

VOLUME PROJECTION : Maake Filling Station.
TRAFFIC ANALYSIS METHOD.

The basis of this volume projection is formed by the vehicle count conducted by Petrorex.

The 12 Hour physical count as counted on:

Thursday the 11th December 2008.

ROUTE	LIGHT VEHICLES	TAXI VEHICLES	HEAVY VEHICLES	TOTAL
1	1,404	389	154	1,947
2	1,604	386	133	2,123
3	1,490	428	142	2,060
4	282	37	18	337
5	324	16	21	361
6	1,225	373	118	1,716
Total	6,329	1,629	586	8,544

In order to obtain an Annual Average Daily Traffic Count (AADT), the 12 hour count was converted with an expansion factor of :

1.20

This results into a 24 hour AADT of :

ROUTE	LIGHT VEHICLES	TAXI VEHICLES	HEAVY VEHICLES	TOTAL
1	1,685	467	185	2,336
2	1,925	463	160	2,548
3	1,788	514	170	2,472
4	338	44	22	404
5	389	19	25	433
6	1,470	448	142	2,059
Total	7,595	1,955	703	10,253

The following assumptions applied when the projected fuel sale volume in year one was calculated :

- That the proposed service station site will be operated by an average dealer with average effort.
- That the accesses from the adjacent access road approved by relevant authorities.
- That visibility remains unobstructed from all directions.

Support from the Commuter Trade

The Commuter Trade can be categorized into three categories:

1) Light vehicle traffic :

From this traffic a support of to is expected.
 The intake per vehicle per stop amounts to an average of litres over a period of days per month.

Average litres were obtained from surveys done at the service stations in the area.

2) Taxi traffic :

That the expected support from the Taxis would vary between to
 The intake per Taxi per stop amounts to an average of operational days per month. litres over

Average litres is similar to the car average plus :

3) Heavy vehicles :

That the expected support from the Trucks would vary between to
 The intake per diesel vehicle per stop amounts to litres over a period of operational days per month.

Support from the Future Shopping Centre

Trip generation of a shopping centre can be categorised in the following :

- Primary trips - :** These are referred to as new trips, or trips generated by a shopping centre. The visit to the centre or development is the primary reason for the trip.
- Pass- by trips - :** Trips intercepted by the centre which are made by motorists on their way to a destination, other than the centre, are known as pass- by trips.
- Diverted trips - :** A diversion of existing trips on the road adjacent to the site is sometimes necessary and are referred to as diverted trips.

The split of the expected number of trips generated is as follows :

Primary trips	42%
Pass- by trips	35%
Diverted trips	23%
	100%

The expected support to the service station is only based on the Primary trips, due to the fact that diverted trips and the Pass- by trips are considered as Transient Traffic.

The expected support from the generated trips from the adjacent shopping and commercial facilities can be calculated as follows :

Description	Year 3
A. Centre m2	15,136
B. Shoppers, Visitors / m2	15
C. Amount of shoppers, visitors per month (A x B)	227,040
D. Amount of persons per light vehicle (car & taxi)	4.5
E. Equals : amount of light vehicles per day (C / D / 30)	1,682
F. Primary trips	42%
G. Support by primary trips	8%
H. Equals: support per day per car (E x F x G)	56.51
I. Intake per stop per car	15
J. Days per month	28
K. Equals : liters per month from centre	23,733

CALCULATIONS :

The basic formula used in the calculation of the anticipation of fuel sales is : = N x P x L x D

- Where N is : Number of vehicles passing the site during a 24 hour period.
- Where P is : The percentage of those vehicles calculated in N likely to support the new site.
- Where L is : The amount of litres likely to be purchase by the vehicles calculated in N and P.
- Where D is : The number of days per month in which the calculated support is expected.

PETROL VOLUME PROJECTION

SCENARIO 1

TRANSIENT TRADE ROUTE	LIGHT VEHICLES	SUPPORT	INTAKE	DAYS	LITRES / MONTH
1	1,685	3%	15	28	21,228
2	1,925	6%	15	28	48,505
3	1,788	6%	15	28	45,058
4	338	6%	15	28	8,528
5	389	6%	15	28	9,798
6	1,470	3%	15	28	18,522
TOTAL	7,595				151,638

TRANSIENT TRADE ROUTE	TAXIS	SUPPORT	INTAKE	DAYS	LITRES / MONTH
1	467	3%	17	24	5,798
2	463	6%	17	24	11,506
3	514	6%	17	24	12,758
4	44	3%	17	24	551
5	19	6%	17	24	477
6	448	3%	17	24	5,559
TOTAL	1,955				36,649

SCENARIO 1 TOTAL

188,287

SCENARIO 2

TRANSIENT TRADE ROUTE	LIGHT VEHICLES	SUPPORT	INTAKE	DAYS	LITRES / MONTH
1	1,685	4%	15	28	28,305
2	1,925	8%	15	28	64,673
3	1,788	8%	15	28	60,077
4	338	4%	15	28	5,685
5	389	8%	15	28	13,064
6	1,470	4%	15	28	24,696
TOTAL	7,595				196,500

TRANSIENT TRADE ROUTE	TAXIS	SUPPORT	INTAKE	DAYS	LITRES / MONTH
1	467	4%	17	24	7,730
2	463	8%	17	24	15,341
3	514	8%	22	24	21,694
4	44	4%	22	24	938
5	19	8%	22	24	811
6	448	4%	22	24	9,453
TOTAL	115				55,968

SCENARIO 2 TOTAL

252,467

DIESEL VOLUME PROJECTION

SCENARIO 1

TRANSIENT TRADE ROUTE	HEAVY VEHICLES	SUPPORT	INTAKE	DAYS	LITRES / MONTH
1	154	1%	75	22	2,541
2	133	2%	75	22	4,389
3	142	2%	75	22	4,686
4	18	1%	75	22	297
5	21	2%	75	22	693
6	118	1%	75	22	1,947
TOTAL	586				14,553

SCENARIO 1 TOTAL

14,553

SCENARIO 2

TRANSIENT TRADE ROUTE	HEAVY VEHICLES	SUPPORT	INTAKE	DAYS	LITRES / MONTH
1	154	1.5%	75	22	3,812
2	133	3%	75	22	6,584
3	142	3%	75	22	7,029
4	18	2%	75	22	446
5	21	3%	75	22	1,040
6	118	1.5%	75	22	2,921
TOTAL	586				21,830

SCENARIO 2 TOTAL

21,830

PROJECTED VOLUMES

PETROL

SCENARIO 1	
YEAR	L.P.M
1	212,021
2	224,742
3	238,226
4	252,520
5	267,671
6	283,731
7	300,755
8	318,801

SCENARIO 2	
YEAR	L.P.M
1	276,201
2	292,773
3	310,339
4	328,959
5	348,697
6	369,619
7	391,796
8	415,304

AVERAGE	
YEAR	L.P.M
1	244,111
2	258,757
3	274,283
4	290,740
5	308,184
6	326,675
7	346,276
8	367,052

% OF TOTAL
93.06%

DIESEL

SCENARIO 1	
YEAR	L.P.M
1	14,553
2	15,426
3	16,352
4	17,333
5	18,373
6	19,475
7	20,644
8	21,882

SCENARIO 2	
YEAR	L.P.M
1	21,830
2	23,139
3	24,528
4	25,999
5	27,559
6	29,213
7	30,966
8	32,823

AVERAGE	
YEAR	L.P.M
1	18,191
2	19,283
3	20,440
4	21,666
5	22,966
6	24,344
7	25,805
8	27,353

% OF TOTAL
6.94%

PETROL AND DIESEL

SCENARIO 1	
YEAR	L.P.M
1	226,574
2	240,168
3	254,578
4	269,853
5	286,044
6	303,207
7	321,399
8	340,683

SCENARIO 2	
YEAR	L.P.M
1	298,030
2	315,912
3	334,867
4	354,959
5	376,256
6	398,832
7	422,761
8	448,127

AVERAGE	
YEAR	L.P.M
1	262,302
2	278,040
3	294,722
4	312,406
5	331,150
6	351,019
7	372,080
8	394,405

% OF TOTAL
100.00%

The expected annual growth of the trade is projected at :

6%

AVERAGE	
YEAR	L.P.M
1	262,302
2	278,040
3	294,722
4	312,406
5	331,150
6	351,019
7	372,080
8	394,405