



**Annual Info-Comm. and Transport Statistical Bulletin
(3rd Edition-June, 2012)**



**Ministry of Information and Communications
Royal Government of Bhutan**

Foreword

The Ministry of Information and Communications (MoIC) is pleased to publish the third edition of the Annual InfoComm and Transport Statistical Bulletin 2012. To maintain consistency, the data provided in this Bulletin pertain to the year 2011, which are however, updated as of end May 2012 in the Annual Ministerial Report that will be published within June 2012.

This Bulletin is designed to provide statistical information and related data on ICT, Media, Surface Transport and Civil Aviation sectors in the country. The information has been compiled from various sources and MoIC wishes to thank all the agencies for their cooperation. It has been formatted for easy reference and understanding and the information may be used freely and every effort has been made to ensure consistency of the data with the Statistical Yearbook of Bhutan published by National Statistical Bureau.

To cut down costs and ensure better and wider coverage, MoIC is posting this publication online and there will be no printed copies. As usual, MoIC welcomes feedback and suggestions on the content or design of this bulletin from our partner agencies and users.

TASHI DELEK.

A handwritten signature in purple ink, appearing to read 'Kinley Dorji', is positioned above the printed name and title.

Kinley Dorji
Secretary,
Ministry of Information and Communications

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1. About the Annual Info-Comm. and Transport Statistical Bulletin

The Annual Info-Comm. and Transport Statistical Bulletin, the 3rd report after the establishment of the Ministry of Information & Communications in 2003, is aimed at disseminating up-to date information covering ICT, Media, Surface Transport and Civil Aviation sectors. It is hoped that the information provided in this publication will prove useful for use by Government agencies, general public, development partners, training institutions and students alike.

The data in this report were collected and compiled by the Policy and Planning Division of MoIC with support from the Departments/Corporations/Private Sector agencies such as the Department of Information Technology & Telecom (DITT), Department of Information & Media (DoIM), Department of Civil Aviation (DCA), Road Safety and Transport Authority (RSTA), Bhutan Telecom Limited (BTL), Tashi Info-Comm. Limited (TICL), etc as the direct source of these information concerning their respective areas.

The information bulletin has been prepared based on 2011 data collected until December 2011, and therefore, valid as of that year. Although, attempt has also been made to provide detailed statistical information keeping most parameters into account, MoIC will continue its endeavor to improve and include missing or inadequate information in subsequent publications.

This bulletin is divided into two chapters. Chapter one provides information on information society which broadly encompasses ICT-information and media sectors. Chapter two deals with transport sector focusing on civil aviation and surface transport activities.

2. Summary of MoIC Indicators:

| Sector | Data (as of December 2011) |
|--|---|
| ICT: | |
| ➤ Internet Subscribers ¹ | 139,896 (94,285 in 2010)- 48.4% increase |
| ➤ Fixed line telephone subscribers | 27,490 (26,292 in 2010)- 4.6% increase |
| ➤ No. of Dzongkhag HQ's with fixed line connections | All 20 Dzongkhags |
| ➤ Mobile cellular subscribers | 484,189 (394,316 in 2010)- 22.8% increase |
| ➤ No. of Dzongkhag HQ's with access to mobile services | All 20 Dzongkhags |
| ➤ No. of Geog HQ's with access to mobile network | 205 out of 205 Geogs |
| ➤ No. of Community Centers | 100 (23 CCs connected with internet) |
| ➤ % of Population with access to Mobile network | 100% |
| ➤ % of population availing mobile services | 68.4% (56.7% in 2010)- 12.7% increase |
| Media: | |
| ➤ Television Stations | 1 |
| ➤ Radio Stations | 7 (including Sherubtse FM) |
| ➤ No. of newspapers | 12 (3 daily, 9 weekly/ bi-weekly)- "The Bhutanese" (bi-weekly and "Druk Melong" (weekly) began publication in 2012 |
| Aviaton: | |

¹ Internet subscribers refers only to those who are connected by GPRS/EDGE/3G, Broadband, Lease line and Dial up

| | |
|--|--|
| ➤ Domestic Airports | 3 (2 completed, 1 under construction) |
| ➤ International Airports | 1 |
| ➤ No. of airlines operating | 2 |
| ➤ Air services | 8 routes in 4 countries + Myanmar: New routes to Singapore and Mumbai are planned for second half of 2012. |
| ➤ No. of air passenger | 166,264 (132,615 in 2010)- 25.4% increase |
| Surface Transport: | |
| ➤ Vehicle Number | 62,707 (53,382 in 2010) –17.5% increase |
| ➤ Number of Taxis | 4,856 (3,599 in 2010)- 34.9% increase |
| ➤ Number of motor vehicle crashes | 1,374 (1,260 in 2010) –9% increase |
| ➤ Number of deaths due to vehicle crashes | 104 (79 in 2010)- 31.6% increase |
| ➤ Number of injuries due to vehicle crashes | 623 (611 in 2010) –1.96% increase |
| ➤ Number of passenger transport buses in use | 190 (185 in 2010)- 2.7% increase |

Chapter 1 – Information Society

This chapter deals with basic information relating to the information society such as telecommunication services, Internet and the Media.

1.1. ICT and Telecommunication Development

B-Mobile, a subsidiary of BTL and Tashi-Cell, a subsidiary of TICL, are currently the two mobile service providers. BTL is the sole fixed line service provider. Bhutan Telecom Limited through its subsidiary Druknet along with Samden Tech, Drukcom and Tashi Info-Comm. are the other internet service provider.

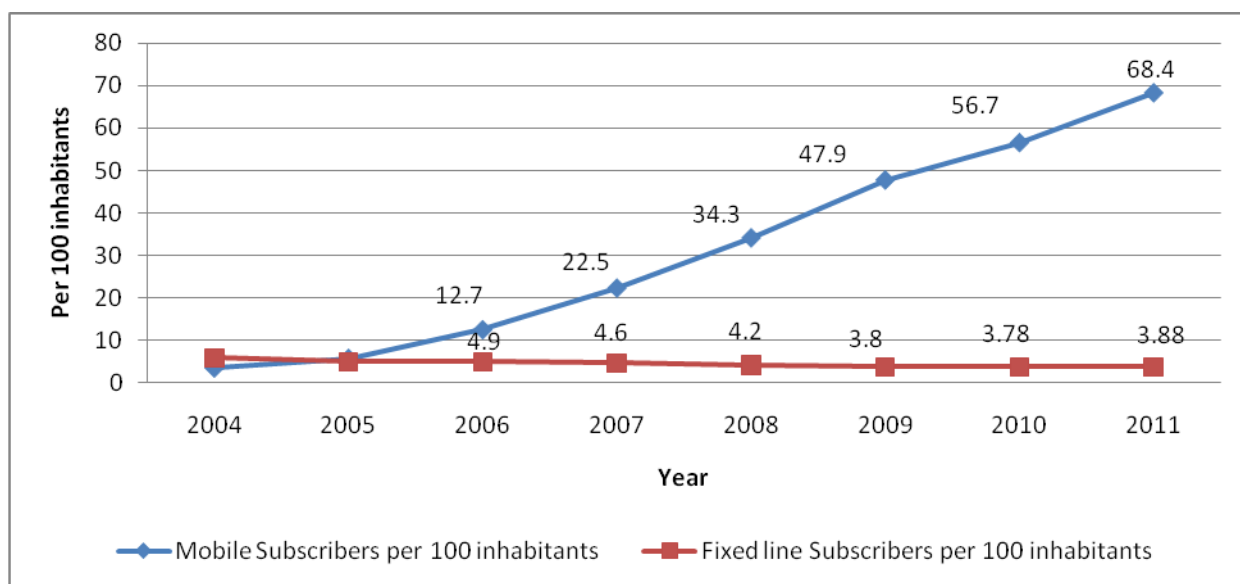
Table 1.1: Key ICT indicators – as of December 2011

| Indicators | Number |
|--|--------------------------------|
| 1. Fixed line telephone subscribers | 27,490 |
| 2. Cellular mobile subscribers | 484,189 |
| 3. Internet subscribers : | 139,896 |
| i) Lease line | 280 |
| ii) Dial-up | 535 |
| iii) Fixed-line broadband | 13,233 |
| iv) GPRS/EDGE | 118,852 |
| v) 3G users | 6,996 |
| 4. No. of Dzongkhag with 3G services | 3 (Thimphu, Paro and Chhukha) |
| 5. No. of Geogs with access to mobile services | 205 out of 205 |
| 6. No. of Dzongkhag head-offices with fixed line and mobile services | All 20 |
| 7. Number of Community Centers | 100 (23 with internet) |

1.2. ICT uptake in Bhutan

Progress in ICT uptake, particularly internet (launched in June, 1999) and Mobile (launched in November, 2003) has been remarkable. Mobile penetration rate has increased substantially to 68.4 per 100 inhabitants in 2011. The comparison in the fixed-line and mobile segment is shown below:

Chart 1.1: Penetration level of fixed line and mobile services, 2004-2011:

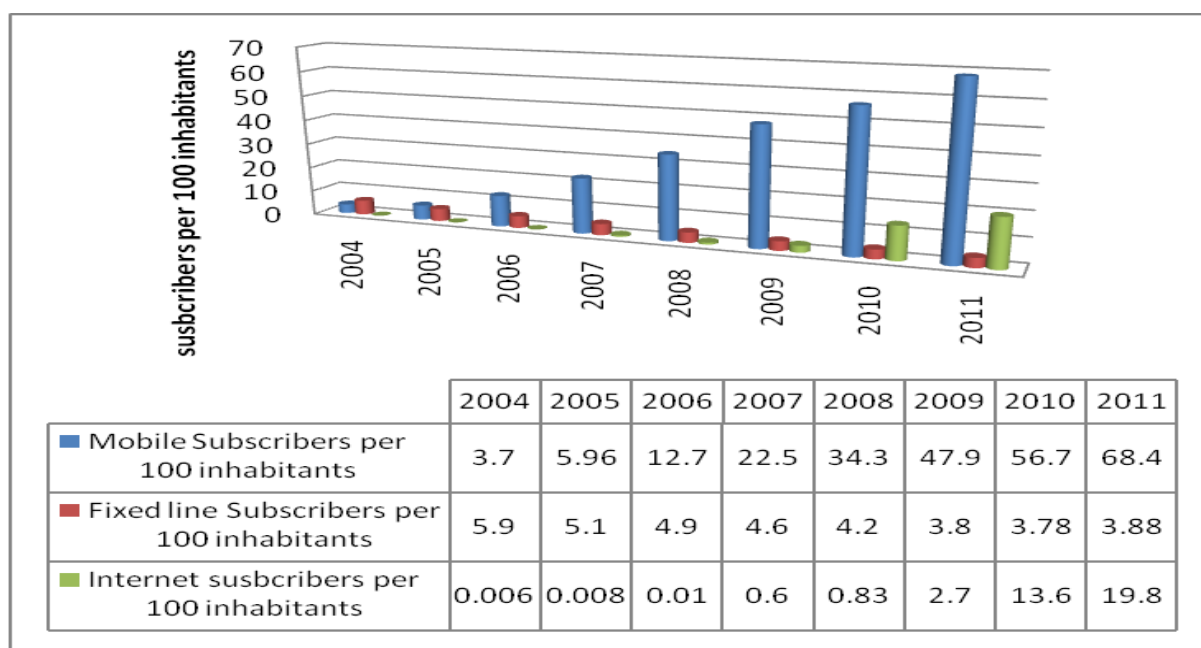


Source: Bhutan Telecom Limited and Tashi-Cell, December, 2011

According to the latest 2010 International Telecommunication Union publication, mobile penetration rate has reached around 70.1 and 78 per 100 inhabitants in the developing countries and world respectively. For the sake of comparison, Bhutan had 56.7 mobile subscribers per 100 inhabitants in 2010.

Slow growth or stagnation in fixed telephony segment was more than compensated by the high growth in the number of mobile subscribers. Despite this world wide trend, the fixed-line subscribers increased to 3.88 subscribers per 100 inhabitants from 3.78 year before or a negligible increase of 0.1%. Fixed-line subscribers' base of 3.88 is far behind the world average of 17.2 per 100 inhabitants. Considering this trend world over, situation in Bhutan is likely to remain unchanged.

Internet subscribers' base in 2011 reached 19.8 per 100 inhabitants. The total number of internet users would be much higher if all users connected through lease-line and Wi-Fi networks are taken into consideration. Information on computer literacy is not currently available as no survey has been undertaken so far. However, conservative estimates indicate that 13% of country's population is now computer literate.

Chart 1.2: ICT penetration in Bhutan: 2004-2011²

Source: Bhutan Telecom Limited and Tashi-Cell, December, 2011

Table 1.2: Registered ICT subscribers, December 2011

| Year | Fixed line subscribers | | Internet subscribers | | Mobile cellular subscribers | |
|------|------------------------------|---------------------------------|----------------------------|---------------------------------|-----------------------------|---------------------------------|
| | Total Fixed line subscribers | Subscribers per 100 inhabitants | Total Internet subscribers | Subscribers per 100 inhabitants | Total mobile subscribers | Subscribers per 100 inhabitants |
| 2004 | 30,285 | 5.9 | 35 | 0.006 | 18,995 | 3.7 |
| 2005 | 32,709 | 5.1 | 48 | 0.008 | 37,842 | 5.96 |
| 2006 | 31,526 | 4.9 | 61 | 0.01 | 82,078 | 12.7 |
| 2007 | 30,279 | 4.6 | 4,040 | 0.6 | 148,179 | 22.5 |
| 2008 | 27,937 | 4.2 | 5,548 | 0.83 | 228,347 | 34.3 |
| 2009 | 26,348 | 3.8 | 18,542 | 2.7 | 327,052 | 47.9 |
| 2010 | 26,292 | 3.78 | 94,285 | 13.6 | 394,316 | 56.7 |
| 2011 | 27,490 | 3.88 | 139,896 | 19.8 | 484,189 | 68.4 |

Source: Bhutan Telecom Limited and Tashi-Cell, December, 2011

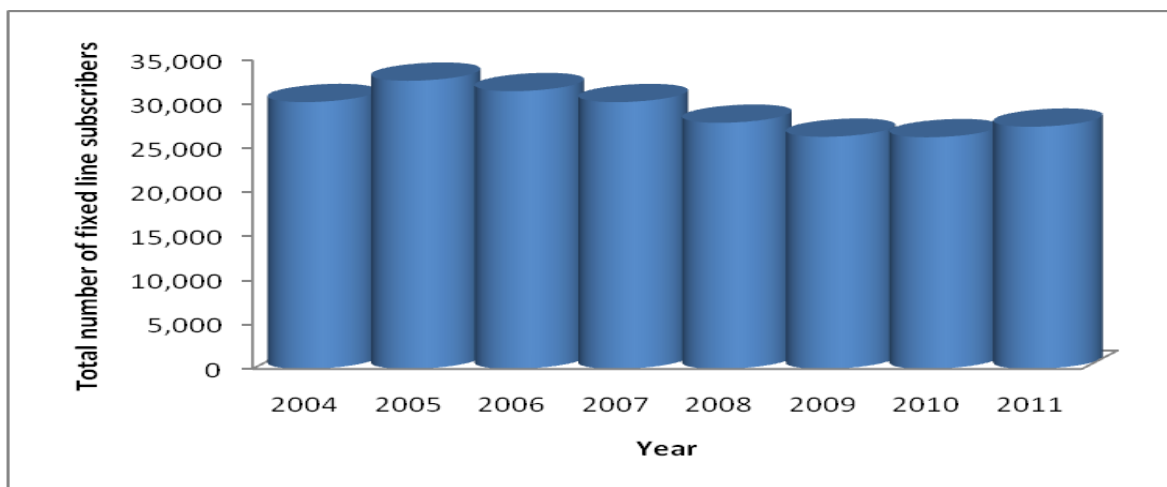
² Source: BTL, TashiCell, Samden Tech, Drukcom.

Registered Internet subscribers refer to the number of Individuals, households, corporate houses and government offices connected with Internet and not the actual number of people using internet from various sources.

1.3. Fixed-line telephony

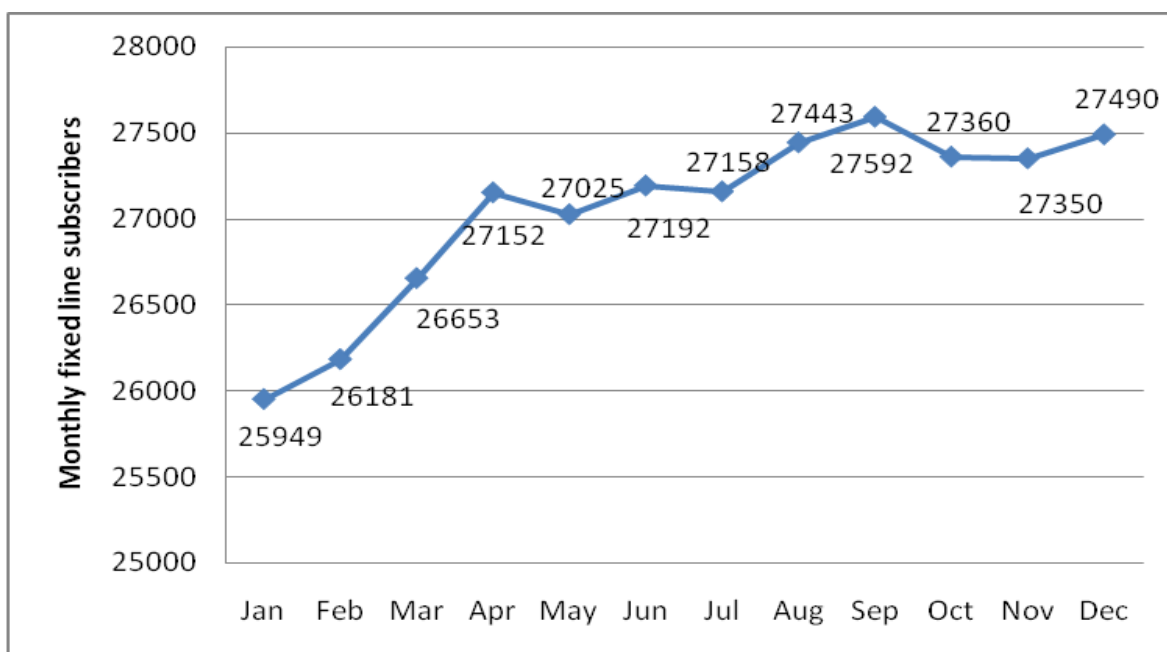
Fixed line subscribers peaked in 2005 with 32,709 subscribers and since then the subscribers have declined to 26,292 in 2010 but increased marginally to 27,490 in 2011.

Chart 1.3: Trend in fixed line subscribers, 2004-2011



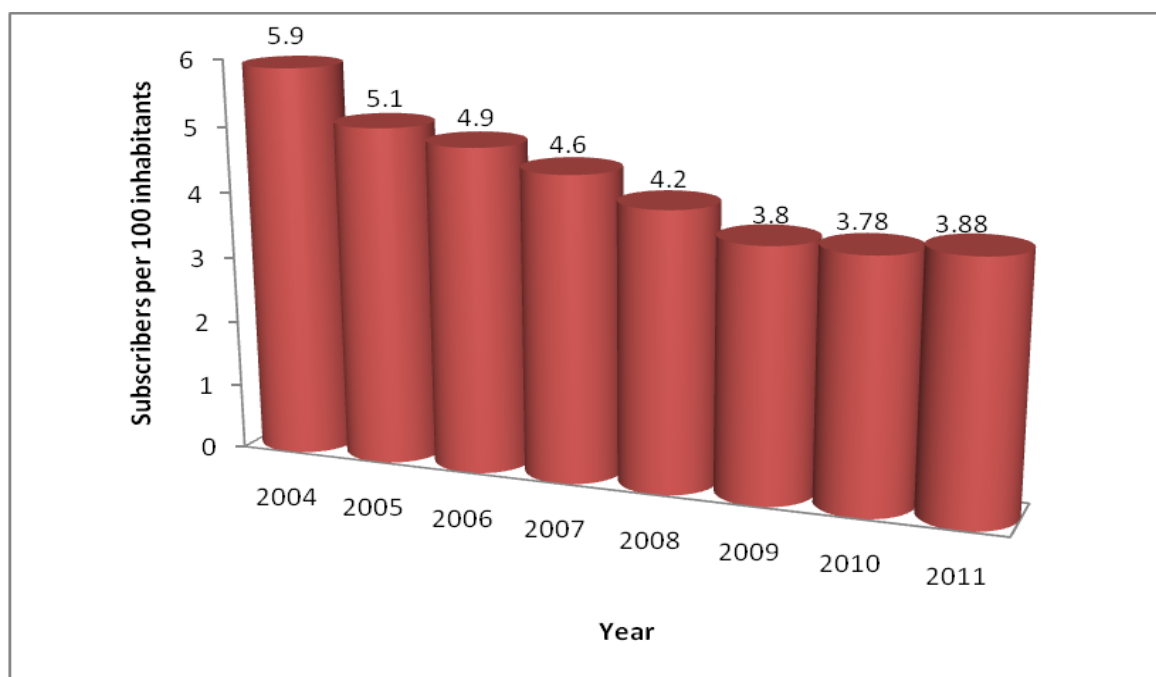
Source: Bhutan Telecom Limited, December, 2011

Chart 1.4: Monthly Nationwide fixed line subscribers, 2011



Source: Bhutan Telecom, December 2011

Chart 1.5: Showing fixed telephony trend per 100 inhabitants, 2004-2011.



Source: Bhutan Telecom, 2011

Table 1.3: Showing fixed line connections, by Dzongkhag, 2011

| Sl. No | Dzongkhag(s) | Total Fixed Line connections |
|--------|-----------------|------------------------------|
| 1 | Thimphu | 11121 |
| 2 | Punakha | 594 |
| 3 | Wangduephodrang | 1092 |
| 4 | Gasa | 17 |
| 5 | Trongsa | 778 |
| 6 | Bumthang | 755 |
| 7 | Zhemgang | 513 |
| 8 | Trashigang | 918 |
| 9 | Tashi Yangtse | 156 |
| 10 | Mongar | 854 |
| 11 | Lhuntse | 103 |

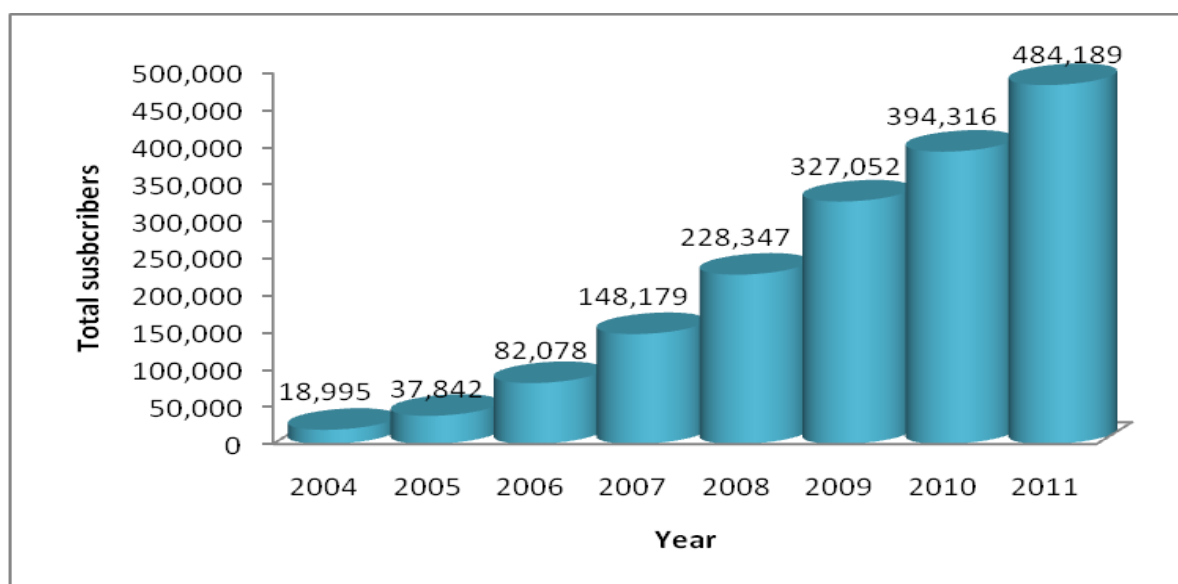
| | | |
|----|-----------------|---------------|
| 12 | SamdrupJongkhar | 1197 |
| 13 | Pema Gatshel | 298 |
| 14 | Sarpang | 1198 |
| 15 | Tsirang | 672 |
| 16 | Dagana | 185 |
| 17 | Chukha | 3997 |
| 18 | Samtse | 822 |
| 19 | Paro | 1835 |
| 20 | Haa | 385 |
| | Total | 27,490 |

1.4. Mobile cellular telephony

B-Mobile services are available in all 20 Dzongkhags; with Tashi-Cell reaching 18 Dzongkhags. In 2011, mobile cellular subscribers saw an annual growth of 22.8%.

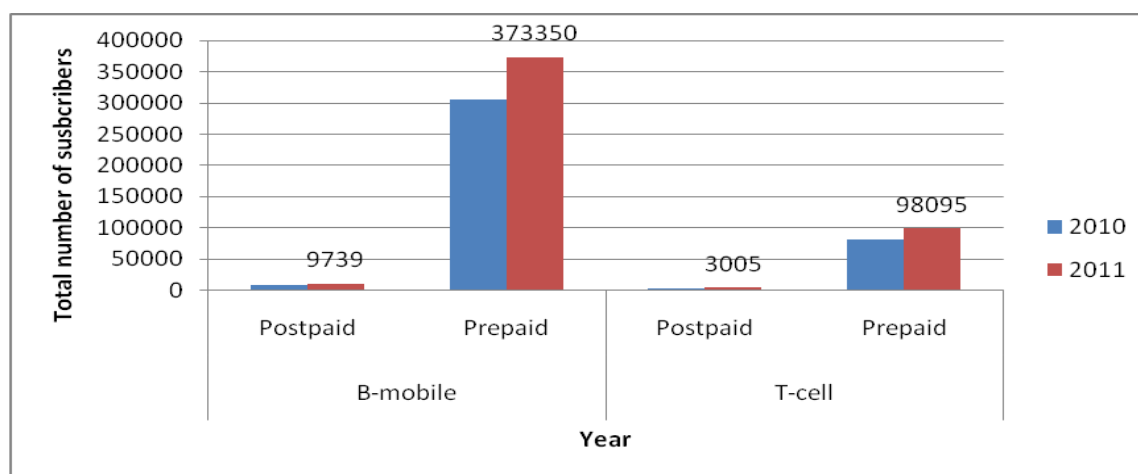
By December 2011, the two operators had combined subscribers base of 484,189 mobile users, of which BTL had 383,089 subscribers (or 79% market share) and Tashi-Cell with 101,100 subscribers (or 21% market share).

Chart 1.6: Mobile Cellular Subscribers, Bhutan,2004-2011



Source: Bhutan Telecom Limited and Tashi-Cell, December, 2011

Chart 1.7: Mobile cellular Subscribers, by type & operator, 2010-11



Source: BTL and Tashi cell, 2011

Pie chart 1: % distribution of mobile subscribers, by operator, 2011

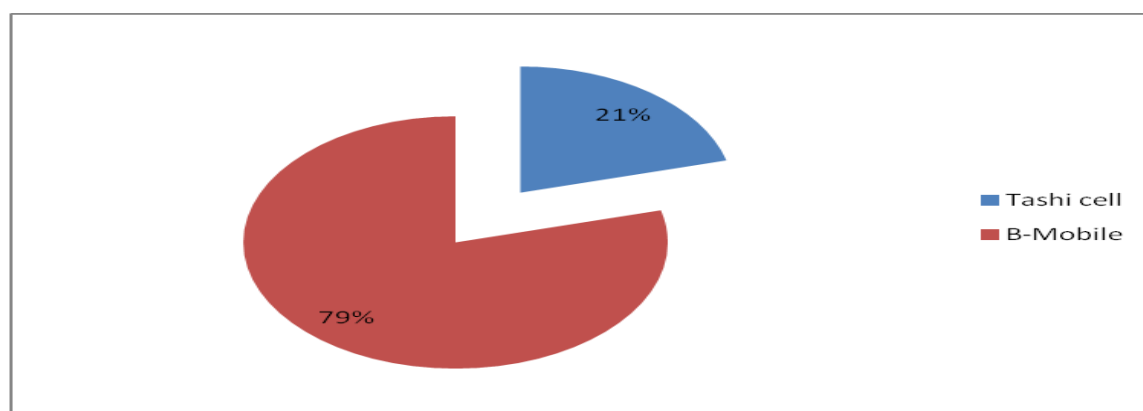
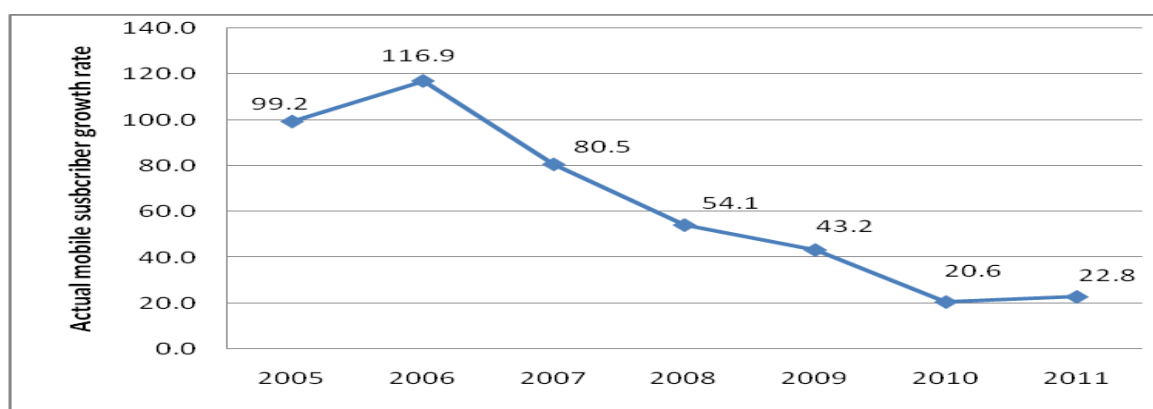


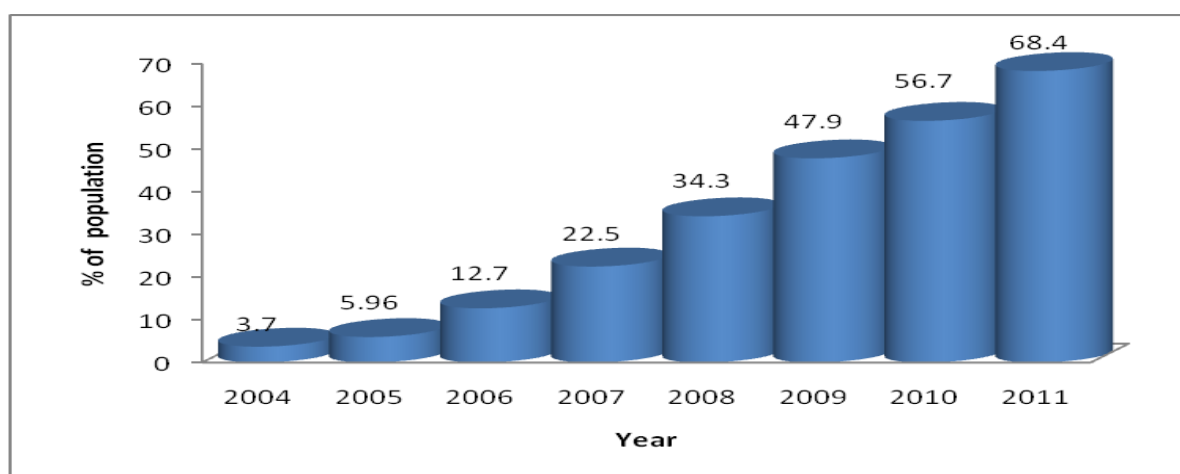
Chart 1.8: Mobile subscribers' growth rate, 2004-2011



Source: Bhutan Telecom Limited and Tashi-Cell, December, 2011

As shown in Chart 1.8, for the past 4 years, although Bhutan experienced growth in number of mobile subscribers in absolute terms; there was a decline in terms of percentage. The rate at which new subscribers were added kept declining apart from a small increase in 2011. This is probably an indication that the market is getting almost saturated and the trend is expected to continue even more.

Chart 1.9: Percentage of total population using mobile service, Bhutan, 2011



Source: Bhutan Telecom, Tashi Cell & MoIC

1.4.1. Summary of Mobile connectivity, by Dzongkhag, December 2011

The table below is a summary of mobile coverage based on information from Dzongkhags, which may differ with the data available with the two service providers. Nevertheless, this gives an indicative measure of the extent of coverage.

| Sl. No | Dzongkhag | No of Geogs | | | No of villages | | | Shadow areas | Service provider | |
|--------|-----------|-------------|---------|------------|----------------|---------|------------|--------------|------------------|--------|
| | | Total | covered | Un-covered | Total | covered | Un-covered | | B-Mobile | T-Cell |
| 1 | Bumthang | 4 | 4 | 0 | 76 | 67 | 4 | 5 | √ | √ |
| 2 | Chhukha | 11 | 11 | 0 | 124 | 109 | 12 | 3 | √ | √ |
| 3 | Dagana | 14 | 14 | 0 | 81 | 69 | 5 | 7 | √ | √ |
| 4 | Gasa | 4 | 4 | 0 | 59 | 50 | 2 | 7 | √ | √ |

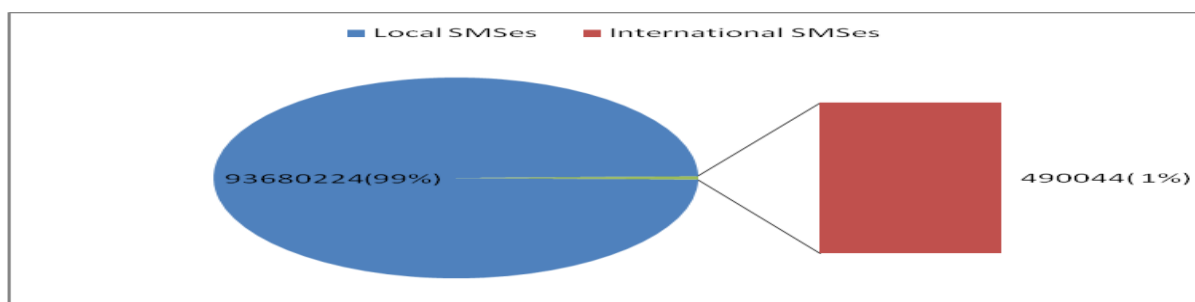
| | | | | | | | | | | |
|----|------------------|------------|------------|----------|-------------|-------------|------------|------------|---|---|
| 5 | Haa | 6 | 6 | 0 | 53 | 53 | 0 | 0 | √ | √ |
| 6 | Lhuentse | 8 | 8 | 0 | 299 | 295 | 4 | 0 | √ | - |
| 7 | Monggar | 17 | 17 | 0 | 277 | 239 | 19 | 19 | √ | - |
| 8 | Paro | 10 | 10 | 0 | 432 | 421 | 10 | 1 | √ | √ |
| 9 | Pema-gatshel | 11 | 11 | 0 | 134 | 113 | 1 | 20 | √ | √ |
| 10 | Punakha | 11 | 11 | 0 | 304 | 287 | 0 | 1 | √ | √ |
| 11 | Samdrup Jongkhar | 11 | 11 | 0 | 179 | 103 | 39 | 37 | √ | √ |
| 12 | Samtse | 15 | 15 | 0 | 330 | 312 | 17 | 1 | √ | √ |
| 13 | Sarpang | 12 | 12 | 0 | 152 | 87 | 20 | 45 | √ | √ |
| 14 | Thimphu | 8 | 8 | 0 | 130 | 106 | 13 | 11 | √ | √ |
| 15 | Trashigang | 15 | 15 | 0 | 207 | 173 | 28 | 6 | √ | √ |
| 16 | Trashi-yangtse | 8 | 8 | 0 | 128 | 84 | 15 | 29 | √ | √ |
| 17 | Trongsa | 5 | 5 | 0 | 77 | 73 | 4 | 0 | √ | √ |
| 18 | Tsirang | 12 | 12 | 0 | 71 | 51 | 7 | 13 | √ | √ |
| 19 | Wangdue phodrang | 15 | 15 | 0 | 167 | 165 | 0 | 2 | √ | √ |
| 20 | Zhemgang | 8 | 8 | 0 | 71 | 60 | 11 | 0 | √ | √ |
| | Total | 205 | 205 | 1 | 3351 | 2933 | 211 | 207 | | |

Source: Respective Dzongkhag Administrations

1.4.2. Short Messaging Services (SMS)

Short Messaging Services (SMS) is becoming more powerful than ever before in the country. In 2011, Mobile cellular subscribers in the country had sent as many as 94,170,268 SMSes of which 93,437,503 were sent by BTL subscribers and 732,765 were sent by Tashi-cell subscribers.

Pie chart 2: Showing SMS sent, by category and % share, 2011



Source: Bhutan Telecom and Tashi Cell, 2011

Mobile Infrastructure (Tower):

| Dzongkhag | Bhutan Telecom | | Tashi Cell |
|-----------------|-----------------|-----------------|-----------------|
| | No. of BTS (2G) | No. of 3G Nodes | No. of BTS (2G) |
| Bumthang | 8 | Nil | 6 |
| Chukha | 22 | n.a | 16 |
| Dagana | 8 | Nil | 7 |
| Damphu | 5 | Nil | 3 |
| Gasa | 3 | Nil | 1 |
| Haa | 5 | Nil | 4 |
| Lhuentse | 6 | Nil | 0 |
| Mongar | 13 | Nil | 0 |
| Paro | 8 | n.a | 9 |
| Pema Gatshel | 8 | Nil | 0 |
| Punakha | 8 | Nil | 3 |
| Samtse | 14 | Nil | 11 |
| Sarpang | 12 | Nil | 6 |
| Samdrupjongkhar | 13 | Nil | 0 |
| Thimphu | 31 | 14 | 19 |
| Trashigang | 4 | Nil | 0 |
| Trashigang | 10 | Nil | 0 |
| Trongsa | 6 | Nil | 6 |
| Wangdi | 12 | Nil | 14 |
| Zhemgang | 10 | Nil | 4 |
| Total | 206 | 14 | 109 |

Source: Bhutan Telecom and T-cell, 2011

1.5. Internet services

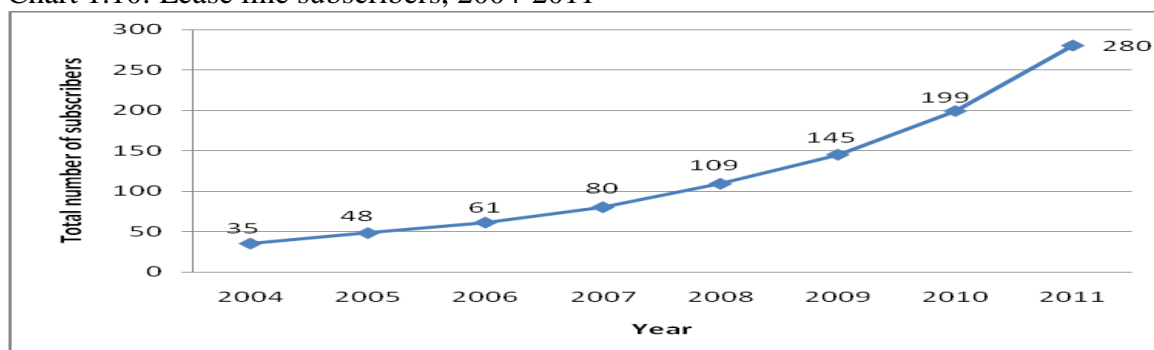
Druknet, TICL, Samden Tech and Drukcom are the Internet Service Providers (ISPs) in the country providing range of Internet services as indicated below.

| Operators | Type of services provided | Coverage |
|-----------------|--|--|
| 1. Druknet, BTL | Lease line Dial-up Fixed-line broadband EDGE/GPRS 3G | Country-wide where fixed-line services are available. Country-wide where fixed-line telephone services are available Selected places 20 Dzongkhags Thimphu, Paro & Chhukha |
| 2. TashiCell | EDGE/GPRS, lease line | 18 Dzongkhag head offices |
| 3. Samden Tech | Lease line connection | Thimphu |
| 4. Drukcom | Lease line connection | Thimphu |

Type of Internet³ services provided by the ISPs are:

- a. Lease line connection:** In 2011, lease line subscribers increased to 280 from 199 Households / organizations in 2010, an increase of 81 connections. Lease line connections are slowly growing over the years but the actual overall users of this connection is still to be estimated.

Chart 1.10: Lease line subscribers, 2004-2011

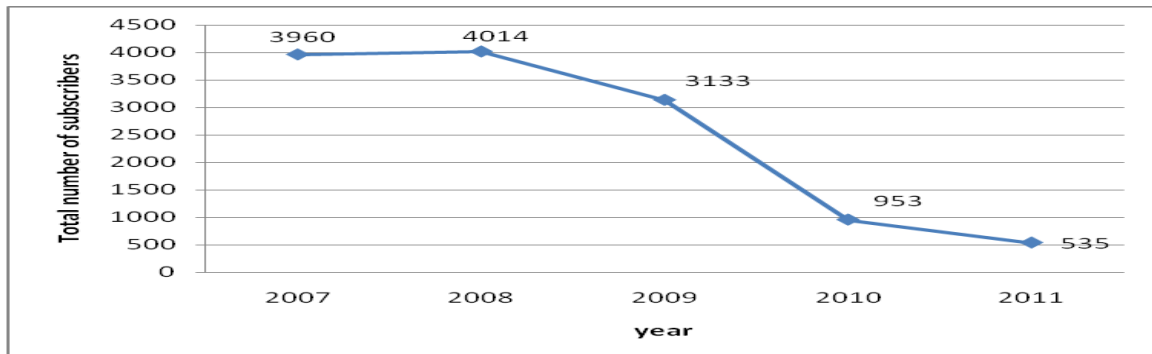


Source: Bhutan Telecom, Tashi Cell, Samden Tech and Drukcom

³ Registered lease line, dial up and fixed broadband and mobile broadband subscribers are taken as "Total Internet subscribers", as it is very difficult to calculate the actual number of Internet users via Internet Café, at Home, offices, etc

- b. Dial up connection :** The highest number of dial-up users recorded was 4,014 in 2008 from where it started declining rapidly with better access to broadband services. By 2011, there were only 535 subscribers, a sharp decline of 418 subscribers from 2010.

Chart 1.11: Dial up subscribers, 2007-2011



Source: Bhutan Telecom.

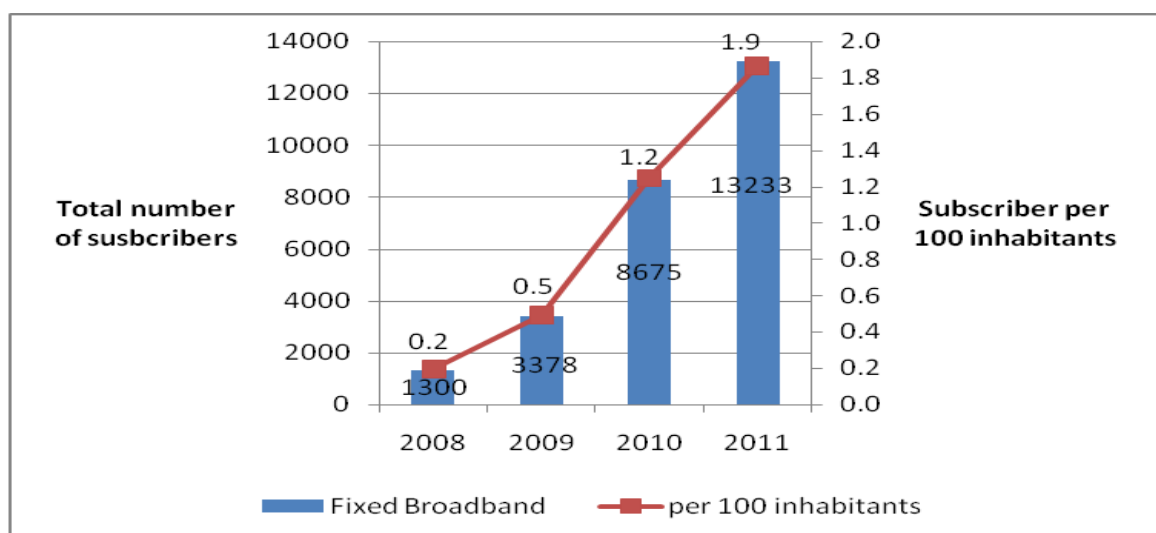
c. Broadband Internet:

Broadband Internet services was introduced for the first time in 2008. Broadband services are classified into two; 1. Fixed Broadband and 2. Mobile Broadband (3G).

1. Fixed Broadband:

In 2011, total fixed broadband internet subscribers reached 13,233, an increase of 52.54 % over 2010. With 1.87% penetration rate, fixed broadband is growing at a slower rate compared to 4.2% & 7.6% in other developing countries and at World estimate respectively though it increased compared to 2010.

Chart 1.12: Total fixed broadband subscribers and subscribers per 100 inhabitants, 2008-2011

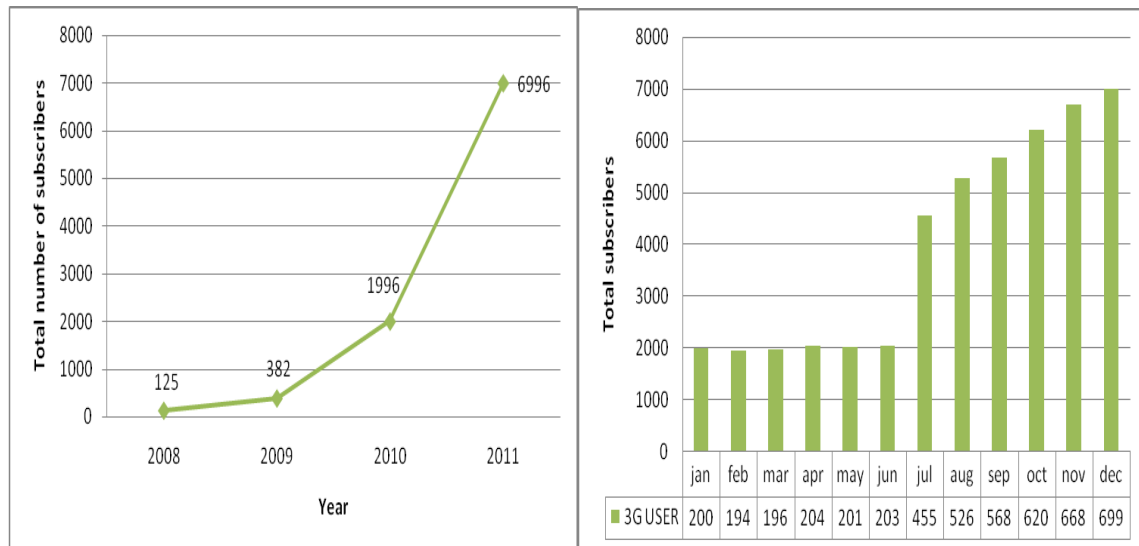


Soucre: Bhutan Telecom, 2011

2. Mobile Broadband (3G):

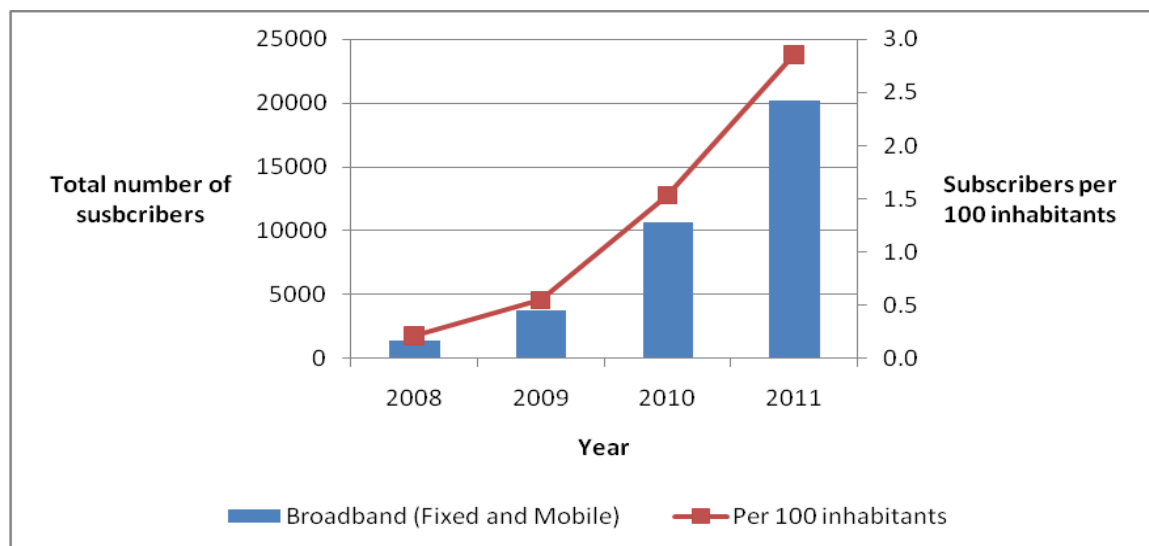
3G subscribers has been growing steadily over the years. In 2011, there were 6,996 subscribers, with growth rate of about 250.5% from 2010.

Chart 1.13: 3G subscribers trend, 2008-2011 Chart 1.11: Monthly 3G subscribers, 2011



Source: Bhutan Telecom.

Chart 1.14 : Showing Broadband (fixed & mobile) total subscribers and subscribers per 100 inhabitants

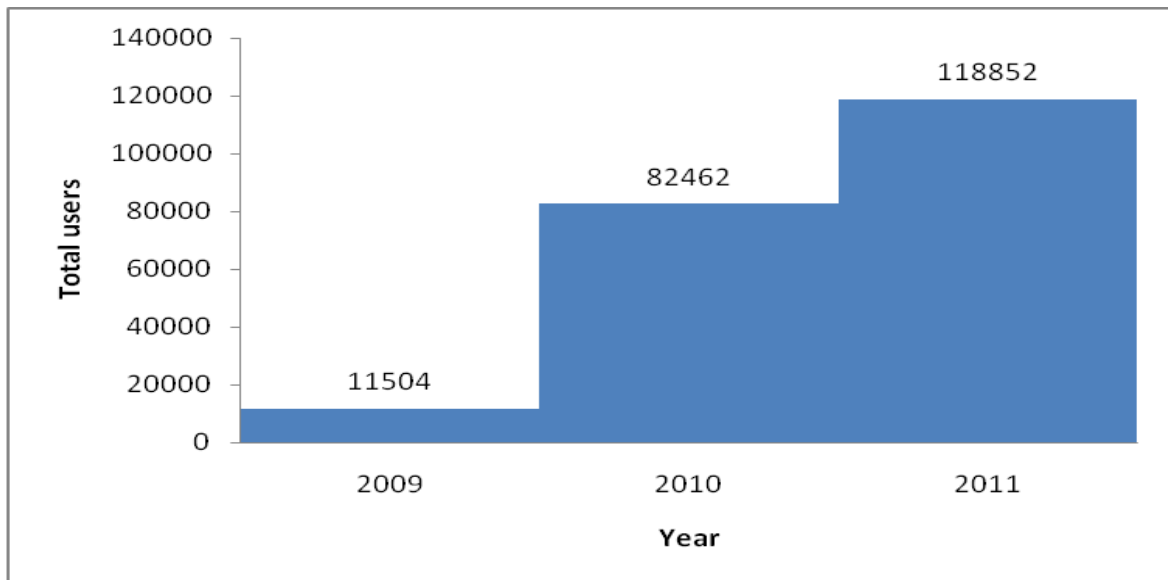


Source: Bhutan Telecom

d. Mobile internet (GPRS/EDGE):

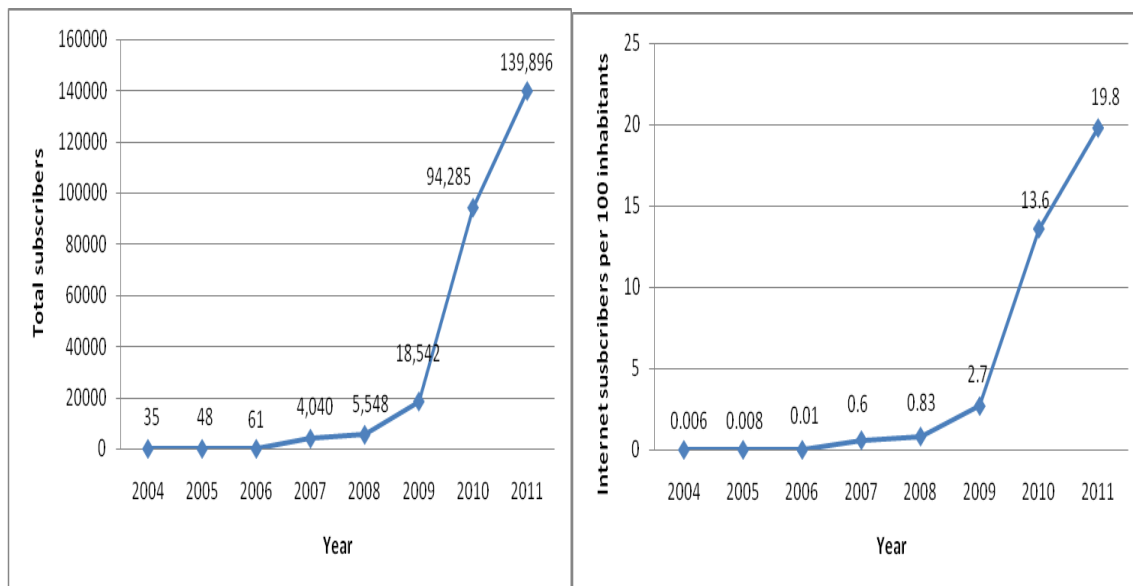
In 2011, GPRS/EDGE subscribers reached 118,852, an increase of 42% from 2010.

Chart 1.15: GPRS/EDGE subscriber,2009-2011



Source: Bhutan Telecom ltd.

Chart 1.16: Total Internet subscribers & Chart 1.17: Subs. Per 100 inhabitants,2004-11



Source: Bhutan Telecom, Tashi Cell, Samden Tech and Drukcom

1.6. Media Profile: Current Scenario

Print media comprises newspapers, magazines and other publications. Currently, there are 12 licensed newspapers (three daily and nine weekly/bi-weekly). “The Bhutanese” and “Druk Melong” were launched on 21st February and 20th May 2012 respectively. There are seven licensed radio broadcasters, including BBS (Bhutan Broadcasting Service) – a state owned broadcaster which also provides television services.

Print:

Print media saw a sudden increase in the last couple of years as apparent from the date these were launched:

- i. Kuensel, launched on 1967 as internal government bulletin.
- ii. Bhutan Times, launched on 30th April, 2006
- iii. Bhutan Observer, launched on 2nd June, 2006.
- iv. Bhutan Today, launched on 30th October, 2008.
- v. Business Bhutan launched on 26th September, 2009.
- vi. The Journalist, launched on 21st December, 2009.
- vii. Druk Nyeltshel launched, on 2nd August, 2010
- viii. Druk Yoezer launched, on 19th February, 2011
- ix. Druk Gyalyong Sharshog in 2011
- x. Bhutan Youth, launched on 7th May, 2011
- xi. The Bhutanese, launched on 21st February, 2012
- xii. Druk Melong, launched on 20th May, 2012

Radio Broadcasters:

- i. Bhutan Broadcasting Service (BBS), launched on November, 1973.
- ii. Kuzoo FM launched, on 1st September, 2006.
- iii. Radio Valley launched, on 12th April, 2007.
- iv. Centennial Radio, launched on 21st September, 2008
- v. Sherubtse FM, launched on 8th May, 2009
- vi. Radio High, launched on 5th August, 2010.
- vii. Radio Wave, launched on 12th October, 2010

Television:

- i. Bhutan Broadcasting Service (BBS), launched on 02 June 1999

Chapter Two – Aviation and Surface Transport

1. Aviation sector:

(i) Airports

| Type of airport(s) | Place | Altitude above sea level | Runway length | Runway width | Aerodrome Reference classification |
|-----------------------|----------|--------------------------|---------------|--------------|------------------------------------|
| International | Paro | 7,300 feet (2,225 m) | 2,255 m | 30 m | 4C |
| Domestic ⁴ | Yonphula | 8,400 feet (2,560m) | 1,300 m | 30m | 2B |
| Domestic | Bumthang | 8,465 feet (2,580 m) | 1,200 m | 30m | 2B |
| Domestic | Gelephu | 726 feet (221 m) | 1,500m | 30m | 2B |

(ii) Number of helipads: 40

(iii) Aircraft fleet:

Drukair -2 airbus A319 (seating capacity of 114) and 1 ATR-42 (seating capacity 48)
Bhutan Airlines – 1 Pilatus Porter PC-12 (seating capacity 8)

(iv) Air services:

Drukair, the national flagcarrier of Bhutan, started air services on February 11, 1983 providing scheduled international air services. Currently Drukair is operating to the following eight routes:

- i) India : Delhi, launched on 26th November, 1988
: Kolkata, launched on 11th February, 1983
: Gaya, launched on 11th November, 2003
: Bagdogra, launched on 18th June, 2009
: Guwahati, launched on 26th October, 2010
- ii) Nepal : Kathmandu, launched on April, 1989
- iii) Thailand : Bangkok, launched on 28th January, 1989
- iv) Bangladesh : Dhaka, launched on 30th October, 1986
- v) Myanmar : Yangon, launched on 6th January, 1997

A private airline, Bhutan Airlines (under Tashi Air Private Limited) was licensed in 2011 and domestic air services to Yonphula and Bumthang have since started from 17 December 2011. Within 2012, the Bhutan Airlines will be commencing operation on regional routes.

⁴ 2 domestic airports operating and third one is due to be completed by June 2012

In 2011, Druk Air saw the maximum number of air travellers numbering 166,264, an increase of 25.4% compared to 2010. The flow of air passengers is indicated in the graph and table below:

Chart 2.1: Annual air passenger flow via Druk Air, 2004-2011⁵

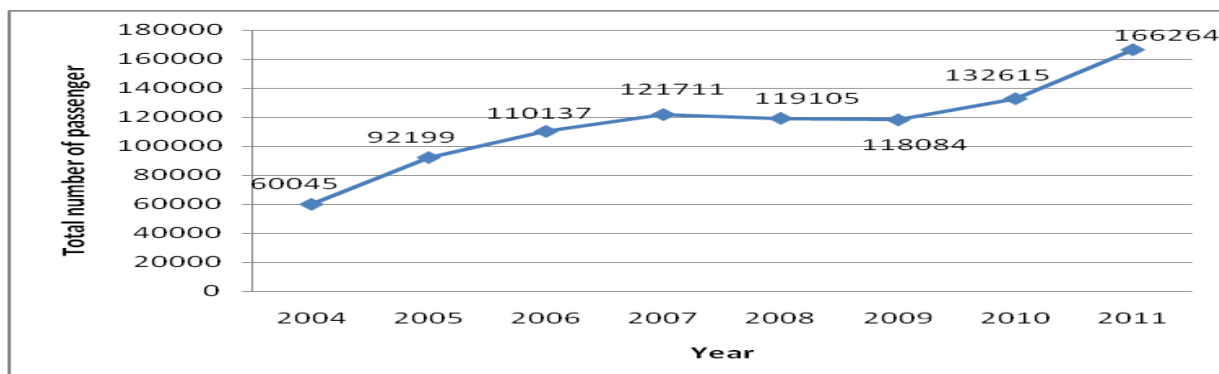


Table 2.1: Drukair Passenger Flow – 2011, segregated by sectors

| Sector | 2011 | Sector | 2011 | Sector | 2011 |
|--------------------|--------------|---------------|--------------|-------------------|---------------|
| PBH to | | to PBH | | | |
| Delhi | 16273 | Delhi | 15888 | Kathmandu/Delhi | 108 |
| Bangkok | 29935 | Bangkok | 28841 | Delhi/Kathmandu | 30 |
| Kathmandu | 13377 | Kathmandu | 14194 | Kolkata/Bangkok | 0 |
| Kolkata | 12647 | Kolkata | 11305 | Bangkok/Kolkata | 0 |
| Gaya | 1180 | Gaya | 699 | Gaya/Bangkok | 202 |
| Dhaka | 3524 | Dhaka | 3568 | Bangkok/Gaya | 243 |
| Bagdogra | 1493 | Bagdogra | 1637 | Dhaka/Bangkok | 2238 |
| Gawahati | 913 | Gawahati | 479 | Bangkok/Dhaka | 1710 |
| | | | | Bagdogra/Bangkok | 1883 |
| | | | | Bangkok/Bagdogra | 1863 |
| | | | | Gawahathi/Bangkok | 1122 |
| | | | | Bangkok/Gawahathi | 912 |
| Total | 79342 | Total | 76611 | Total | 10311 |
| Grand Total | | | | | 166264 |

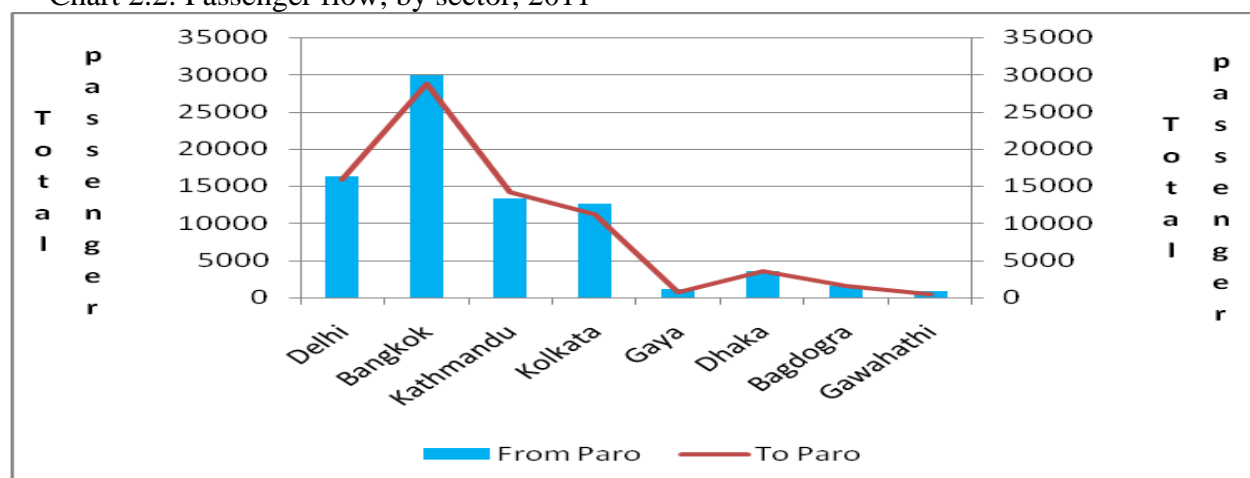
Source: Drukair

As apparent from Table 2.1, Bangkok continues to be the most frequently travelled sector. In 2011, a total of 29,935 passengers travelled to Bangkok, an increase of 22.9% from 2010. Delhi, was the 2nd most travelled sector, followed by Kathmandu and Kolkata. Gawahati is the least travelled sector from Bhutan. Similarly, Bangkok sector remains the most

⁵ "Annual air passenger" includes those passenger picked up by Drukair along their routes

frequently used sector for travel into Bhutan, followed by Delhi, Kathmandu and Kolkata respectively.

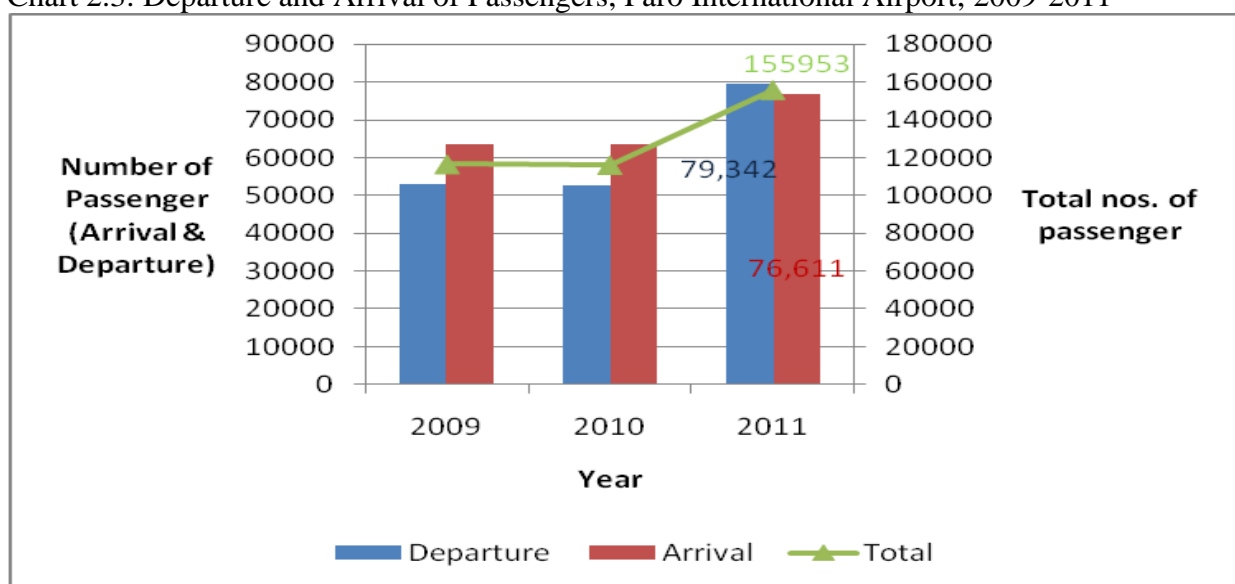
Chart 2.2: Passenger flow, by sector, 2011



Source: Drukair

In recent years, departure figures has been slightly higher than arrivals at Paro International Airport as shown in the chart below. In 2011, number of passenger using Paro International Airport increased by about 34.4 % from 2010 level.

Chart 2.3: Departure and Arrival of Passengers, Paro International Airport, 2009-2011



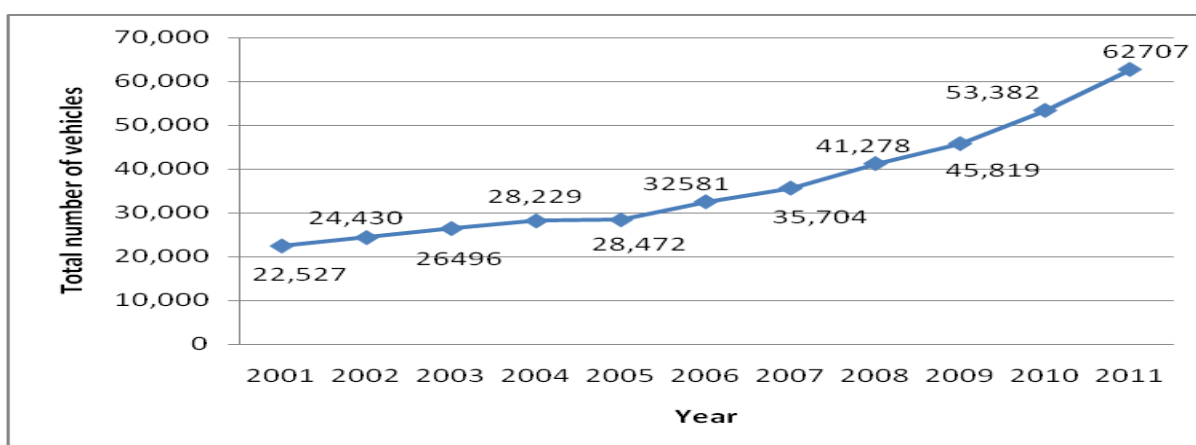
Source: Druk Air

2. Surface Transport:

2.1. Trend in vehicle growth

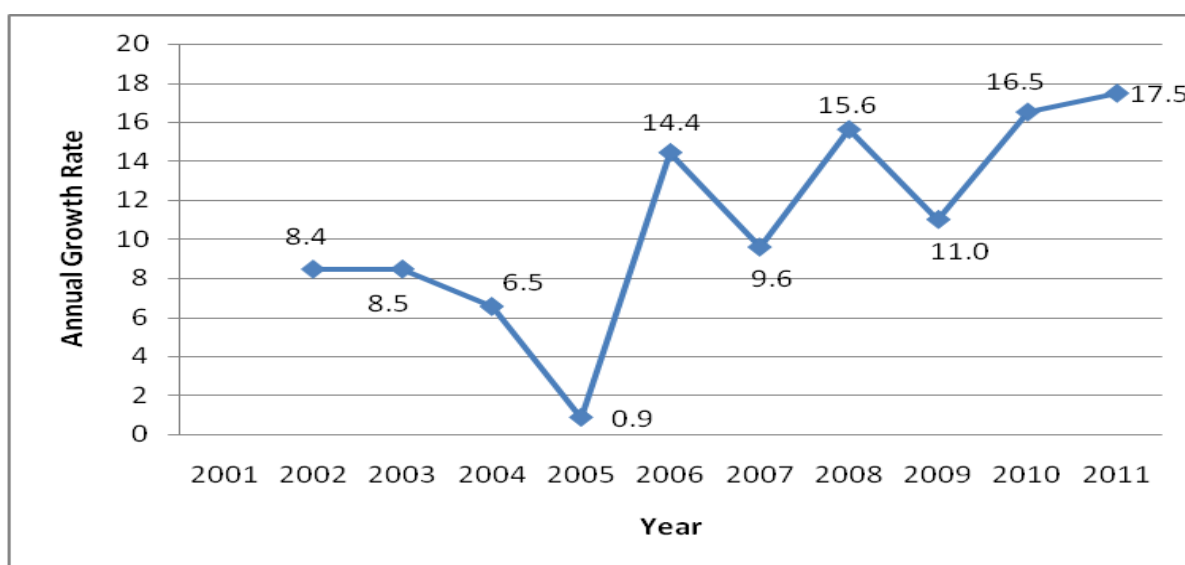
Vehicle number has almost tripled between 2001 and 2011 with the addition of 40,180 new vehicles on the Bhutanese roads. 9,325 new vehicles were added in 2011 alone taking the total vehicle number to 62,707 against 53,382 in December 2010. Unlike an average annual growth rate of 11% in the earlier years, the past two years saw an even higher growth rate of more than 16%. The figure is likely to come down dramatically after March 2012 due to the temporary prohibition on the importation of vehicles.

Chart 2.4: Vehicle growth trend, 2001-2011



Source: RSTA / MOIC

Chart 2.5: Annual Vehicle Growth Rate, 2001-2011



Source: RSTA

Table 2.2: Total number of vehicles, by type, 2001-2011

| Year | Heavy | Medium | Light | Two-wheeler | Taxi | PT | TR | Earth-moving equipments | Others | Total Vehicle |
|------|-------|--------|-------|-------------|------|------|------|-------------------------|--------|---------------|
| 2001 | 2863 | 697 | 9915 | 8165 | 201 | n.a. | n.a. | 408 | 278 | 22,527 |
| 2002 | 2747 | 770 | 10199 | 8371 | 1423 | n.a. | n.a. | 464 | 456 | 24,430 |
| 2003 | 4841 | 308 | 11575 | 7507 | 1560 | n.a. | n.a. | 321 | 384 | 26496 |
| 2004 | 4345 | n.a. | 12425 | 7707 | 1682 | n.a. | n.a. | 1682 | 388 | 28,229 |
| 2005 | 4352 | n.a. | 14365 | 6703 | 2050 | n.a. | n.a. | 511 | 491 | 28,472 |
| 2006 | 4176 | 343 | 17355 | 7903 | 2038 | 79 | 109 | 555 | 23 | 32,581 |
| 2007 | 4547 | 467 | 19798 | 7458 | 2218 | 109 | 474 | 633 | n.a. | 35,704 |
| 2008 | 4624 | 659 | 24244 | 7734 | 2511 | 151 | 611 | 744 | n.a. | 41,278 |
| 2009 | 5198 | 786 | 27145 | 8027 | 2859 | 692 | 183 | 929 | n.a. | 45,819 |
| 2010 | 6568 | 1007 | 31162 | 8820 | 3599 | 756 | 210 | 1260 | n.a. | 53,382 |
| 2011 | 7996 | 1261 | 36150 | 9434 | 4856 | 1030 | 278 | 1702 | n.a. | 62707 |

Source: RSTA/MoIC

2.2. Regional distribution and Ownership pattern:

In terms of regional distribution, 53.5% of the vehicles are registered under Thimphu⁶ region, 36% under Phuentsholing⁷ region, 4.5% under Gelephu⁸ region and 6 % under Samdrup Jongkhar⁹ region. In terms of ownership, about 8%¹⁰ of the country's vehicles are registered in the name of government agencies and public sector enterprises.

⁶ Covers six Dzongkhags of Thimphu, Paro, Haa, Wangdue, Punakha, Gasa

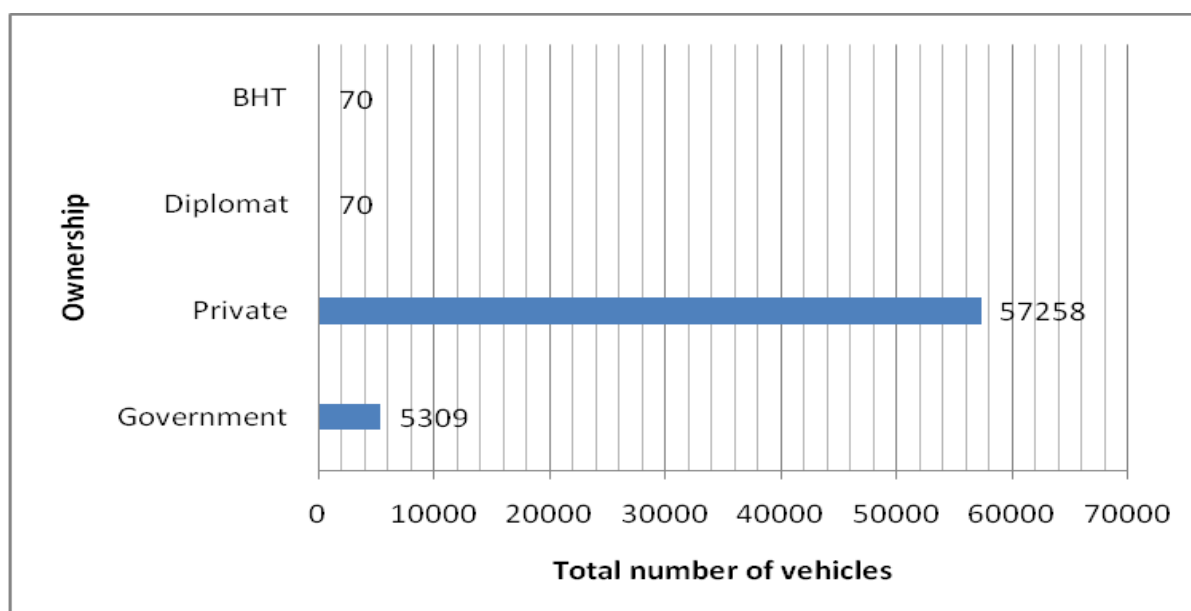
⁷ Covers two Dzongkhags of Chhukha, Samtse

⁸ Covers six Dzongkhags of Sarpang, Zhemgang, Trongsa, Bumthang, Tsirang, Dagana

⁹ Covers 6 Dzongkhags of Samdrupjongkhar, Pemagatshel, Trashigang, Trashiyangtse, Monggar, Lhuentse

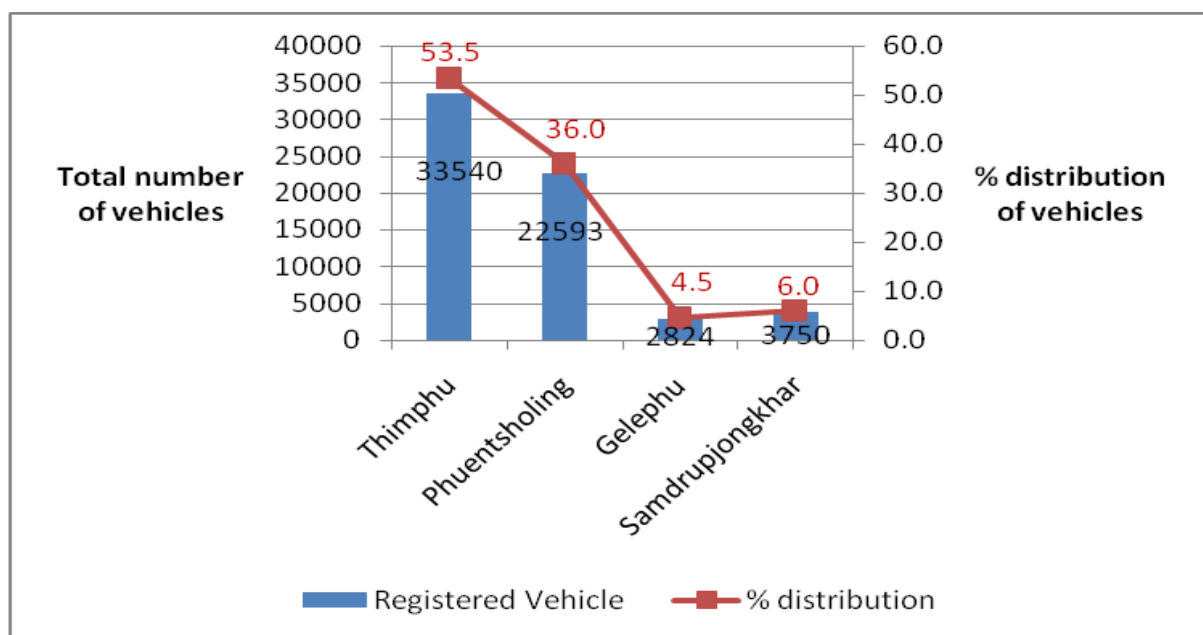
¹⁰ Excludes vehicles belonging to armed forces

Chart 2.6: Total number of vehicles by type of ownership, December 2011.



Source: RSTA/MOIC

Chart 2.7: Total number of vehicles, by region, December 2011



Source: RSTA, MoIC

Table 2.3: Total number of vehicles- by Region,type and Ownerships, 2011

| Region | Ownership | HV | MV | LV | TW | PT | TR | EME | Taxi | Grand Total |
|-----------------|-----------|------|------|--------|------|------|-----|------|------|-------------|
| Thimphu | Govt | 522 | 36 | 1369 | 519 | 12 | 18 | 113 | 0 | 2589 |
| Phuentsholing | | 480 | 125 | 559 | 554 | 0 | 17 | 51 | 0 | 1786 |
| Gelephu | | 54 | 12 | 140 | 107 | 0 | 6 | 35 | 0 | 354 |
| Samdrupjongkhar | | 43 | 38 | 210 | 226 | 9 | 15 | 39 | 0 | 580 |
| Thimphu | Private | 2093 | 237 | 20491 | 3559 | 602 | 67 | 457 | 3305 | 30811 |
| Phuentsholing | | 4228 | 705 | 10923 | 2490 | 66 | 121 | 931 | 1343 | 20807 |
| Gelephu | | 246 | 68 | 1012 | 849 | 103 | 8 | 33 | 151 | 2470 |
| Samdrupjongkhar | | 330 | 40 | 1311 | 1125 | 238 | 26 | 43 | 57 | 3170 |
| Thimphu | BHT | 0 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 70 |
| Phuentsholing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gelephu | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Samdrupjongkhar | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Thimphu | Diplomats | 0 | 0 | 65 | 5 | 0 | 0 | 0 | 0 | 70 |
| Phuentsholing | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gelephu | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Samdrupjongkhar | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 7996 | 1261 | 36,150 | 9434 | 1030 | 278 | 1702 | 4856 | 62,707 |

Source: RSTA/MoIC

2.3. Growth trend by type of vehicles:**2.3.1. Heavy vehicles:**

In the past year, 1428 new heavy vehicles i.e. an annual increase of 21.7% were added, thereby taking the total number to 7,996 in 2011.

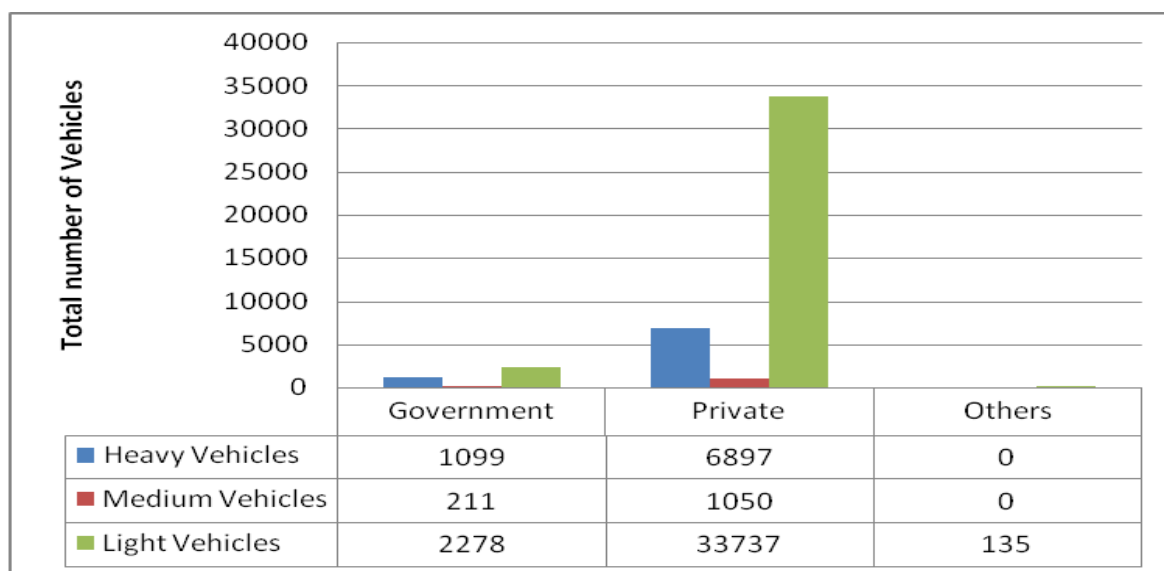
2.3.2. Medium Vehicles:

Medium vehicles in 2011 saw an annual increase of 25.2% or 254 vehicles from 2010.

2.3.3. Light Vehicles:

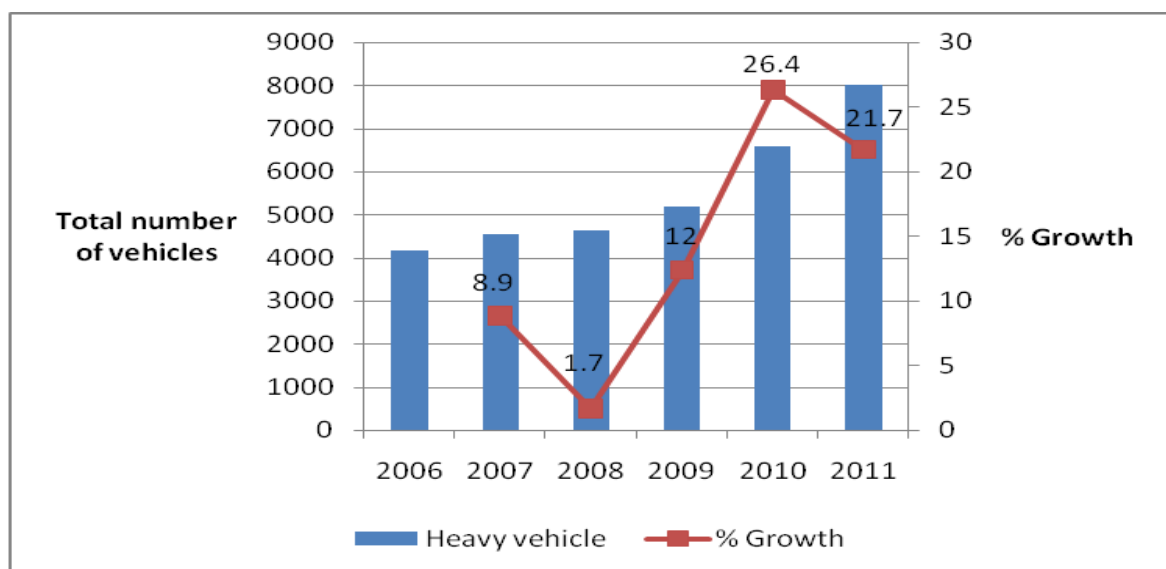
4,988 new light vehicles were added to the Bhutanese roads in 2011 or an increase by 16% from 2010, taking to total number of light vehicles to 36,150.

Chart 2.8: Vehicles by Type & Ownership, 2011



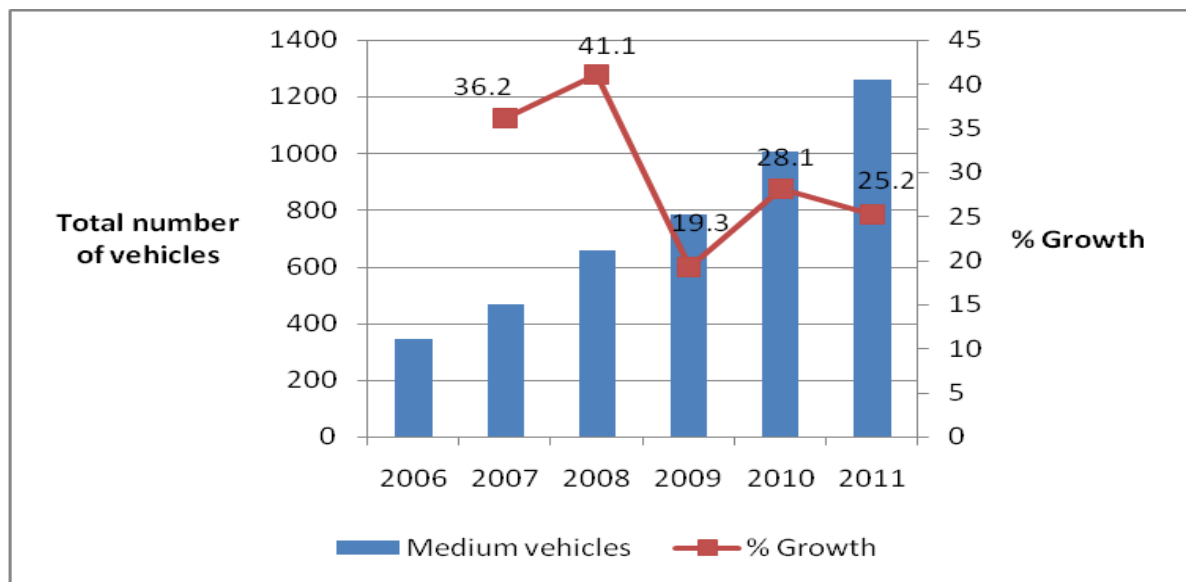
Source: RSTA, MOIC (Note: Others include Diplomats and BHT)

Chart 2.9: Showing total number of Heavy vehicles and % annual growth, 2006-2011



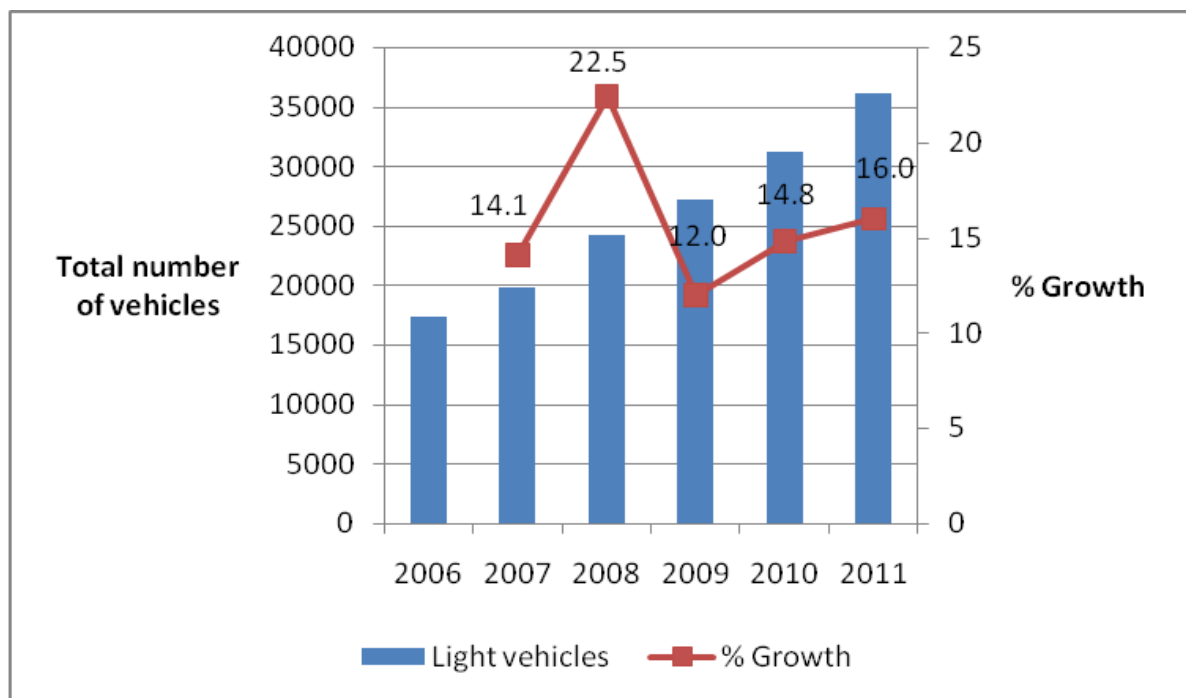
Source: RSTA/MOIC

Chart 2.10: Showing total number of Medium vehicles and % annual growth, 2006-2011



Source: RSTA/MOIC

Chart 2.11: Showing total number of light vehicles and % annual growth, 2006-2011

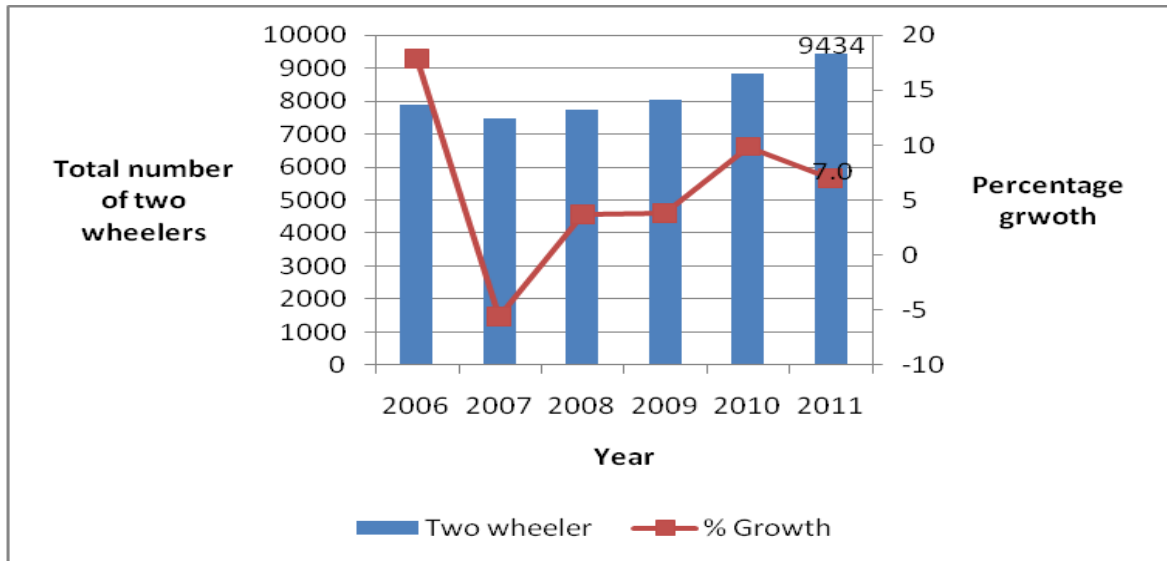


Source: RSTA/MOIC

2.3.4. Two Wheelers:

By December 2011, there were 9,434 two wheelers, an increase of 6.5% from 2010.

Chart 2.12: Showing total number of two wheeler & annual growth rate, 2006-2011

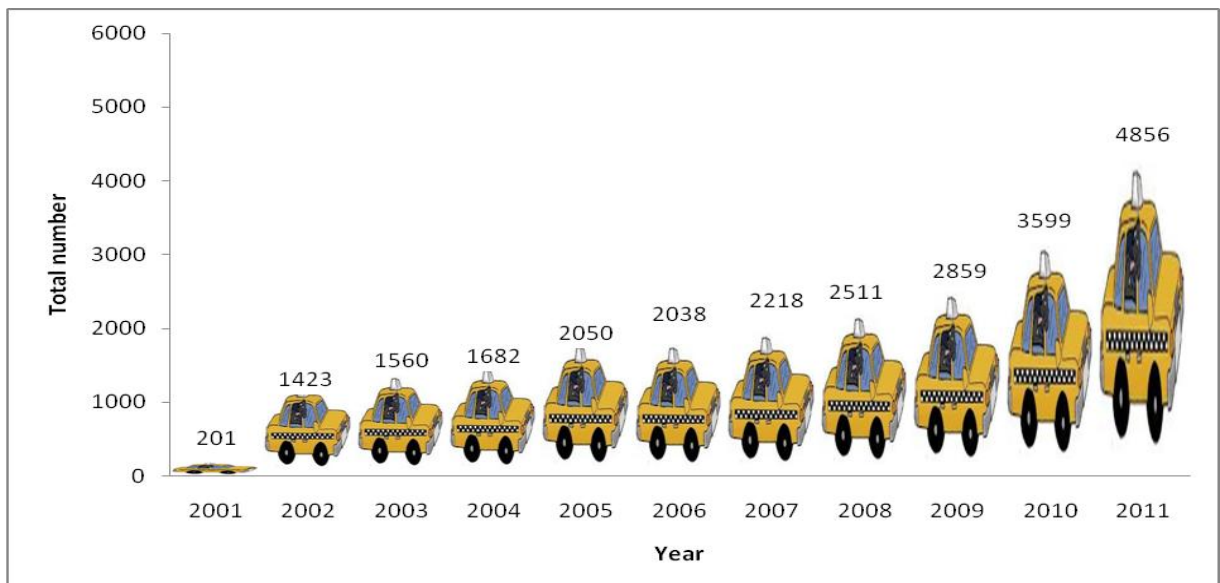


Source: RSTA

2.3.5. Taxi:

Between 2001 to 2011, a total of 4655 new taxis has been added. About 1,257 new taxis registered last year (2011) alone, taking the total number of taxis to 4,856.

Chart 2.13: Total number of Taxis, 2001-2011



Source: RSTA, MOIC

2.3.6. Taxi distribution, by region:

| Sl. No. | Region | Number of Taxis | | |
|---------|------------------------|-----------------|--------|-------|
| | | 2009 | 2010 | 2011 |
| 1 | Thimphu | 1983 | 2488 | 3305 |
| | %Growth | 13.44 | 25.47 | 32.84 |
| | % Share (region wise) | 69.4 | 69.1 | 68.1 |
| | | | | |
| 2 | Phuentsholing | 773 | 976 | 1343 |
| | %Growth | 17.84 | 26.26 | 37.60 |
| | % Share (region wise) | 27 | 27.12 | 27.7 |
| | | | | |
| 3 | Gelephu | 60 | 97 | 151 |
| | %Growth | 30.4 | 61.67 | 55.67 |
| | % Share (region wise) | 2.1 | 2.7 | 3.11 |
| | | | | |
| 4 | Samdrupjongkhar | 43 | 38 | 57 |
| | %Growth | 38.71 | -11.63 | 50 |
| | % Share (region wise) | 1.5 | 1.1 | 1.17 |

Source: RSTA/MOIC

2.4. Motor vehicle crashes and casualties:

2.4.1. Motor vehicle crashes and casualties:

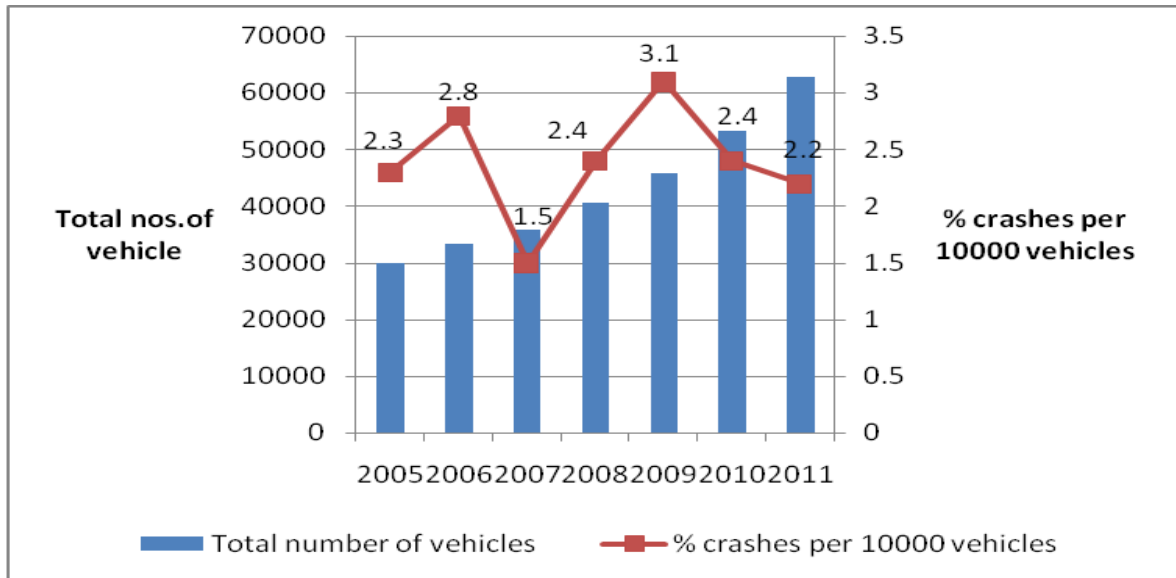
Table 2.4: Motor vehicle crashes,2005-2010

| Year | No. of motor vehicle crashes | Death | Injured |
|------|------------------------------|-------|---------|
| 2005 | 696 | 39 | 247 |
| 2006 | 940 | 71 | 389 |
| 2007 | 523 | 40 | 335 |
| 2008 | 995 | 92 | 488 |
| 2009 | 1,436 | 77 | 579 |
| 2010 | 1,260 | 79 | 611 |
| 2011 | 1,374 | 104 | 623 |

Source: RSTA/MOIC and Traffic Police

2.4.2. Rate of motor vehicle crashes:

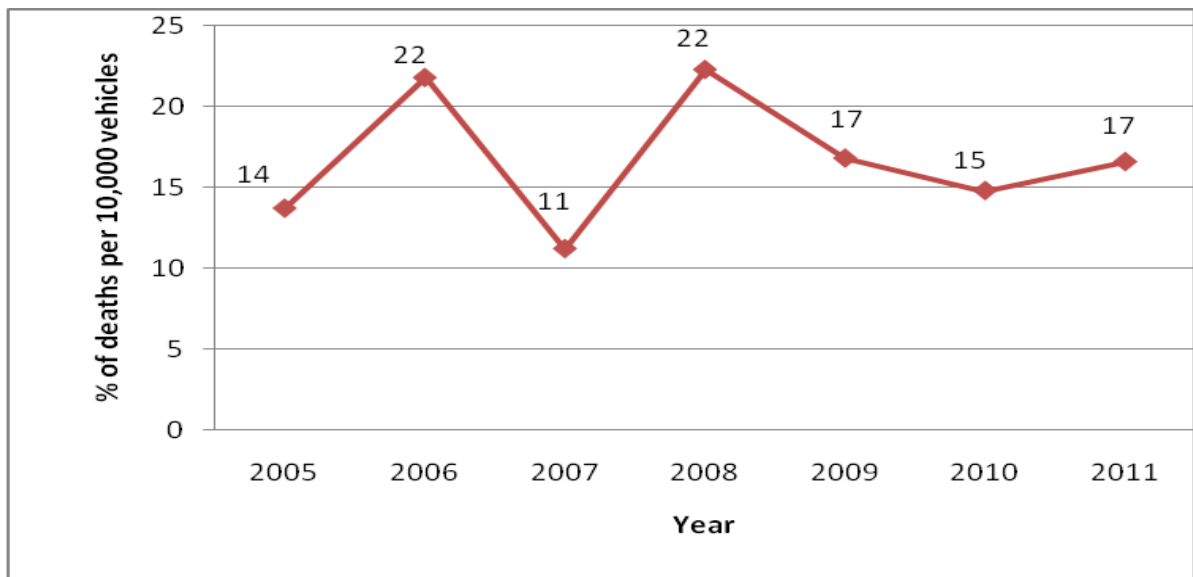
Chart 2.14: % of crashes per 10,000 vehicles



Source: RSTA/MOIC & Traffic police HQ

2.4.3. Deaths from motor vehicle crashes

Chart 2.15: Number of deaths per 10,000 vehicles, 2005-2011



Source: RSTA/MOIC & Traffic Police

2.5. Causes of motor vehicles crashes

Table 2.5: Causes of motor vehicle crashes- December 2011

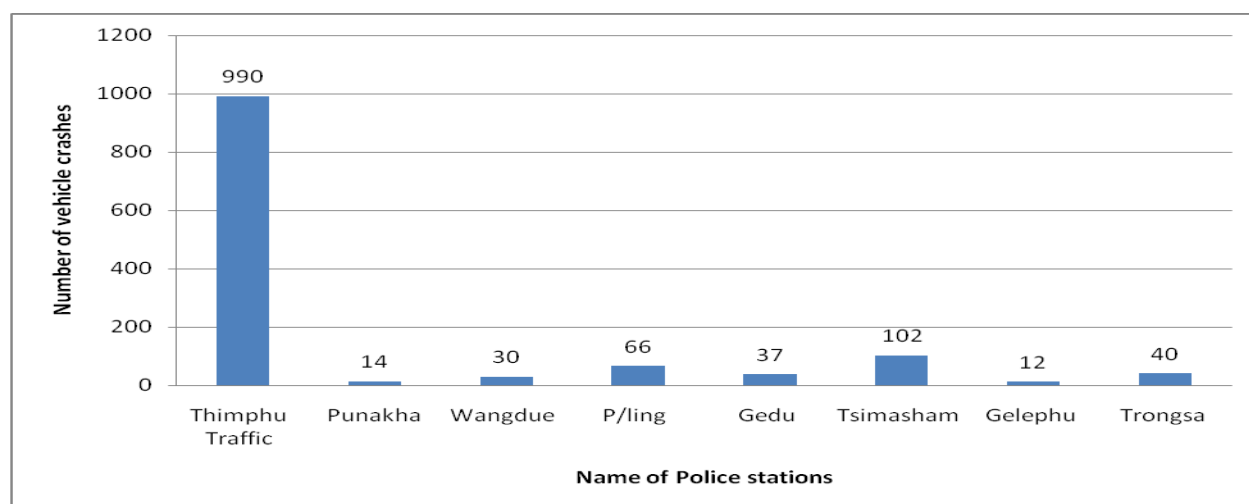
| Name of Division / Name of Police station | Causes | | | | | | Human Error |
|---|---------|-------------------------------|----------------------|-------------------|------------------|-----------------|----------------|
| | Alcohol | Un- licensed ¹¹ | Mechanical defect | Road / Weather | Over speeding | Hit & Run | |
| Thimphu Traffic Division | 116 | 78 | 10 | 12 | 133 | 190 | 651 |
| Paro Police Station | 1 | 2 | 0 | 0 | 1 | 1 | 8 |
| Haa Police Station | 1 | 1 | 0 | 3 | 0 | 1 | 5 |
| Punakha Police Station | 1 | 2 | 1 | 0 | 4 | 4 | 5 |
| Wangdue Police Station | 2 | 1 | 2 | 3 | 6 | 2 | 7 |
| Gasa Police Station | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P/ling Police Station | 4 | 0 | 6 | 6 | 14 | 1 | 51 |
| L/Zingkha Police Station | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Pasakha Police Station | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Gedu Police Station | 7 | 2 | 5 | 0 | 10 | 0 | 14 |
| Tsimasham Police Station | 1 | 2 | 16 | 0 | 3 | 0 | 45 |
| Samtse Police Station | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| Gomtu Police Station | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Sipso Police Station | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Chengmari Police Station | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Gelephu Police Station | 1 | 1 | 0 | 2 | 1 | 1 | 7 |
| Zhemgang Police | 0 | 0 | 0 | 0 | 0 | 0 | 4 |

¹¹ Unlicensed driving essentially means inexperienced drivers on the roads

| Station | | | | | | | |
|------------------------------|-----|-----|----|----|-----|-----|-----|
| Sarpang Police Station | 1 | 1 | 0 | 0 | 0 | 0 | 3 |
| Pangbang Police Station | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tsirang Police Station | 2 | 1 | 0 | 1 | 0 | 0 | 3 |
| Dagapela Police Station | 2 | 2 | 1 | 1 | 0 | 0 | 5 |
| Dagana Police Station | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Trongsa Police Station | 0 | 1 | 2 | 10 | 0 | 0 | 23 |
| Bumthang Police Station | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| S/jongkhar Police Station | 0 | 2 | 2 | 1 | 1 | 0 | 1 |
| Pema Gatshel Police Station | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nganglam Police Station | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Jomotshangkha Police Station | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Trashigang Police Station | 0 | 1 | 0 | 0 | 1 | 0 | 2 |
| Wamrong Police station | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| T/yangtse Police Station | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Monger Police Station | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Lhuntse Police Station | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Geylposhing Police Station | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| Total | 142 | 102 | 45 | 40 | 177 | 201 | 848 |

Source: Traffic Division,RBP, RSTA/MoIC

“Humam Error” remains the main causes of motor vehicle crashes followed by hit & run cases, overspeeding,alcohol-related crashes, un-licensed driving, mechanical defects and road conditions in that order.

Chart 2.16: Motor vehicle crashes, by location¹², December 2011

Source: Traffic Police and RSTA/MOIC

2.6. Other useful information:

2.6.1. Passenger Flow:

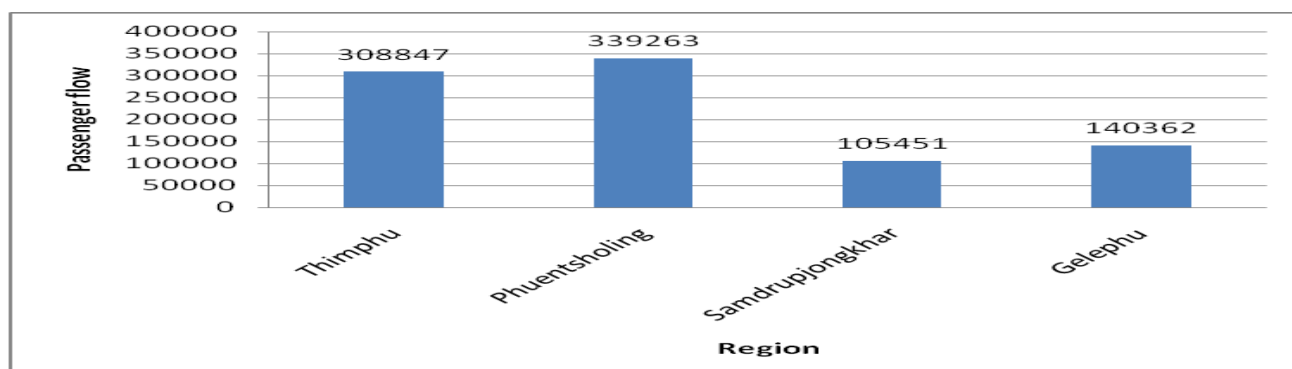
Table 2.6: Public transport passenger flow, June 2008-June 2011.

| Region | Number of commuters availing public transport services | | |
|-----------------|--|----------------------|----------------------|
| | July 2008- June 2009 | July 2009- June 2010 | July 2010- June 2011 |
| Thimphu | 274,852 | 408,584 | 308,847 |
| Phuentsholing | 214,567 | 265,032 | 339,263 |
| Samdrupjongkhar | 39,773 | 137,109 | 105,451 |
| Gelephu | 58,162 | 110,903 | 140,362 |
| Grand Total | 587,354 | 921,628 | 893,923 |

Source: RSTA/MoIC

¹² 8 Police stations from a total of 34 police stations nationwide, which deal with highest number of motor vehicle crashes are shown

Chart 2.17: Passenger flow-by region, July 2010- June 2011



Source: RSTA/MoIC

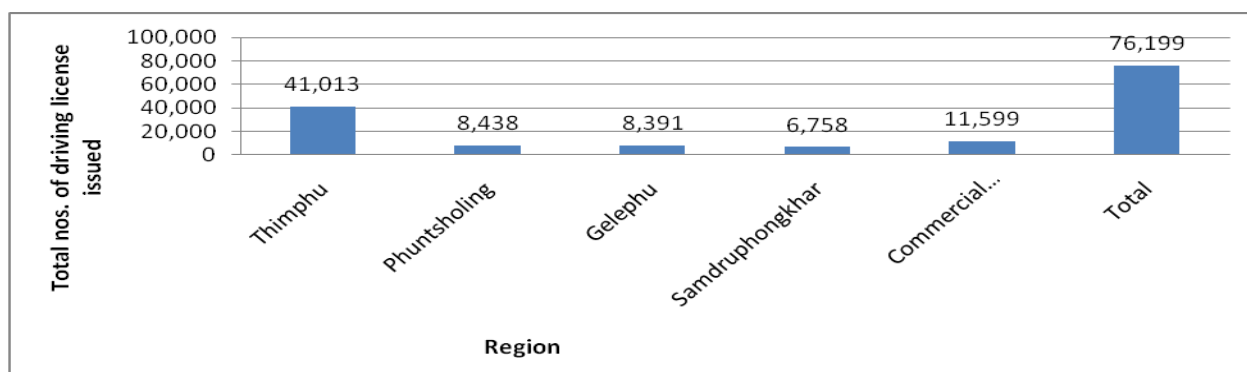
2.6.2. Revenue generate by RSTA:

Chart 2.18: Showing revenue generated by RSTA, July 2008 to June 2011



Source: RSTA/MOIC

2.6.3. Driving liceneses issued:

Chart 2.19: Total driving liceneses issued, by region and type, as of 31st March 2012

Source: RSTA/MOIC (as of 31st March, 2012)

Technical Notes

1. Fixed Telephone Lines per 100 Inhabitants

Fixed Telephone lines refer to telephone lines connecting a customer's equipment i.e. telephone set to Public Switched Telephone Network and which have a dedicated port on public payphones. Fixed telephone line per 100 inhabitants is calculated by dividing the number of fixed lines by the population and multiplying by 100.

2. Mobile cellular per 100 inhabitants.

Mobile cellular per 100 inhabitants is obtained by dividing the number of mobile cellular subscriptions by number of mobile cellular subscriptions by the population and multiplying by 100.

3. Internet users per 100 inhabitants

Internet users in the bulletin refers only to those who are connected with either lease line, dial up connections, fixed broadband and mobile broadband. Internet users per 100 inhabitants is calculated number of users with internet connections by total population multiplied by 100.

4. Fixed Broadband Internet subscribers

Fixed broadband Internet subscribers refers to subscribers who pay for high speed access to the public Internet at speeds equals to, or greater than, 256 kbps. Fixed broadband internet subscribers per 100 inhabitants is calculated by dividing the population of the country and by multiplying by 100.

5. Mobile Broadband Subscriber per 100 inhabitants

Mobile broadband internet subscribers per 100 inhabitants is calculated by dividing the population of the country and by multiplying by 100.