



7 Toll Collection

1. Toll Collection Situation

There are 11 toll stations on both National Freeway No. 1 and National Highway No. 3 and 1 toll station on National Freeway No. 5. Each toll station uses barrier type toll collection and a uniform rate of NTD40 for small vehicles, NTD50 for bus and trucks, and NTD65 for tractor trailers. In 2011, a total of 571,228,784 vehicles passed through the toll stations, representing an annual growth rate of roughly 2.91%. Of this, the number of small vehicles increased 3.17%, bus and trucks increased 1.48%, while tractor trailers increased 1.74%. Toll revenue for the full-year totaled NTD22,601,664,593, an increase of 2.85%.

To encourage road users to use toll coupons, we will continue to promote the use of small vehicle toll coupon lanes, which do not accept cash. Toll coupons are sold at the freeway service areas and toll stations as well as post offices and public and private owned gas stations.



2010 and 2011 Tolls Comparison Table

	Small Vehicle	Bus and Truck	Tractor Trailer	Total(Vehicle)	Toll (NT\$)
2010	464,818,752	51,797,383	38,444,179	555,060,314	21,975,718,667
2011	479,549,205	52,564,731	39,114,848	571,228,784	22,601,664,593
Growth Rate	3.17	1.48	1.74	2.91	2.85

In order to shorten the delay time of vehicles passing through the toll stations, on February 10, 2006 at 2 p.m., the times-based phase of electronic toll collection (ETC) operations began. One ETC lane was opened for small vehicles and one for large vehicles at each northbound and southbound toll stations. As the volume of ETC traffic increased at each toll station and reached the requirement for opening additional ETC lanes, the Taishan Toll Station opened its second and third lanes for small vehicles on April 15, 2008 at 12 a.m. and on May 6, 2010 at 12 a.m., respectively. The Shulin Toll Station opened its second ETC lane for small vehicles on January 6, 2009 at 0:00, and the Toucheng Toll Station opened its second lane for small vehicles on July 30, 2008.

2011 FY Traffic Table by Vehicle Type

	Electronic Toll Collection	Manual Toll Collection (traffic)			Total (Vehicle)
	ETC Traffic	Toll Coupon	Cash	Other	
Small Vehicle	171,797,854	234,670,105	65,276,502	7,804,744	479,549,205
Percentage	35.82	48.94	13.61	1.63	100
Bus and Truck	39,693,440	9,547,159	2,349,642	974,490	52,564,731
Percentage	75.40	18.05	4.70	1.85	100
Tractor Trailer	35,255,281	3,094,786	352,226	412,555	39,114,848
Percentage	89.62	7.50	0.88	2.00	100
Total	246,746,575	247,312,050	67,978,370	9,191,789	571,228,784
Percentage	43.05	43.15	11.8	2.00	100

Note: Other Manually collected tolls include suspended toll collection, governmental and military vehicles movements.

Toll collection temporarily suspended in order to alleviate traffic congestion caused by consecutive holidays, major folk festivals, and typhoons. Shortfall of toll revenue for 2011 full year due to temporary suspension of toll collection totaled NTD364,837,400.

**2011 FY Toll Revenue Shortfall from Toll Collection Suspension Table**

	Traffic Volume (Vehicles)	Toll Fee (NT Dollar)
Spring Festival	2,581,308	105,459,050
Peace Memorial Day	694,725	29,528,090
Tsunami Warning(Qidu Station, Toucheng Station)	22,914	928,810
Tomb Sweeping Festival	1,727,780	72,363,510
Dragon Boat Festival	714,980	30,104,320
Typhoon Nanmadol	178,662	7,682,045
Moon Festival	811,790	33,949,210
Heavy rains on Yilan County Government caused by northeast monsoon and outer-region circulation from Typhoon Nalgae	17,531	707,940
Double Tenth National Day	698,740	29,382,620
Yuemei Toll Station temporarily suspended the toll collection due to severely damaged Houfeng Bridge	1,216,397	54,731,805
Total	8,664,827	364,837,400

2.Implementation of free passage measures for passenger buses on the national freeways

To support the implementation of the "Promoting Public Transportation Development Program," since February 1, 1997, the Bureau has announced and implemented free passage measures for passenger buses traveling on the national freeways. As of 2011 yearend, 40 bus companies and 200 routes have been approved. About 11,670 thousand vehicles passed through the toll stations during 2011, resulting in a shortfall of toll revenue estimated at NTD580 million.

3.Private sector participation in highway electronic toll collection system construction and operation program

The Bureau has carried out the "Private Sector Participation in Highway Electronic Toll Collection System Construction and Operation" program. As of 2011 yearend, the number of ETC system users has reached over 1.22 million. Far Eastern Electronic Toll Collection Co., Ltd. (FETC) has cooperated with more than ten thousand channels nationwide, providing high quality service for road users to install the eTag device, add value, and make payments on balance due. Since the end of August 2008, the Company's corporate website



began to provide consumers with online bill payment service. Users can take advantage of this online self-service function to complete their payments. From November 2008, FETC has added "Online Balance Due Inquiry" and "Online Credit Card Payment" services onto their home page, so that consumers can inquire and make payments with just one click of a button. It is expected that there will be a lot more users using the online payment function in the future, allowing them to complete convenient ETC services at home.

FETC's ETC utilization rate has not achieved its contractual requirement. Therefore, on June 29, 2011, the Company has provided an total solution plan to provide free eTag installation for all road users. Existing users not only can install an eTag for free, the amount paid for the OBU can be refunded at the original purchase price and converted into stored value for the tolls. The estimated cost that FETC will need to invest for these two proposals is over NTD1 billion. After assessment, the total solutions plan proposed by FETC are feasible and beneficial to the public, and should be able to help raise the utilization rate. Moreover, the proposals have clear implementation steps and time table, and can link up with the distance-based toll collection system. Hence, the Bureau approves the proposed solutions. Going forward, the government will also come out with related supporting measures to increase ETC installation and utilization by promoting it through multiple channels. Hopefully, full conversion to distance-based ETC on all our freeways will be successful in 2013.

In response to the free eTag implementation, millions of cars are expected to complete the eTag installation. To test FETC's installation capacity, installation operations, as well as collect feedback and comments from road users on eTag, a special pilot test was conducted beginning September 8, 2011, in which eTag was installed for free on small vehicles registered in Keelung. After analyzing the results from the pilot test, along with questionnaires and opinion surveys, the public's comments and recommendations on eTag were effectively gathered. FETC is now responsible for incorporating these comments and recommendations into the next supply and installation plans. In addition, the ETC utilization rate for vehicles registered in Keelung has rapidly jumped from 38.26% in August 2011 to 68.95% in November 2011.



Windshield Type



Headlamp Type

To reflect the needs of the public and to ease the traffic on the northbound Longtan Toll Station's small vehicle ETC lane on Sundays, starting December 18, 2011, the Bureau has set to open the northbound inner second lane as an ETC lane from 12 p.m. to 12 a.m. on Sundays (excluding consecutive holidays). Initial results from the pilot test have been successful. The average speed during peak hours on the small vehicle ETC lane before the pilot test was 45.5km/h, but has increased to an average of 61.8 ~ 62.2km/h, an increase of about 36% to 37%. Further follow-up assessment on the effectiveness of the measures to alleviate the toll station area traffic will be conducted, and will act as a reference on whether to promote it elsewhere.



Figure 1: Open hours sign



Figure 2: Ticket signs and vehicle type signs



Figure 3: Traffic situation at Longtan Toll Station after opening second ETC lane at northbound Longtan Toll Station on Sundays from 12-24

In response to road users' wishes to shorten the time passing through an ETC booth, have a better driving environment, and expand the effectiveness of energy conservation and carbon reduction efforts, the Bureau has begun to carry out the small vehicle ETC toll booth widening project. This project will tear down the original ETC toll booths and widen them to a width of 3.75 meters. Except for the Toucheng Toll Station, which will not enhance the speed limit, from 12 p.m., January 29, 2011 onward, the speed limit for small vehicles on the ETC lanes at the Taishan Toll Station has been increased from 50km/h to 70km/h. All the other toll stations had begun on 12 a.m., January 1, 2011.



Figure 4: Toll booth demolition work



Figure 5: ETC lane after widening



Road users that use ETC to pass through the toll stations do not have to stop and start. This not only can save travel time, but also reduces fuel consumption, which benefits the road users themselves and at the same time helps reduce carbon emissions. The goal of the ETC policy is to carry out the full implementation of distance-based toll collection. Once this is successfully achieved, Taiwan will become first country to implement distance-based toll collection on all of its highways, making us a 100% ETC nation. Not only will Taiwan lead the other advanced countries in intelligent highway management, but also allows us to make important and solid contributions towards energy conservation and carbon reduction.

Statistics of Vehicles Passing ETC lanes of Toll Station 2011

Item/ Station	Traffic Quantity (Vehicle)				Annual Average Daily Traffic Volume
	Small Vehicle	Buses and Trucks	Tractor Trailers	Total	
Xizhi	4,428,032	840,559	800,973	6,069,564	16,629
Taishan	33,467,053	4,795,032	1,884,429	40,146,514	109,990
Yangmei	13,420,364	3,622,713	2,186,436	19,229,513	52,684
Zaoqiao	8,365,364	3,430,960	1,498,706	13,295,030	36,425
Houli	8,436,293	3,348,905	1,473,364	13,258,562	36,325
Yuanlin	7,959,361	3,333,855	3,235,329	14,528,545	39,804
Dounan	6,151,044	2,835,465	3,356,252	12,342,761	33,816
Xinying	6,084,947	2,670,933	3,208,113	11,963,993	32,778
Xinshi	6,824,684	2,446,423	3,365,107	12,636,214	34,620
Gangshan	9,709,932	2,002,156	4,258,524	15,970,612	43,755
Qidu	2,412,606	157,635	519,089	3,089,330	8,464
Shulin	18,904,393	2,294,350	1,481,584	22,680,327	62,138
Longtan	9,516,661	1,465,124	1,257,892	12,239,677	33,533
Houlong	5,871,636	1,044,848	1,952,953	8,869,437	24,300
Dajia	5,825,945	1,072,294	1,937,433	8,835,672	24,207
Mingjian	4,354,365	733,144	279,526	5,367,035	14,704
Gukeng	2,974,278	605,084	394,304	3,973,666	10,887
Baihe	2,933,206	634,614	337,339	3,905,159	10,699
Shanhua	3,256,616	666,406	599,787	4,522,809	12,391
Tianliao	3,222,142	844,457	1,104,110	5,170,709	14,166
Yuemei	-	-	-	-	-
Zhutian	1,267,920	270,272	123,961	1,662,153	4,554
Toucheng	4,428,032	840,559	800,973	6,069,564	16,629
Total	171,797,854	39,693,440	35,255,281	246,746,575	676,018

Note: Yuemei Toll Station temporarily suspended the toll collection from 00:00 September 15, 2008 because Houfeng Bridge was severely damaged.



2011 Types of Vehicles Passing Through the Toll Stations Table

Item/ Station	Traffic (Vehicle)				Annual Average Daily Traffic (AADT)
	Small Vehicle	Bus and Truck	Tractor Trailer	Total	
Xizhi	12,622,624	1,032,488	934,225	14,589,337	39,971
Taishan	76,087,737	6,122,541	2,147,164	84,357,442	231,116
Yangmei	35,301,516	4,654,691	2,427,794	42,384,001	116,121
Zaoqiao	23,931,090	4,307,706	1,677,234	29,916,030	81,962
Houli	25,174,390	4,271,427	1,661,867	31,107,684	85,227
Yuanlin	24,556,535	4,443,186	3,539,388	32,539,109	89,148
Dounan	17,308,903	3,618,463	3,684,828	24,612,194	67,431
Xinying	16,865,202	3,434,516	3,476,810	23,776,528	65,141
Xinshi	19,995,979	3,264,865	3,771,052	27,031,896	74,060
Gangshan	30,007,468	2,864,343	4,695,985	37,567,796	102,925
Qidu	6,591,166	230,242	589,660	7,411,068	20,304
Shulin	51,908,300	3,270,318	1,690,638	56,869,256	155,806
Longtan	26,334,574	1,996,050	1,386,607	29,717,231	81,417
Houlong	16,216,193	1,421,346	2,096,990	19,734,529	54,067
Dajia	16,874,506	1,541,061	2,098,904	20,514,471	56,204
Mingjian	15,698,888	1,005,743	330,951	17,035,582	46,673
Gukeng	9,755,531	801,056	422,733	10,979,320	30,080
Baihe	9,478,634	849,156	369,712	10,697,502	29,308
Shanhua	10,411,072	909,389	636,819	11,957,280	32,760
Tianliao	11,017,804	1,194,859	1,191,581	13,404,244	36,724
Yuemei	816,118	270,446	136,086	1,222,650	3,350
Zhutian	5,104,395	401,839	147,068	5,653,302	15,488
Toucheng	17,490,580	659,000	752	18,150,332	49,727
Total	479,549,205	52,564,731	39,114,848	571,228,784	1,565,010

Note: Traffic includes manual collection and ETC lanes.



8 Travel Service

1. Management concept for Freeway Service Areas

Freeway Service Areas have been open mainly to allow those traveling on freeways rest after long hours when required. The service areas are available with refueling and vehicle service facilities assuring safe travel on freeways.

As closed pay-road systems, all freeway service areas offering direct services to travelers are to provide quality and diverse facilities free of charge to travelers. All the commodities provided for sale in the areas must be of like quality and price as that of neighboring cities at no difference. As TANFB has come highlighting its service-oriented strategy, freeway travelers are increasingly demanding new services as time goes by, fellow feeling needs to be upgraded to when it comes to updating the management strategy for service areas at this time, otherwise, no service provided would meet the demand of the customers. Accordingly, a sound management concept for freeway service areas in the future needs to rest on offering satisfactory public services by actively lowering the royalty upon recruiting new operators which would then provide more quality products at affordable prices and, at the



same time, highlighting local characteristics as well as ecological as well as environmental concerns. Eventually, a freeway service area is not only a place to allow travelers to rest, but also a tourist destination as a really exclusive service area.

In the future, recruiting new service area operators will focus on management concepts and highlights proposed by the contenders. Doing so would assure that quality and all-purpose are available in service areas, where more business opportunities could be created as the government, the private sector and freeway travelers are all beneficiaries.

2. Performance of the new system implemented in 6 service areas in 2011

- (1). When new recruitment contracts undergone full reviews in this office in 2011 for the service areas in Zhongli, Hukou, Guanxi, Shiding, Taian and Rende, lowering the royalty percentage was a major issue as prices of fast food items, menus offered by diners were stipulated to keep at equal rates that of like items available in neighboring university shopping areas; further, lunch boxes and noodle items at affordable prices must also be made available. Bidding operators are requested to bring in both Chinese and Western fast food items offered by renowned establishments through franchise as additional options. On the website of this office, the public may check specifications and sales prices of key items. By lowering the royalties by 25%~30%, the prices have come down and consumers in the aforementioned service area showed approval as sales revenues in the 6 service areas grew remarkably compared with the same period last year and satisfaction rate of the public improved significantly. The new measures have successfully driven the sales price down.



The Taian Service Area at night



Remembering the Hukou Service Area



The public enjoying dining and beverage in service areas



The Hukou Service Area demonstrating the past

(2). Soon, 8 more service areas will undergo recruitment for new operators when current contracts expire and the royalty rates will equally be lowered and customer-orientation will govern. The effort is to help the operators streamline their business costs while lowering the sale price. By following business performance, new contracts will be evaluated as improvement of service quality of the operators will be monitored on an ongoing basis for the purpose of satisfactory service to the public.



3. Basic information on service areas

(1). Characters of Main Theme

Freeway	Service Area	Managing Merchant	Duration	Characters of Main Theme
National Freeway No. 1	Zhongli	Hsin Tung Yang Co., Ltd.	94.5.16~100.5.15	Theme-park landscaping with water-dancing fountains in a modern Shangri-La-style hotel for businessmen
		Hi-Scene World Enterprise Co., Ltd.	100.5.16~106.5.31	Based on the theme of Impressive Taiwan for Travelers, theme service areas are built on the concept of a living museum. Next to the Taoyuan International Airport, the Zhongli Service Area is actually the main entrance to Taiwan for international visitors, reason why it is built on the theme of Window to the World, Where Dreams Take Off—Amazing Taiwan GO GO GO.
	Hukou	Hao Yun Enterprise Co., Ltd.	94.5.16~100.5.15	An active and warm family route
		Hi-Scene World Enterprise Co., Ltd.	100.5.16~106.5.31	Based on the theme of Showing its old streets, the island paradise—A date back in 1974, thanks to well-planned design skills and decoration art, Taiwan reappears in a nostalgic yet musing ambient, part of its culture.
	Taian	Nan Ren Lake Leisure Amusement Co., Ltd.	94.3.1~100.2.28	Northbound No Frontier Theme Restaurant, Red Ants and other theme original works on display in steel sculpture in the plaza in front of Southbound hall.
			100.3.1~106.2.28	The area is arranged to highlight the theme of the Wonderful Wizard of Oz Painting of Music The theme park in the North Station is a fairytale-like outdoor space featuring amusement facilities for children and a park that serves as habitat for bugs, butterflies and squirrels. The South Station: The European-style fountain park features streets and wooden artworks for the theme and the plantation is arranged to reinforce aestheticism. The chairs and evening lighting have been improved.
	Xiluo	Hsin Tung Yang Co., Ltd.	96.3.1~102.2.28	The whole site is made as a 3D forest-like totem. The pagoda and the corridor in front of the veranda are transformed into a Puppet Opera Stage for visitors coming with family.
	Xinying	Oceanic Beverages Co., Inc.	96.3.1~102.2.28	Available in the form of a Japanese Lodge, the entire landscape features greens, light, wind, sound and water among other elements provided by Mother Nature.
	Rende	President Chain Store Corp.	94.5.26~100.5.25	The theme highlights POWER.
			100.5.26~106.5.31	Based on the structure of Ongoing and Endless Cycle, local natural and cultural landscapes are introduced to revive traditional elements and Charming Nan Ying in a brand new design, where Nan Ying New Age is presented as Old is New thanks to the different designs of the North Station and the South Station.



Freeway	Service Area	Managing Merchant	Duration	Characters of Main Theme
National Freeway No. 3	Guanxi	Nan Ren Lake Leisure Amusement Co., Ltd.	94.6.1~100.5.31	Having the Hakka architecture as key that houses Hakka products. Fountains and rest areas under trees are provided.
		Hsin Tung Yang Co., Ltd.	100.6.1~106.5.31	The Lohas Lodge and Charming Guanxi make the theme of the park based on the charming Guanxi and the attitude of the Hakka people.
	Xihu	I-Mei Foods Co., Ltd.	97.10.16~103.12.6	Both the North and South halls feature a crystal chandelier and LED lights on top of the pyramid..
	Qingshui	Hsin Tung Yang Co., Ltd.	97.9.1~103.8.31	The steam ship represents the theme of ocean.
	Nantou	Hsin Tung Yang Co., Ltd.	97.4.16~103.4.15	Based on the aboriginal culture, the aboriginal totem is used to highlight the aboriginal folklore.
	Gukeng	Hi-Scene World Enterprise Co., Ltd.	96.7.2~102.7.1	The romantic Gukeng Service Area is highlighted with flora, rainbow and coffee. The outdoor parks come in European style and the outdoor café and water dancing plaza contribute to the food court where people may enjoy local cuisine in Yunlin and Chiayi area.
	Dongshan	President Chain Store Corp.	96.4.16~102.4.15	The 200-year-old banyan tree makes the renowned landmark as this is known as the largest highway service area in Southeast Asia. The Dongshan Service Area is known for its LOHAS green concept as it features outdoor fountain plaza, banyan stage and veranda as well as lakeside pagodas.
	Guanmiao	Oceanic Beverages Co., Inc.	97.11.23~103.11.22	The Phoenix Canopy Bamboo Shade Hall and the Guanmiao Noodle Workshop and the siding of the public restrooms feature a pineapple canopy as public art contributed by the local Guanmiao population.
National Freeway No. 5	Shiding	Oceanic Beverages Co., Inc.	95.6.16~100.6.15	European-style gardens and rock sculpture parks are available outdoors.
			100.6.16~106.8.31	Based on the theme of Sunshine Market, the Shiding Service Area undergoes remodeling by highlighting the concept of market. By taking advantage of solar energy, the service area is brought nearer to Mother Nature and lighting, the design itself also make travelers feel relaxed.



(2).Primary free-of-charge service facilities

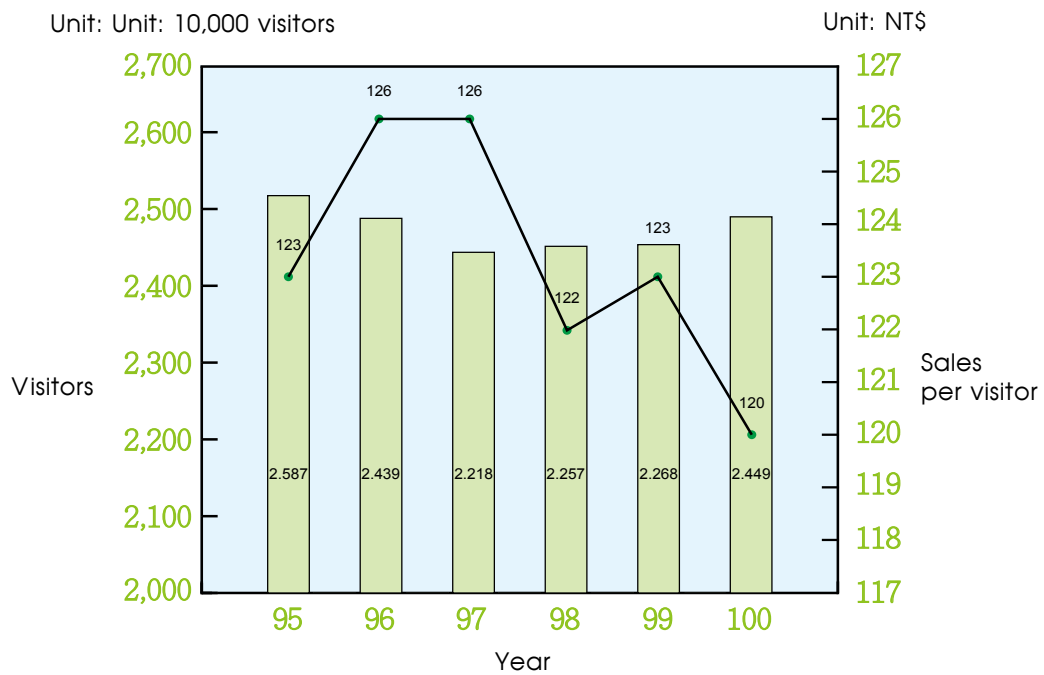
Facility	Service
Public restrooms	Clean, carefree, bright, greenery land and caring quality restrooms
Information desk	Sale of ticket coupons, wheel chairs and toddler carriages, paging, lost and found, change into coins, Fax, photocopying, traffic updates and other tourist information.
Breastfeeding room	Diapers, hot water and cradles.
ATM	Cash withdrawals, fund transfers and balance checks among others.
Wireless Internet	Free-of-charge wireless internet in the halls
Parking	Free parking for all vehicles and trailers.
Landscaping rest area	Available with bonsais.

4.Service stations

- (1).22 service stations are available in the service areas along the National Freeway No. 1 and 7 service stations are available along the National Freeway No. 3 at Guanxi, Qingshui, Nantou, Gukeng, Dongshan and Guanmiao (southbound and northbound).
- (2).The service stations are open 24 for refueling, carwash, first-aid maintenance, water and tire air-charging free-of-charge as well as sales of ticket coupons among others.

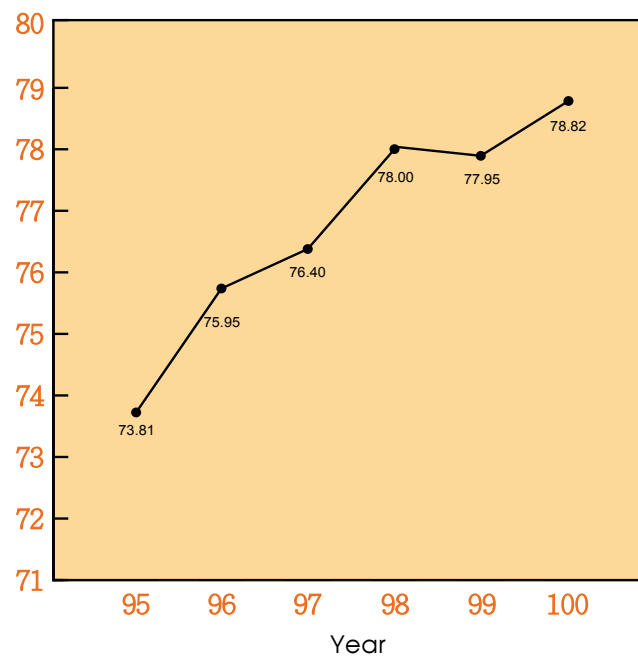
5.Service area business performance statistics





Visitors, sales per visitor in service areas 2006~2011

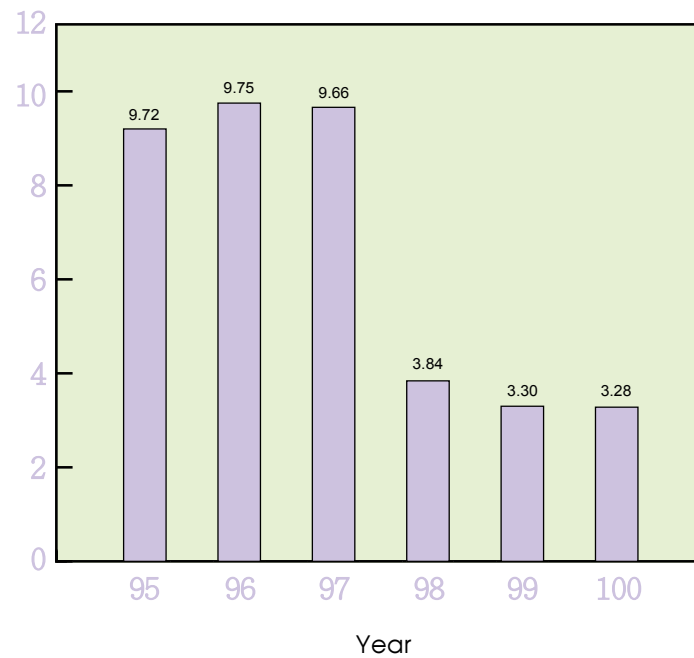
Unit: Point



Service area customer satisfaction survey 2006~2011



Unit: NT\$100,000,000



Service stations royalty 2006~2011