

# 2017年 民航行业发展统计公报

## 一、运输航空

2017年，在全球经济稳步复苏，中国经济运行稳中向好的态势下，民航主要运输指标再次实现平稳较快增长。

**1. 运输总周转量** 2017年，全行业完成运输总周转量1 083.08亿吨公里，比上年增长12.6%。国内航线完成运输总周转量694.60亿吨公里，比上年增长11.7%，其中港澳台航线完成16.10亿吨公里，比上年增长4.3%；国际航线完成运输总周转量388.48亿吨公里，比上年增长14.3%。（见图1）

全行业完成旅客周转量9 513.04亿人公里，比上年增长13.5%。国内航线完成旅客周转量7 036.53亿人公里，比上年增长13.2%，其中港澳台航线完成148.25亿人公里，比上年增长2.9%；国际航线完成旅客周转量2 476.51亿人公里，比上年增长14.6%。（见图2）

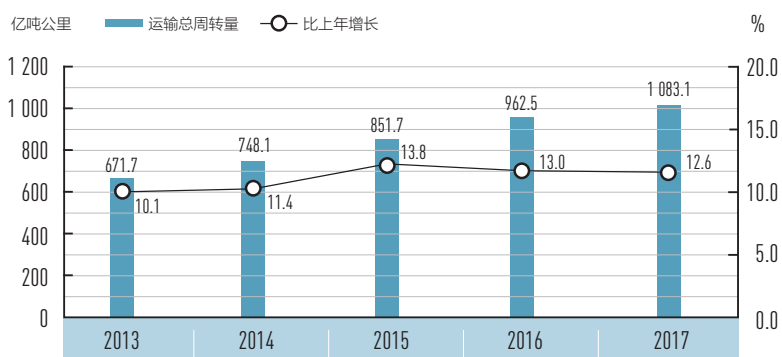


图1 2013—2017年民航运输总周转量

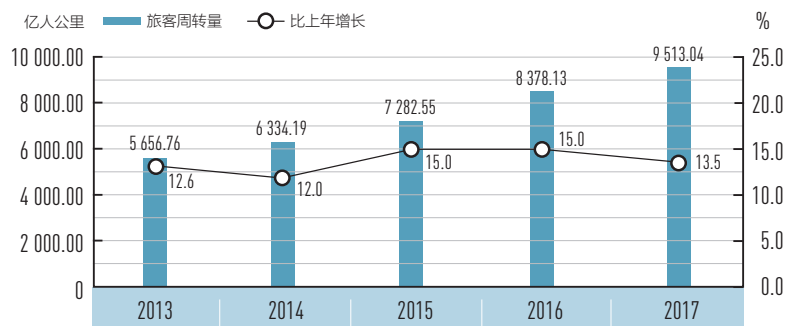


图2 2013—2017年民航旅客周转量

全行业完成货邮周转量243.55亿吨公里，比上年增长9.8%。国内航线完成货邮周转量72.97亿吨公里，比上年增长1.2%，其中港澳台航线完成3.05亿吨公里，比上年增长11.0%；国际航线完成货邮周转量170.59亿吨公里，比上年增长13.9%。（见图3）

**2. 旅客运输量** 2017年，全行业完成旅客运输量55 156万人次，比上年增长13.0%。国内航线完成旅客运输量49 611万人次，比上年增长13.7%，其中港澳台航线完成1 027万人次，比上年增长4.3%；国际航线完成旅客运输量5 545万人次，比上年增长7.4%。（见图4）

**3. 货邮运输量** 2017年，全行业完成货邮运输量705.9万吨，比上年增长5.6%。国内航线完成货邮运输量483.8万吨，比上年增长1.9%，其中港澳台航线完成24.2万吨，比上年增长10.0%；国际航线完成货邮运输量222.1万吨，比上年增长15.0%。（见图5）

**4. 机场业务量** 2017年，全国民航运输机场完成旅客吞吐量11.48亿人次，比上年增长12.9%。（见图6）

其中：2017年东部地区完成旅客吞吐量6.14亿人次，东北地区完成旅客吞吐量0.72亿人次，中部地区完成旅客吞吐量1.22亿人次，西部地区完成旅客吞吐量3.40亿人次。（见图7）

2017年全国民航运输机场完成货邮吞吐量1 617.73万吨，比上年增长7.1%。（见图8）

其中：2017年东部地区完成货邮吞吐量1 215.89万吨，东北地区完成货邮吞吐量54.74万吨，中部地区完成货邮吞

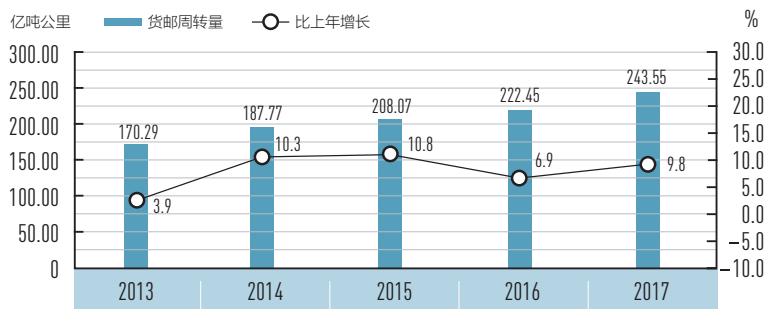


图3 2013—2017年民航货邮周转量

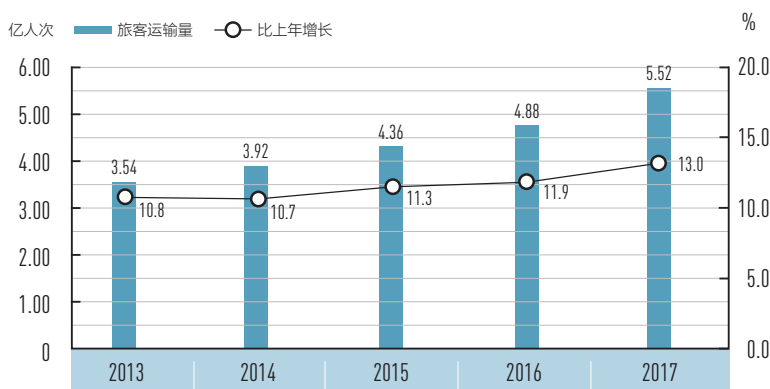


图4 2013—2017年民航旅客运输量

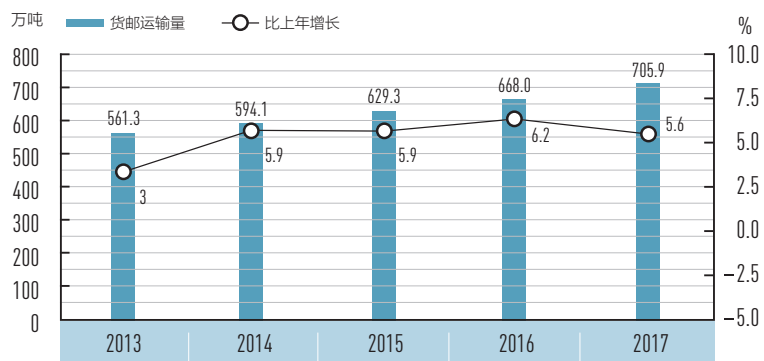


图5 2013—2017年民航货邮运输量

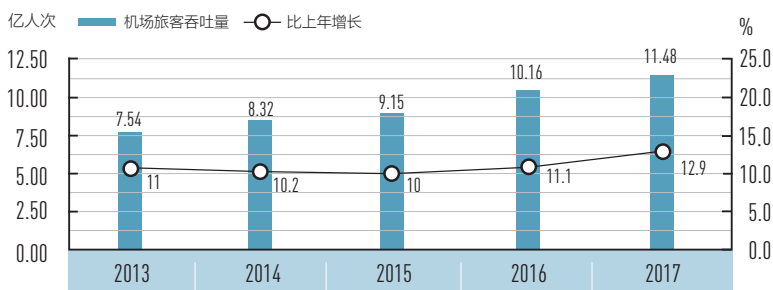


图6 2013—2017年民航运输机场旅客吞吐量

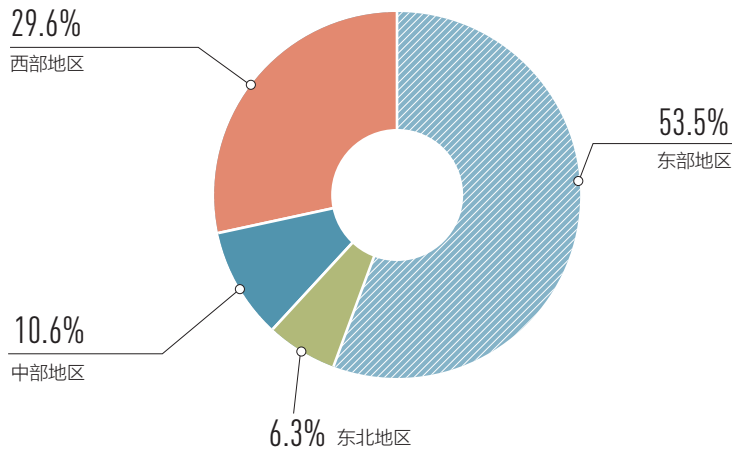


图7 2017年民航运输机场旅客吞吐量按地区分布

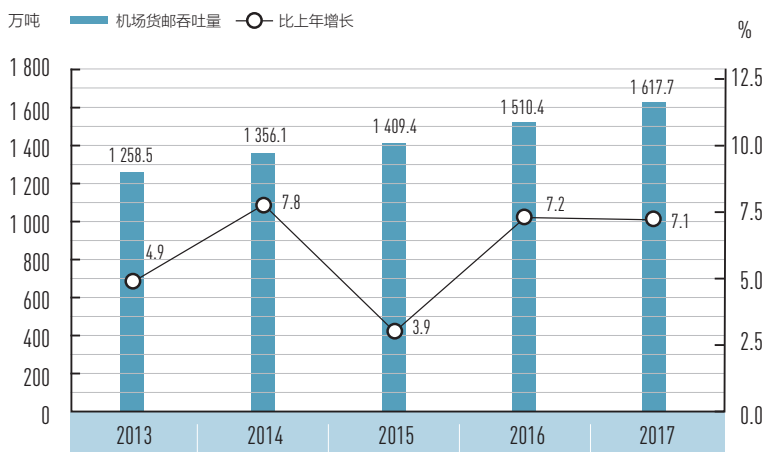


图8 2013—2017年民航运输机场货邮吞吐量

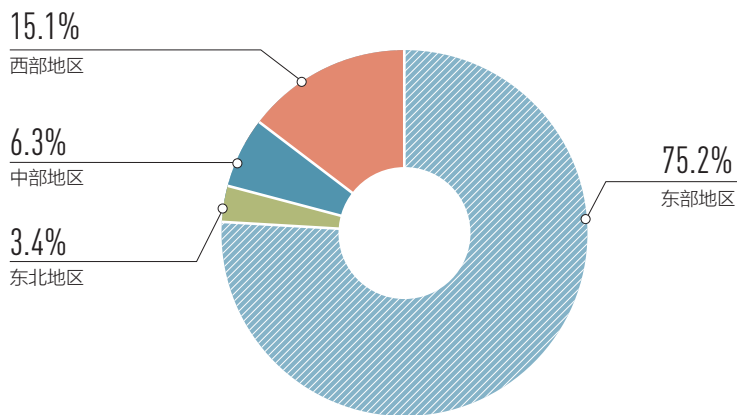


图9 2017年民航运输机场货邮吞吐量按地区分布

吐量102.61万吨，西部地区完成货邮吞吐量244.49万吨。（见图9）

2017年，全国民航运输机场完成起降架次1 024.9万架次，比上年增长10.9%。（见图10）

2017年，年旅客吞吐量100万人次以上的运输机场77个，其中北京、上海和广州三大城市机场旅客吞吐量占全部境内机场旅客吞吐量的26.2%。（见表1）

2017年，年货邮吞吐量1万吨以上的运输机场52个，其中北京、上海和广州三大城市机场货邮吞吐量占全部境内机场货邮吞吐量的49.9%。（见表2）

2017年，北京首都机场完成旅客吞吐量0.96亿人次，连续八年位居世界第二；上海浦东机场完成货邮吞吐量382.4万吨，连续十年位居世界第三。

**5. 运输机队** 截至2017年底，民航全行业运输飞机期末在册架数3 296架，比上年底增加346架。

**6. 机场数量** 截至2017年底，我国共有颁证运输机场229个，比上年底增加11个。2017年新增机场分别为云南澜沧机场、新疆莎车机场、内蒙古霍林郭勒机场、吉林松原机场、吉林白城机场、江西上饶机场、河北承德机场、湖南邵阳机场、贵州茅台机场、黑龙江五大连池机场、黑龙江建三江机场，陕西安康机场停航。（见表3）

**7. 航线网络** 截至2017年底，我国共有定期航班航线4 418条，按重复距离计算的航线里程为1 082.9万公里，按不重复距离计算的航线里程为748.3万公里。（见表4）

截至2017年底，定期航班国内通航城市224个（不含香港、澳门、台湾）。

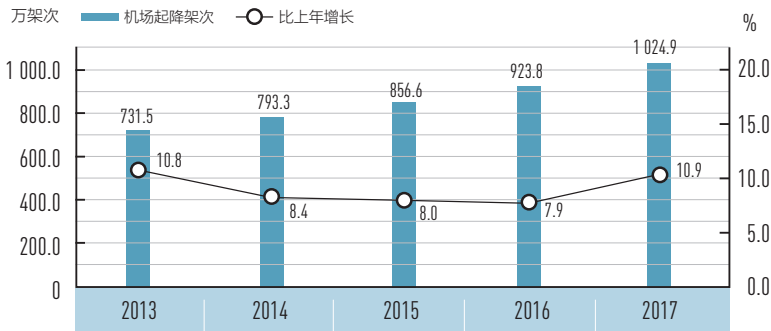


图10 2013—2017年民航运输机场飞机起降架次

表1 2017年旅客吞吐量100万人次以上的机场数量 单位: 个

年旅客吞吐量	机场数量	比上年增加	吞吐量占全国比例 (%)
1000万人次以上	32	4	81.0
100~1000万人次	52	3	14.9

表2 2017年货邮吞吐量万吨以上的机场数量 单位: 个

年货邮吞吐量	机场数量	比上年增加	吞吐量占全国比例 (%)
10000吨以上	52	2	98.5

表3 2017年各地区颁证运输机场数量 单位: 个

地区	颁证运输机场数量	占全国比例 (%)
全国	229	100.0
其中: 东北地区	27	11.8
东部地区	54	23.6
西部地区	114	49.8
中部地区	34	14.8

表4 2017年我国定期航班航线条数及里程统计表

指标	数量
航线条数	4418
国内航线	3615
其中: 港澳台航线	96
国际航线	803
按重复距离计算的航线里程/万公里	1082.9
国内航线	706.6
其中: 港澳台航线	15.3
国际航线	376.3
按不重复距离计算的航线里程/万公里	748.3
国内航线	423.7
其中: 港澳台航线	14.8
国际航线	324.6

我国航空公司国际定期航班通航60个国家的158个城市, 国内航空公司定期航班从30个内地城市通航香港, 从12个内地城市通航澳门, 大陆航空公司从46个大陆城市通航台湾地区。

**8. 对外关系** 截至2017年底, 我国与其他国家或地区签订双边航空运输协定122个, 比上年底增加2个(巴拿马、斯洛文尼亚), 其中: 亚洲有44个(含东盟), 非洲有24个, 欧洲有37个, 美洲有10个, 大洋洲有7个。

**9. 运输航空(集团)公司生产** 截至2017年底, 我国共有运输航空公司58家, 比上年底净减1家, 按不同所有制类别划分: 国有控股公司43家, 民营和民营控股公司15家; 全部运输航空公司中: 全货运航空公司8家, 中外合资航空公司10家, 上市公司7家。

中航集团完成飞行小时253.3万小时, 完成运输总周转量286.4亿吨公里, 比上年增长9.4%, 完成旅客运输量1.26亿人次, 比上年增长9.2%, 完成货邮运输量201.1万吨, 比上年增长4.9%。

东航集团完成飞行小时211.1万小时, 完成运输总周转量213.2亿吨公里, 比上年增长8.2%, 完成旅客运输量1.11亿人次, 比上年增长8.9%, 完成货邮运输量143.9万吨, 比上年增长3.1%。

南航集团完成飞行小时256.6万小时, 完成运输总周转量272.9亿吨公里, 比上年增长11.9%, 完成旅客运输量1.26亿人次, 比上年增长10.2%, 完成货邮运输量167.2万吨, 比上年增长3.7%。

海航集团完成飞行小时167.4万小时, 完成运输总周转量168.3亿吨公里, 比上年增长18.9%, 完成旅客运输量0.98

亿人次，比上年增长19.1%，完成货邮运输量78.3万吨，比上年下降0.3%。

其他航空公司共完成飞行小时171.4万小时，完成运输总周转量142.3亿吨公里，比上年增长20.9%，完成旅客运输量0.90亿人次，比上年增长22.4%，完成货邮运输量115.5万吨，比上年增长18.7%。（见图11）

## 二、通用航空

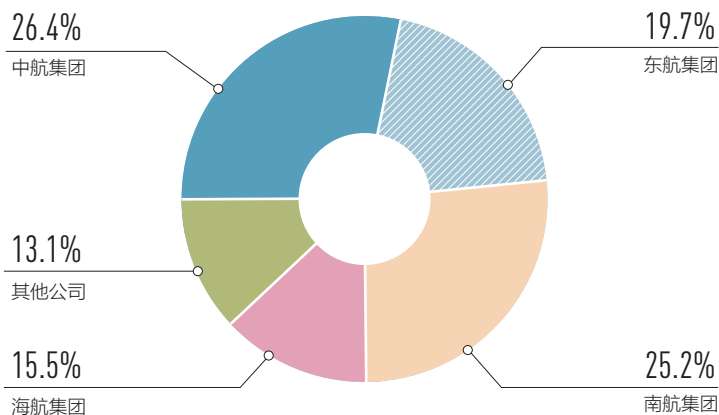


图11 2017年各航空（集团）公司运输总周转量比重

表5 2017年正班客座率和正班载运率

指标	指标值（%）	比上年增长（百分点）
正班客座率	83.2	0.6
国内航线	84.8	1.0
其中：港澳台航线	80.2	2.4
国际航线	78.9	-0.5
正班载运率	73.5	0.8
国内航线	75.9	0.4
其中：港澳台航线	67.5	1.9
国际航线	69.6	1.5

**1. 飞行小时** 2017年，全行业完成通用航空生产飞行83.75万小时，比上年增长9.5%。其中：工业航空作业完成8.93万小时，比上年增长7.8%；农林业航空作业完成5.96万小时，比上年增长16.8%；其他通用航空飞行68.86万小时，比上年增长9.2%。

**2. 通用航空企业** 截至2017年底，获得通用航空经营许可证的通用航空企业365家，其中，华北地区92家，中南地区77家，华东地区80家，东北地区32家，西南地区40家，西北地区32家，新疆地区12家。

**3. 机队规模** 2017年底，通用航空在册航空器总数达到2 297架，其中教学训练用飞机680架。

## 三、运输效率与经济效益

**1. 运输效率** 2017年，全行业在册运输飞机平均日利用率为9.49小时，比上年增加0.08小时。其中，大中型飞机平均日利用率为9.63小时，比上年增加0.06小时，小型飞机平均日利用率为7.04小时，比上年增加0.4小时。

2017年，正班客座率平均为83.2%，比上年提高0.6个百分点。

2017年，正班载运率平均为73.5%，比上年提高0.8个百分点。（见表5）

**2. 经济效益** 据初步统计，2017年，全行业累计实现营业收入7 460.6亿元，比上年增长15.3%，利润总额652.3亿元，比上年增长71.7亿元。其中，航空公司实现营业收入5 333.8亿元，比上年增长11.9%，利润总额408.2亿元，比上年增长32.6亿元；机场实现营业收入958.0亿元，比上年增



长14.6%，利润总额154.0亿元，比上年增长30.9亿元；保障企业实现营业收入1168.8亿元，比上年增长35.1%，利润总额90.1亿元，比上年增长8.1亿元。

据初步统计，2017年，全行业运输收入水平为4.57元/吨公里，比上年下降0.08元/吨公里。其中，客运收入水平5.51元/吨公里，比上年下降0.18元/吨公里；货邮运输收入水平1.48元/吨公里，比上年提高0.15元/吨公里。

据初步统计，2017年，民航全行业应交税金381.4亿元，比2016年增长5.6%。

## 四、航空安全与服务质量

**1. 航空安全** 2017年，民航安全形势平稳，全行业未发生运输航空事故，运输航空百万小时重大事故率十年滚动值为0.015（世界平均水平为0.175）。发生通用航空事故6起，死亡4人。

自2010年8月25日至2017年底，运输航空连续安全飞行88个月，累计安全飞行5682万小时。

2017年，全年共发生运输航空事故征候587起，同比上升12.45%，其中运输航空严重事故征候19起，同比上升5.56%。运输航空严重事故征候和责任原因事故征候万时率分别为0.018和0.030，各项指标较好控制在年度安全目标范围内。

2017年，全行业共有41家运输航空公司未发生责任原因事故征候。

**2. 空防安全** 2017年，全国民航安检部门共检查旅客5.66亿人次，检查旅客托运行李3.19亿件次，检查航空货物（不含

邮件、快件）4.43亿件次，检查邮件、快件1.99亿件次，处置编造虚假恐怖威胁信息非法干扰事件52起。

**3. 航班正常率** 2017年，全国客运航空公司共执行航班403.9万班次，其中正常航班289.5万班次，平均航班正常率为71.67%。

2017年，主要航空公司共执行航班298.8万班次，其中正常航班212.9万班次，平均航班正常率为71.25%。（见表6）

2017年，全国客运航班平均延误时间为24分钟，同比增加8分钟。

**4. 旅客投诉情况** 2017年，民航局、民航局消费者事务中心和中国航空运输协会共受理航空消费者投诉24781件。2017年全年受理投诉总量比上年增加5615件，同比增长29.3%。

表6 2017年航班不正常原因分类统计

指标	占全部比例（%）	比上年增长（百分点）
全部航空公司航班不正常原因	100.00	0.00
其中：天气原因	51.28	-5.24
航空公司原因	8.62	-0.92
空管原因（含流量原因）	7.72	-0.51
其他	32.38	6.67
主要航空公司航班不正常原因	100.00	0.00
其中：天气原因	51.47	-4.99
航空公司原因	9.26	-0.37
空管原因（含流量原因）	8.12	-0.17
其他	31.15	5.53

## 五、固定资产投资

2017年，民航固定资产投资总额1806.9亿元，其中：民航基本建设和技术改造投资869.4亿元，比上年增长11.1%。（见图12）

基本建设和技术改造投资按系统划分如下：机场系统完成固定资产投资总额741.4亿元，比上年增加81.0亿元。空管系统完成固定资产投资23.3亿元，与上年持平。民航信息系统建设投资1.4亿元，民航

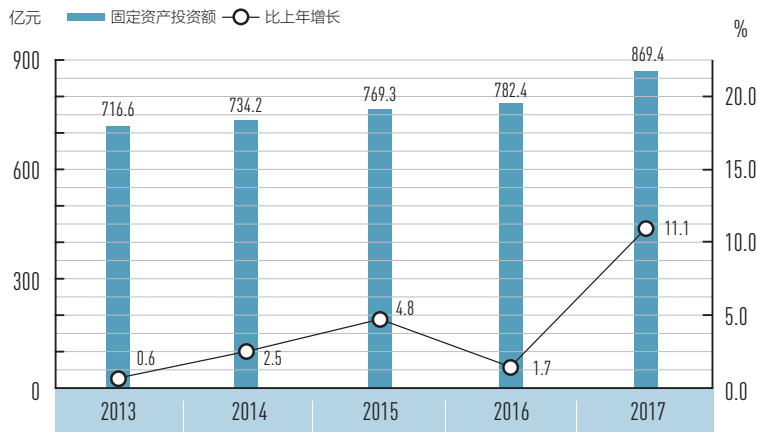


图12 2013—2017年民航基本建设和技术改造投资额

表7 2017年中国民航驾驶员执照数量统计表

执照种类		数量 (个)	比上年增加 (个)
飞机	私用驾驶员执照	2 642	182
	商用驾驶员执照	27 349	2 105
	航线运输驾驶员执照	22 195	2 502
	多成员机组驾驶员执照	147	43
直升机驾驶员执照		2 741	341
其他航空器驾驶员执照		805	97

科研、教育系统投资14.6亿元，民航安全保卫系统投资3.2亿元，民航机务维修系统投资2.0亿元，运输服务系统投资15.2亿元，公共设施系统投资10.0亿元，其他系统投资58.3亿元。

## 六、节能减排

2017年，中国民航吨公里油耗为0.293公斤，较2005年（行业节能减排目标基年）下降13.82%；机场每客能耗较“十二五”末

（2013—2015年）均值下降约22%。

2017年，共有35.5万架次航班使用临时航路，缩短飞行距离1 343万公里，节省燃油消耗7.2万吨，减少二氧化碳排放约22.8万吨。截至2017年，全国年旅客吞吐量500万人次以上机场中90%以上的单位已完成APU替代设备安装并投入使用。

截至2017年，北京首都机场、成都双流机场等六家民航机场地面车辆“油改电”试点机场场内已投产运行的电动车辆459台，充电设施213个，年减少汽柴油消耗约2 000吨。

## 七、教育与科技

2017年，民航直属院校共招收学生21 636人，其中：研究生882人，普通本专科生18 573人，成人招生2 181人。

2017年，民航直属院校在校生数达到70 291人，其中：研究生2 743人，普通本专科生62 706人，成人在校生4842人。

2017年，民航直属院校共毕业生16 846人，其中：硕士研究生822人，普通本专科13 868人，成人学生2 156人。

2017年，民航共验收科技成果20项，评选民航协会科学技术奖28项，认定14个民航重点实验室和民航工程技术研究中心。

## 八、飞行员数量

截至2017年底，中国民航驾驶员有效执照总数为55 765本，比上年度增加5 261本。（见表7）■

# Statistical Bulletin of Civil Aviation Industry Development in 2017

## I. Transport Aviation

In 2017, given the steady recovery of global economy and the steady and good momentum of China's economy, China's civil aviation industry once again maintained steady and rapid growth in the performance of key transport indicators.

**1. Transport Turnover** . In 2017, the whole industry recorded a total transport turnover of 108.33 billion ton-km, up by 12.6% from 2016. The transport turnover on domestic routes reached 69.46 billion ton-km, increasing by 11.7% over the previous year, among which the transport turnover on Hong Kong, Macao and Taiwan routes stood at 1.61 billion ton-km, increasing by 4.3% from 2016. The international routes witnessed a transport turnover of 38.848 billion ton-km increasing by 14.3% over that of 2016 (refer to Figure 1).

A passenger turnover of 951.304 billion person-km was registered, representing an increase of 13.5% from 2016. The passenger turnover on domestic routes hit 703.653 billion person-km, an increase of 13.2% from 2016, of which 14.825 billion person-km was attributable to Hong Kong, Macao and

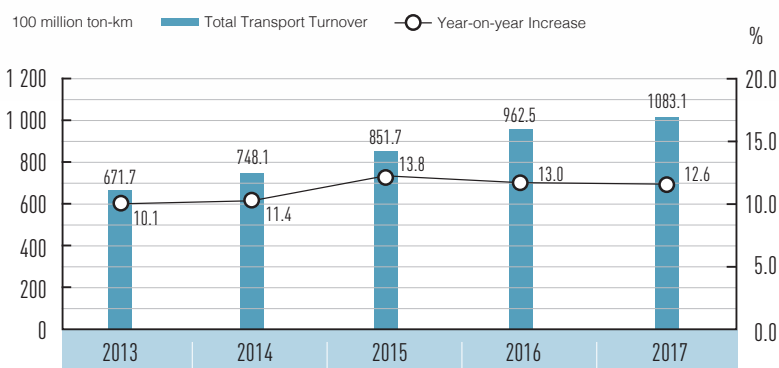


Figure 1 Total Transport Turnover of Civil Aviation 2013-2017

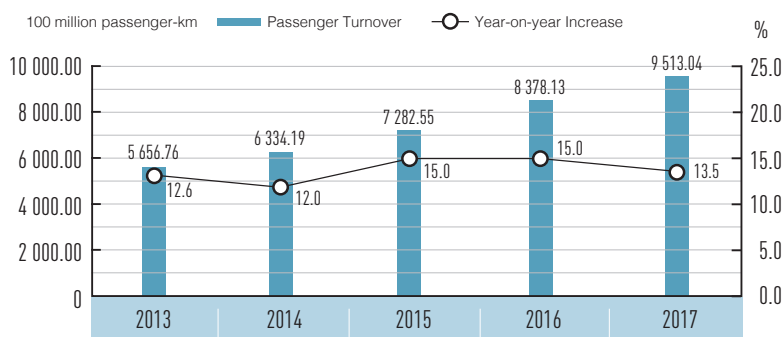


Figure 2 Passenger Turnover of Civil Aviation 2013-2017

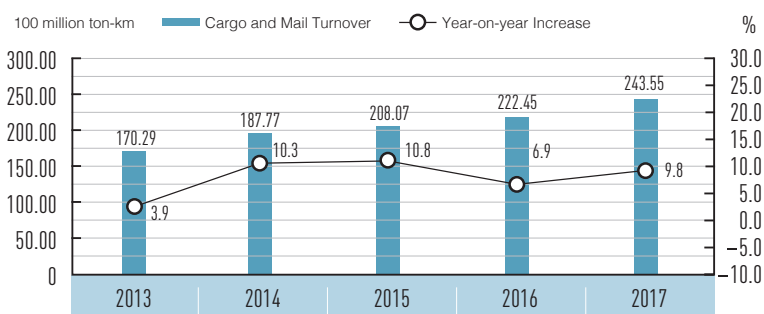


Figure 3 Cargo and Mail Turnover of Civil Aviation 2013-2017



Taiwan routes, an increase of 2.9% from 2016. The passenger turnover on international routes reached 247.651 billion passenger-km, an increase of 14.6% from 2016 (refer to Figure 2).

The whole industry completed a cargo and mail turnover of 24.355 billion ton-km, increasing by 9.8% from 2016, of which 7.297 billion ton-km was attributable to domestic routes, increasing by 1.2% from 2016, including 305 million ton-km on Hong Kong, Macao and Taiwan routes, increasing by 11.0% from 2016. The cargo and mail turnover on international routes reached 17.059 billion ton-km, increasing by 13.9% over 2016 (refer to Figure 3).

**2. Passenger Traffic.** In 2017, the whole industry transported 551.56 million passengers, up by 13.0% from a year earlier. 496.11 million passengers were transported on domestic routes, up by 13.7% from 2016, including 10.27 million on Hong Kong, Macao and Taiwan routes, down by 4.3% from 2016; the international routes saw a passenger traffic of 55.45 million, up by 7.4% from 2016 (refer to Figure 4).

**3. Cargo and Mail Turnover.** In 2017, the whole industry transported 7.059 million tons of cargo and mail, up by 5.6% from a year earlier. 4.838 million tons of cargo and mail was transported on domestic routes, up by 1.9% from 2016, including 242 thousand tons on Hong Kong, Macao and Taiwan routes, up by 10.0% from 2016; the international routes saw a mail and cargo traffic of 2.221 million tons, up by 15.0% from 2016 (refer to Figure 5).

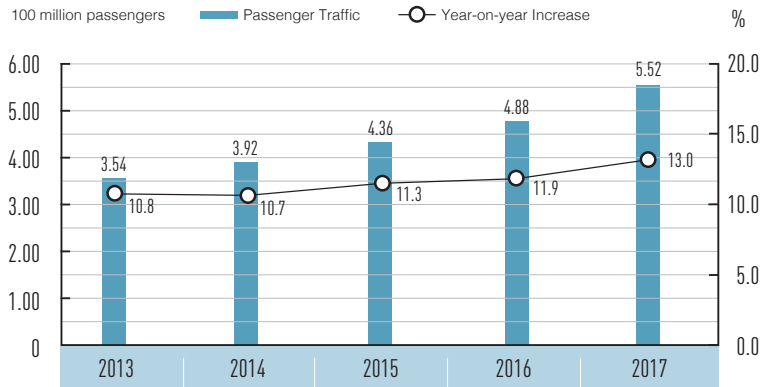


Figure 4 Passenger Traffic of Civil Aviation 2013-2017

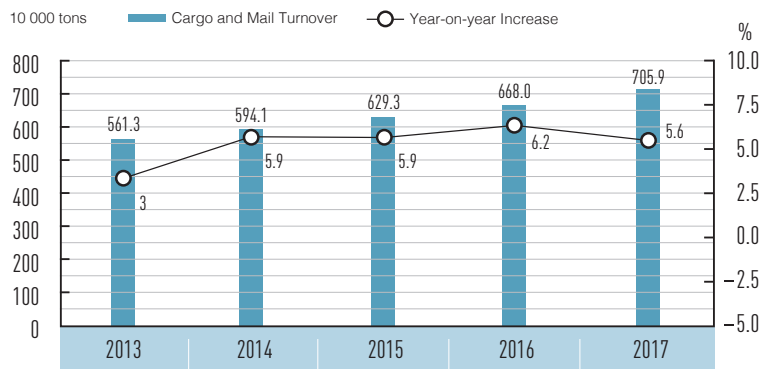


Figure 5 Cargo and Mail Transported by Civil Aviation 2013-2017

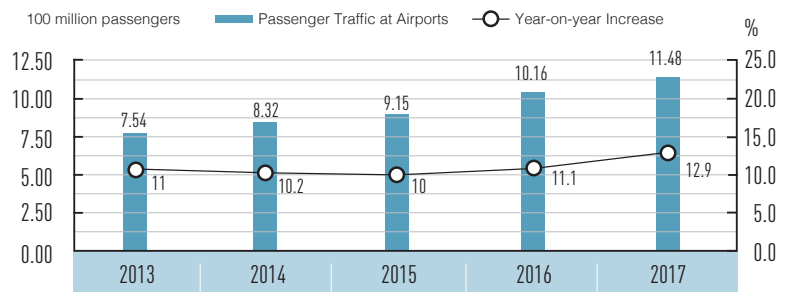


Figure 6 Passenger Traffic at Civil Transport Airports 2013-2017

**4. Traffic at Airports.** In 2017, the civil transport airports nationwide realized a passenger traffic of 1.148 billion, up by 12.9% from 2016 (refer to Figure 6).

Specifically, 614 million passengers were transported by airports in East China; 72 million by airports in Northeast China; 122 million by airports in Central China; and 340 million by airports in West China in

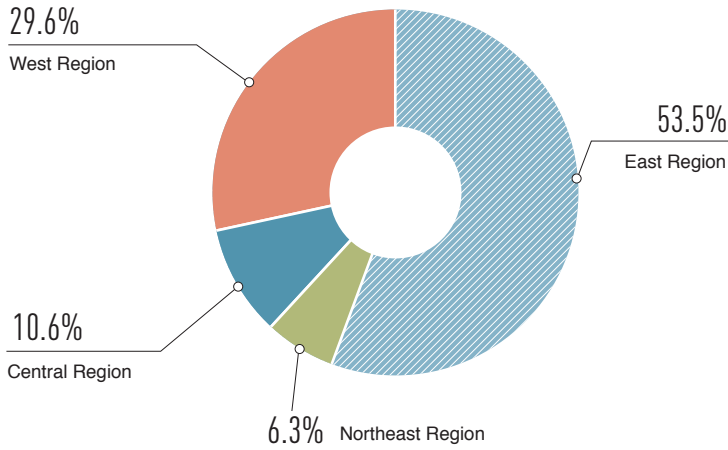


Figure 7 Distribution of Cargo and Mail Traffic at Airports by Region in 2017

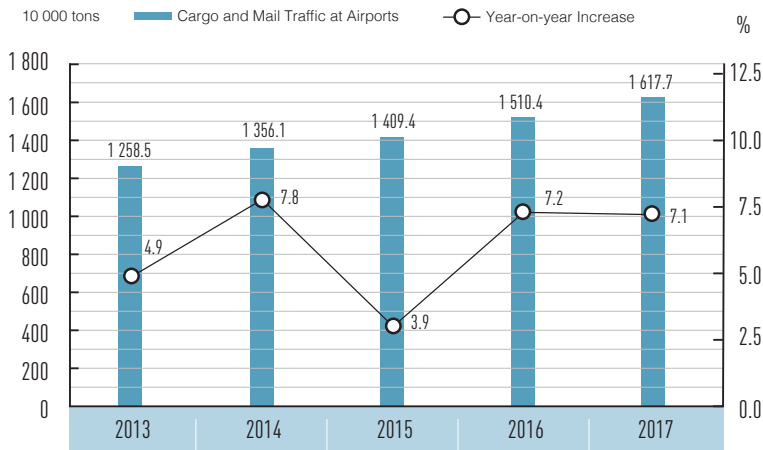


Figure 8 Cargo and Mail Traffic at Civil Transport Airports 2013-2017

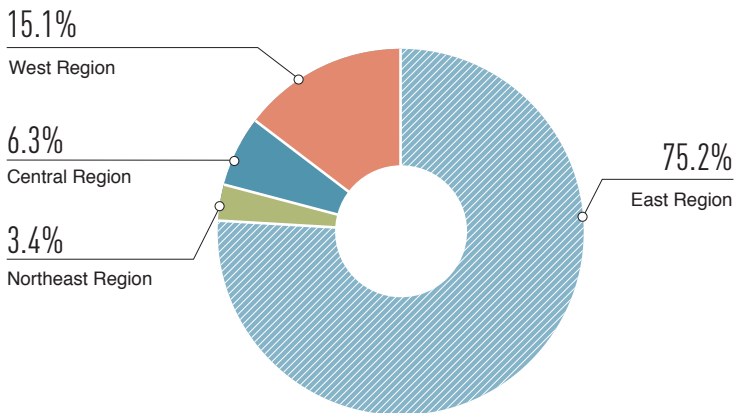


Figure 9 Distribution of Cargo and Mail Traffic at Airports by Region in 2017

2017 (refer to Figure 7).

In 2017, the civil transport airports nationwide realized a cargo and mail traffic of 16.1773 million tons, up by 7.1% from 2016 (refer to Figure 8).

Specifically, 12.1589 million tons of cargo and mail was transported by airports in East China; 547.4 thousand tons by airports in Northeast China; 1.0261 million tons by airports in Central China; and 2.4449 million tons by airports in West China in 2017 (refer to Figure 9).

In 2017, the civil transport airports nationwide realized 10.249 million flight movements, up by 10.9% from 2016 (refer to Figure 10).

In 2017, there were 84 transport airports with a passenger traffic exceeding 1 million, among which the airports of Beijing, Shanghai and Guangzhou contributed 24.3% to the total (refer to Table 1).

In 2017, there were 52 transport airports with a cargo and mail traffic of more than 10 thousand tons, among which, the cargo and mail traffic at the airports of Beijing, Shanghai and Guangzhou accounted for 49.9% of the total (refer to Table 2).

In 2017, Beijing Capital International Airport posted a traffic of 96 million passengers, ranking the second in the world for the 7th straight year; Shanghai Pudong Airport realized a cargo and mail traffic of 3.824 million tons, ranking the third in the world for ten years in a row.

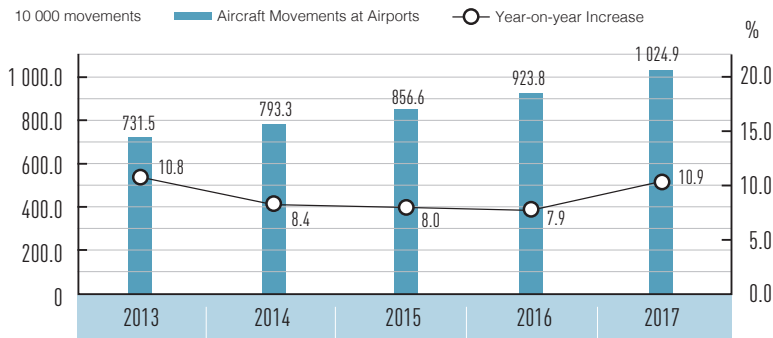


Figure 10 Aircraft Movements at Civil Transport Airports 2013-2017

Table 1 Number of Airports with Passenger Traffic Exceeding 1 Million in 2017

Annual Passenger Traffic	Number of Airports	Increase from 2015	Percentage of Total (%)
More Than 10 Million Passengers	32	4	81.0
1~10 Million Passengers	52	3	14.9

Table 2 Number of Airports with Cargo and Mail Traffic Exceeding 10 000 Tons in 2017

Annual Cargo and Mail Traffic	Number of Airports	Increase from 2015	Percentage of Total (%)
10 000 Tons or Above	52	2	98.5

Table 3 Number of Certified Transport Airports by Region in 2017

Region	Number of Certified Transport Airports	Percentage of the Total (%)
Nationwide	229	100.0
Including: Northeast Region	27	11.8
East Region	54	23.6
West Region	114	49.8
Central Region	34	14.8

Table 4 Number of Scheduled Flight Routes and Mileage in China in 2017

Indicator	Value
Number of Air Routes	4 418
Domestic Air Routes	3615
Including: Hong Kong, Macao and Taiwan Air Routes	96
International Air Routes	803
Air Route Mileage Including Overlapped Distance (10 000 km)	1 082.9
Domestic Air Routes	706.6
Including: Hong Kong, Macao and Taiwan Air Routes	15.3
International Air Routes	376.3
Air Route Mileage Excluding Overlapped Distance (10 000 km)	748.3
Domestic Air Routes	423.7
Including: Hong Kong, Macao and Taiwan Air Routes	14.8
International Air Routes	324.6

**5. Transport Aircraft Fleet.** By the end of 2017, the civil aviation industry had 3 296 registered transport aircraft, 346 more than that by the end of 2016.

**6. Number of Airports.** By the end of 2017, there were 229 certified transport airports in China, up by 11 from 2016. Newly built airports in 2017 were Lancang Airport in Yunan, Yarkant Airport in Xinjiang, Huolinguole Airport of Inner Mongolia, Songyuan Airport in Jilin, Baicheng Airport in Jilin, Shangrao Airport in Jiangxi, Chengde Airport in Henbei, Shaoyang Airport in Hunan, Maotai Airport in Guizhou, Wudalianchi Airport in Heilongjiang, and Jiansanjiang Airport in Heilongjiang, and Ankang Airport of Shaanxi ceased operation (refer to Table 3).

**7. Route Network.** By the end of 2017, there were 4 418 scheduled flight routes in China with a mileage of 10.829 million km including the overlapped distance, or 7.483 million km excluding the overlapped distance (refer to Table 4).

By the end of 2017, there were 224 Chinese cities with domestic scheduled flights (excluding Hong Kong, Macao and Taiwan); Chinese airlines operated scheduled international flights to 158 cities in 60 countries; domestic airlines operated scheduled flights to Hong Kong from 30 mainland cities and to Macao from 12 mainland cities and to Taiwan from 46 mainland cities.

**8. Foreign Relations.** By the end of 2017, China had already signed

122 bilateral air service agreements with other countries or regions, up by 2 (Panama and Slovenia) from 2016, including 44 in Asia (including ASEAN), 24 in Africa, 37 in Europe, 10 in Americas and 7 in Oceania.

**9. Operations of Transport Airlines (Groups).** By the end of 2017, there were a total of 58 transport airlines in China, a net decrease of 1 from that in 2016. By the type of ownership, there were 43 state-holding airlines and 15 private and privately-holding airlines. Among all the transport airlines, there were 8 all-cargo airlines, 10 joint venture airlines and 7 publicly listed airlines.

China National Aviation Holding Group recorded 2.533 million flight hours and a total transport turnover of 28.64 billion ton-km, up by 9.4% from a year earlier; it carried 126 million passengers, up by 9.2% from 2016 and 2.011 million tons of cargo and mail, up by 4.9% from 2016.

China Eastern Air Holding Group recorded 2.111 million flight hours and a total transport turnover of 21.32 billion ton-km, up by 8.2% from a year earlier; it carried 111 million passengers, up by 8.9% from 2016 and 1.439 million tons of cargo and mail, up by 3.1% from 2016.

China Southern Air Holding Group recorded 2.566 million flight hours and a total transport turnover of 27.29 billion ton-km, up by 11.9% from a year earlier; it carried 126 million passengers, up by 10.2% from 2016 and 1.672 million tons of cargo and mail, up by 3.7% from 2016.

Hainan Airlines Group recorded 1.674 million flight hours and a total transport

turnover of 16.83 billion ton-km, up by 18.9% from a year earlier; it carried 98 million passengers, up by 19.1% from 2016 and 783 thousand tons of cargo and mail, down by 0.3% from 2016.

All other airlines together recorded 1.714 million flight hours and a total transport turnover of 14.23 billion ton-km, up by 20.9% from a year earlier; they carried 90 million passengers, up by 22.4% from 2016 and 1.155 million tons of cargo and mail, up by 18.7% from 2016 (refer to Figure 11).

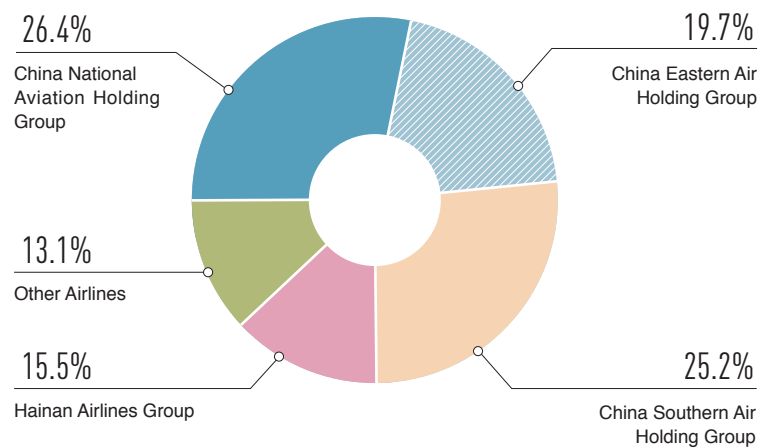


Figure 11 Proportions of Total Transport Turnover by Airlines (Groups) in 2017

## II. General Aviation

**1. Flight Hours.** In 2017, the whole general aviation industry posted 837.5 thousand flight hours, up by 9.5% from a year earlier, including 89.3 thousand hours of industrial aviation operations, up by 7.8% from 2016; 59.6 thousand hours of agricultural and forestry aviation operations, up by 16.8%; and 688.6 thousand hours of other general aviation operations, up by 9.2%.

**2. General Aviation Enterprises.** By the end of 2017, there were 365 certified general aviation enterprises, including 92 in North China, 77 in Central Southern China, 80 in East China, 32 in Northeast China, 40 in Southwest China, 32 in Northwest China and 12 in Xinjiang.

**3. Aircraft Fleet Size.** By the end of 2017, there were a total of 2 297 registered general aviation aircraft, including 680 aircraft for training.

### III. Transport Efficiency and Financial Performance

**1. Transport Efficiency.** In 2017, the average daily use rate of registered transport aircraft industrywide stood at 9.49 hours, down by 0.08 hours from 2016. Specifically, the average daily use rate of medium and large sized aircraft was 9.63 hours, up by 0.06 hours from a year earlier, whereas that of small-sized aircraft was 7.04 hours, up by 0.4 hours.

In 2017, the passenger load factor for scheduled flights averaged 83.2%, up by 0.6 percentage points from 2016.

In 2017, the weight load factor for scheduled flights averaged 73.5%, up by 0.8 percentage points from 2016 (Refer to Table 5).

**2. Financial Performance.** According to preliminary statistics, in 2017, the whole civil aviation industry made 746.06 billion yuan in business revenue, up by 15.3% from 2016, and 65.23 billion yuan in profit, up by 7.17 billion yuan from a year earlier. Specifically, airlines made 533.38 billion yuan in business revenue, up by 11.9% from a year earlier, and 40.82 billion yuan in profit, up by 3.26 billion yuan from 2016; airports made 95.80 billion yuan in business revenue, up by 14.6% from 2016, and 15.40 billion yuan in profit, up by 3.09 billion yuan from 2016; support businesses made 116.88 billion yuan in business revenue, up by 35.1%, and 9.01 billion yuan in profit, up by 810 million yuan from a year earlier.

Table 5 Passenger Load Factor and Weight Load Factor for Scheduled Flights in 2017

Indicator	Value (%)	Increase from 2016 (Percentage Point)
Passenger Load Factor of Scheduled Flights	83.2	0.6
Domestic Air Routes	84.8	1.0
Including: Hong Kong, Macao and Taiwan Air Routes	80.2	2.4
International Air Routes	78.9	-0.5
Weight Load Factor of Scheduled Flights	73.5	0.8
Domestic Air Routes	75.9	0.4
Including: Hong Kong, Macao and Taiwan Air Routes	67.5	1.9
International Air Routes	69.6	1.5

According to preliminary statistics, in 2017, across the whole industry, the revenue per ton-km was 4.57 yuan, down by 0.08 yuan from the previous year. Passenger revenue per ton-km was 5.51 yuan, down by 0.18 yuan from 2016; cargo and mail revenue per ton-km was 1.48 yuan, up by 0.15 yuan from 2016.

According to preliminary statistics, in 2017, the taxes payable by the whole civil aviation industry stood at 38.14 billion yuan, up by 5.6% from 2016.

### IV. Aviation Safety and Service Quality

**1. Aviation Safety.** In 2017, the civil aviation industry of China maintained a stable safety situation. There was no transport aviation accident, with the 10-year rolling value of the major transport accident rate per one million hours standing at 0.015 compared with the world average level of 0.175. There were 6 general aviation accidents, resulting in 4 deaths.

From August 25, 2010 to the end of 2017, transport aviation had been operating safely for 88 months, with an accumulated 56.82 million hours of safe flight.

2017 saw 587 incidents, including 19 severe transport aviation incidents representing increases of 12.45% and 5.56% respectively from 2016. The rate of severe incidents and the rate of incidents caused by human factors per 10 000 flight hours were 0.018 and



0.030 respectively. All safety indicators fell within the value ranges set for the year.

In 2017, 41 transport airlines of the industry were free of human factor incidents.

**2. Aviation Security.** In 2017, the civil aviation security inspection departments screened 566 million passengers, 319 million items of checked baggage, 443 million items of air cargo (excluding mails and express deliveries), and 199 million mails and express deliveries, and handled 52 cases of unlawful interferences involving falsified terrorist threat information.

**3. Flight Regularity Rate.** In 2017, passenger airlines in China operated 4.039 million flights in total, among which 2.895 million flights were regular, with an average flight regularity rate of 71.67%.

In 2017, major airlines operated 2.988 million flights in total, among which 2.129 million flights were punctual, with an average flight regularity rate of 71.25% (refer to Table 6).

In 2017, the average delay time of passenger flights in China was 24 minutes, up by 8 minutes on a year-on-year basis.

**4. Passenger Complaints.** In 2017, CAAC, its regional administrations, CAAC Consumer Affairs Center and China Air Transport Association accepted 24 781 aviation consumer complaints in total, up by 5 615, representing an increase of 29.3%.

Table 6 Causes of Flight Irregularity in 2017

Item	% of the Total	Growth from 2016(%)
<b>Causes of Flight Irregularity for All Airlines</b>	<b>100.00</b>	<b>0.00</b>
Including: Weather	51.28	-5.24
Airlines	8.62	-0.92
ATC	7.72	-0.51
Others	32.38	6.67
<b>Causes of Flight Irregularity for Major Airlines</b>	<b>100.00</b>	<b>0.00</b>
Including: Weather	51.47	-4.99
Airlines	9.26	-0.37
ATC	8.12	-0.17
Others	31.15	5.53

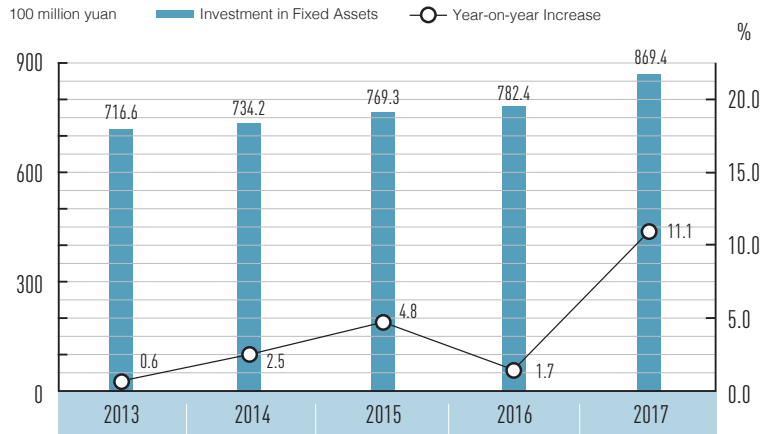


Figure 12 Investment in Civil Aviation Infrastructure Development and Technological Upgrading 2013-2017

## V. Investment in Fixed Assets

In 2017, China's civil aviation made investment in fixed assets to the tune of 180.69 billion yuan, of which 86.94 billion yuan went to civil aviation infrastructure development and technological upgrading, up by 11.1% from 2016 (refer to Figure 12).

Investment in infrastructure development and technological upgrading can be classified as follows: airport system made investment in fixed

assets worth 74.14 billion yuan, up by 8.10 billion; the ATM system made investment in fixed assets to the tune of 2.33 billion yuan, nearly flat with the previous year. 140 million yuan investment was made in civil aviation information system development, 1.46 billion yuan in civil aviation scientific studies and education system, 320 million yuan in civil aviation security system, 200 million yuan in civil aviation mechanic maintenance system, 1.52 billion yuan in transport service system, 1.0 billion yuan in public facility investment and 5.83 billion yuan in other systems.

## VI. Energy Conservation and Emissions Reduction

In 2017, the ton-km energy consumption of China's civil aviation stood at 0.293 kg, down by 13.82% from 2005 (the base year for the industry's energy conservation and emissions reduction target); the energy consumption per passenger at airports fell by 22% from the end of the 12th Five-Year Plan period.

In 2017, 355 thousand flights used temporary routes, cutting the a flight distance by 13.43 million km, saving fuel consumption of 72 thousand tons and cutting carbon dioxide emissions by 228 thousand tons. By the end of 2017, 90% of the airports with an annual traffic volume of over 5 million passengers completed the APU alternative equipment installation and put them into operation.

By the end of 2017, 459 electric vehicles and 213 recharging facilities became

operational under the pilot project of oil-to-electricity at 6 airports including Beijing Capital Airport and Chengdu Shuangliu Airport, leading to roughly 2 000 tons reduction of gasoline and diesel consumption.

## VII. Education and Science and Technology

In 2017, the enrollment by universities and colleges directly under CAAC totaled 21 636, among which, 882 were postgraduate students, 18 573 undergraduates and junior college students, and 2 181 adult students.

In 2017, the number of registered students at universities and colleges directly under CAAC stood at 70 291, among which 2 743 were postgraduate students, 62 706 undergraduates and junior college students, 4 842 adult students.

In 2017, a total of 16 846 students graduated from universities and colleges directly under CAAC, among which, there were 822 postgraduates, 13 868 undergraduates and junior college students, and 2 156 adult students.

In 2017, CAAC inspected and accepted a total of 20 scientific and technological achievements, and elected 28 for the awards for science and technology of CATA, certified 14 key labs and engineering and technology research centers in civil aviation.

## VIII. Number of Pilots

Table 7 Statistics of Civil Aviation Pilots of China in 2017

Type of License		Number	Year-on-year Increase
Aircraft	Private Pilot License	2 642	182
	Commercial Pilot License	27 349	2 105
	Airline Transport Pilot License	22 195	2 502
	Multi-crew Pilot License	147	43
Helicopter Pilot License		2 741	341
Other Aircraft Pilot License		805	97

By the end of 2017, there were 55 765 licensed pilots in the industry, up by 5 261 from 2016 (refer to Table 7). ■