74%	72%

g



	Average Score (%)	79%
Legend		70-100
		50-70
		0-50

Separation of . Pass/goods

Overall level of satisfaction

User Satisfaction at Mutukula-Uganda increased from 65% to 71% and at Mutukula -Tanzania from 73% to 79%.

2.3.4 Community Survey a) Mutukula – Uganda

What Impacts

Response	All	%	Males	%	Females	%
Improved Business	15	50%	8	47%	7	54%
Reduced Business	0	0%	0	0%	0	0%
Time saving	10	33%	6	35%	4	31%
New Business Development	1	3%	0	0%	1	8%
Increased Population	4	13%	3	18%	1	8%
Other	0	0%	0	0%	0	0%
None of these Impacts	0	0%	0	0%	0	0%
Total	30		17		13	



Positive Features of the OSBP

Response	All	%	Males	%	Females	%
Good Service Levels	8	28%	4	25%	4	31%
Improved Time	9	31%	7	44%	2	15%
Growth	4	14%	2	13%	2	15%
Service & Time	1	3%	1	6%	0	0%
Service and Growth	3	10%	1	6%	2	15%
Other (Specify)	4	14%	1	6%	3	23%
Total	29		16		13	



b) Mutukula – Tanzania

If so; What Impacts

Response	All	%	Males	%	Females	%
Improved Business	9	30%	5	33%	4	27%
Reduced Business	0	0%	0	0%	0	0%
Time saving	7	23%	5	33%	2	13%
New Business Development	3	10%	1	7%	2	13%
Increased Population	8	27%	2	13%	6	40%
Other	3	10%	2	13%	1	7%
None of these Impacts	0	0%	0	0%	0	0%
Total	30		15		15	



Positive Features of the OSBP

Response	All	%	Males	%	Females	%
Good Service Levels	6	20%	4	27%	2	13%
Improved Time	6	20%	3	20%	3	20%
Growth	10	33%	4	27%	6	40%
Service & Time	4	13%	1	7%	3	20%
Service and Growth	4	13%	3	20%	1	7%
Other (Specify)	0	0%	0	0%	0	0%
Total	30		15		15	



2.3.5 Border Summary a) Mutukula – Uganda Summary Table – Mutukula Uganda

				Variance from	%
Measure	Baseline	Impact	Endline	Baseline	Variance
Traffic Count (Trailer					
Trucks)	57	29	43	-14	-0.25
Traffic Count (Other					
trucks)	185	155	267	82	0.44
Traffic Count (Passenger)	1061	166	205	-856	-0.81
Traffic Count (Buses)	254	33	28	-226	-0.89
Traffic Count (Total)	1557	383	542	-1015	-0.65
Time Survey (All Trucks)	45:49	08:00	04:37	-2472	-0.90
Time Survey (Containers)	45:49	13:31	05:51	-2398	-0.87
User Satisfaction		65%	71%	6	0.09
Community					
Improved business			50%		
Good Service Levels			28%		

There was a reduction in the number of trailer trucks and a slight increase in other trucks. Overall traffic reduced by 65% from baseline from 1557 to 542.

Border crossing time for all trucks reduced from 45:49 to 4:37 (90%) and for container trucks, from 45:49 to 5:51 (87%). User satisfaction increased from 65% to 71%. The Community survey showed 50% expectation of improved business but only 28% score for good service levels.

b) Mutukula - Tanzania Summary Table – Mutukula Tanzania

Measure	Baseline	Impact	Endline	Variance from Baseline	% Variance
Traffic Count (Trailer Trucks)	34	40	45	11	0.32
Traffic Count (Other trucks)	351	145	251	-100	-0.28
Traffic Count (Passenger)	903	1061	236	-667	-0.74
Traffic Count (Buses)	78	31	36	-42	-0.54
Traffic Count (Total)	1366	472	568	-798	-0.58
Time Survey (All Trucks)	10:12	04:34	03:24	-408	-2.00
Time Survey (Containers)	10:12	10:48	11:28	76	0.11
User Satisfaction		73%	79%	6	0.08
Community					
Improved business			30%		
Good Service Levels			20%		

There was a reduction in the number of trailer trucks and a slight increase in other trucks. Overall traffic reduced by 58% from baseline from 1366 to 568.

Border crossing time for all trucks reduced from 10:12 to 03:24 (200%) and for container trucks, from 10:12 to 11:28 (11%).

User satisfaction increased from 73% to 79%. The Community survey showed 30% expectation of improved business but only 20% score for good service levels.

2.4 Mirama-Kagitumba

2.4.1 Traffic Counts

a) Mirama Hills

There have been changes in the traffic composition with increases in All trucks (8-124) and decreases in container trucks (51 - 23). Total traffic has increased from 115 vehicles to 233 from Baseline to Endline.

Survey	Buses	Passenger Vehicles	Trucks Container	Trucks Other	Total
2011	26	30	51	8	115
2016	21	0	44	26	91
2017	26	60	23	124	233



b) Kagitumba

Total traffic has increased slightly from 193 to 217 vehicles, with the major changes being all trucks increasing from 9 to 111, and container trucks reducing from 41 to 14. Passenger traffic has reduced.

Survey	Buses	Passenger Vehicles	Trucks Container	Trucks Other	Total
2011	14	129	41	9	193
2016	33	0	74	14	121
2017	18	74	14	111	217



2.4.2 Time Surveys

a) Mirama Hills

Total dwell time for all trucks has reduced for 1:47 to 15 minutes (86%) and for container trucks the total dwell time was 15 minutes, a reduction of 189% from the Baseline.

	Surveys	Queue Time (h:mm)	Customs Processing (h:mm)	Total Dwell Time (h:mm)	Time Difference (h:mm)	Time Variance from Baseline (%)
All Trucks	2011 - Baseline	0:15	1:32	1:47	0:00	0%
	2016 – Impact Survey	0:39	1:17	1:56	0:09	-8%
	2017 – End Line Survey	0:01	0:13	0:15	1:41	86%
Containers	2011 - Baseline Survey	0:15	1:32	1:47	0:00	0%
	2016 – Impact Survey	3:01	3:37	6:56	5:09	-189%
	2017 – End Line Survey	0:08	0:00	0:15	6:41	-275%



a) Kagitumba

The total dwell time for all trucks has reduced from 05:00 to 01:15 (72%) and for container trucks by 74%.

	Surveys	Queue Time (h:mm)	Customs Processing (h:mm)	Total Dwell Time (h:mm)	Time Difference (h:mm)	Time Variance from Baseline (%)
All Trucks	2011 - Baseline	1:09	3:51	5:00	0:00	0%
	2016 – Impact Survey	1:43	2:02	3:45	1:15	25%
	2017 – End Line Survey	0:06	1:15	1:25	2:20	72%
Containers	2011 - Baseline Survey	1:09	3:51	5:00	0:00	0%
	2016 – Impact Survey	0:09	1:30	1:39	4:21	67%
	2017 – End Line Survey	0:04	1:12	1:18	0:21	74%



2.4.3 User Satisfaction survey a) Mirama Hills

Overall Average: Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	100%	100%	100%
Joint Examination	100%	100%	100%
Decreased time	100%	100%	100%
Security	100%	100%	100%
Search -gender	70%	92%	43%
Maintenance	100%	100%	100%
Cleanliness	100%	100%	100%
Toilets -M/F	99%	97%	100%
Warehouse	83%	74%	100%
Signage	98%	100%	97%
Parking	91%	92%	89%
Separation of . Pass/goods	100%	100%	100%
HIV Signage	6%	11%	0%
Disabled facilities	99%	97%	100%
Overall level of satisfaction	97%	95%	100%
Average Score (%)	89%	90%	89%

Legend



Overall Average: Satisfaction

	Total	Male	Female
Parameter	%	%	%
Centralised Operations	97%	96%	100%
Joint Examination	97%	96%	100%
Decreased time	88%	92%	83%
Security	97%	96%	100%
Search -gender	100%	100%	100%
Maintenance	100%	100%	100%
Cleanliness	100%	100%	100%
Toilets -M/F	100%	100%	100%
Warehouse	95%	98%	91%
Signage	100%	100%	100%
Parking	100%	100%	100%
Separation of . Pass/goods	97%	96%	100%
HIV Signage	83%	85%	79%
Disabled facilities	100%	100%	100%
Overall level of satisfaction	100%	100%	100%
Average Score (%)	97%	97%	97%

Legend

70-100
50-70
0-50

b) Kagitumba

Overall Average: Satisfaction

	Total	Male	Female		
Parameter	%	%	%		
Centralised Operations	100%	100%	100%		
Joint Examination	100%	100%	100%		
Decreased time	98%	97%	100%		
Security	99%	100%	97%		
Search -gender	68%	95%	34%		
Maintenance	99%	97%	100%		
Cleanliness	100%	100%	100%		
Toilets -M/F	100%	100%	100%		
Warehouse	82%	71%	100%		
Signage	100%	100%	100%		
Parking	89%	94%	81%		
Separation of . Pass/goods	100%	100%	100%		
HIV Signage	6%	11%	0%		
Disabled facilities	99%	97%	100%		
Overall level of satisfaction	99%	97%	100%		
Average Score (%)	89%	91%	87%		
Legend		70-100			
	50-70				
	0-50				

Overall Average: Satisfaction							
	Total	Male	Female				
Parameter	%	%	%				
Centralised Operations	100%	100%	100%				
Joint Examination	75%	78%	67%				
Decreased time	96%	96%	95%				
Security	100%	100%	100%				
Search -gender	99%	98%	100%				
Maintenance	100%	100%	100%				
Cleanliness	100%	100%	100%				
Toilets -M/F	100%	100%	100%				
Warehouse	99%	98%	100%				
Signage	100%	100%	100%				
Parking	99%	98%	100%				
Separation of . Pass/goods	98%	97%	100%				
HIV Signage	7%	7%	5%				
Disabled facilities	99%	98%	100%				
Overall level of satisfaction	94%	91%	100%				
Average Score (%)	91%	91%	91%				
Legend		70-100					
	50-70						

0-50

User Satisfaction at Mirama Hills increased from 89% to 97% and at Kagitumba from 89% to 91%.

2.4.4 Community Survey a) Mirama Hills

What Impact

Response	All	%	Males	%	Females	%
Improved Business	11	24%	3	13%	8	36%
Reduced Business	0	0%	0	0%	0	0%
Time saving	8	17%	7	29%	1	5%
New Business Development	5	11%	3	13%	2	9%
Increased Population	14	30%	6	25%	8	36%
Other	7	15%	5	21%	2	9%
None of these Impacts	1	2%	0	0%	1	5%
Total	46		24		22	



Positive Features of the OSBP

Response	All	%	Males	%	Females	%
Good Service Levels	19	40%	10	40%	9	41%
Improved Time	0	0%	0	0%	0	0%
Growth	10	21%	3	12%	7	32%
Service & Time	5	11%	5	20%	0	0%
Service and Growth	13	28%	7	28%	6	27%
Other (Specify)	0	0%	0	0%	0	0%
Total	47		25		22	



Kagitumba

What Impact

Response	All	%	Males	%	Females	%
Improved Business	15	27%	5	14%	10	48%
Reduced Business	0	0%	0	0%	0	0%
Time saving	7	13%	4	11%	3	14%
New Business Development	16	29%	12	34%	4	19%
Increased Population	16	29%	12	34%	4	19%
Other	2	4%	2	6%	0	0%
None of these Impacts	0	0%	0	0%	0	0%
Total	56		35		21	



Positive Features of the OSBP

Response	All	%	Males	%	Females	%
Good Service Levels	14	25%	10	29%	4	19%
Improved Time	0	0%	0	0%	0	0%
Growth	4	7%	0	0%	4	19%
Service & Time	21	38%	12	34%	9	43%
Service and Growth	15	27%	11	31%	4	19%
Other (Specify)	2	4%	2	6%	0	0%
Total	56		35		21	



2.4.5 Summary a) Mirama Hills Summary Table – Mirama Hills

				Variance from	%
Measure	Baseline	Impact	Endline	Baseline	Variance
Traffic Count (Trailer					
Trucks)	51	44	23	-28	-0.55
Traffic Count (Other trucks)	8	26	124	116	14.50
Traffic Count (Passenger)	30	0	60	30	1.00
Traffic Count (Buses)	26	21	26	0	0.00
Traffic Count (Total)	115	91	233	118	1.03
Time Survey (All Trucks)	1:47	1:56	0:15	-92	-0.86
Time Survey (Containers)	1:47	6:56	0:15	-92	-0.86
User Satisfaction		89%	97%	8	0.09
Community					
Improved business			24%		
Good Service Levels			40%		

Trailer Truck volumes decreased by 55% but Other Trucks increased by 145%.

Border crossing time for All Trucks decreased from 01:47 to 0:15 (86%) and for container trucks to 0:15 (86%).

Passenger vehicles increased by 100% and buses were unchanged.

User Satisfaction increased from 89% to 97%. The Community Survey showed 24% expectation of improved business and 40% commented on Good Service Levels.

b) Kagitumba

Summary Table – Kagitumba

				Variance from	
Measure	Baseline	Impact	Endline	Baseline	% Variance
Traffic Count (Trailer					
Trucks)	41	74	14	-27	-0.66
Traffic Count (Other					
trucks)	9	14	111	102	11.33
Traffic Count (Passenger)	129	0	74	-55	-0.43
Traffic Count (Buses)	14	33	18	4	0.29
Traffic Count (Total)	193	121	217	24	0.12
Time Survey (All Trucks)	5:00	3:45	1:25	-215	-0.72
Time Survey (Containers)	5:00	1:39	1:18	-222	-0.74
User Satisfaction		89%	91%	2	0.02
Community					
Improved business			27%		
Good Service Levels			25%		

Trailer Truck volumes reduced by 66% but Other Trucks increased by 113%.

Border crossing time for All Trucks decreased from 05:00 to 01:25 (72%) and for Container trucks to 01:18 (74%)

Passenger vehicles decreased by 43% and buses by 29%.

User Satisfaction increased from 89% to 91%. The Community Survey showed 27% expectation of improved business and 25% commented on Good Service Levels.

3. COMPARATIVE ANALYSIS

This section provides a condensed comparative analysis of the changes to the border posts since the introduction of the OSBP infrastructure and processes.

3.1 Inter-Border Comparisons a) Traffic volumes Trailer Trucks

				Variance	
				from	
Traffic Count (Trailer Trucks)	Baseline	Impact	Endline	Baseline	% Variance
Busia-Kenya	607	318	557	-50	-0.08
Busia - Uganda	880	258	261	-619	-0.70
Holili	74	52	79	5	0.07
Taveta	56	49	72	16	0.29
Mirama	51	44	23	-28	-0.55
Kagitumba	41	74	14	-27	-0.66
Mutukula - Uganda	57	29	43	-14	-0.25
Mutukula - Tanzania	34	40	45	11	0.32



There has been reducing levels of trailer truck traffic at most borders.

b) Other Trucks

				Variance	
Traffic Count (Other trucks)	Baseline	Impact	Endline	Baseline	% Variance
Busia-Kenya	821	857	1737	916	1.12
Busia - Uganda	1011	1059	790	-221	-0.22
Holili	194	103	91	-103	-0.53
Taveta	105	101	152	47	0.45
Mirama	8	26	124	116	14.50
Kagitumba	9	14	111	102	11.33
Mutukula - Uganda	185	155	267	82	0.44
Mutukula - Tanzania	351	145	251	-100	-0.28



Other truck traffic has remained constant apart from significant increases at Mirama-Kagitumba

c) Passenger Traffic

				Variance	
Trafic Count (Passenger)	Baseline	Impact	Endline	from Baseline	%Variance
Puojo Kopyo	1000	620	706	204	
Busia-Keriya	1000	030	790	-204	-0,20
Busia - Uganda	1488	317	629	-859	-0,58
Holili	175	310	416	241	1,38
Taveta	243	252	283	40	0,16
Mirama	30	0	60	30	1,00
Kagitumba	129	0	74	-55	-0,43
Mutukula - Uganda	1061	166	205	-856	-0,81
Mutukula - Tanzania	1061	166	205	-856	-0,81



Passenger traffic volumes are variable with the main increases being at Holili and Mirama and reductions at most other borders.

d) Buses

				Variance	
Trafic Count (Buses)	Baseline	Impact	Endline	Baseline	% Variance
Busia-Kenya	216	94	234	18	0,08
Busia - Uganda	242	60	104	-138	-0,57
Holili	47	72	80	33	0,70
Taveta	33	90	56	23	0,70
Mirama	26	21	26	0	0,00
Kagitumba	14	33	18	4	0,29
Mutukula - Uganda	254	33	28	-226	-0,89
Mutukula - Tanzania	78	31	36	-42	-0,01



Bus traffic shows increases at Holili and Taveta but reductions at Busia –Uganda and at Mutukula.

e) Total Traffic Count

				Variance from	
Traffic Count (Total)	Baseline	Impact	Endline	Baseline	% Variance
Busia-Kenya	2644	1907	3324	680	0,26
Busia - Uganda	3621	1694	1784	-1837	-0,51
Holili	490	537	666	176	0,36
Taveta	437	492	563	126	0,29
Mirama	115	91	233	118	1,03
Kagitumba	193	121	217	24	0,12
Mutukula - Uganda	1557	383	542	-1015	-0,65
Mutukula - Tanzania	1366	472	568	-798	-0,00



There have been reductions in total traffic at Busia-Uganda and at Mutukula but increases elsewhere.

f) Freight Vehicle Times i) All Trucks

				Variance	
Time Survey (All Trucks)	Baseline	Impact	Endline	Baseline	% Variance
Busia-Kenya	1:26	0:17	0:39	-47	-0.55
Busia - Uganda	14:20	2:57	3:40	-640	-0.74
Holili	2:57	20:13	2:55	-1442	-8.15
Taveta	6:36	1:13	1:41	-295	-0.74
Mirama	1:47	1:56	0:15	-92	-0.86
Kagitumba	5:00	3:45	1:25	-215	-0.72
Mutukula - Uganda	21:49	8:00	4:37	1032	-0.79
Mutukula - Tanzania	10:12	4:34	3:24	408	-0.67



Border crossing times for All Trucks have reduced at all borders

ii) Container Vehicles

Time Survey (Containers)	Baseline	Impact	Endline	Variance from Baseline	% Variance
Busia-Kenya	01:26	00:26	00:43	-43	-0.50
Busia - Uganda	14:20	02:31	14:25	5	0.01
Holili	26:57	49:48	05:58	-1259	-7.11
Taveta	06:36	00:55	01:51	-285	-0.72
Mirama	01:47	06:56	00:15	15	-0.86
Kagitumba	05:00	01:39	01:18	78	-0.74
Mutukula - Uganda	21:49	13:31	05:51	958	-0.73
Mutukula - Tanzania	10:12	10:48	11:28	-76	0.12



Border crossing times have reduced at all borders except Mutukula Tanzania.

g) User Satisfaction Surveys

				% Variance from
User Satisfaction	Baseline	Impact	Endline	Baseline
Busia-Kenya		59%	79%	0.34
Busia - Uganda		82%	86%	0.14
Holili		80%	81%	0.00
Taveta		75%	81%	0.08
Mirama		89%	97%	0.08
Kagitumba		89%	91%	0.02
Mutukula - Uganda		65%	71%	0.10
Mutukula - Tanzania		73%	79%	0.08



User Satisfaction Surveys showed positive improvements at all border.

h) Community Surveys

Community (Improved business)	Endline
Busia-Kenya	67%
Busia - Uganda	16%
Holili	26%
Taveta	48%
Mirama	24%
Kagitumba	27%
Mutukula - Uganda	50%
Mutukula - Tanzania	30%





The Community Surveys showed expectations of improved business at some borders except Busia-Uganda, Holili, Kagitumba and Mutukula. Community comments on Good service levels were also negative for Holili and Busia-Uganda.

3.2 Economic Impact Comparisons

This section provides a very brief comparative analysis of the impact of the time reductions for the four completed borders.

As shown in the foregoing analyses there has been a consistent reduction in the time delays at the OSBPs at all the borders that are now fully operational. It is therefore relevant to evaluate the savings as an indication of the benefits accrued from the developments.

In the table below, the savings in time have been multiplied by typical hourly fixed (standing) costs of articulated and rigid vehicles and the end line traffic counts, to give an indication of the anticipated annual savings from the four completed borders.

	Busia-	Busia -					Mutukula -	Mutukula -
Time Survey (All Trucks)	Kenya	Uganda	Holili	Taveta	Mirama	Kagitumba	Uganda	Tanzania
Baseline	1:26	14:20	26:57	6:36	1:47	5:00	21:49	10:12
Impact	0:17	2:57	20:13	1:13	1:56	3:45	8:00	4:34
Endline	0:39	3:40	2:55	1:41	0:15	1:25	4:37	3:24
Variance from Baseline	-47.00	-640.00	-1442.00	-295.00	-92.00	-215.00	-1032.00	-408.00
Variance (Hrs)	-0.78	-10.67	-24.03	-4.92	-1.53	-3.58	-17.20	-6.80
Time Survey (Containers)								
Baseline	1:26	14:20	26:57	6:36	1:47	5:00	21:49	10:12
Impact	0:26	2:31	49:48	0:55	6:56	1:39	13:31	10:48
Endline	0:43	14:25	5:58	1:51	0:15	1:18	5:51	11:28
Variance from Baseline	-43.00	5.00	-1259.00	-285.00	-92.00	-222.00	-958.00	76.00
Variance (Hrs)	-0.72	0.08	-20.98	-4.75	-1.53	-3.70	-15.97	1.27
Traffic Count - Other trucks	1737	790	91	152	124	111	267	251
Traffic Count - Container	557	261	79	72	23	14	43	45
Hours saved per day - Other trucks	-1360.7	-8426.7	-2187.0	-747.3	-190.1	-397.8	-4592.4	-1706.8
Hours saved per day - Container	-399.2	21.8	-1657.7	-342.0	-35.3	-51.8	-686.6	57.0
Cost Savings (\$ per day)	-17 671	-67 044	-45 677	-11 793	-2 121	-4 063	-48 411	-12 685
Fixed cost per hour - Other trucks \$	8				Cost Savir	-209 464		
Fixed cost per hour - Containers \$	17				Annual sav	rings in USD	\$	-62 839 165

Estimated Cost Saving from Reduced Delay Times

The conservatively estimated value of the time savings is \$62.8 million p.a. for all four borders at current traffic volumes and processing times, with definite potential for further improvement and volume increases.

From a commercial perspective it is also important to evaluate the impacts of the border improvements from OSBP development relative to the total costs of transporting goods on the corridors. This is relevant, as there are many other factors which cause delays on corridors, and operational practicalities also introduce the need for rest periods and other time usage which is necessary for safety.

A more detailed analysis therefore permits evaluation of the savings at borders compared to possible mitigation of other potential delays. The table below gives an indication of such an analysis on some selected corridors in the region. Note: the data does not include review of the impacts of reduced border times where relevant.

It may well be considered relevant to do such analyses on the corridors in the current OSBP programme.

	Fixed Cost per					
	hour (12 hour day)		Variable cost @			
All costs in USD (\$)	@\$	17	\$	1.2	per kM	
	1	Γ	1	1	1	
		Dar es Salaam		Dar es Salaam -		Dar es Salaam -
	Mombasa - Malaba	Tunduma -	Dar es Salaam-	Songwe-	Dar es Salaam -	Kobero -
Trip	-Kampala	Kasumbalesa	Tundumo - Lusaka	Lilongwe	Rusumo-Kigali	Bujumbura
Distance (Kms)	1 669	2 000	1 600	1 500	1 430	1 420
Driving Hours HGV @ 50kms per hour	19	40	28	30	30	30
Driver rest Periods (Hrs)	22	24	20	20	20	20
Baseline Borders processing times (Hrs)	21	130	72	16	8	46
Revised OSBP Border Process times	6				2	12
Delays-Stops Hrs Weighbridge or Police	2	6	4	2	2	3
Port Time delays	48	48	48	48	48	48
Total Hours	112	248	172	116	108	147
Variable Cost \$	2 003	2 400	1 920	1 800	1 716	1 704
Fixed cost \$	1 904	4 216	2 924	1 972	1 836	2 499
Total Cost \$	3 907	6 616	4 844	3 772	3 552	4 203
Cost per ton (30 ton or 12 metre container)	130	221	161	126	118	140
Cost per ton/kM	0.08	0.11	0.10	0.08	0.08	0.10
Truck volumes per day	900	600	600	200	300	100
Cost of port, border and other delays	1 207	3 128	2 108	1 122	986	1 649
Delays as % of total	0.31	0.47	0.44	0.30	0.28	0.39
Transport operating cost (fixed and variable)	2 700	3 488	2 736	2 650	2 566	2 554
Transport cost as % of total	0.69	0.53	0.56	0.70	0.72	0.61
Estimated delay cost per day for 6 Corridors	651 780	938 400	632 400	112 200	177 480	82 450
				Estimated delay c	ost per day \$	2 594 710
				Estimated delay c	ost per year \$	778 413 000

Estimated Costs of Road Freight Operations and all delays on 6 Selected Corridors

4. LESSONS LEARNT AND RECOMMENDATIONS

The process of monitoring the OSBP developments has provided many insights into the operation of borders, the perspectives of users and potential for future improvement. The following observations and recommendations are suggestions for the future.

- 1. It is apparent that the positive effect of the OSBP development programme provides measurable cost benefits and with increasing traffic and trade volumes, will continue to benefit all the countries of the region.
- 2. The impact on passenger travel is an additional benefit which will have positive impacts on trade and economic development.
- 3. As noted in the reports, the benefits to communities are unfortunately asymmetrical and this may require some further research by relevant authorities to alleviate the impacts of the OSBP in some areas.
- 4. The increased User Satisfaction is also a reassurance that the effectiveness of the border developments is evident to all users and will no doubt increase as the minor infrastructure and systems defects are corrected.
- 5. It can also be recommended that a provision be made for interaction with the commercial interests, (transporters, shippers, forwarders) which are the primary beneficiaries of the corridor trade facilitation programmes to obtain further feedback and to gather evidence of any unsuspected restrictions, obstructions or negative effects on the corridors which may detract from the benefits. This could be done by a survey in collaboration with transport associations such as FESARTA, forwarding associations and shippers councils.

- b. It is believed to be important to define the elements of the total journey time for passenger and freight vehicles as delays are also caused by external factors, not just the border post activities. It is therefore necessary to note the delay times before and after the border post, caused by weighbridges, policing, queuing, driver activities etc. in order to improve overall corridor efficiency.
- 7. There is need to examine the issue of payments, pre-payments and the options which affect the time through the border, as there is evidence that significant delays occur due to payment delays, for various reasons.
- 8. The User Satisfaction Surveys and Community Surveys have revealed some areas of dissatisfaction, and have proved very useful in identifying changes in the level of service and occurrence of negative conditions. It is therefore recommended that a method of bi-annual or annual review should be introduced, to monitor changes.
- 9. From the user and officials reports it is clear that there is a need for a "Border Post Management "function, separate from Customs, Immigration and other agencies. The function would be charged with efficient management of the premises, parking, facilities, maintenance and security. With efficient monitoring devices and an independent management department the levels of corruption could also be reduced. Some borders have cameras and have control room, but this should be run by an independent management authority for efficiency.
- 10. It is recommended that the Community surveys should be repeated at regular intervals bi-annually or annually to identify changing perspectives and to highlight developing problems.
- 11. As a general observation, it can be seen that the OSBP concept offers significant improvements, but does not guarantee efficiency unless monitored and controlled to ensure that management standards are maintained.
- 12. It must be recommended that the design and facilities of the OSBPs be reviewed in order to create efficient parking areas where trucks are not boxed in and to provide suitable space for staging of dangerous goods and petroleum commodities. As has been shown at other borders, there is a very dangerous situation when numbers of tankers are parked randomly, with no way to move.
- 13. From the experiences and reported frustrations of users it is clear that there is insufficient understanding of the impacts of rules of origin. There is need for capacity building, training and dissemination of information on the subject, including the fact that the certificates can be obtained at the borders for free.
- 14. It must also be noted that at some OSBPs there is a lack of facilities and /or facilities that do not work e.g. Mutukula Tanzania, shower, basin etc don't work. Moyale locked toilets, because Ethiopian trucks manually transfer loads and the casual labourers make a mess of the toilets. Management of facilities needs border management institution as customs or road authorities, are currently given responsibility, but they don't manage infrastructure effectively.
- 15. It is suggested that a Corridor Performance System should be initiated using available GPS tracking data to be analysed and monitored by a professional consultant with capacity to produce monthly and annual reports of changing patterns in the time taken by vehicles at borders and on corridors.

16. It is also recommended that TMEA should establish a monitoring function which provides periodic review of the cost savings that are being made by the OSBPs as traffic and trade increases on the corridors. This could be combined with the analytical reporting of changing patterns of traffic and times on the corridors.