



# དཔལ་ལྷན་འབྲུག་གཞུང་། བར་དོན་དང་བརྒྱུད་འབྲེལ་ལྷན་ཁག།

## Annual InfoComm and Transport Statistical Bulletin



Ministry of Information and Communications

Royal Government of Bhutan

May, 2010

## Foreword

The Ministry of Information and Communications is pleased to release the first edition of Annual InfoComm and Transport Statistics Bulletin 2010.

This Bulletin is designed to provide reliable data and information regarding ICT, Surface Transport and Civil Aviation Sectors in the country. Government, Non-Government agencies, private/corporate sectors, and the general public may use the information freely for planning, decision making and other purposes.

TASHI DELEK



Kinley Dorji  
Secretary,  
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## **1. Introduction**

The Ministry of Communications was bifurcated in July 2003 into two Ministries - the Ministry of Information and Communications (MoIC) and the Ministry of Works and Human Settlements. The creation of a new Ministry of Information and Communications was aimed at tapping the potential of rapid development in the information and communication technology (ICT) and also to give greater attention to the development of media, surface transport and civil aviation sectors.

Absence of reliable and up-to data has been a major concern in most government agencies and the situation in the Ministry of Information & Communications is no different. Therefore, efforts are continuing to correct this deficiency and MoIC is now devoting more attention and putting in resources to develop this area through a Statistical Bulletin. The information contained in this publication will be continuously up-dated, at least on an annual basis, for government agencies and the public at large to access the latest information.

## **2. Mandate of MoIC**

MoIC is responsible for the:

- Development of an efficient and reliable information and communication system to transform Bhutan to an information society;
- Promotion of ICT in the country as an enabler of national development;
- Development of safe and progressive national surface transport system; and
- Development of a safe and sustainable civil aviation sector that meets the national needs and international standards.

In discharging the above mandates, MoIC is designated as the lead Government agency in Bhutan for formulation and implementation of policies, drafting of legislation, assist and facilitate in executing the development programs, and acting on behalf of the Royal Government, on matters related to ICT, Media, Surface Transport and Civil Aviation.

### **3. About the Annual Infocomm and Transport Statistical Bulletin**

The Annual Infocomm and Transport Statistical Bulletin, the first such report after the establishment of the Ministry of Information & Communications in 2003, is aimed at disseminating reliable information covering ICT, Media, Surface Transport and Civil Aviation sectors. It is hoped that the information provided in this publication would prove useful for use by Government agencies, general public, development partners, training institutions and schools alike.

The data in this report was collected and compiled by the Policy and Planning Division of MoIC with support from the Departments 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 InfoComm and Media Authority, Bhutan Telecom Limited (BTL), and Tashi InfoComm Limited (TICL) as the direct source of these information concerning their respective areas.

The information bulletin has been prepared based on the data collected in 2009 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.

This bulletin is divided into two chapters. Chapter one provides information on information society with chapter two dealing with transportation sub-sector focusing on civil aviation and surface transport activities.

## Chapter 1 – Information Society

This chapter deals with basic information relating to information and communication technology such as telecommunication services, Internet, Mobile services, and certain aspects of media.

### a. ICT and Telecommunication development

In the last decade, Asia and Pacific region as a whole has experienced continuous ICT infrastructure development and service uptake, making it a world leader in ICT. This regional development had a positive and immediate impact on Bhutan. By December 2009, there were 26,348 fixed line telephone subscribers and 327,052 mobile users. B-Mobile, a subsidiary of BTL and TashiCell, a subsidiary of TICL, are currently the two service providers offering mobile services in the country. Internet services are provided by Druknet (under BTL), Samden Tech, Drukcom and TICL (mobile based). BTL is the sole provider of fixed line telecommunication in the country. Despite appreciable growth, ICT penetration rate remains very low compared to other developing countries. Disparity between urban and rural areas is also clearly visible.

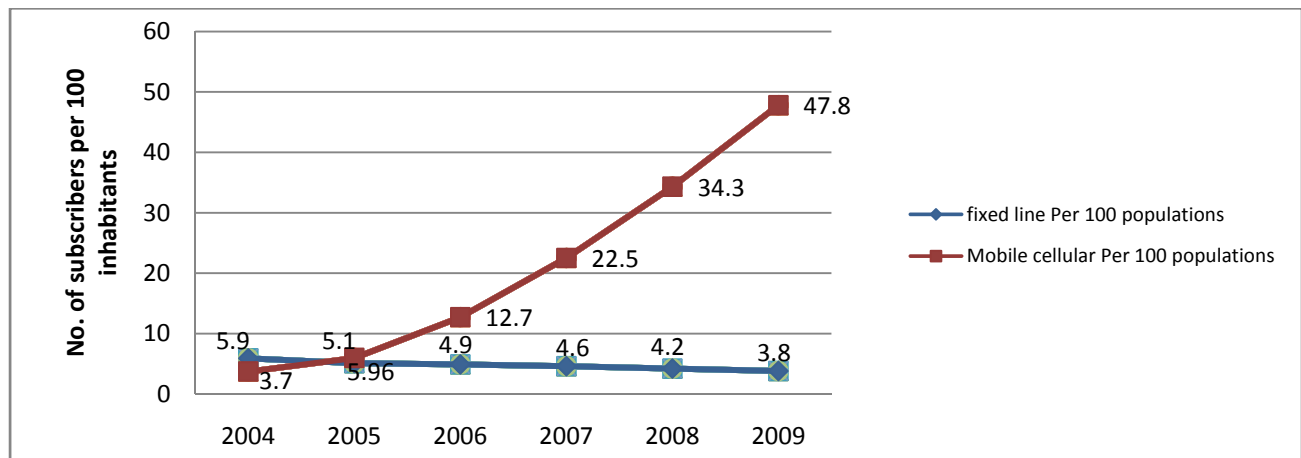
**Table 1.1: Key ICT indicators – as of December 2009**

<b>Indicators</b>	<b>Number</b>
1. Fixed line telephone subscribers	26,348
2. Cellular mobile subscribers	327,052
3. Internet subscribers :	
i) Lease line	145
ii) Dial-up	3,133
iii) Broadband Subscribers:	
• Fixed line based	3,378
• Mobile based	11,886
4. No. of villages with fixed-line telephone access	1,391 out of 3,021 villages
5. No. of villages with mobile coverage	2,130 out of 3,021 villages
6. No. of Geogs with access to mobile services	167 out of 205 Geogs
7. No. of Dzongkhag head-offices with fixed line and mobile services	All 20
8. Number of Community Information Centers	45

### b. ICT uptake in Bhutan versus the Asia-Pacific Region

Bhutan has made a modest progress in ICT uptake over the last six years. Fixed line penetration rate is currently 3.8 per 100 inhabitants, down from 5.9 in 2004. On the other hand, mobile penetration rate has currently reached 47.8 per 100 inhabitants from 3.7 in 2004 as shown below:

*Chart 1.1: Penetration level of fixed line and mobile services, 2004-09*



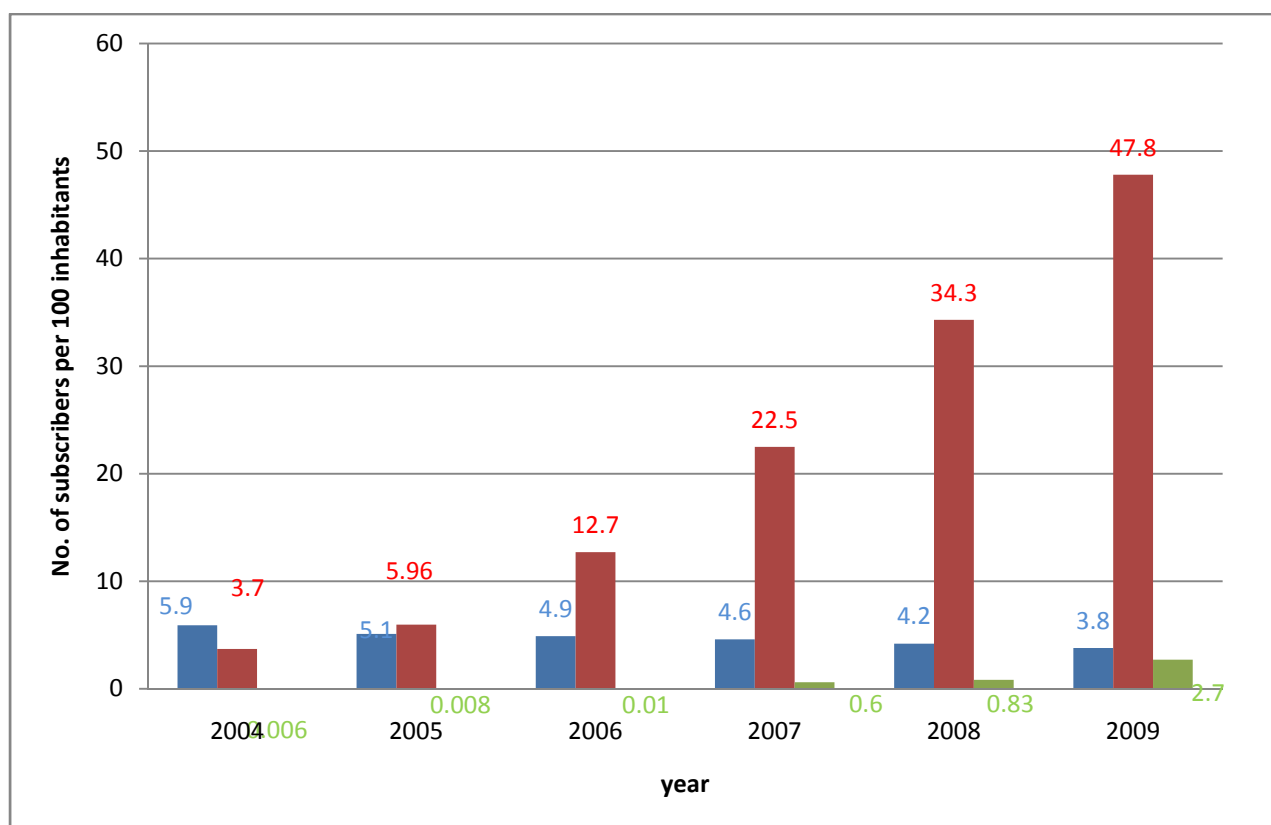
Growth in certain segment of ICT has been comparable with other developing countries while it is not as much in certain other aspects. For example, against 37 mobile subscribers per every 100 people in the Asia Pacific region in 2008, Bhutan had a comparable figure of 34.3 per 100 people. This figure for Bhutan increased to 47.8 in 2009 as much as it would have been in other countries and the Asia-Pacific Region.

On the other hand, the fixed line subscribers have stagnated at around 3.8 telephone lines per 100 people against 16 in the Asia Pacific region. Scenario of Internet usage in Bhutan is also dismal with just about 0.5 per every 100 inhabitants having Internet connection<sup>1</sup>. Broadband services are becoming popular with number of subscribers increasing from 1,425 in 2008 when the services were first launched, to around 15,264 by December 2009.

Generally ICT penetration rate has remained low as confirmed by the figures in chart 1.2.

<sup>1</sup>Actual number of Internet users would obviously be fairly high considering the large number of users who have access to lease line connections in government offices, schools and corporate houses. Moreover, it has not been possible to get the correct number of users availing services from Internet Cafes.

**Chart 1.2: ICT development in Bhutan (subscribers per 100 inhabitants): 2004-2009<sup>2</sup>**



**Table 1.1:a) Total No. of subscribers by type**

Year	Fixed line subscribers	Mobile cellular subscribers	Internet subscribers
2004	30285	18995	35
2005	32709	37842	48
2006	31526	82078	61
2007	30279	148179	4040
2008	27937	228347	5548
2009	26348	327052	18542

<sup>2</sup> Source: BTL, TashiCell, Samden Tech, Drukcom.

Internet subscribers refer to the number of households, corporate houses and government offices connected with Internet, and not the actual number of users.

Table 1.1: (b) No. of subscribers per 100 inhabitants

Year	Fixed line subscribers Per 100 inhabitants	Mobile cellular subscribers Per 100 inhabitants	Internet users per 100 inhabitants.
2004	5.9	3.7	0.006
2005	5.1	5.96	0.008
2006	4.9	12.7	0.01
2007	4.6	22.5	0.6
2008	4.2	34.3	0.83
2009	3.8	47.8	2.7

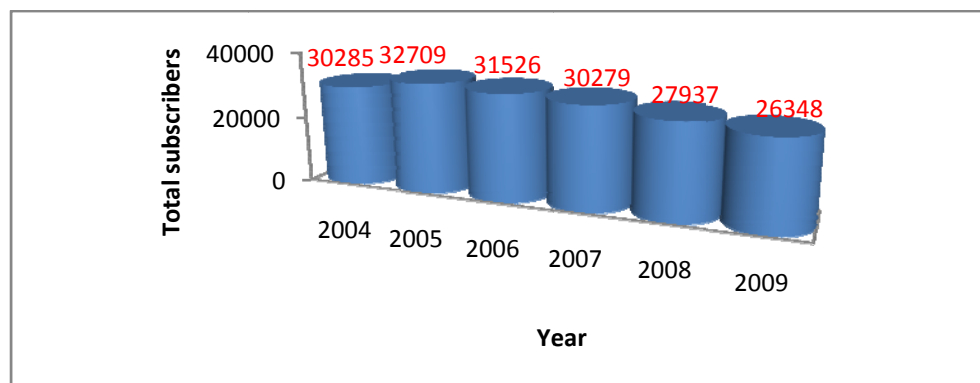
### c. Fixed-line telephony

The first telephone network in Bhutan was established in 1963. It was only in 1998 that a fully digital national telecommunication network interconnecting all the twenty Dzongkhags head offices and major towns were established.

BTL is the only operator that provides fixed line telecommunication services in the country. Fixed line was one of the main mediums of voice communication prior to the introduction of mobile cellular service in November 2003 by which time there were around 23,657 subscribers nationwide.

Fixed line connections peaked in 2005 with 32,709 subscribers with an annual growth rate of 8 percent. Since then, the number started declining to 31,536 in 2006 and to 26,348 by 2009. This is obviously attributed to the growing popularity of mobile services among urban and rural population. Decrease in subscriber number by almost 1,000 subscribers each year is considered significant, but this trend is not unique to Bhutan and experienced by many countries world over.

Chart 1.3: Trend in fixed line subscribers over the years (2004-2009)



*Table 1.2: Showing number of fixed line subscribers and fixed line subscribers per 100 inhabitants*

<i>Year</i>	<i>No. of subscribers</i>	<i>Fixed line Per 100 Inhabitants</i>
<i>2004</i>	<i>30,285</i>	<i>5.9</i>
<i>2005</i>	<i>32,709</i>	<i>5.1</i>
<i>2006</i>	<i>31,526</i>	<i>4.9</i>
<i>2007</i>	<i>30,279</i>	<i>4.6</i>
<i>2008</i>	<i>27,937</i>	<i>4.2</i>
<i>2009</i>	<i>26,348</i>	<i>3.8</i>

#### **d. Mobile cellular telephony**

Mobile services were introduced in the country on 11 November, 2003 with Bhutan Telecom Limited as the only operator. In 2006, TICL was granted license to provide mobile cellular services, thus making it the second mobile service operator in the country. By December 2009, the two operators had a combined subscriber base of 327,052 mobile users, of which BTL had 262,052 subscribers and TashiCell had 65,000 subscribers. Mobile has since become the most effective and convenient means of communications in the country.

Chart 1.4: B-mobile and Tashi cell subscribers, 2004-2009

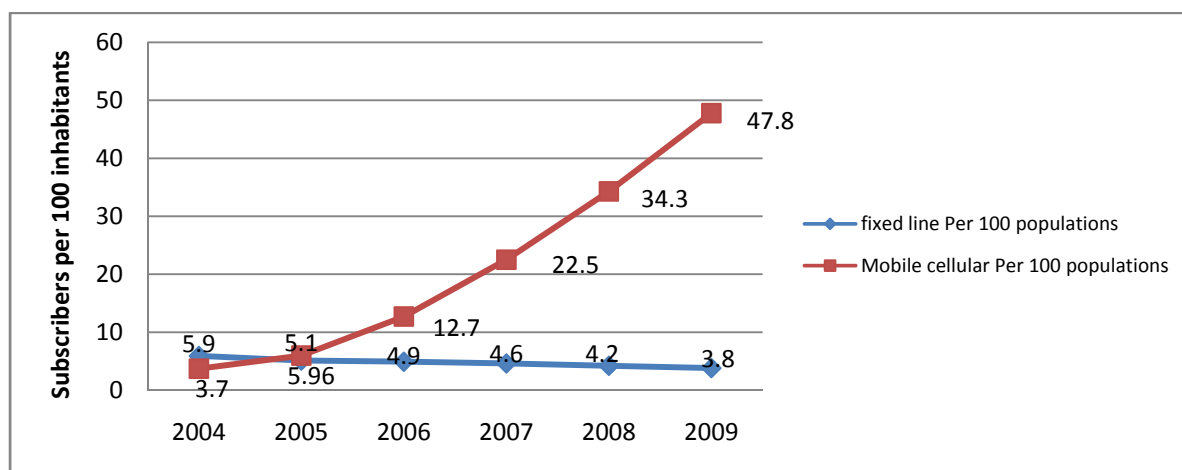
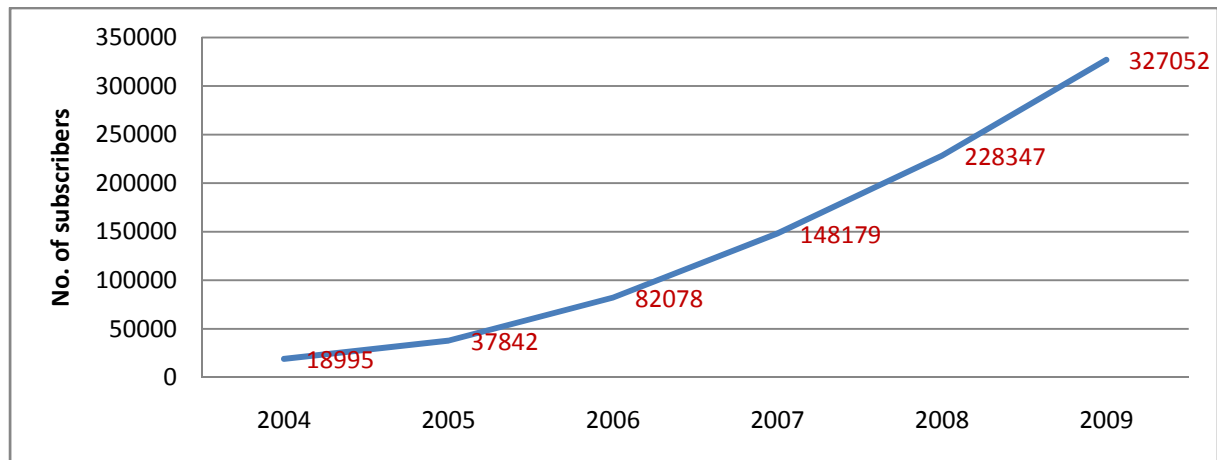


Chart 1.5: Trend in mobile subscriber, 2004-09



While B-Mobile has services in all 20 Dzongkhag head-offices, TashiCell has limited services to about 10 Dzongkhag head-offices. Between 2004 to 2009, the number of mobile cellular users increased by almost 42 times (chart 1.5). Presently, there are 47.8 subscribers per 100 inhabitants.

As of December 2009, BTL has 256,761 pre-paid subscribers and 5,291 post-paid mobile subscribers against TashiCell's 64,000 pre-paid and 1,000 post-paid subscribers.

#### e. Current state of Telecommunication connectivity in the country

An attempt has been made to ascertain the availability of telecommunication services in the country. Information received from Dzongkhags during January and February 2010 indicated that about 2,130 of 3,021 villages or about 70.5% of villages had full or partial coverage to mobile services. Definition of village is however unclear and therefore the number indicated in this bulletin is based purely on information received from the respective Dzongkhags. Summary information with regard to the availability of telecommunication services (fixed line and mobile) in different Dzongkhags and their Geogs and Villages are shown below:

Table 1.3: Summary of Telecommunication connectivity

	Total no. of Geogs and villages		Fixed line covered villages	No Fixed Line coverage (Villages)	Mobile cover-age (Villages)	Partially covered villages	Villages within particular Geog(s) without mobile service	Mobile coverage in villages (by operators)		Villages without mobile cover-ages	% of villages with mobile services
	Geog	Vill.						BTL	TCELL		
<b>Dzongkhags</b>											
Bumthang	4	68	44	24	45	0	1(3 villages)	44		23	66%
Chhukha	12	116	39	77	78	0	2 (11 villages)	78		38	67%
Dagana	13	65	36	29	45	0	2(10 villages)	44	40	20	69%
Gasa	4	18	0	18	2	0	2(16 villages)	2	2	16	11%
Haa	6	82	29	53	54	0	1(17 villages)	54	53	28	66%
Lhuentse	8	297	16	281	209	0	1( 36 villages)	209		88	70%
Monggar	17	290	54	236	191	24	4 (55 villages)	191		75	66%
Paro	10	429	417	12	414	3		417	417	12	96%
Pema-gatshel	11	130	19	111	73	3	3 (34 villages)	73	0	54	56%
Punakha	11	179	174	5	179	0		179	163	0	100%
Samtse	15	223	53	170	146	0	5 ( 38 villages)	145	75	77	65%
Samdrup-jongkhar	11	213	57	156	74	0	4 (66 villages)	74	0	139	35%

Sarpang	12	161	37	124	57	6	3( 26 villages)	62	0	98	37%
Thimphu	8	120	66	54	75	0	4( 41 villages)	76	76	45	63%
Trashigang	15	209	194	15	163	0	2(15 villages)	163	0	46	78%
Trashi-yangtse	8	120	62	58	76	0		76	0	44	63%
Trongsa	5	54	52	2	38	7		45	0	9	70%
Tsirang	12	77	7	70	65	0		65	6	12	84%
Wangdue Phodrang	15	101	15	86	83	0		83	83	18	82%
Zhemgang	8	69	20	49	19	1	4(34 villages)	20	0	49	28%
<b>Total</b>	205	3021	1391	1630	2086	44	38 Geogs (402 villages)	2100	915	891	64%

*f. Internet services*

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

<b>Operators</b>	<b>Type of services provided</b>	<b>Coverage</b>
1. Druknet, BTL	Lease line Dial-up  Broadband (mobile and fixed)  EDGE/GPRS	Country-wide Country-wide where fixed line telephone services are available 16 Dzongkhag head-offices where B-mobile signals are available Thimphu
2. TashiCell, TICL	EDGE/GPRS, lease line connection	10 Dzongkhag head offices
3. Samden	Lease line connection	Thimphu
4. Drukcom	Lease line connection	Thimphu

The type of Internet services provided by the ISPs are:

- a. Lease line connection:** Lease line connection is the oldest form of internet connection in the country. By the end of 2009, there were around 145 lease line connections throughout the country, up from 35 in 2004, 48 in 2005, 61 in 2006, 80 in 2007 and 109 in 2008. Lease line connection has grown steadily and these are mostly limited to government agencies and corporate houses.
- b. Dial up connection :** Prior to the introduction of broadband services in 2008, dial-up connection was quite common among individuals and household users to access Internet. The highest number of dial-up users recorded was 3,960 which started declining rapidly with better access to broadband services. By 2009, BTL had around 3,133 dial up users.
- c. Broadband Internet**

Broadband Internet services (fixed broadband and mobile) were introduced in the country in 2008. In the third year of its introduction, mobile broadband subscription increased to 11,886 mobile subscribers. Fixed broadband saw an initial increase in users from 1,300 in 2008 to around 3,378 by December end 2009. Though there was an increase in the number of subscribers, broadband patronage has been rather slow, perhaps due to high tariff, especially for individual household users. The subscribers' base of about 0.5 and 1.7 per 100 inhabitants<sup>3</sup> for fixed and mobile broadband respectively, is expected to improve with TICL introducing mobile broadband in the near future.

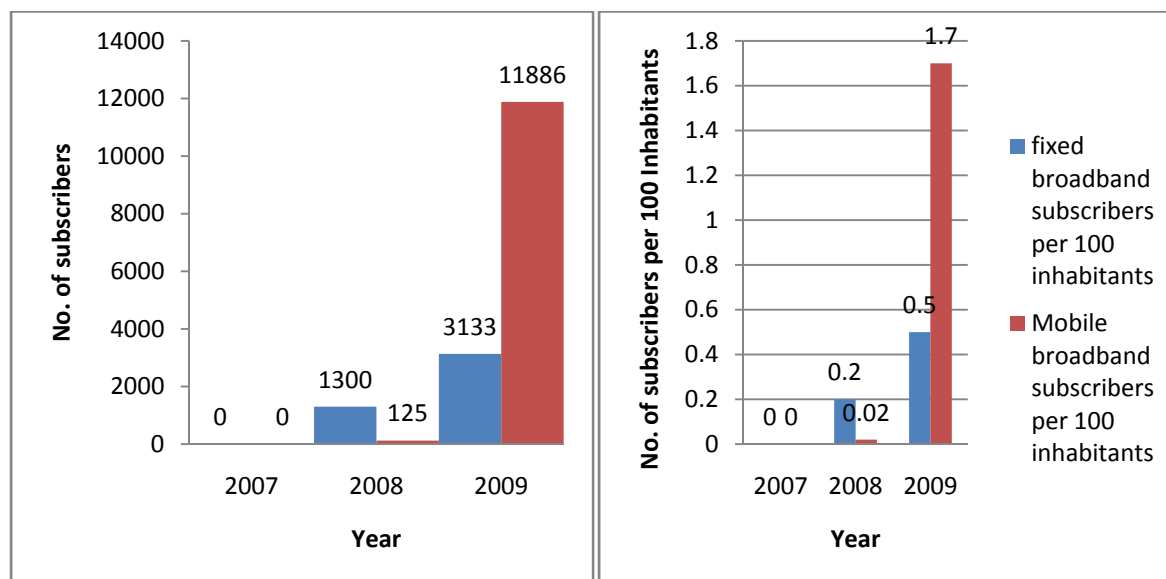
Notwithstanding the advances made in broadband technologies (both fixed and mobile), the broadband divide remains striking. Bhutan has 0.5% fixed broadband penetration level, compared to around 20% in other economies. Mobile Broadband connection is available to only 1.7% of the population which is similar to those in lower middle and low income economies.

Owing to lack of infrastructure, fixed line broadband services are available only to handful of areas in Thimphu, Paro, Haa, Phuentsholing, Gedu, Pasakha, Gelephu, Samtse, Damphu, Punakha, Samdrupjongkhar, Trongsa, Bumthang, Mongar, Tashiyangtse, Tashigang, Wangdue Phodrang, Sarpang and Pemagatshel.

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<sup>3</sup> Source: BTL, TICL, Drukcom, Samden Tech

Chart 1.6: Total Fixed and Mobile broadband subscribers, 2007-09. Chart 1.7: Fixed and Mobile broadband subscribers per 100 Inhabitants, December 2009



#### g. Cost of accessing Internet, fixed line and mobile phone

The fixed line broadband price differences in the region are also striking. The top economies in terms of fixed line broadband penetration have monthly subscription fees that correspond to about 1 percent of the monthly income. On the other hand, in some economies of the region a broadband subscription may represent more than 100 percent of the monthly income. In Bhutan, the average cost of accessing broadband (post-paid and pre-paid) ranges from 7 to 14 percent of monthly income for home and personal usage of broadband services.

#### Broadband Tariff<sup>4</sup>

Monthly Postpaid Broadband rates (Druknet):

Package Name	Circuit Bandwidth	Monthly Tariff(NU)	Data upload/Download Limit	Additional Usage Charge per MB (NU)
Personal	Upto 256 Kbps	479.00	2.5 GB	0.19
Home	Upto 256 Kbps	959.00	5 GB	0.19

<sup>4</sup> Source: BTL, other service provider not providing broadband services as of now.

Office	Upto 512 Kbps	1439.00	7 GB	0.19
Business	Upto 1 Mbps	2159.00	10 GB	0.19
Enterprise	Upto 2Mbps	2999.00	15 GB	0.19

Monthly Prepaid Broadband rates (Druknet):

Package Name	Circuit Bandwidth	Monthly Tariff(NU)	Data Upload/Download Limit	validity
Personal	Upto 256 Kbps	399.00	2.5 GB	30 days
Home	Upto 256 Kbps	799.00	5 GB	30 days
Office	Upto 512 Kbps	1199.00	7 GB	30 days
Business	Upto 1 Mbps	1799.00	10 GB	30 days
Enterprise	Upto 2 Mbps	2499.00	15 GB	30 days

### Lease line tariff

Table 1.4: Lease line internet price between Tashi Cell and Druk Net

Sl. No.	Bandwidth	TICL Published Rate (in Nu. Per month)		Druk Net Rate (In Nu. Per month)	
		Normal Rate	School Rate	Normal Rate	School Rate
1	Up to 128 Kbps	8,300	2999	7470	
2	Up to 256 Kbps	11,627	3999	14,220	3,999
3	Up to 512 Kbps	23,254	4999	25,585	4,999
4	Up to 1 Mbps	46,199		48,790	9,998
5	Up to 2 Mbps	91,777		92,735	
6	Up to 3Mbps	136,736		134,385	
7	Up to 4 Mbps	181,074		176,120	
8	Up to 5 Mbps	224,793		213,690	
9	Up to 6 Mbps	267,891		255,340	

10	Up to 7 Mbps	310,369		288,915	
11	Up to 8 Mbps	352,227		334,645	
12	Up to 9 Mbps	393,465		368,110	
13	Up to 10 Mbps	434,082		404,920	

### Tariff for Dial up internet connection<sup>5</sup>

Minutes per Unit for NU 1.50
4 minutes or part thereof

### Call tariff for fixed line<sup>6</sup>

	Rate
STD	3.5/min
Local	0.6/min
Mobile to Fixed	NU 0.75/unit (1 unit =15 seconds)
Fixed line to Tashi Cell (Off net Calls)	Nu. 3.00/min

### Call tariff for mobile service

#### Countries in Band I:

Nepal,USA,Bangladesh,Singapore,UK,Canada,Austria,Switzerland,Australia, Philippines, Taiwan, Denmark, Sri Lanka, South Korea, Netherlands, Italy, Hong Kong, New Zealand, Russia, Indonesia, Pakistan ,Norway, Sweden and Mal Dives

**Countries in Band II:** Japan, China, Germany, France, UAE, Israel, Spain, Belgium and South Africa

Call category	Bhutan Telecom			Tashi Cell		
	Peak Hour	Off-peak Hour	Late night	Peak Hour	Off-peak Hour	Late night
Onnet	Nu. 0.50/unit	Nu. 0.40/unit	Nu. 0.30/unit	1st Min. Nu. 0.50 per unit 2nd Min. Nu. 1.45 per unit Thereafter Nu. 0.40/unit		
					Nu. 0.30/unit	

<sup>5</sup> Source: BTL , other ser

<sup>6</sup> Only BTL provides fixed line telephone as of now

Off net	Nu. 0.70/unit	Nu. 0.50/unit	Nu. 0.40/unit	Nu. 0.70/unit	Nu. 0.50/unit	Nu. 0.40/unit
To India	Nu 5 for the 1st Min. and Nu. 1.2 per 15 seconds unit thereafter	Nu 5 for the 1st Min. and Nu. 1.2 per 15 seconds unit thereafter		Nu 5 for the 1st Min. and Nu. 1.2 per 15 seconds unit thereafter	Nu 5 for the 1st Min. and Nu. 1.2 per 15 seconds unit thereafter	
To Band I	Nu. 18 per min	Nu. 18 per min		Nu. 18 per min	Nu. 18 per min	
To Band II	Nu. 30 per min	Nu. 30 per min		Nu. 30 per min	Nu. 30 per min	
To rest of the world	Nu. 45 per min	Nu. 45 per min		Nu. 45 per min	Nu. 45 per min	

## **h. ICT Development Index**

The International Telecommunication Union (ITU) has established measure to assess the development of ICT. This is done through establishment of a benchmark commonly known as ICT Development Index or IDI. The IDI is a composite index made up of eleven different indicators, grouped in three sub-indices as indicated below:

1. ICT access,
  - i) Fixed telephone lines per 100 inhabitants
  - ii) Mobile cellular telephone per 100 inhabitants
  - iii) International internet bandwidth(bit/s) per internet users
  - iv) Proportion of households with computers
  - v) Proportion of households with internet access at home
2. ICT use
  - vi) Internet users per 100 inhabitants
  - vii) Fixed broadband subscribers per 100 inhabitants
  - viii) Mobile broadband subscribers per 100 inhabitants
3. ICT skills
  - ix) Adult Literacy rate
  - x) Gross secondary enrolment
  - xi) Gross tertiary enrolment

Assessing IDI, although a complex process and the results often controversial, provides an good indicatio of the level of ICTization in the country. The factors taken into account to assess IDI are also diverse and require input from more than one agency. The

IDI figure for Bhutan in 2009 was 1.7<sup>7</sup> and this is considered very low compared to most other countries in South Asia region. IDI is a fairly new concept in Bhutan and therefore, more detailed study would be undertaken and reliable result published in subsequent issues of this bulletin.

**i. Information on ICT related services**

Table 1.5: ICT related service providers in the country-2009.

Dzongkhag	Publishing House/ Individual	Printing Firm	Cable TV Operators	IT Institutes	IT Service Providers	Internet Cafés	IT equipment Suppliers
Bumthang			2				
Chhukha	1	2	6	1	2		3
Dagana			1				
Gasa							
Haa			1				
Lhuntse			1				
Mongar			3	2			1
Paro			3				
Punakha			1				
Pemagatshel			2				
Sarpang			6	1			
Samtse			2				
Samdrup-Jongkhar		1	5				1
Thimphu	19	15	5	12	17	12	27
Trashigang			2		2		1
Trashiyangtse			1				
Tsirang			1	1		1	
Trongsa			1				
Wangdue Phodrang			2				
Zhemgang			3				
Total	20	18	48	18	21	13	33

<sup>7</sup> Source: Information Society Statistical Profiles, ITU 2009

## Chapter Two – Transport

### 1. Aviation sector

#### (i) Airports

Type of airport(s)	Place	Altitude above sea level	Runway length	Runway width	Aerodrome Reference classification
International airport	Paro	7,300 Feet	2255 m	30 m	4c
Domestic <sup>8</sup>	Yonphula	8400 Feet	1300 m	30m	2B
Domestic	Bumthang	8465 feet	1200 m	30m	2B
Domestic	Gelephu	726 Feet	1200M	30M	2B

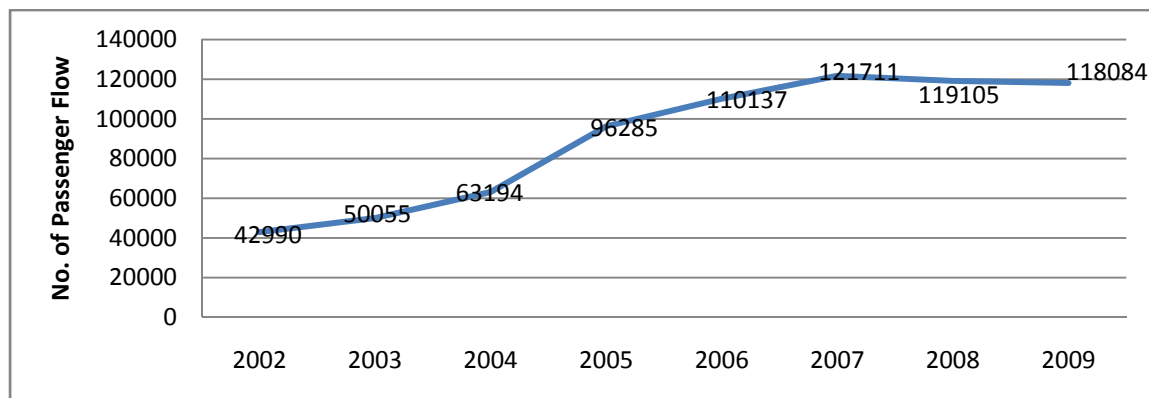
#### (ii) No. of helipads 40

Drukair, the national flagcarrier of Bhutan, started air services in February 11, 1983. Since then, it has been the only airline in the country providing scheduled international air services and currently operating to the following places:

- i) India : Delhi, Kolkata, Gaya, Bagdogra
- ii) Nepal : Kathmandu
- iii) Thailand : Bangkok
- iv) Bangladesh : Dhaka

The number of air travellers increased steadily and peaked in 2007 with 121,711 passengers. The number however declined in 2008 and 2009 owing to recession and slowdown in the tourism sector. The flow of air passengers is indicated in the table and graph below:

Chart 2.1: Annual passenger flow via Druk Air, 2009



<sup>8</sup> Works on development of 3 domestic airports have initiated

Source<sup>9</sup>

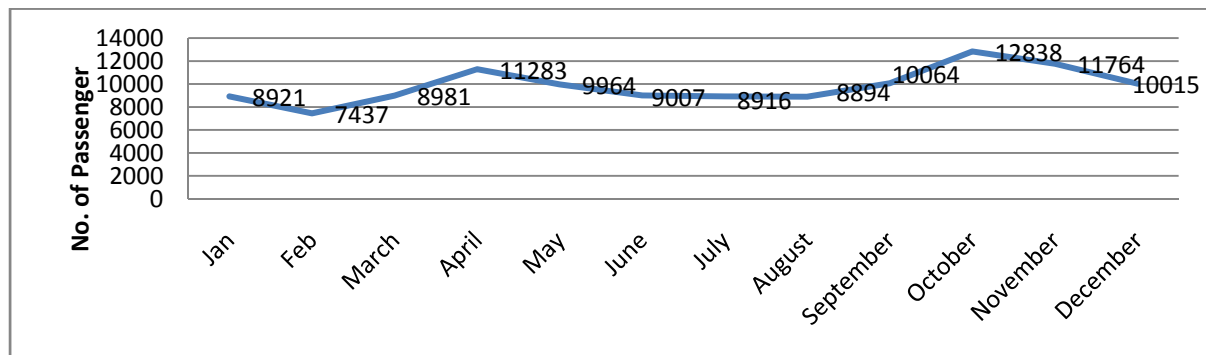
Table 2.1: Drukair Passenger Flow – 2009 segregated by month and sectors

Sec-tor <sup>10</sup>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
PARO TO:													
DLH	687	567	817	925	925	841	671	712	696	1250	1200	789	10080
BKK	1736	1217	1361	2294	2051	1446	1613	1739	1706	2466	2453	1704	21786
KTM	491	407	580	1173	760	494	461	498	658	1327	1016	674	8539
CCU	437	337	535	696	747	769	648	656	615	702	1042	772	7956
GAYA	492	94	24	0	0	0	0	0	0	5	90	283	988
DAC	67	66	159	119	133	121	174	84	131	114	157	189	1514
IXB						35	228	229	211	318	144	129	1294
TO PARO:													
DLH	490	502	832	1037	877	806	663	654	904	1242	906	825	9738
BKK	1211	1318	1674	2387	1787	1378	1431	1627	2169	2604	2011	1562	21159
KTM	562	555	660	1222	705	459	461	511	986	1127	975	527	8750
CCU	597	455	532	621	680	620	473	584	566	719	783	822	7452
GAYA	257	361	81	0	0	0	0	0	0	2	26	164	891
DAC	40	60	155	88	104	126	171	107	101	106	174	151	1383

<sup>9</sup> Druk Air Co.<sup>10</sup> Acronyms – BKK (Bangkok), CCU (Kolkata), DLH (Delhi), IXB (Bagdogra), KTM (Kathmandu), DAC (Dhaka)

IXB						117	210	183	261	136	175	182	1264
KTM/DLH	185	21	30	57	153	584	304	391	178	114	0	0	2017
DLH/KTM	111	26	15	9	127	311	156	136	129	53	0	0	1073
CCU/BKK	128	93	173	227	404	226	128	113	124	24	0	0	1640
Bkk/CcU	124	135	324	219	238	190	134	70	53	67	11	3	1568
GAYA/BKK	359	304	405	0	0	0	0	0	0	4	115	257	1444
BKK/GAYA	368	398	195	0	0	0	0	0	0	45	194	172	1372
DAC/BKK	312	254	202	115	152	240	435	230	241	105	89	314	2689
BKK/DAC	267	267	227	94	121	216	447	240	144	121	56	175	2375
IXB/BKK						27	46	67	137	68	84	220	649
BKK/IXB						1	62	63	54	119	63	101	463
TOTAL	8921	7437	8981	11283	9964	9007	8916	8894	10064	12838	11764	10015	118084

Chart 2.2: Drukair Passenger flow -month wise, January-December, 2009



## 2. Surface Transport:

2.1. Surface transport remains the most important sector in the country and is primarily segregated into two major elements based on functional and institutional arrangement as outlined below:

a) Road infrastructure, broadly comprising the development of road network, bridge construction and their maintenance, is the mandate of the Department of Roads under the Ministry of Works and Human Settlement.

b) Transport management aspects such as public transport services, administration and enforcement of more vehicle related activities, are carried out by RSTA under MoIC. Information in this bulletin is therefore, limited to this aspect only.

### 2.2. Trend in vehicle growth

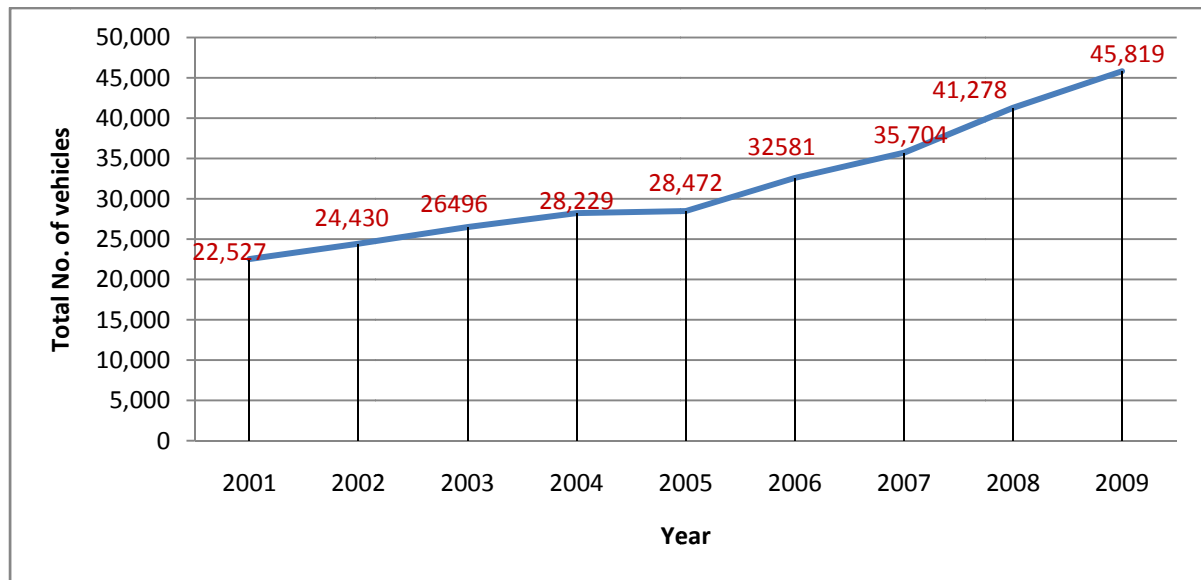
As of December 2009, there were a total of 45,819 vehicles registered in the country against 22,527 in 2001. This was an increase of 23,315 vehicle numbers over a period of 9 years.

Table 2.2: Number of vehicles by type, 2001-09<sup>11,12</sup>

<i>Year</i>	<i>Heavy</i>	<i>Medium</i>	<i>Light</i>	<i>Two-wheeler</i>	<i>Taxi</i>	<i>PT</i>	<i>TR</i>	<i>Earth-movers</i>	<i>Others</i>	<i>Total Vehicle</i>
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	35704
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

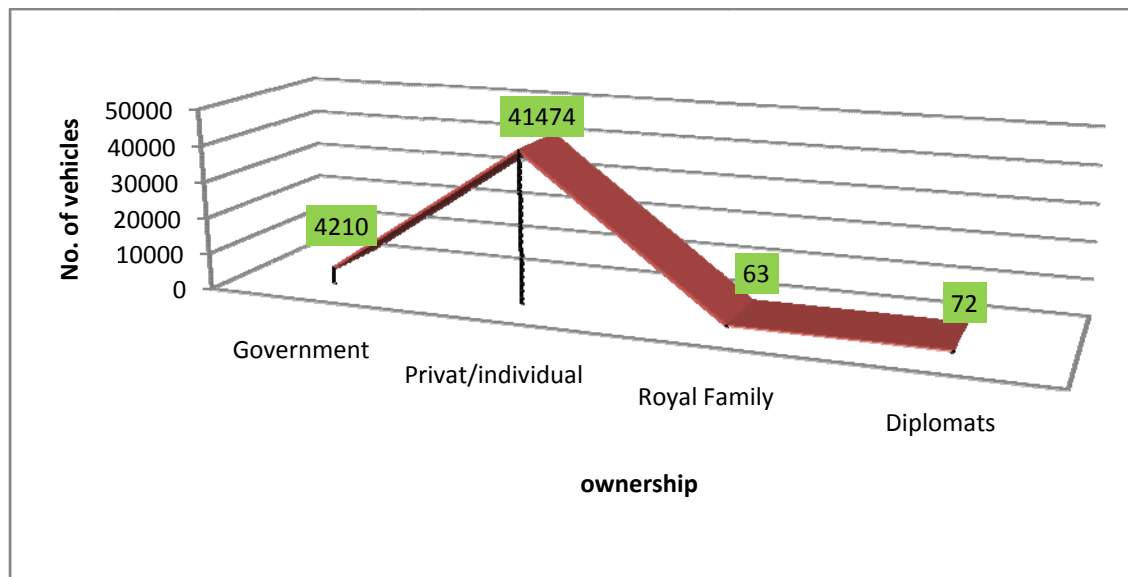
<sup>11</sup> Source: RSTA/MoIC

<sup>12</sup> From 2007, vehicles which earlier was classified as others was clubbed into different category of vehicles

**Chart 2.3: Trend in vehicle growth.**

### 2.3. Ownership pattern

Of the total 45,819 vehicles in the country, approximately 9% or 4,210 vehicles are registered in the name of Government agencies and the remaining 91% belong to private companies, institutions and individuals. Majority of those registered in the name of government agencies fall in “light vehicles” category.

**Chart 2.4: Vehicle ownership-by type-December 2009.**

**Table 2.3: Ownership pattern based on regional distribution – 2009**

Region		Type of vehicles <sup>13</sup>								Total
		HV	MV	LV	TW	PT	TR	EME <sup>14</sup>	Taxi	
Thimphu	Government	478	16	1268	470	8	14	107		2361
Phuntsholing		393	114	453	204	0	13	42		1219
Gelephu		28	7	100	82	0	0	9		226
SamdrupJongkhar		53	33	179	83	9	13	34		404
Thimphu	Private	1427	104	15706	3309	378	48	259	1983	23214
P/Ling		2377	468	7788	2148	50	72	450	773	14126
Gelephu		141	12	676	768	69	3	5	60	1734
SamdrupJongkhar		301	32	848	955	178	20	23	43	2400
Thimphu	BHT	0	0	63	0	0	0	0		63
P/Ling		0	0	0	0	0	0	0		0
Gelephu		0	0	0	0	0	0	0		0
SamdrupJongkhar		0	0	0	0	0	0	0		0
Thimphu	CD	0	0	64	8	0	0	0		72
P/Ling		0	0	0	0	0	0	0		0
Gelephu		0	0	0	0	0	0	0		0
SamdrupJongkhar		0	0	0	0	0	0	0		0
Grand Total		5198	786	27145	8027	692	183	929	2859	45819

<sup>13</sup> HV- Heavy Vehicles, MV - Medium Vehicles, LV - Light Vehicles, TW - Two Wheeler, TR – Tractor, PT - Power Tiller, EME - Earth Moving Equipments

<sup>14</sup> EME includes Skidder, Cranes, Bull Dozer, Road Roller, Fork Lift, Pay Loader/Wheel Loader, Back Hoe, Excavator, Bob Cat, Motor Grader

## 2.4. Vehicle by Type

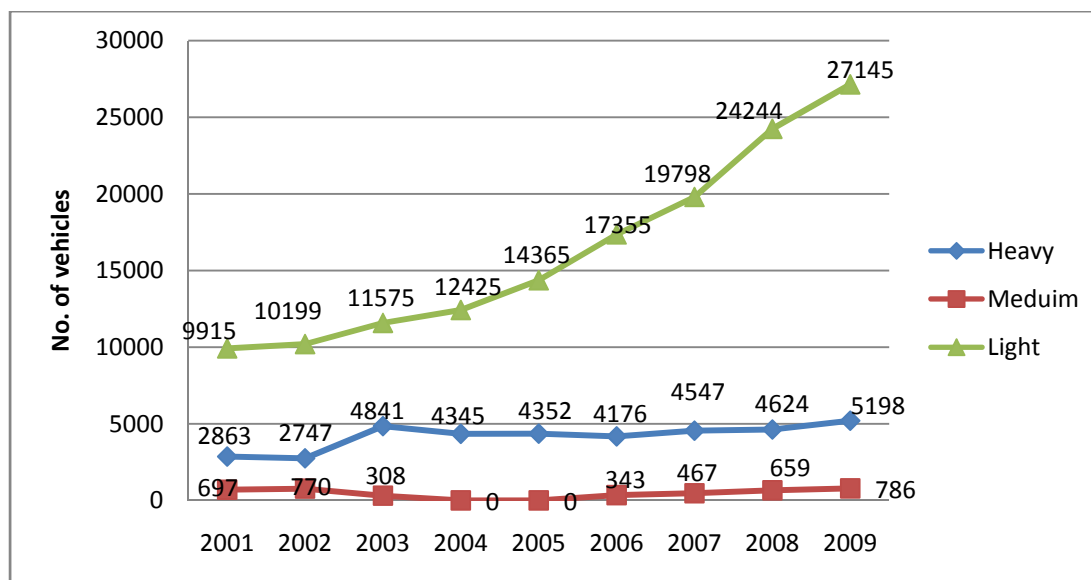
### 2.4.1. Heavy, Medium and Light vehicles

Heavy vehicle is defined as motor vehicle exceeding 10 tons gross vehicle weight or a bus seating more than 25 adults (including the driver). By December 2009, there were around 5,198 heavy vehicles in the country or an increase of 2,335 heavy vehicles from 2001.

Medium vehicles means a motor vehicle exceeding 3 tons but not exceeding 10 tons gross vehicle weight or a bus seating between 13 and 24 passengers. Number of medium vehicles has increased in recent years from 697 in 2001 to around 786 by 2009 end.

Light Vehicle means a motor vehicle (which is not a two-wheeler) seating not more than 12 adults (including the driver) and not exceeding 3 tons gross vehicle weight. At the beginning of the decade there were around 8,777 vehicles, by 2004 there were around 12638 light vehicles in the country. By 2009 end there were as much as 27145 light vehicles in the country.

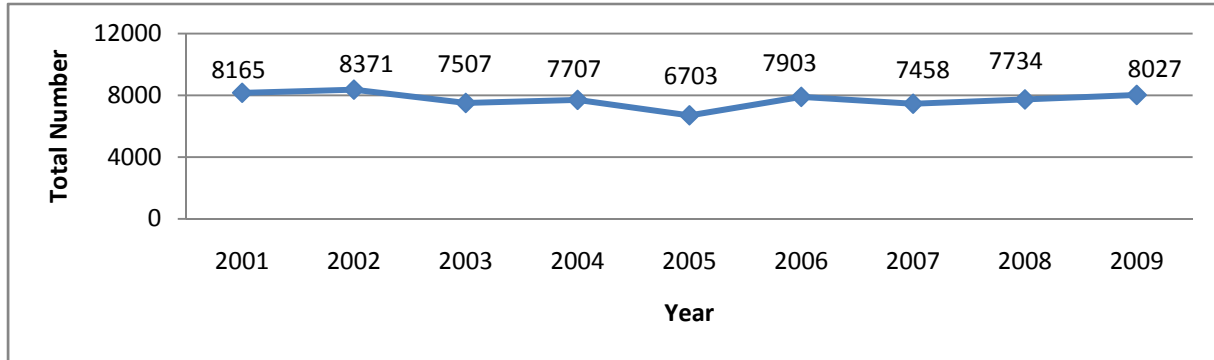
Graph2.5: showing the trend of Heavy, Medium and Light vehicles,2001-09



Two Wheeler means a two-wheeled motor vehicle which has its own motive power but not human or animal power. In 2001, there were around 8,165 two wheelers in the country. Number of two wheelers declined slightly over the year from 8,165 in 2001 to

around 8027 by December 2009. This trend is possibly due to increasing purchasing power of the people and their preference to own cars. Number of two wheelers is more Thimphu and Phuntsholing.

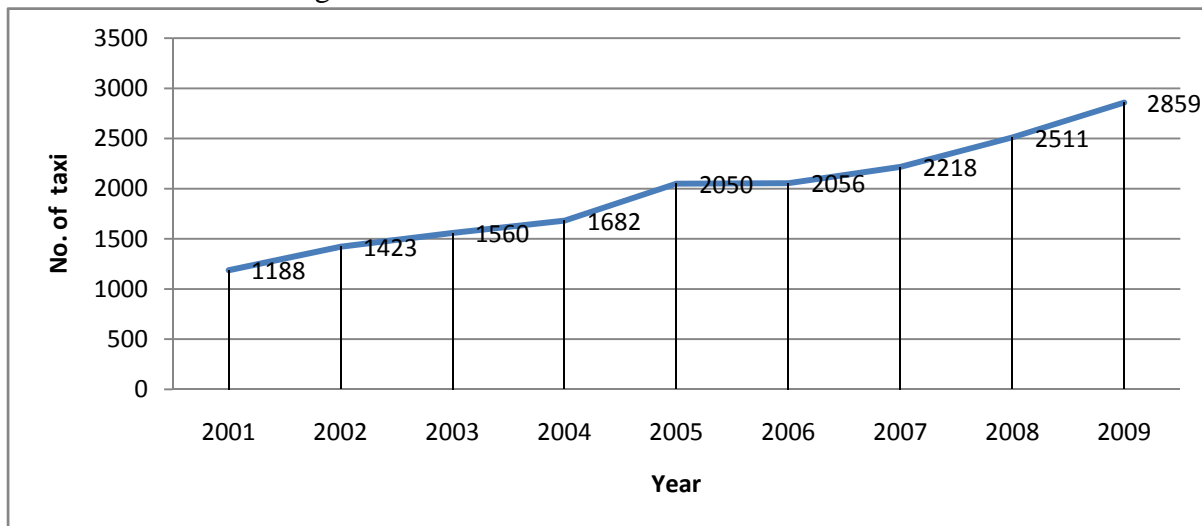
Chart 2.6 : Trend in Two wheeler, 2009



### Taxi:

Taxis are an important mode of public transport in the country, and most popular in urban areas. Numbers of taxis has consistently increased over the years. By early 2001, there were around 1188 taxis in the country. In less than, a year, 235 new taxis were added in the country, thereby increasing the numbers to 1423 taxis. The number of taxis has since been increasing to reach the current figure of 2,859 by 2009. Average annual increase has been around 14 %. Thimphu region has the maximum number of taxis of around 1983 or 69% of the country's total taxis, followed closely by Phuntsholing region with 773 or 27%, followed by Gelephu and Samdrupjongkhar region each taking 2% of the total taxis in the country.

Chart 2.8: Trend of taxi growth



### 2.5. *Vehicles imported in 2009*

In 2009, Bhutan imported vehicles from as many as 19 different companies originating from Japan, South Korea, China, Europe and India. From the records available with RSTA, maximum number of vehicles operating in Bhutanese roads is that of , Maruti-suzuki brand from India, followed by Hundai (imported directly from Korea as well as India), followed by brands such as Tata, Toyota, Chervolate, Eicher and others.

**Table 2.4: Vehicles imported by company, 2009**

<b>Company</b>	<b>Numbers</b>
Toyota	187
Maruti	1324
Mercedes	5
Ford	35
Tata	197
Nissan	1
Mitsubishi	12
Suzuki	12
Hero Honda	40
Yamaha	30
Bajaj	54
Eicher	119
Hundai	991
Kinetic Bikes	1
Isuzu	1
Saki Car	1
Great Wall	2
Chervolate	144
Honda	42

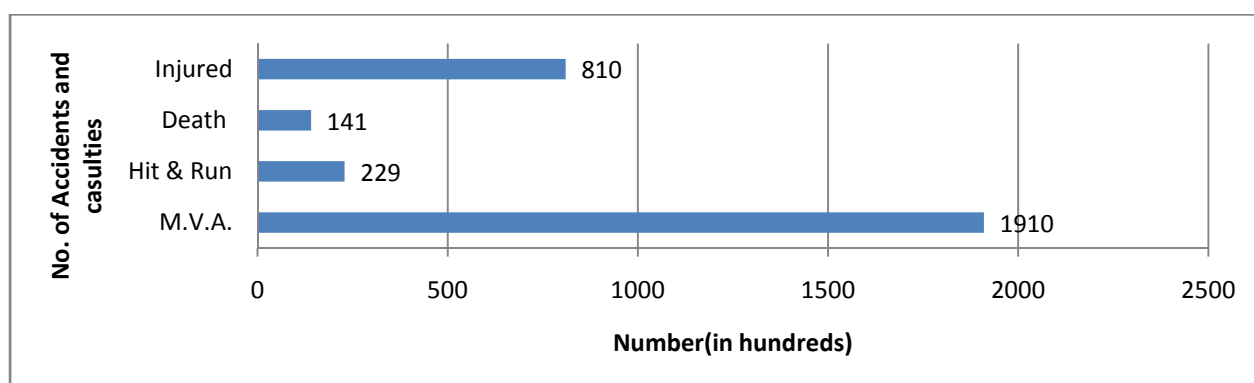
## 2.6. Motor vehicle crash data – 2009

Table 2.5: Summary of crash

Police Division/ police station (PS)	No. of Accidents		Casualty Details	
	M.V.A.	Hit & Run	Death	Injured
Traffic Division	878	156	7	334
Paro PS	70	9	6	9
Haa PS	1		1	0
Punakha PS	9		1	1
Wangdue PS	16		12	29
Gasa PS				
P/ling PS	158	21	6	58
Pasakha PS	10		1	2
Gedu PS	34		6	25
Tsimasham PS	86	1	16	23
Samtse PS	6			1
Gomtu PS				
Sipso PS	6		1	2
Chengmari PS	6		1	1
Gelephu PS	11	2	1	10
Zhemgang PS	2			
Sarpang PS	11	2		19
Pangbang PS				
Tsirang PS	9	2	1	2
Dagana PS	7		1	4
Trongsa ps	7			
Bumthang PS	37	2	6	3
S/jongkhar	19		1	24
Pema Gatsel PS	11			
Diafarm PS				

Nganglam PS	2		2	3
Jomotshangkha PS				
Trashigang PS	10	1	2	17
T/yangtse PS	6		1	2
Monger PS	19		2	3
Lhuntse PS	2		2	5
Geylposhing PS	1	1	1	
Total	1434	197	78	577

**Chart 2.9: Number of motor vehicle crashes and casualties**



### 2.7. Causes of motor vehicles crashes - 2009<sup>15</sup>

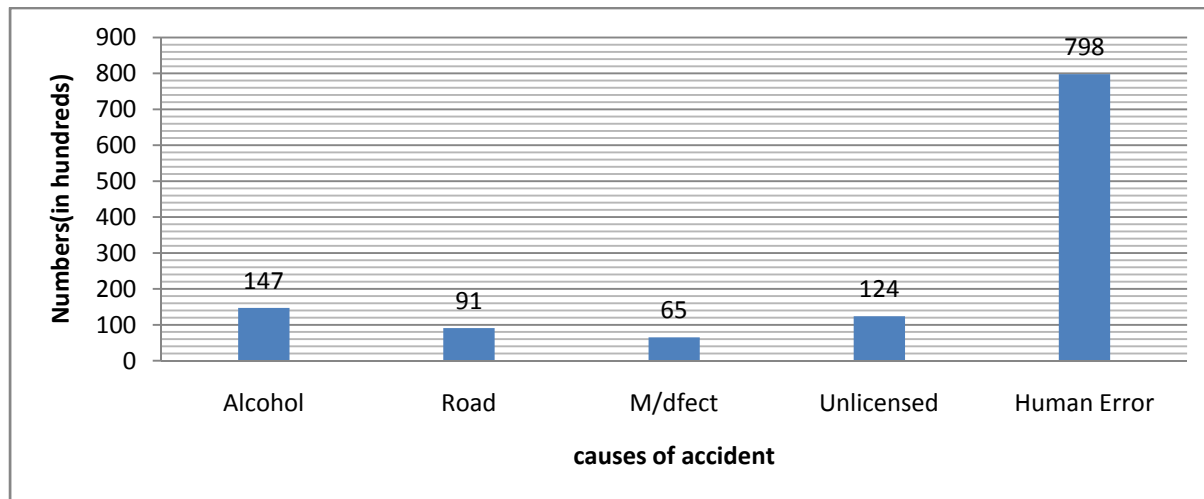
Police Division/ police station (PS)	Cause of Accidents				Human Error <sup>16</sup>
	Alcohol	Road/ weather condition	Mechanical defect	Unlicensed driving	
Traffic Division	90	4	7	89	535
Paro PS	1	4	1	3	32
Haa PS					1
Punakha PS			1	2	8
Wangdue PS	1	3		3	6
Gasa PS					

<sup>15</sup> Source: Traffic Division, Royal Bhutan Police

<sup>16</sup> EX. Speeding, reckless driving, others

P/ling PS	17	2	5	12	90
Pasakha PS					6
Gedu PS	2	13	1	5	13
Tsimasham PS	1	25	12	2	46
Samtse PS		5	1		
Gomtu PS					
Sipso PS		1	3	2	1
Chengmari PS		2	2	2	
Gelephu PS		2	1	1	1
Zhemgang PS		1	1		
Sarpang PS	1	2	3		3
Pangbang PS					
Tsirang PS	1		3		5
Dagana PS		4		1	2
Trongsa ps		6	1		
Bumthang PS	4	3	5		21
S/jongkhar		10	7		10
Pema Gatshel PS			2		5
Diafarm PS					
Nganglam PS			1		1
Jomotshangkha PS		1			
Trashigang PS	1	1	5		2
T/yangtse PS		2		2	
Monger PS			3		9
Lhuntse PS					
Geylposhing PS					1
Total	119	91	65	124	798

**Chart 2.10: Causes of motor vehicle crashes**



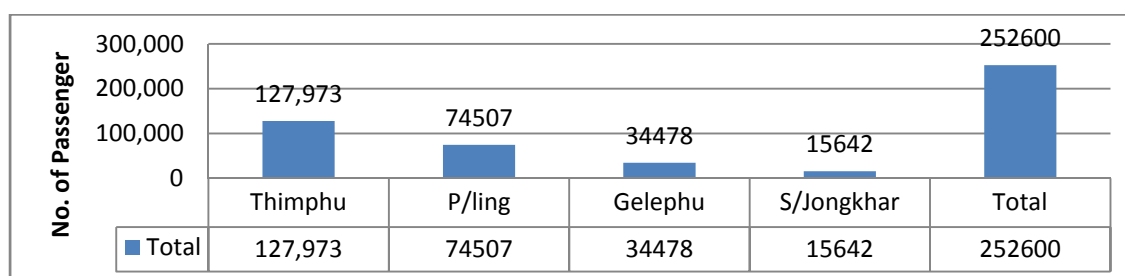
## 2.8. Other important data

Table 2.6: Driving Licenses Issued as of January, 2009

<i>Sl.No</i>	<i>Region</i>	<i>Total</i>
1	Thimphu	31,190
2	P/Ling	6,183
3	Gelephu	5,219
4	S/Jongkhar	4,158
5	All 4 Regional Office	6,788
	<i>Total</i>	53,538

Note<sup>17</sup>

Chart 2.11: Surface Transport passenger flow, 2009



<sup>17</sup> m/dleft: Mechanical Defect,

## 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 or dial up connections. 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.

