

Issue Paper Number 17-005



- Board Meeting
- Business Taxes Committee
- Customer Services and Administrative Efficiency Committee
- Legislative Committee
- Property Tax Committee
- Other

Aircraft Representative Period

I. Issue

What period should the Board adopt as the representative period for the 2018 tax year for the assessment of aircraft operated by certificated air carriers?

II. Staff Recommendation: Phase-In Plan

Staff recommends that the Board adopt a multi-year phase-in plan (Phase-In Plan) to allow a transition to a 365-day representative period based on data derived from each carrier's actual activity in the prior year as follows:

- For the 2018 tax year, the Board adopts the week of January 14, 2018 through January 20, 2018. During 2018, the Board commences the rulemaking process to amend Property Tax Rule 202(e) to allow allocation data sources to be derived from either operating schedules or actual operations.
- The Board declares its intent to do the following:
 - For the 2019 tax year, the Board intends to adopt the week of October 14, 2018 through October 20, 2018 as the representative period.
 - For the 2020 tax year, the Board intends to adopt a 365-day representative period based on each carrier's actual activity in the prior calendar year, provided the California Assessors' Association (CAA) certifies the cost to acquire the data from a third-party source is not cost prohibitive and the funding is in place.

III. Other Alternatives

Alternative 1: October Week: The Board could adopt the week of October 15, 2017 through October 21, 2017.

Alternative 2: Prior Year - 365 Days: The Board could adopt the period of January 1, 2017 through December 31, 2017 (i.e., 12 months prior to the lien date).

Alternative 3: January Week: The Board could adopt the week of January 14, 2018 through January 20, 2018.

IV. Background

Annually, the law requires the Board to designate the representative period for assessors to use when assessing air carrier's aircraft. For the 2018 tax year, the Board must designate the period prior to January 15, 2018 pursuant to Rule 202(f). However, Rule 1051 allows an extension for not more than 30 days (i.e., up to February 15, 2018.)

Assessors' Handbook Section 570 (AH 570), *Assessment of Commercial Aircraft*, explains that the purpose of a *representative period* is to obtain air carrier operational data that can reasonably be expected to reflect the average activity of the carrier for the ensuing tax year. The Board is tasked with determining a period that best represents an air carrier's physical presence in California relative to any other period. The assessor is tasked with obtaining the relevant data to make the assessment.

Historically, the Board has selected a one-week period near the lien date as the representative period for Scheduled Activity. See Appendix 1 for tables detailing the historic practice. Since 2011, the CAA has requested that the Board re-evaluate this practice on the basis that January activity is below average.

Value Allocation. Property with a tax situs in multiple jurisdictions, such as certificated aircraft, requires that the property's total value be allocated. In the case of air carrier's certificated aircraft, California law sets forth the allocation formula, but the law gives the Board the power and responsibility to annually designate one formula component. That is, to select the "representative period." When value allocation is necessary, the constitutional principle is that the method is not arbitrary and that it is rationally related to the opportunities, benefits, and protections conferred or afforded to the taxpayer by California.

Below, the specific California allocation laws for aircraft are noted.

Revenue and Taxation Code (RTC) section 1151 provides that:

Certificated aircraft shall be deemed to be situated in this state only to the extent that such aircraft are normally physically present within the state, whether in flight or on the ground. To determine such extent for purposes of property taxation, the allocation formula specified by Section 1152 shall be applied.

RTC section 1152's allocation formula is composed of two weighted factors that are added together and then applied to lien date market values (See Appendix 2 Example):

- Ground and Flight Time – weighted 75%
 - This is the proportionate amount of time, both in the air and on the ground, that aircraft spend within California during the representative period as compared to total time in the representative period.
- Aircraft Arrivals and Departures – weighted 25%
 - This is the proportionate number of arrivals in and departures from California airports of aircraft as compared to the total number of arrivals in and departures from all airports (i.e., worldwide) during the representative period.

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RTC section 1153 provides that:

After consulting with the assessors of the counties in which aircraft of an air carrier normally make physical contact, the board shall designate for each assessment year the representative period to be used by the assessors in assessing the aircraft of the carrier.

Property Tax Rule (Rule) 202, *Allocation of Aircraft of Certificated Air Carriers and Scheduled Air Taxi Operators*, subdivision (f) and (e) further provides:

(f) **REPRESENTATIVE PERIOD.** Annually, on or before December 20, the board shall consult with the assessors of the counties in which air carriers' aircraft normally make physical contact. On or before January 15, the board shall designate a representative period to be used by all assessors in assessing the aircraft of each carrier for the forthcoming fiscal year.

While subdivision (e) of Rule 202 details the data source and provides:

(e) **SOURCES OF ALLOCATION DATA.** For scheduled operations, arrivals and departures and ground and flight time shall be derived from the carrier's operating schedules. For nonscheduled operations, including, but not limited to, overhaul, pilot training, charter, military contract flights, and standby services, ground and flight time and arrivals and departures shall be derived from the carrier's recorded operations.

Representative Period: 2017 Tax Year. Typically, Board staff consults with assessors and selects the representative period as an administrative function. However, for the 2017 tax year, staff brought the selection process to the Board, since staff was recommending a departure from a nearly 40-year practice of selecting a one-week period of time that occurred within a month of the lien date (See Appendix 1). The Board opted not to depart from historical practice based upon the information presented to the Board at its January 25, 2017 meeting. However, several Members asked staff to research data to provide statistical evidence as to average air carrier activity in California. To that end, in February, the Board's Research and Statistics staff performed an analysis based on Jet Fuel Sales (discussed below) and in October, updated the study to add the latest data. On November 13, 2017, the Board staff posted the study and announced an interested parties meeting to be held on November 27. Earlier, in the spring of 2017, the Chair of the Property Tax Committee met with staff, airline representatives, and assessor representatives to address the issue and staff shared the study at the meeting at that time.

BOE Jet Fuel Study. In February of 2017, the Board's Research and Statistics staff obtained and analyzed monthly California jet fuel retail gallons sold ("Jet Fuel Sales") for 31 years of data from the Energy Information Administration (EIA), U.S. Department of Energy. This data analysis ("Jet Fuel Study") found that the month of October is statistically closest to an "average" month of jet fuel sales. The staff believes that using Jet Fuel Sales as a proxy for aircraft activity is reasonable since deliveries of fuel, on average, should coincide with aircraft activity. The Jet Fuel Study assumes that (1) Jet Fuel Sales are closely related to aircraft activity in California and (2) California jet fuel prices are closely related to worldwide crude oil prices. In October 2017, the Jet Fuel Study was updated with the latest data and now includes 32 years (See Appendix 3).

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Additional data analysis undertaken supports the Jet Fuel Sales-proxy for aircraft activity in California (See Appendix 4):

- Total Operations (airport takeoffs and landings), per the Federal Aviation Administration (FAA), were compared to total jet fuel gallons sold during the years 2000 through 2017. The comparison showed a definite pattern between Total Operations and Jet Fuel Sales.
- To analyze possible international flight activity influencing jet fuel sales data, international flight activity was subtracted. Again, this comparison showed a definite pattern between Total Operations and Jet Fuel Sales.
- A regression analysis was performed with Total Operations as a function of Jet Fuel Sales, each iteration of the regression analysis show a t-statistic of greater than 2.0. The t-statistic is the coefficient estimate divided by the standard of error. A t-statistic greater than 2 (or less than -2) indicates the coefficient is significant with >95% confidence.

Finally, it does not appear that jet fuel purchases for storage for later use is of major concern. Anecdotally staff is aware of 3-, 10-, and 15-day jet fuel supplies maintained at airports, by airlines with fuel tanks, and fuel consortiums. Further, the additional data analysis undertaken to test the assumption that Jet Fuel Sales closely relate to California aircraft activity shows that any jet fuel sales pipelined for use outside of California is also not of major concern.

Assessor Consultations: 2011 to the Present. The law requires the Board to consult with assessors every year before setting the representative period. Beginning with the period for the 2012 tax year, and most years thereafter, the California Assessors' Association (CAA) has requested that the Board consider changing the representative period from a week in January.

In October of 2011, the CAA first expressed concern to Board staff that the historical practice inaccurately measures average California physical presence. One county undertook an analysis of operational data of carriers serving a major airport in their county from 2008 to 2010 and determined that past January representative weeks were below average for those years. As such, the CAA requested that the Board select the second week of December. Board staff wrote to the CAA that this request could not be fulfilled given the short-lead time, as it was a departure from past practice, but staff would initiate the interested parties process on the issue if the CAA wanted to pursue the matter for 2013.

In 2013, the CAA made the request and Board staff initiated the interested parties process to solicit input to review and possibly change the representative period to better reflect average activity. (See Letter To Assessors 2013/019)

In preparation for the 2013 Interested Parties meetings, assessor staff undertook additional data analysis to seek "average" periods of activity. Assessor staff obtained and compiled data of actual Volume of Air Traffic (VOAT) from the official websites of seven airports located at seven different counties for years 2007 through 2012. In this study, the monthly-published Domestic Flight Operations (excluding cargo carriers) was analyzed. Overall, their data analysis indicated that the best selection for all seven counties would be the month of October to capture average activity (the same conclusion as the 32-year Jet Fuel Study). However, because "average" monthly airport activity varied at each of the seven airports, the data analysis indicators caused the CAA to transition to the view that the preferred approach is to use the entire flight activity of the prior year as the best measure of the representative period for the forthcoming year.

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Consensus was not reached during the interested parties process.

- Two county assessors' offices—Los Angeles and San Bernardino—offered different recommendations:
 - Los Angeles County recommended the last week of September prior to the lien date.
 - San Bernardino County recommended the entire 12-month period prior to the lien date.
- The CAA did not take a position or submit any comments.
- Many airline industry representatives requested the representative period remain as currently designated in January.

In view of the fact that the CAA did not take a position on the issue, coupled with the fact that the CAA announced their intent to pursue legislation to statutorily designate the representative period, Board staff ended the interested parties process and, for the 2014 tax year, a week in January was again selected.

For the 2017 tax year, the CAA initially requested that the Board adopt a 12-month representative period. Board staff recommended that the Board adopt one week in January and one week in July and the CAA concurred with the staff recommendation while airlines requested the Board enact a week in January. [Here staff notes that the Jet Fuel Study indicates that the two month average from January and July (8.25%) produces nearly the same result as the month of October (8.27%).] For the 2018 tax year, the CAA has again requested that the Board adopt a 12-month representative period.

Legislative Efforts. In 2015 and 2016, unsuccessful attempts to statutorily set the representative period were pursued.

- In 2015, Senate Bill 661 (Hill), which proposed transferring certificated aircraft assessments from the assessor to the Board, included a provision setting the representative period as the second week in January.
- In 2016, Assembly Bill 2622 (Nazarian and Ting), relating to the sunset of certificated aircraft assessment methodology provisions, included various proposals to set the representative period in law. First, based on FAA flight operation records during the 12-month period of the prior calendar year for ground and flight time and arrival and departure activity. Later, amendments instead required the Board to select representative periods from a week or group of weeks in January and July. Finally, amendments deleted all representative period provisions.

V. Discussion

The designation of the aircraft representative period continues to be discussed by the CAA and the members of its Aircraft Advisory Subcommittee as well as tax representatives of the various air carriers that operate in California. Interested parties have approached both Board Members and their staff and Property Tax Department staff to promote a resolution to this ongoing issue.

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The purpose of a representative period is to obtain data that can reasonably be expected to reflect the *average* activity of the carrier for the ensuing tax year. (See Appendix 6) BOE staff was directed to find data-based statistical evidence that was cost-effective and, preferably, did not increase reporting burdens on airlines. The Jet Fuel Study supports the contention that selecting a week in January is not representative of average activity in California. The Jet Fuel Study found that in 29 out of 32 years (all but 3), January Jet Fuel Sales were below average. Staff is hard put to justify the continued use of a week in January as reflective of average activity given the documentation provided to the staff from the CAA and the staffs' own Jet Fuel Study.

The representative period is the underlying basis of measuring California's allocated share of aircraft value. When value allocation is necessary, the constitutional principle is that value allocation is not arbitrary and that it is rationally related to the opportunities, benefits, and protections afforded to the taxpayer by California in the ensuing fiscal year. (These opportunities and benefits include the facilities and the commerce, traffic, and trade that originate in or reaches California. The protections include the police, fire, search and rescue should the need arise, and the benefits and protection of California laws.) The justification for continuing the practice of selecting a week near the lien date given the data is arguably historical rather than rational.

The core justification to continue to select a week near the lien date, irrespective of whether such week approximates average activity, is the idea that the representative period should be as close as possible to the lien date to ensure that information reported by airline carriers will most accurately reflect the activity of the assets being assessed. The assertion is that moving the period further away from January creates a risk that the aircraft assessed on the lien date will not match the apportionment activity reflected in the representative period.

As to the assertion that the representative period should be near the lien date, the staff offers the following observations:

- There is no question that aircraft value must be based on lien date value.
- The need for a single date of valuation (lien date) is an administrative necessity in any property tax system.
- No law or regulation contemplates that the *allocation* of that lien date value must be based on activity occurring near the lien date (January 1, 2018). Rather, the value allocation method must rationally relate to the activity occurring in the ensuing fiscal year. (July 1, 2018 – June 2019). (See *Alameda County v. State Board of Equalization*, (1982) 131 Cal.App.3d 374; *Auerbach v. Los Angeles County Assessment Appeals Board No. 2*; *TWC Aviation, Inc.*, (2008) 167 Cal.App.4th 1415, *NetJets Aviation, Inc. v. Guillory* (2012) 207 Cal.App.4th 26.)
- A review of the value allocation and representative period statutes finds reference to "lien date" once, in a provision that excludes aircraft from assessment if not in revenue service prior to the lien date. (RTC section 1152 (a))
- The related Board regulation similarly uses the term "lien date" only with respect to excluding aircraft not yet in revenue service on the lien date. (Rule 202 (c)(1))
- The AH 570, at page 6, states that the Board can specify different representative periods for different airlines. Noting that due to varying operations, no one representative period would fairly reflect every carrier's normal activity. And to overcome this, different periods could be assigned if there are reasonable grounds for differentiation. Thus, the contention that the lien date must control conflicts with the Handbook.

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- The AH 570, at page 44, the Allocation Example shows a split representative period for the time in state factor (7 days from the lien date) and the arrivals and departures factor (a three-month period of October through December of the prior year). Here again, the lien date contention conflicts with the Handbook.
- The rationale to continue the historical 40-year practice gives airlines some measure of certainty that the representative period would not annually fluctuate based on the Board's selection and allow them to better anticipate their liabilities.

Given that the purpose of a representative period is to obtain data that can reasonably be expected to reflect the *average* activity of the carrier for the ensuing tax year, staff believes that using a week in mid-October, 2017 will improve the measure of actual presence for assessment purposes.

However, staff understands that the better measure of presence is "actual" activity for each air carrier from the prior year rather than the "average" activity of all air carriers in a specific period for a variety of reasons. But, two issues require resolution. First, Rule 202 (e) appears to require amendment. (See below) Second, the cost to purchase actual activity data must not be cost-prohibitive and, if not, funding must be secured. If the data proves cost-prohibitive, staff recommends the default position of returning to a week in mid-October.

Rule 202(e) Issue: Actual Activity and Scheduled Activity are not synonymous.

- For scheduled operations (Scheduled Activity), the law provides the data source "shall be derived from the carrier's operating schedules."
- For nonscheduled operations (Nonscheduled Activity), the law provides the data "shall be derived from the carrier's recorded operations." Thus, the representative period measure is Actual Activity from the 12-month period from January 1 through December 31 prior to the lien date.
- The Board-prescribed annual property tax statement and instructions requests and instructs airlines to attach their published flight schedule in effect for the representative period. (BOE-570-1S – Air Carrier's Operation Report Flight Detail – Jet Engines Only).

VI. Staff Recommendation: Phase-In Plan

Staff recommends that the Board adopt a multi-year phase-in plan (Phase-In Plan) to allow a transition to a 365-day representative period based on data derived from each carrier's actual activity in the prior year as follows:

- For the 2018 tax year, the Board adopts the week of January 14, 2018 through January 20, 2018. During 2018, the Board commences the rulemaking process to amend Property Tax Rule 202(e) to allow allocation data sources to be derived from either operating schedules or actual operations.
- The Board declares its intent to do the following:
 - For the 2019 tax year, the Board intends to adopt the week of October 14, 2018 through October 20, 2018 as the representative period.

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- For the 2020 tax year, the Board intends to adopt a 365-day representative period based on each carrier's actual activity in the prior calendar year, provided the CAA certifies the cost to acquire the data from a third-party source is not cost prohibitive and the funding is in place.

A. Description of Staff Recommendation

The staff recommendation reflects (1) existing law constraints, (2) practical realities of data cost funding as well as whether the purchase is cost-effective, and (3) advance notice to the industry of a historical 40-year shift in practice. The Phase-In Plan allows for the possibility that the data cost may prove impractical, and if so, the October period can remain in effect. The Phase-In Plan recognizes that procurement processes and funding approval with governmental entities take time. The Phase-In Plan accounts for the more than a year time needed to obtain OAL regulation approval.

If fully implemented, the Phase-In Plan uses:

- Alternative 3 in 2018 (January week)
- Alternative 1 in 2019 (October week)
- Alternative 2 in 2020, and each year thereafter (Prior Year - 365 days)

Each Alternative and its related pros and cons are fully described under each specific Alternative below.

B. Pros of Staff Recommendation

- Recognizes staffs view that ultimately actual data for each specific air carrier is the best measure. While a statewide average can be estimated, no single period will be average for every airline at every airport due to varying operations.
- Gradually moves to address assessors concern that January does not reflect aircraft's "normal physical presence in the state."
- Addresses the necessary steps for California to successfully transition to actual data-based assessments from the prior year as do most other states that tax aircraft. (See Appendix 5)
- Provides airlines with a gradual transition to allow them to plan accordingly for anticipated changes in tax liabilities.
- Retains for two years, a one-week period, which does not increase the airlines reporting burden. Then, in the third-year should minimize reporting by making self-reported flight activity reporting unnecessary.
- Allows the Board to fallback to October, if the data proves cost-prohibitive or the funding cannot be secured.
- Also, see detailed pros below for each step of the phase in period: (Alternative 3 for January Week, Alternative 1 for October Week, and Alternative 2 for Prior Year Activity - 365-days).

C. Cons of Staff Recommendation

- Does not immediately address the issue that January has below average flight activity.
- Also, see detailed cons below for each step of the phase in period: (Alternative 3 for January Week, Alternative 1 for October Week, and Alternative 2 for Prior Year Activity - 365-days).

D. Statutory or Regulatory Change for Staff Recommendation

Requires Rule 202(e) to be amended to allow for the possibility of data derived from actual operations.

E. Operational Impact of Recommendation

Requires staff to commence the Rule Making Process and associated workload with shepherding the rule amendment to completion.

F. Administrative Impact of Staff Recommendation

1. Cost Impact

None

2. Revenue Impact

Certificated aircraft assessed values allocated to California for the 2017-18 fiscal year (FY) total approximately \$10.9 billion. At the one percent basic tax rate, this equates to \$109 million in property tax revenue.

For FY 2018-19 under the Phase-In Plan, the revenue impact of selecting January representative period overall, would be similar to revenues from the FY 2017-18, all other factors being equal.

For FY 2019-20, the revenue impact of selecting a representative period in October is unknown and will vary from airline to airline. Overall, revenues would likely increase if California's share of total value increases.

For FY 2020-21 the revenue impact of a representative period based on actual data using 365 days is unknown. Theoretically, revenues should be about the same as October's "average" all other things equal. However, in practice, higher value aircraft not flown in to California during the representative week would now be captured and California would obtain an allocated value share of those aircraft that have normally had some presence in California during the year. Each airline's tax liability would correlate to their specific operations in the prior year.

G. Taxpayer/Customer Impact of Staff Recommendation

For 2018 and 2019, the staff recommendation would not impose a greater burden on the airline carriers. For 2019, airlines would instead provide ground and flight time and arrival and departure activity data for a one-week period in the month of October rather than a one-week period in the month of January. For 2020, airline reporting burden should lessen, if third-party data is used.

H. Critical Time Frames of Staff Recommendation

To comply with Rule 202's January 15, 2018 deadline, the Board should designate the aircraft representative period for the 2018 tax year at its December 2017 meeting. The next Board meeting is scheduled for January 25, 2018.

VII. Alternative 1: October Week

The Board could adopt the week of October 15, 2017 through October 21, 2017.

I. Description of Alternative 1

Alternative 1 reflects the staff's analysis using 32 years of data on monthly retail sales of jet fuel in California. This data analysis found that the month of October is statistically closest to an "average" month of Jet Fuel Sales, and therefore more accurately reflects "average" presence of air carriers operating in California. Ideally, staff would use weekly data for Jet Fuel Sales; however, since weekly data is unavailable, staff believes that selecting a week in the middle of the month would be equitably representative of the entire month. For this reason, the week beginning on October 15 is selected.

J. Pros of Alternative 1

- Selects a representative period from a month statistically the closest to an average month of aircraft activity based on 32 years of jet fuel retail sales in California.
- Uses data analysis to better reflect "average" annual presence in California in the future year.
- Uses existing publically available federal data source at no cost.
- Retains a one-week period, which does not increase the airlines reporting burden.
- Addresses assessors concern that January does not reflect aircraft's "normal physical presence in the state."

K. Cons of Alternative 1

- Departs from a nearly 40 year historical practice.
- Selected week within October still could be higher or lower than average.
- Does not use a period near the lien date. Airlines maintain the representative period must be near the lien date, and the period is not near the lien date.
- Fails to address airport-specific variations in average activity and carriers variation in average activity.

L. Statutory or Regulatory Change for Alternative 1

None

M. Operational Impact of Alternative 1

None

N. Administrative Impact of Alternative 1

1. Cost Impact

None

2. Revenue Impact

Revenue impact of selecting this representative period is unknown and will vary from airline to airline. Overall, revenues would likely increase if California's share of total value increases.

Certificated aircraft assessed values allocated to California for the 2017-18 fiscal year total approximately \$10.9 billion. At the one percent basic tax rate, this equates to \$109 million in property tax revenue.

O. Taxpayer/Customer Impact of Alternative 1

Alternative 1 would not impose a greater burden on the airline carriers as they would provide ground and flight time and arrival and departure activity data for a one-week period in the month of October rather than a one-week period in the month of January.

P. Critical Time Frames of Alternative 1

To comply with Rule 202's January 15, 2018 deadline, the Board should designate the aircraft representative period for the 2018 tax year at its December 2017 meeting. The next Board meeting is scheduled for January 25, 2018.

VIII. Alternative 2: Prior Year 365 Days

A. Description of Alternative 2

The Board could adopt the 12 months prior to the lien date as the aircraft representative period for the 2018 tax year for the assessment of aircraft operated by certificated air carriers.

B. Pros of Alternative 2

- Creates consistency with the 12 months prior to the lien date measure used for other commercial aircraft in California: nonscheduled air carriers, air taxis, charters, freighters.
- Mirrors the reporting period used by other taxing authorities within the United States, whether the aircraft are assessed locally at the county level or centrally by each state. Most other taxing jurisdictions use actual flight activity from the prior year. (See Appendix 5)
- Aligns with the value allocation method for fractionally owned aircraft assessments (flight activity in the prior year in California compared to flight activity worldwide). (See RTC Section 1161 (c))
- Creates consistency with state-assessed Private Railroad Cars, which are taxed according to the number of days in the prior year. (See RTC Section 11293)
- Addresses airport-specific variations in average activity and carriers variation in average activity.

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- Reduces the airlines reporting requirements if the data can be obtained from a third-party vendor. Assessors state they have identified vendors that could provide the necessary data. If a third-party vendor provides the data, the airlines would not need to provide flight activity data.

C. Cons of Alternative 2

- Appears to first require revision to Rule 202(e) which requires that data be "derived from the carrier's operating schedule." Actual Activity and Scheduled Activity are not synonymous.
- Results with potential issue of obtaining the data timely. While assessors state they have identified vendors, assessors do not have a conditional-pending contract in place for the data, should this alternative be adopted. Could counties acquire funding, prepare a Request for Information, Request for Proposal, put the contract to bid, evaluate the contracts, and enter into cost-sharing agreements with each other in time for 2018 use?
- Creates a cost to the assessors to obtain the data. The data cost is unknown. It could be cost-prohibitive. Is it prudent to impose a requirement, with an unknown cost to counties?
- Issues with funding source for data purchase. There appears to be an unstated assumption held by some that, if the Board selects a 12-month period, then the Board must purchase the data. The law makes no such requirement. Currently airlines provide data to the assessor, not the Board. Should assessors desire the state to purchase this data for assessor use, the Department of Finance is the better state agency to pursue a grant, loan, budget appropriation, or other arrangement. Various Budget Provisions applicable to the Board by the Budget Act makes procurement by the Board infeasible for 2018. Staff has contacted the Commission on State Mandates to query if the state is at any risk of a state mandated cost claim, if the Board designates a 12-month period.
- Increases airline reporting requirements if third-party vendor is not in place. If counties are ultimately unable to purchase the data in time for 2018 use, and the Board adopts this alternative what will occur? Do counties intend to request the 12-month data from airlines?
- Results with potential disputes from airlines. Could airlines dispute the third-party acquired data and its use given Rule 202(e)?
- Revises/Increases the data reviewed by county audit staff when conducting audits. Airlines state that because they are subject to mandatory audits, county staff will be overwhelmed by the workload.

D. Statutory or Regulatory Change for Alternative 2

Sources of Allocation Data: Rule 202(e) may require revision, as it appears to require data be "derived from the carrier's operating schedule."

E. Operational Impact of Alternative 2

None

F. Administrative Impact of Alternative 2

1. Cost Impact

None

2. Revenue Impact

Revenue impact of selecting this representative period is unknown and will vary from airline to airline. Overall, revenues would likely increase if California's share of total value increases.

Certificated aircraft assessed values allocated to California for the 2017-18 fiscal year total approximately \$10.9 billion. At the one percent basic tax rate, this equates to \$109 million in property tax revenue.

G. Taxpayer/Customer Impact of Alternative 2

If the airline carriers will be required to provide ground and flight time and arrival and departure activity for the 12 months prior to the lien date, this would be a significant impact.

Additionally, the workload in county assessors' offices would increase when determining the assessed value of air carriers.

H. Critical Time Frames of Alternative 2

To comply with Rule 202's January 15, 2018 deadline, the Board should designate the aircraft representative period for the 2018 tax year at its December 2017 meeting. The next Board meeting is scheduled for January 25, 2018.

IX. Alternative 3: January Week

A. Description of Alternative 3

The Board could designate January 14, 2018 through January 20, 2018 as the aircraft representative period for the 2018 tax year for the assessment of aircraft operated by certificated air carriers.

B. Pros of Alternative 3

- Maintains the long-standing historical practice of designating a representative period near the lien date.
- Does not require any changes to workload or procedures for county assessors' staff.
- Enables air carriers to continue to provide data consistent with past requirements.
- Permits the discussion to continue and allows assessors to determine data cost and acquire funding, for future discussions on this matter.

C. Cons of Alternative 3

- Does not address the concern voiced by the CAA that a January-based representative period is not an accurate measure of actual physical presence.
- It is not supported based on the Jet Fuel Study.
- Data evidence suggests that continuing to select a week in January could be viewed as arbitrary.

D. Statutory or Regulatory Change for Alternative 3

None

E. Operational Impact of Alternative 3

None

F. Administrative Impact of Alternative 3

1. Cost Impact

None

2. Revenue Impact

Revenue impact of selecting this representative period overall, would be similar to revenues from the prior 2017-18, fiscal year all other factors being equal.

Certificated aircraft assessed values allocated to California for the 2017-18 fiscal year total approximately \$10.9 billion. At the one percent basic tax rate, this equates to \$109 million in property tax revenue.

G. Taxpayer/Customer Impact of Alternative 3

Alternative 3 would maintain a long-standing procedure and would not require additional or changed impact to either county assessors' staff or airline carriers.

H. Critical Time Frames of Alternative 3

To comply with Rule 202's January 15, 2018 deadline, the Board should designate the aircraft representative period for the 2018 tax year at its December 2017 meeting. The next Board meeting is scheduled for January 25, 2018.

Preparer/Reviewer Information

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APPENDIX 1: HISTORICAL REPRESENTATIVE PERIODS

1968 to 1996. For the 28 tax years selected from 1968 to 1996, when the lien date was March 1, the representative period has been from a week in February or March, as follows:

March 1 Lien Date	
Period Selected	Number of Times
Weeks including the lien date	16
Weeks before the lien date	5
Weeks after the lien date	5
Unknown	2 (1975 & 1979)

- Most days from lien date: 1976 (February 4); 1977 (February 1); 1992 (February 9)

1997 to 2017. For the 21 tax years selected since 1997 to 2017, when the lien date was January 1, the representative period has been from a week in December or January, as follows:

January 1 Lien Date	
Period Selected	Number of Times
Weeks including the lien date	1 (1998, December 28)
First week of January	9
Second week of January	6
Third week of January	3
Fourth week of January	2

- Most days from lien date: 2009 (January 25) and 2010 (January 24)

APPENDIX 2: ALLOCATED VALUE – FORMULA EXAMPLE

Solo Airlines owns one aircraft with a fair market value of \$100 million. The aircraft makes one daily flight between Los Angeles (LAX) and Paris (CDG).

The representative period is one week.

- **Time in State Factor.** Each day in the representative period the aircraft is on the ground at LAX for 120 minutes and in California air space for 30 minutes for a total of 150 minutes. Thus, in the representative period, the total time in California is 1,050 minutes (7 days x 150 minutes). The total time in the representative period is fixed at 10,080 minutes, since each day has 1,440 minutes (7 x 1,440 = 10,080).
- **Arrivals and Departures Factor.** Each day the aircraft makes two arrivals and two departures worldwide, which includes one arrival and one departure at LAX. Thus, in the representative period, total arrivals and departures is 28 times and total arrivals and departures in California is 14 times.

Time in State Factor - Weighted at 75%

$$1,050 / 10,080 = 0.1042 \times 0.75 = 0.07815$$

Arrivals and Departures Factor - Weighted at 25%

$$14 / 28 = 0.50 \times 0.25 = 0.125$$

Combined Weighted Factors

$$0.07815 + 0.125 = 0.20315$$

Aircraft Fair Market Value

$$\text{\$100,000,000}$$

Allocated Value

$$\text{\$100,000,000} \times 0.20315 = \text{\$20,315,000}$$

- In other words, California's allocated value share is 20.3% of the aircraft's total value. At the 1% basic property tax rate, this results in annual taxes of approximately \$203,000.

APPENDIX 3: JET FUEL STUDY

State of California

California Department of Tax and Fee Administration
Legislation and Research Bureau

Memorandum

To: Mark Durham
Chief, Research & Statistics

Date: October 5, 2017

From: Joe Fitz
Chief Economist

Subject: Representative Period for Aircraft Assessment

Summary

Board of Equalization (BOE) staff requested CDTFA Research and Statistics¹ staff to research and propose a cost-effective method for BOE to determine a representative assessment period for aircraft operated by certified air carriers for purposes of property tax assessment. Based on analysis of monthly California jet fuel retail sales data, staff believes that October would be the most representative month from which to pick an average week.

Background

The law requires that the BOE annually designate the representative period to be used by all assessors in assessing the aircraft of each carrier for the forthcoming tax year. The purpose of a representative period is to obtain air carrier operational data, in a brief time span, that can reasonably be expected to reflect the carrier's average activity for the ensuing tax year. Although possible, using a full prior year's activity could prove too burdensome for air carriers with a high volume of air traffic. Additionally, using a full prior year may be undesirable if the air carrier's activity has undergone major change. For these reasons, the desirable representative period should be one that is short enough to mitigate the carriers' burden, yet long enough and current enough to reasonably represent the following year.

In 1997, the assessment lien date for locally-assessed property changed from March 1 to January 1. Since that time, the BOE has designated various weeks in January as the representative period for certificated air carriers and scheduled air taxi operators.

Issue

What weekly period should the Board of Equalization adopt as the representative period for the 2018 tax year for the assessment of aircraft operated by certificated air carriers?

Data

CDTFA Research and Statistics staff obtained monthly California jet fuel retail gallons sold from 1985 through 2016 from the Energy Information Administration, U.S. Department of Energy,
<http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=A503650061&f=M>

¹ Effective July 1, 2017, Assembly Bill 102, the Taxpayer Transparency and Fairness Act of 2017, restructured the BOE into three separate agencies: BOE, California Department of Tax and Fee Administration (CDTFA), and the Office of Tax Appeals. The Research and Statistics Division is part of CDTFA.

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Ideally staff would use weekly data; however, since weekly data is not available, to our knowledge, monthly data was analyzed. With the exceptions of November and December (each with major holidays likely to affect travel), staff believes that choosing a week in the middle of the month would be representative of the entire month. For example, the week chosen could be the week that includes the 15th of the month, from Sunday through Saturday.

Assumptions

Staff made the following assumptions:

1. Jet fuel gallons are likely closely related to aircraft activity in California.
2. California jet fuel prices are closely related to worldwide crude oil prices.

While tax rates may vary among states and nations, unless there are major changes, staff believes that jet fuel gallons should remain closely related to total flight time. Airlines are likely to adjust their operations to changing conditions, which will be reflected in the gallons data. Over time, with enough historical data, staff believes that when changes occur, they will occur gradually as airlines adjust to changing supply and demand conditions and local tax rates. One-time events, such as the terrorist attacks of September 11, 2001, should average out over time with the number of months staff analyzed (a total of 384 months).

Analysis

An exactly average month would be 1/12 of the annual gallons data (8.33%). Percentages of gallons for each month of each calendar year were calculated and compared to this average. The difference between the average monthly percentage and the calculated monthly percentage indicates the degree to which a particular year/month data point is representative. The closer the difference is to zero, the more representative the month is to the average for the year. For example, March 1985 the number of gallons of jet fuel sold per day was 5,045,000, which accounted for 7.7% of the total calendar year gallons sold in 1985. When compared to the average of 8.3%, the delta (difference) is -0.6%, which is determined to be a negative (fewer gallons were sold when compared to the monthly average for 1985). For August 1985, the total gallons sold were 8.8% or 0.5% more than the average, which is a positive.

All 32 years of each month were grouped together (for example, all 32 Januarys from 1985 to 2016 were grouped together). The ideal month would have differences averaging close to zero for the 32 years, with approximately equal differences positive or negative (indicating a normal distribution is likely), and with little percentage variation among years relative to competing months. Additional criteria would be for the month to be close to the January 1 lien date.

No single month met this ideal. However, some months came much closer than others. Choosing the best months is subjective, taking into account the number of times in which differences were positive or negative (ideally they would be close to equal, 16 of the 32 years), average differences for the month for all years (closest to zero), and proximity to the lien date. Staff believes that May, December and November should be excluded because each has major holidays significantly impacting travel.

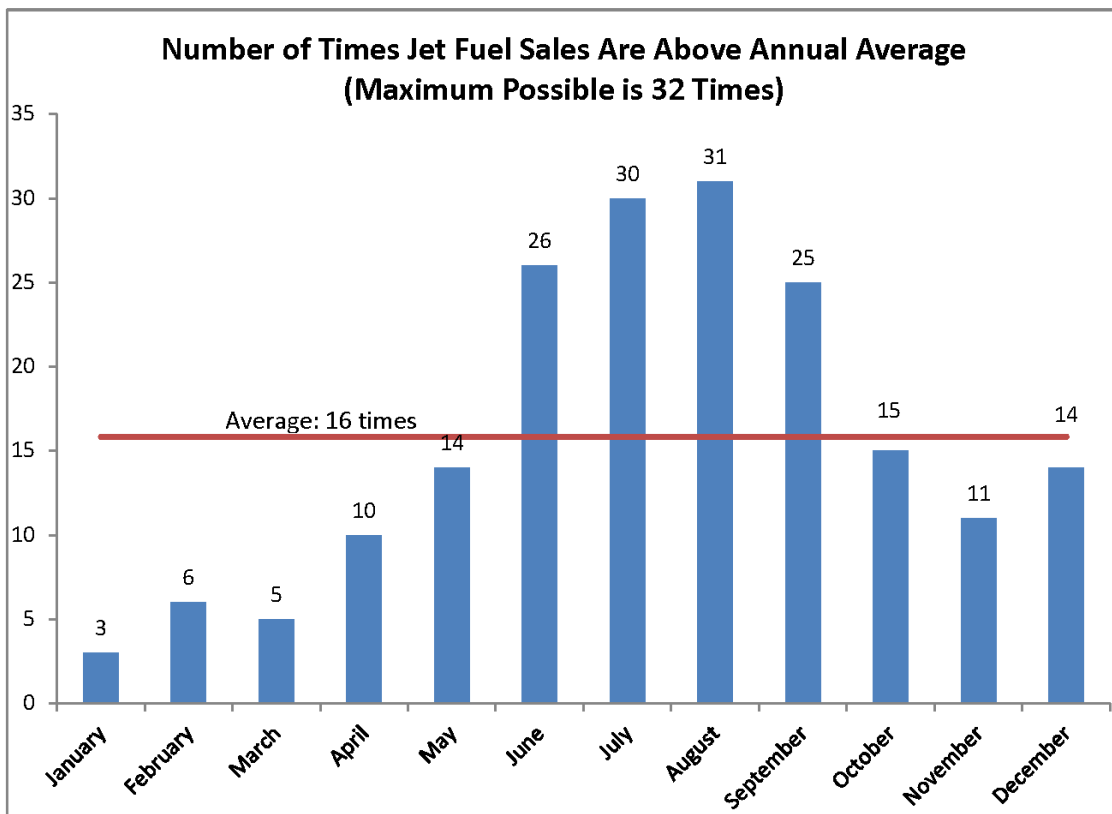
The chart on the next page summarizes how many times each month is above average in the 32 years of data. If a month were average, one would expect a normal distribution of 16 times above average and 16 times below average for the 32 years. Only 3 of 32 Januarys were above the annual average. This result seems reasonable; anecdotal evidence suggests that January is generally a month with less than average travel. February and March show similar patterns, at 6 and 5 months above average. At the opposite extreme, August had above average jet fuel sales in 31 of 32 years. June, July, and September were also much higher than average, 26, 30, and 25 years.

October had above average sales 15 years of the 32, very close to the norm. Of all the months, October was closest to the expected average of 16.

Recommendation

Based on analysis of these data, staff believes that October or April would be the two best candidate months to pick an average week. The 32 Octobers had 15 years above average, 17 years below average, and a difference of 0.1% below average. April showed 10 above average and 22 below average, and a difference of 0.1% below average. Of these two months, October would seem preferable; the differences are much closer to being equal (16). In addition, October is closer to the lien date than April.

JF:jf



**Data 1: California Kerosene-Type Jet Fuel Retail Sales by Refiners
 (Thousand Gallons per Day)**

Sourcekey A503650061

Oct 2017
 California
 Kerosene-Type Jet
 Fuel Retail Sales
 by Refiners
 (Thousand Gallons

Date	per Day)	Month	CY Total	Month % of CY	1/12 Average	Delta	Data Check
Jan-1985	5,218	January		8.0%	8.3%	-0.4%	
Feb-1985	5,411	February		8.3%	8.3%	-0.1%	
Mar-1985	5,045	March		7.7%	8.3%	-0.6%	
Apr-1985	5,224	April		8.0%	8.3%	-0.4%	
May-1985	5,346	May		8.2%	8.3%	-0.2%	
Jun-1985	4,791	June		7.3%	8.3%	-1.0%	
Jul-1985	5,818	July		8.9%	8.3%	0.5%	
Aug-1985	5,778	August		8.8%	8.3%	0.5%	
Sep-1985	5,505	September		8.4%	8.3%	0.1%	
Oct-1985	5,618	October		8.6%	8.3%	0.2%	
Nov-1985	6,093	November		9.3%	8.3%	1.0%	
Dec-1985	5,700	December	65,549	8.7%	8.3%	0.4%	100.0%
Jan-1986	5,817	January		8.4%	8.3%	0.0%	
Feb-1986	5,566	February		8.0%	8.3%	-0.3%	
Mar-1986	5,704	March		8.2%	8.3%	-0.1%	
Apr-1986	5,905	April		8.5%	8.3%	0.2%	
May-1986	5,502	May		7.9%	8.3%	-0.4%	
Jun-1986	6,112	June		8.8%	8.3%	0.5%	
Jul-1986	6,059	July		8.7%	8.3%	0.4%	
Aug-1986	6,178	August		8.9%	8.3%	0.6%	
Sep-1986	6,239	September		9.0%	8.3%	0.6%	
Oct-1986	5,373	October		7.7%	8.3%	-0.6%	
Nov-1986	5,549	November		8.0%	8.3%	-0.3%	
Dec-1986	5,458	December	69,461	7.9%	8.3%	-0.5%	100.0%
Jan-1987	5,666	January		8.5%	8.3%	0.2%	
Feb-1987	5,134	February		7.7%	8.3%	-0.6%	
Mar-1987	5,307	March		7.9%	8.3%	-0.4%	
Apr-1987	5,113	April		7.7%	8.3%	-0.7%	
May-1987	5,419	May		8.1%	8.3%	-0.2%	
Jun-1987	6,059	June		9.1%	8.3%	0.7%	
Jul-1987	5,895	July		8.8%	8.3%	0.5%	
Aug-1987	6,629	August		9.9%	8.3%	1.6%	
Sep-1987	5,399	September		8.1%	8.3%	-0.2%	
Oct-1987	5,108	October		7.7%	8.3%	-0.7%	
Nov-1987	5,523	November		8.3%	8.3%	-0.1%	
Dec-1987	5,517	December	66,768	8.3%	8.3%	-0.1%	100.0%
Jan-1988	5,314	January		8.1%	8.3%	-0.2%	
Feb-1988	5,248	February		8.0%	8.3%	-0.3%	
Mar-1988	5,813	March		8.9%	8.3%	0.5%	
Apr-1988	5,438	April		8.3%	8.3%	0.0%	
May-1988	5,750	May		8.8%	8.3%	0.4%	
Jun-1988	5,559	June		8.5%	8.3%	0.1%	
Jul-1988	5,795	July		8.8%	8.3%	0.5%	
Aug-1988	5,684	August		8.7%	8.3%	0.3%	
Sep-1988	5,652	September		8.6%	8.3%	0.3%	
Oct-1988	5,176	October		7.9%	8.3%	-0.4%	

**Data 1: California Kerosene-Type Jet Fuel Retail Sales by Refiners
(Thousand Gallons per Day)**

Sourcekey A503650061

**Oct 2017
California
Kerosene-Type Jet
Fuel Retail Sales
by Refiners
(Thousand Gallons**

Date	per Day)	Month	CY Total	Month % of CY	1/12 Average	Delta	Data Check
Nov-1988	4,891	November		7.5%	8.3%	-0.9%	
Dec-1988	5,297	December	65,617	8.1%	8.3%	-0.3%	100.0%
Jan-1989	5,173	January		7.0%	8.3%	-1.4%	
Feb-1989	5,954	February		8.0%	8.3%	-0.3%	
Mar-1989	5,570	March		7.5%	8.3%	-0.8%	
Apr-1989	6,381	April		8.6%	8.3%	0.3%	
May-1989	5,911	May		8.0%	8.3%	-0.4%	
Jun-1989	6,360	June		8.6%	8.3%	0.2%	
Jul-1989	6,587	July		8.9%	8.3%	0.6%	
Aug-1989	6,721	August		9.1%	8.3%	0.7%	
Sep-1989	6,925	September		9.3%	8.3%	1.0%	
Oct-1989	6,477	October		8.7%	8.3%	0.4%	
Nov-1989	6,443	November		8.7%	8.3%	0.4%	
Dec-1989	5,612	December	74,113	7.6%	8.3%	-0.8%	100.0%
Jan-1990	5,685	January		7.7%	8.3%	-0.6%	
Feb-1990	5,621	February		7.6%	8.3%	-0.7%	
Mar-1990	5,835	March		7.9%	8.3%	-0.4%	
Apr-1990	6,056	April		8.2%	8.3%	-0.1%	
May-1990	6,033	May		8.2%	8.3%	-0.2%	
Jun-1990	6,433	June		8.7%	8.3%	0.4%	
Jul-1990	6,290	July		8.5%	8.3%	0.2%	
Aug-1990	7,002	August		9.5%	8.3%	1.2%	
Sep-1990	6,402	September		8.7%	8.3%	0.3%	
Oct-1990	6,520	October		8.8%	8.3%	0.5%	
Nov-1990	5,969	November		8.1%	8.3%	-0.2%	
Dec-1990	5,937	December	73,782	8.0%	8.3%	-0.3%	100.0%
Jan-1991	5,536	January		8.1%	8.3%	-0.2%	
Feb-1991	5,499	February		8.1%	8.3%	-0.3%	
Mar-1991	5,388	March		7.9%	8.3%	-0.4%	
Apr-1991	5,724	April		8.4%	8.3%	0.1%	
May-1991	5,727	May		8.4%	8.3%	0.1%	
Jun-1991	5,754	June		8.5%	8.3%	0.1%	
Jul-1991	6,269	July		9.2%	8.3%	0.9%	
Aug-1991	6,089	August		8.9%	8.3%	0.6%	
Sep-1991	5,467	September		8.0%	8.3%	-0.3%	
Oct-1991	5,416	October		8.0%	8.3%	-0.4%	
Nov-1991	5,538	November		8.1%	8.3%	-0.2%	
Dec-1991	5,631	December	68,039	8.3%	8.3%	-0.1%	100.0%
Jan-1992	5,759	January		7.7%	8.3%	-0.6%	
Feb-1992	5,648	February		7.6%	8.3%	-0.8%	
Mar-1992	5,724	March		7.7%	8.3%	-0.7%	
Apr-1992	5,963	April		8.0%	8.3%	-0.3%	
May-1992	6,295	May		8.4%	8.3%	0.1%	
Jun-1992	6,325	June		8.5%	8.3%	0.2%	
Jul-1992	6,898	July		9.3%	8.3%	0.9%	
Aug-1992	6,763	August		9.1%	8.3%	0.7%	

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Gallons

**Data 1: California Kerosene-Type Jet Fuel Retail Sales by Refiners
(Thousand Gallons per Day)**

Sourcekey A503650061

Oct 2017 California Kerosene-Type Jet Fuel Retail Sales by Refiners (Thousand Gallons								Data
Date	per Day)	Month	CY Total	Month % of CY	1/12 Average	Delta	Check	
Sep-1992	6,481	September		8.7%	8.3%	0.4%		
Oct-1992	5,994	October		8.0%	8.3%	-0.3%		
Nov-1992	6,123	November		8.2%	8.3%	-0.1%		
Dec-1992	6,529	December	74,502	8.8%	8.3%	0.4%	100.0%	
Jan-1993	6,289	January		7.6%	8.3%	-0.8%		
Feb-1993	6,152	February		7.4%	8.3%	-0.9%		
Mar-1993	6,370	March		7.7%	8.3%	-0.7%		
Apr-1993	6,313	April		7.6%	8.3%	-0.7%		
May-1993	6,563	May		7.9%	8.3%	-0.4%		
Jun-1993	6,796	June		8.2%	8.3%	-0.2%		
Jul-1993	7,059	July		8.5%	8.3%	0.2%		
Aug-1993	7,068	August		8.5%	8.3%	0.2%		
Sep-1993	7,446	September		9.0%	8.3%	0.6%		
Oct-1993	8,085	October		9.7%	8.3%	1.4%		
Nov-1993	7,415	November		8.9%	8.3%	0.6%		
Dec-1993	7,507	December	83,063	9.0%	8.3%	0.7%	100.0%	
Jan-1994	7,097	January		7.4%	8.3%	-0.9%		
Feb-1994	6,603	February		6.9%	8.3%	-1.4%		
Mar-1994	7,475	March		7.8%	8.3%	-0.5%		
Apr-1994	7,938	April		8.3%	8.3%	0.0%		
May-1994	8,016	May		8.4%	8.3%	0.0%		
Jun-1994	8,273	June		8.6%	8.3%	0.3%		
Jul-1994	8,239	July		8.6%	8.3%	0.3%		
Aug-1994	8,918	August		9.3%	8.3%	1.0%		
Sep-1994	8,351	September		8.7%	8.3%	0.4%		
Oct-1994	8,561	October		8.9%	8.3%	0.6%		
Nov-1994	8,275	November		8.6%	8.3%	0.3%		
Dec-1994	8,001	December	95,747	8.4%	8.3%	0.0%	100.0%	
Jan-1995	7,944	January		8.0%	8.3%	-0.3%		
Feb-1995	7,147	February		7.2%	8.3%	-1.1%		
Mar-1995	7,828	March		7.9%	8.3%	-0.4%		
Apr-1995	7,866	April		7.9%	8.3%	-0.4%		
May-1995	8,462	May		8.5%	8.3%	0.2%		
Jun-1995	8,647	June		8.7%	8.3%	0.4%		
Jul-1995	8,926	July		9.0%	8.3%	0.7%		
Aug-1995	9,281	August		9.4%	8.3%	1.0%		
Sep-1995	8,503	September		8.6%	8.3%	0.2%		
Oct-1995	8,242	October		8.3%	8.3%	0.0%		
Nov-1995	8,591	November		8.7%	8.3%	0.3%		
Dec-1995	7,815	December	99,250	7.9%	8.3%	-0.5%	100.0%	
Jan-1996	8,734	January		7.9%	8.3%	-0.4%		
Feb-1996	8,572	February		7.8%	8.3%	-0.6%		
Mar-1996	8,730	March		7.9%	8.3%	-0.4%		
Apr-1996	9,029	April		8.2%	8.3%	-0.2%		
May-1996	8,969	May		8.1%	8.3%	-0.2%		
Jun-1996	9,595	June		8.7%	8.3%	0.4%		

EIA Jet Fuel Data Oct 2017D1.xlsx\

Gallons

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**Data 1: California Kerosene-Type Jet Fuel Retail Sales by Refiners
(Thousand Gallons per Day)**

Sourcekey A503650061

**Oct 2017
California
Kerosene-Type Jet
Fuel Retail Sales
by Refiners
(Thousand Gallons**

Date	per Day)	Month	CY Total	Month % of CY	1/12 Average	Delta	Data Check
Jul-1996	9,697	July		8.8%	8.3%	0.5%	
Aug-1996	9,622	August		8.7%	8.3%	0.4%	
Sep-1996	9,853	September		8.9%	8.3%	0.6%	
Oct-1996	9,502	October		8.6%	8.3%	0.3%	
Nov-1996	8,984	November		8.1%	8.3%	-0.2%	
Dec-1996	9,070	December	110,357	8.2%	8.3%	-0.1%	100.0%
Jan-1997	8,759	January		8.0%	8.3%	-0.3%	
Feb-1997	8,774	February		8.0%	8.3%	-0.3%	
Mar-1997	8,712	March		8.0%	8.3%	-0.4%	
Apr-1997	8,925	April		8.2%	8.3%	-0.2%	
May-1997	9,405	May		8.6%	8.3%	0.3%	
Jun-1997	9,834	June		9.0%	8.3%	0.7%	
Jul-1997	9,651	July		8.8%	8.3%	0.5%	
Aug-1997	9,781	August		9.0%	8.3%	0.6%	
Sep-1997	9,450	September		8.7%	8.3%	0.3%	
Oct-1997	9,351	October		8.6%	8.3%	0.2%	
Nov-1997	8,108	November		7.4%	8.3%	-0.9%	
Dec-1997	8,393	December	109,141	7.7%	8.3%	-0.6%	100.0%
Jan-1998	8,436	January		7.8%	8.3%	-0.5%	
Feb-1998	8,042	February		7.5%	8.3%	-0.9%	
Mar-1998	8,052	March		7.5%	8.3%	-0.9%	
Apr-1998	8,435	April		7.8%	8.3%	-0.5%	
May-1998	8,434	May		7.8%	8.3%	-0.5%	
Jun-1998	8,744	June		8.1%	8.3%	-0.2%	
Jul-1998	9,722	July		9.0%	8.3%	0.7%	
Aug-1998	9,888	August		9.2%	8.3%	0.8%	
Sep-1998	10,135	September		9.4%	8.3%	1.1%	
Oct-1998	10,241	October		9.5%	8.3%	1.2%	
Nov-1998	8,327	November		7.7%	8.3%	-0.6%	
Dec-1998	9,316	December	107,771	8.6%	8.3%	0.3%	100.0%
Jan-1999	7,260	January		7.3%	8.3%	-1.1%	
Feb-1999	7,669	February		7.7%	8.3%	-0.7%	
Mar-1999	8,394	March		8.4%	8.3%	0.1%	
Apr-1999	8,088	April		8.1%	8.3%	-0.2%	
May-1999	8,129	May		8.1%	8.3%	-0.2%	
Jun-1999	8,791	June		8.8%	8.3%	0.5%	
Jul-1999	8,790	July		8.8%	8.3%	0.5%	
Aug-1999	8,687	August		8.7%	8.3%	0.4%	
Sep-1999	8,740	September		8.8%	8.3%	0.4%	
Oct-1999	8,304	October		8.3%	8.3%	0.0%	
Nov-1999	8,173	November		8.2%	8.3%	-0.1%	
Dec-1999	8,815	December	99,838	8.8%	8.3%	0.5%	100.0%
Jan-2000	7,167	January		6.9%	8.3%	-1.5%	
Feb-2000	7,787	February		7.5%	8.3%	-0.9%	
Mar-2000	8,061	March		7.7%	8.3%	-0.6%	
Apr-2000	8,101	April		7.8%	8.3%	-0.6%	

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(Thousand Gallons per Day)**

Sourcekey A503650061

**Oct 2017
California
Kerosene-Type Jet
Fuel Retail Sales
by Refiners
(Thousand Gallons**

Date	per Day)	Month	CY Total	Month % of CY	1/12 Average	Delta	Data Check
May-2000	8,201	May		7.9%	8.3%	-0.5%	
Jun-2000	9,082	June		8.7%	8.3%	0.4%	
Jul-2000	9,766	July		9.4%	8.3%	1.0%	
Aug-2000	9,219	August		8.9%	8.3%	0.5%	
Sep-2000	9,281	September		8.9%	8.3%	0.6%	
Oct-2000	8,970	October		8.6%	8.3%	0.3%	
Nov-2000	8,755	November		8.4%	8.3%	0.1%	
Dec-2000	9,730	December	104,119	9.3%	8.3%	1.0%	100.0%
Jan-2001	8,210	January		8.1%	8.3%	-0.3%	
Feb-2001	8,716	February		8.6%	8.3%	0.2%	
Mar-2001	8,602	March		8.5%	8.3%	0.1%	
Apr-2001	8,237	April		8.1%	8.3%	-0.2%	
May-2001	8,829	May		8.7%	8.3%	0.4%	
Jun-2001	9,164	June		9.0%	8.3%	0.7%	
Jul-2001	9,399	July		9.2%	8.3%	0.9%	
Aug-2001	9,742	August		9.6%	8.3%	1.2%	
Sep-2001	7,805	September		7.7%	8.3%	-0.7%	
Oct-2001	7,787	October		7.7%	8.3%	-0.7%	
Nov-2001	7,556	November		7.4%	8.3%	-0.9%	
Dec-2001	7,615	December	101,663	7.5%	8.3%	-0.8%	100.0%
Jan-2002	7,995	January		8.1%	8.3%	-0.2%	
Feb-2002	7,126	February		7.3%	8.3%	-1.1%	
Mar-2002	7,768	March		7.9%	8.3%	-0.4%	
Apr-2002	8,230	April		8.4%	8.3%	0.0%	
May-2002	7,893	May		8.0%	8.3%	-0.3%	
Jun-2002	8,942	June		9.1%	8.3%	0.8%	
Jul-2002	8,861	July		9.0%	8.3%	0.7%	
Aug-2002	9,024	August		9.2%	8.3%	0.9%	
Sep-2002	8,124	September		8.3%	8.3%	-0.1%	
Oct-2002	8,247	October		8.4%	8.3%	0.1%	
Nov-2002	7,854	November		8.0%	8.3%	-0.3%	
Dec-2002	8,205	December	98,269	8.3%	8.3%	0.0%	100.0%
Jan-2003	7,608	January		8.2%	8.3%	-0.1%	
Feb-2003	8,150	February		8.8%	8.3%	0.5%	
Mar-2003	7,620	March		8.2%	8.3%	-0.1%	
Apr-2003	6,598	April		7.1%	8.3%	-1.2%	
May-2003	7,533	May		8.1%	8.3%	-0.2%	
Jun-2003	7,456	June		8.0%	8.3%	-0.3%	
Jul-2003	7,822	July		8.4%	8.3%	0.1%	
Aug-2003	8,490	August		9.2%	8.3%	0.8%	
Sep-2003	7,941	September		8.6%	8.3%	0.2%	
Oct-2003	7,816	October		8.4%	8.3%	0.1%	
Nov-2003	7,644	November		8.2%	8.3%	-0.1%	
Dec-2003	7,999	December	92,675	8.6%	8.3%	0.3%	100.0%
Jan-2004	7,499	January		8.2%	8.3%	-0.1%	
Feb-2004	7,739	February		8.5%	8.3%	0.1%	

**Data 1: California Kerosene-Type Jet Fuel Retail Sales by Refiners
(Thousand Gallons per Day)**

Sourcekey A503650061

**Oct 2017
California
Kerosene-Type Jet
Fuel Retail Sales
by Refiners
(Thousand Gallons**

Date	per Day)	Month	CY Total	Month % of CY	1/12 Average	Delta	Data Check
Mar-2004	7,985	March		8.7%	8.3%	0.4%	
Apr-2004	8,356	April		9.2%	8.3%	0.8%	
May-2004	7,220	May		7.9%	8.3%	-0.4%	
Jun-2004	8,174	June		9.0%	8.3%	0.6%	
Jul-2004	7,480	July		8.2%	8.3%	-0.1%	
Aug-2004	7,609	August		8.3%	8.3%	0.0%	
Sep-2004	7,797	September		8.5%	8.3%	0.2%	
Oct-2004	6,945	October		7.6%	8.3%	-0.7%	
Nov-2004	6,852	November		7.5%	8.3%	-0.8%	
Dec-2004	7,610	December	91,265	8.3%	8.3%	0.0%	100.0%
Jan-2005	7,137	January		8.2%	8.3%	-0.1%	
Feb-2005	7,225	February		8.3%	8.3%	0.0%	
Mar-2005	7,184	March		8.2%	8.3%	-0.1%	
Apr-2005	7,172	April		8.2%	8.3%	-0.1%	
May-2005	7,184	May		8.2%	8.3%	-0.1%	
Jun-2005	7,369	June		8.5%	8.3%	0.1%	
Jul-2005	7,314	July		8.4%	8.3%	0.1%	
Aug-2005	8,242	August		9.5%	8.3%	1.1%	
Sep-2005	7,811	September		9.0%	8.3%	0.6%	
Oct-2005	6,677	October		7.7%	8.3%	-0.7%	
Nov-2005	6,900	November		7.9%	8.3%	-0.4%	
Dec-2005	6,930	December	87,143	8.0%	8.3%	-0.4%	100.0%
Jan-2006	6,442	January		8.1%	8.3%	-0.2%	
Feb-2006	6,130	February		7.7%	8.3%	-0.6%	
Mar-2006	6,317	March		8.0%	8.3%	-0.4%	
Apr-2006	6,655	April		8.4%	8.3%	0.1%	
May-2006	6,974	May		8.8%	8.3%	0.5%	
Jun-2006	7,167	June		9.0%	8.3%	0.7%	
Jul-2006	7,149	July		9.0%	8.3%	0.7%	
Aug-2006	7,318	August		9.2%	8.3%	0.9%	
Sep-2006	6,708	September		8.5%	8.3%	0.1%	
Oct-2006	6,011	October		7.6%	8.3%	-0.8%	
Nov-2006	6,269	November		7.9%	8.3%	-0.4%	
Dec-2006	6,176	December	79,314	7.8%	8.3%	-0.5%	100.0%
Jan-2007	6,133	January		7.5%	8.3%	-0.9%	
Feb-2007	6,510	February		7.9%	8.3%	-0.4%	
Mar-2007	6,361	March		7.7%	8.3%	-0.6%	
Apr-2007	6,571	April		8.0%	8.3%	-0.3%	
May-2007	6,665	May		8.1%	8.3%	-0.2%	
Jun-2007	7,458	June		9.1%	8.3%	0.7%	
Jul-2007	7,120	July		8.7%	8.3%	0.3%	
Aug-2007	7,458	August		9.1%	8.3%	0.7%	
Sep-2007	7,046	September		8.6%	8.3%	0.2%	
Oct-2007	6,761	October		8.2%	8.3%	-0.1%	
Nov-2007	6,981	November		8.5%	8.3%	0.2%	
Dec-2007	7,053	December	82,119	8.6%	8.3%	0.3%	100.0%

FORMAL ISSUE PAPER

Gallons

**Data 1: California Kerosene-Type Jet Fuel Retail Sales by Refiners
(Thousand Gallons per Day)**

Sourcekey A503650061

**Oct 2017
California
Kerosene-Type Jet
Fuel Retail Sales
by Refiners
(Thousand Gallons**

Date	per Day)	Month	CY Total	Month % of CY	1/12 Average	Delta	Data Check
Jan-2008	6,774	January		7.7%	8.3%	-0.6%	
Feb-2008	7,124	February		8.1%	8.3%	-0.2%	
Mar-2008	7,014	March		8.0%	8.3%	-0.4%	
Apr-2008	6,952	April		7.9%	8.3%	-0.4%	
May-2008	7,217	May		8.2%	8.3%	-0.1%	
Jun-2008	7,214	June		8.2%	8.3%	-0.1%	
Jul-2008	8,562	July		9.7%	8.3%	1.4%	
Aug-2008	8,629	August		9.8%	8.3%	1.5%	
Sep-2008	7,828	September		8.9%	8.3%	0.6%	
Oct-2008	6,860	October		7.8%	8.3%	-0.5%	
Nov-2008	6,951	November		7.9%	8.3%	-0.4%	
Dec-2008	6,826	December	87,952	7.8%	8.3%	-0.6%	100.0%
Jan-2009	6,626	January		7.1%	8.3%	-1.3%	
Feb-2009	7,055	February		7.5%	8.3%	-0.8%	
Mar-2009	7,226	March		7.7%	8.3%	-0.6%	
Apr-2009	7,612	April		8.1%	8.3%	-0.2%	
May-2009	7,849	May		8.4%	8.3%	0.0%	
Jun-2009	8,491	June		9.1%	8.3%	0.7%	
Jul-2009	8,362	July		8.9%	8.3%	0.6%	
Aug-2009	8,581	August		9.2%	8.3%	0.8%	
Sep-2009	8,081	September		8.6%	8.3%	0.3%	
Oct-2009	7,917	October		8.4%	8.3%	0.1%	
Nov-2009	8,142	November		8.7%	8.3%	0.4%	
Dec-2009	7,809	December	93,751	8.3%	8.3%	0.0%	100.0%
Jan-2010	6,070	January		8.7%	8.3%	0.4%	
Feb-2010	6,371	February		9.1%	8.3%	0.8%	
Mar-2010	6,724	March		9.6%	8.3%	1.3%	
Apr-2010	6,454	April		9.2%	8.3%	0.9%	
May-2010	6,611	May		9.5%	8.3%	1.1%	
Jun-2010	6,883	June		9.9%	8.3%	1.5%	
Jul-2010	5,253	July		7.5%	8.3%	-0.8%	
Aug-2010	5,205	August		7.4%	8.3%	-0.9%	
Sep-2010	5,080	September		7.3%	8.3%	-1.1%	
Oct-2010	4,745	October		6.8%	8.3%	-1.5%	
Nov-2010	5,380	November		7.7%	8.3%	-0.6%	
Dec-2010	5,099	December	69,875	7.3%	8.3%	-1.0%	100.0%
Jan-2011	4,717	January		7.0%	8.3%	-1.3%	
Feb-2011	5,178	February		7.7%	8.3%	-0.6%	
Mar-2011	4,906	March		7.3%	8.3%	-1.0%	
Apr-2011	5,759	April		8.6%	8.3%	0.3%	
May-2011	5,597	May		8.3%	8.3%	0.0%	
Jun-2011	6,008	June		9.0%	8.3%	0.6%	
Jul-2011	6,198	July		9.2%	8.3%	0.9%	
Aug-2011	6,439	August		9.6%	8.3%	1.3%	
Sep-2011	6,345	September		9.5%	8.3%	1.1%	
Oct-2011	5,260	October		7.8%	8.3%	-0.5%	

EIA Jet Fuel Data Oct 2017D1.xlsx\

Gallons

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**Data 1: California Kerosene-Type Jet Fuel Retail Sales by Refiners
 (Thousand Gallons per Day)**

Sourcekey A503650061

**Oct 2017
 California
 Kerosene-Type Jet
 Fuel Retail Sales
 by Refiners
 (Thousand Gallons**

Date	per Day)	Month	CY Total	Month % of CY	1/12 Average	Delta	Data Check
Nov-2011	5,246	November		7.8%	8.3%	-0.5%	
Dec-2011	5,421	December	67,073	8.1%	8.3%	-0.3%	100.0%
Jan-2012	4,907	January		6.7%	8.3%	-1.7%	
Feb-2012	5,357	February		7.3%	8.3%	-1.0%	
Mar-2012	4,920	March		6.7%	8.3%	-1.6%	
Apr-2012	6,679	April		9.1%	8.3%	0.7%	
May-2012	6,409	May		8.7%	8.3%	0.4%	
Jun-2012	6,160	June		8.4%	8.3%	0.0%	
Jul-2012	6,611	July		9.0%	8.3%	0.7%	
Aug-2012	6,921	August		9.4%	8.3%	1.1%	
Sep-2012	6,875	September		9.3%	8.3%	1.0%	
Oct-2012	6,436	October		8.8%	8.3%	0.4%	
Nov-2012	6,275	November		8.5%	8.3%	0.2%	
Dec-2012	5,988	December	73,539	8.1%	8.3%	-0.2%	100.0%
Jan-2013	5,348	January		6.9%	8.3%	-1.4%	
Feb-2013	6,646	February		8.6%	8.3%	0.2%	
Mar-2013	6,406	March		8.3%	8.3%	-0.1%	
Apr-2013	6,207	April		8.0%	8.3%	-0.3%	
May-2013	7,224	May		9.3%	8.3%	1.0%	
Jun-2013	6,732	June		8.7%	8.3%	0.4%	
Jul-2013	7,036	July		9.1%	8.3%	0.8%	
Aug-2013	7,181	August		9.3%	8.3%	0.9%	
Sep-2013	6,329	September		8.2%	8.3%	-0.2%	
Oct-2013	6,070	October		7.8%	8.3%	-0.5%	
Nov-2013	6,070	November		7.8%	8.3%	-0.5%	
Dec-2013	6,181	December	77,429	8.0%	8.3%	-0.4%	100.0%
Jan-2014	5,920	January		7.4%	8.3%	-0.9%	
Feb-2014	6,101	February		7.7%	8.3%	-0.7%	
Mar-2014	5,478	March		6.9%	8.3%	-1.4%	
Apr-2014	6,288	April		7.9%	8.3%	-0.4%	
May-2014	6,185	May		7.8%	8.3%	-0.6%	
Jun-2014	6,975	June		8.8%	8.3%	0.4%	
Jul-2014	6,968	July		8.8%	8.3%	0.4%	
Aug-2014	7,539	August		9.5%	8.3%	1.1%	
Sep-2014	7,293	September		9.2%	8.3%	0.8%	
Oct-2014	6,693	October		8.4%	8.3%	0.1%	
Nov-2014	7,073	November		8.9%	8.3%	0.6%	
Dec-2014	7,022	December	79,535	8.8%	8.3%	0.5%	100.0%
Jan-2015	6,108	January		7.9%	8.3%	-0.5%	
Feb-2015	6,697	February		8.6%	8.3%	0.3%	
Mar-2015	5,967	March		7.7%	8.3%	-0.6%	
Apr-2015	6,609	April		8.5%	8.3%	0.2%	
May-2015	7,028	May		9.1%	8.3%	0.7%	
Jun-2015	6,916	June		8.9%	8.3%	0.6%	
Jul-2015	6,982	July		9.0%	8.3%	0.7%	
Aug-2015	6,748	August		8.7%	8.3%	0.4%	

**Data 1: California Kerosene-Type Jet Fuel Retail Sales by Refiners
 (Thousand Gallons per Day)**

Sourcekey A503650061

Oct 2017
 California
 Kerosene-Type Jet
 Fuel Retail Sales
 by Refiners
 (Thousand Gallons

Date	per Day)	Month	CY Total	Month % of CY	1/12 Average	Delta	Data Check
Sep-2015	6,051	September		7.8%	8.3%	-0.5%	
Oct-2015	5,816	October		7.5%	8.3%	-0.8%	
Nov-2015	6,225	November		8.0%	8.3%	-0.3%	
Dec-2015	6,479	December	77,627	8.3%	8.3%	0.0%	100.0%
Jan-2016	5,562	January		7.0%	8.3%	-1.3%	
Feb-2016	5,773	February		7.3%	8.3%	-1.0%	
Mar-2016	6,160	March		7.8%	8.3%	-0.5%	
Apr-2016	6,309	April		8.0%	8.3%	-0.3%	
May-2016	5,936	May		7.5%	8.3%	-0.8%	
Jun-2016	6,075	June		7.7%	8.3%	-0.6%	
Jul-2016	6,668	July		8.4%	8.3%	0.1%	
Aug-2016	7,486	August		9.5%	8.3%	1.1%	
Sep-2016	7,277	September		9.2%	8.3%	0.9%	
Oct-2016	7,549	October		9.6%	8.3%	1.2%	
Nov-2016	7,058	November		8.9%	8.3%	0.6%	
Dec-2016	7,105	December	78,958	9.0%	8.3%	0.7%	100.0%
Data Check	2,705,303		2,705,303				

Source <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=A503650061&f=M>
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Months Sorted

**Oct 2017
California
Kerosene-Type
Jet Fuel Retail
Sales by
Refiners
(Thousand
Gallons per**

Date	Day)	Month	Month % of CY	1/12 Average	Delta	Test: > 0	Counts
Apr-1985	5,224	April	8.0%	8.3%	-0.4%	No	
Apr-1986	5,905	April	8.5%	8.3%	0.2%	Yes	
Apr-1987	5,113	April	7.7%	8.3%	-0.7%	No	
Apr-1988	5,438	April	8.3%	8.3%	0.0%	No	
Apr-1989	6,381	April	8.6%	8.3%	0.3%	Yes	
Apr-1990	6,056	April	8.2%	8.3%	-0.1%	No	
Apr-1991	5,724	April	8.4%	8.3%	0.1%	Yes	
Apr-1992	5,963	April	8.0%	8.3%	-0.3%	No	
Apr-1993	6,313	April	7.6%	8.3%	-0.7%	No	
Apr-1994	7,938	April	8.3%	8.3%	0.0%	No	
Apr-1995	7,866	April	7.9%	8.3%	-0.4%	No	
Apr-1996	9,029	April	8.2%	8.3%	-0.2%	No	
Apr-1997	8,925	April	8.2%	8.3%	-0.2%	No	
Apr-1998	8,435	April	7.8%	8.3%	-0.5%	No	
Apr-1999	8,088	April	8.1%	8.3%	-0.2%	No	
Apr-2000	8,101	April	7.8%	8.3%	-0.6%	No	
Apr-2001	8,237	April	8.1%	8.3%	-0.2%	No	
Apr-2002	8,230	April	8.4%	8.3%	0.0%	Yes	
Apr-2003	6,598	April	7.1%	8.3%	-1.2%	No	
Apr-2004	8,356	April	9.2%	8.3%	0.8%	Yes	
Apr-2005	7,172	April	8.2%	8.3%	-0.1%	No	
Apr-2006	6,655	April	8.4%	8.3%	0.1%	Yes	
Apr-2007	6,571	April	8.0%	8.3%	-0.3%	No	
Apr-2008	6,952	April	7.9%	8.3%	-0.4%	No	
Apr-2009	7,612	April	8.1%	8.3%	-0.2%	No	
Apr-2010	6,454	April	9.2%	8.3%	0.9%	Yes	
Apr-2011	5,759	April	8.6%	8.3%	0.3%	Yes	
Apr-2012	6,679	April	9.1%	8.3%	0.7%	Yes	
Apr-2013	6,207	April	8.0%	8.3%	-0.3%	No	
Apr-2014	6,288	April	7.9%	8.3%	-0.4%	No	
Apr-2015	6,609	April	8.5%	8.3%	0.2%	Yes	10 Positives
Apr-2016	6,309	April	8.0%	8.3%	-0.3%	No	32 Aprils

Average Delta
-0.1%

FORMAL ISSUE PAPER

Months Sorted

**Oct 2017
California
Kerosene-Type
Jet Fuel Retail
Sales by
Refiners
(Thousand
Gallons per**

Date	Day)	Month	Month % of CY	1/12 Average	Delta Test: > 0	Counts
Aug-1985	5,778	August	8.8%	8.3%	0.5% Yes	
Aug-1986	6,178	August	8.9%	8.3%	0.6% Yes	
Aug-1987	6,629	August	9.9%	8.3%	1.6% Yes	
Aug-1988	5,684	August	8.7%	8.3%	0.3% Yes	
Aug-1989	6,721	August	9.1%	8.3%	0.7% Yes	
Aug-1990	7,002	August	9.5%	8.3%	1.2% Yes	
Aug-1991	6,089	August	8.9%	8.3%	0.6% Yes	
Aug-1992	6,763	August	9.1%	8.3%	0.7% Yes	
Aug-1993	7,068	August	8.5%	8.3%	0.2% Yes	
Aug-1994	8,918	August	9.3%	8.3%	1.0% Yes	
Aug-1995	9,281	August	9.4%	8.3%	1.0% Yes	
Aug-1996	9,622	August	8.7%	8.3%	0.4% Yes	
Aug-1997	9,781	August	9.0%	8.3%	0.6% Yes	
Aug-1998	9,888	August	9.2%	8.3%	0.8% Yes	
Aug-1999	8,687	August	8.7%	8.3%	0.4% Yes	
Aug-2000	9,219	August	8.9%	8.3%	0.5% Yes	
Aug-2001	9,742	August	9.6%	8.3%	1.2% Yes	
Aug-2002	9,024	August	9.2%	8.3%	0.9% Yes	
Aug-2003	8,490	August	9.2%	8.3%	0.8% Yes	
Aug-2004	7,609	August	8.3%	8.3%	0.0% Yes	
Aug-2005	8,242	August	9.5%	8.3%	1.1% Yes	
Aug-2006	7,318	August	9.2%	8.3%	0.9% Yes	
Aug-2007	7,458	August	9.1%	8.3%	0.7% Yes	
Aug-2008	8,629	August	9.8%	8.3%	1.5% Yes	
Aug-2009	8,581	August	9.2%	8.3%	0.8% Yes	
Aug-2010	5,205	August	7.4%	8.3%	-0.9% No	
Aug-2011	6,439	August	9.6%	8.3%	1.3% Yes	
Aug-2012	6,921	August	9.4%	8.3%	1.1% Yes	
Aug-2013	7,181	August	9.3%	8.3%	0.9% Yes	
Aug-2014	7,539	August	9.5%	8.3%	1.1% Yes	
Aug-2015	6,748	August	8.7%	8.3%	0.4% Yes	31 Positives
Aug-2016	7,486	August	9.5%	8.3%	1.1% Yes	32 Augusts

Average Delta
0.8%

FORMAL ISSUE PAPER

Months Sorted

Oct 2017
California
Kerosene-Type
Jet Fuel Retail
Sales by
Refiners
(Thousand
Gallons per

Date	Day)	Month	Month % of CY	1/12 Average	Delta	Test: > 0	Counts
Dec-1985	5,700	December	8.7%	8.3%	0.4%	Yes	
Dec-1986	5,458	December	7.9%	8.3%	-0.5%	No	
Dec-1987	5,517	December	8.3%	8.3%	-0.1%	No	
Dec-1988	5,297	December	8.1%	8.3%	-0.3%	No	
Dec-1989	5,612	December	7.6%	8.3%	-0.8%	No	
Dec-1990	5,937	December	8.0%	8.3%	-0.3%	No	
Dec-1991	5,631	December	8.3%	8.3%	-0.1%	No	
Dec-1992	6,529	December	8.8%	8.3%	0.4%	Yes	
Dec-1993	7,507	December	9.0%	8.3%	0.7%	Yes	
Dec-1994	8,001	December	8.4%	8.3%	0.0%	Yes	
Dec-1995	7,815	December	7.9%	8.3%	-0.5%	No	
Dec-1996	9,070	December	8.2%	8.3%	-0.1%	No	
Dec-1997	8,393	December	7.7%	8.3%	-0.6%	No	
Dec-1998	9,316	December	8.6%	8.3%	0.3%	Yes	
Dec-1999	8,815	December	8.8%	8.3%	0.5%	Yes	
Dec-2000	9,730	December	9.3%	8.3%	1.0%	Yes	
Dec-2001	7,615	December	7.5%	8.3%	-0.8%	No	
Dec-2002	8,205	December	8.3%	8.3%	0.0%	Yes	
Dec-2003	7,999	December	8.6%	8.3%	0.3%	Yes	
Dec-2004	7,610	December	8.3%	8.3%	0.0%	Yes	
Dec-2005	6,930	December	8.0%	8.3%	-0.4%	No	
Dec-2006	6,176	December	7.8%	8.3%	-0.5%	No	
Dec-2007	7,053	December	8.6%	8.3%	0.3%	Yes	
Dec-2008	6,826	December	7.8%	8.3%	-0.6%	No	
Dec-2009	7,809	December	8.3%	8.3%	0.0%	No	
Dec-2010	5,099	December	7.3%	8.3%	-1.0%	No	
Dec-2011	5,421	December	8.1%	8.3%	-0.3%	No	
Dec-2012	5,988	December	8.1%	8.3%	-0.2%	No	
Dec-2013	6,181	December	8.0%	8.3%	-0.4%	No	
Dec-2014	7,022	December	8.8%	8.3%	0.5%	Yes	
Dec-2015	6,479	December	8.3%	8.3%	0.0%	Yes	14 Positives
Dec-2016	7,105	December	9.0%	8.3%	0.7%	Yes	32 Decembers

Average Delta
-0.1%

FORMAL ISSUE PAPER

Months Sorted

Oct 2017
California
Kerosene-Type
Jet Fuel Retail
Sales by
Refiners
(Thousand
Gallons per

Date	Day)	Month	Month % of CY	1/12 Average	Delta	Test: > 0	Counts
Feb-1985	5,411	February	8.3%	8.3%	-0.1%	No	
Feb-1986	5,566	February	8.0%	8.3%	-0.3%	No	
Feb-1987	5,134	February	7.7%	8.3%	-0.6%	No	
Feb-1988	5,248	February	8.0%	8.3%	-0.3%	No	
Feb-1989	5,954	February	8.0%	8.3%	-0.3%	No	
Feb-1990	5,621	February	7.6%	8.3%	-0.7%	No	
Feb-1991	5,499	February	8.1%	8.3%	-0.3%	No	
Feb-1992	5,648	February	7.6%	8.3%	-0.8%	No	
Feb-1993	6,152	February	7.4%	8.3%	-0.9%	No	
Feb-1994	6,603	February	6.9%	8.3%	-1.4%	No	
Feb-1995	7,147	February	7.2%	8.3%	-1.1%	No	
Feb-1996	8,572	February	7.8%	8.3%	-0.6%	No	
Feb-1997	8,774	February	8.0%	8.3%	-0.3%	No	
Feb-1998	8,042	February	7.5%	8.3%	-0.9%	No	
Feb-1999	7,669	February	7.7%	8.3%	-0.7%	No	
Feb-2000	7,787	February	7.5%	8.3%	-0.9%	No	
Feb-2001	8,716	February	8.6%	8.3%	0.2%	Yes	
Feb-2002	7,126	February	7.3%	8.3%	-1.1%	No	
Feb-2003	8,150	February	8.8%	8.3%	0.5%	Yes	
Feb-2004	7,739	February	8.5%	8.3%	0.1%	Yes	
Feb-2005	7,225	February	8.3%	8.3%	0.0%	No	
Feb-2006	6,130	February	7.7%	8.3%	-0.6%	No	
Feb-2007	6,510	February	7.9%	8.3%	-0.4%	No	
Feb-2008	7,124	February	8.1%	8.3%	-0.2%	No	
Feb-2009	7,055	February	7.5%	8.3%	-0.8%	No	
Feb-2010	6,371	February	9.1%	8.3%	0.8%	Yes	
Feb-2011	5,178	February	7.7%	8.3%	-0.6%	No	
Feb-2012	5,357	February	7.3%	8.3%	-1.0%	No	
Feb-2013	6,646	February	8.6%	8.3%	0.2%	Yes	
Feb-2014	6,101	February	7.7%	8.3%	-0.7%	No	
Feb-2015	6,697	February	8.6%	8.3%	0.3%	Yes	6 Positives
Feb-2016	5,773	February	7.3%	8.3%	-1.0%	No	32 Februarys

Average Delta
-0.5%

FORMAL ISSUE PAPER

Months Sorted

**Oct 2017
California
Kerosene-Type
Jet Fuel Retail
Sales by
Refiners
(Thousand
Gallons per**

Date	Day)	Month	Month % of CY	1/12 Average	Delta	Test: > 0	Counts
Jan-1985	5,218	January	8.0%	8.3%	-0.4%	No	
Jan-1986	5,817	January	8.4%	8.3%	0.0%	Yes	
Jan-1987	5,666	January	8.5%	8.3%	0.2%	Yes	
Jan-1988	5,314	January	8.1%	8.3%	-0.2%	No	
Jan-1989	5,173	January	7.0%	8.3%	-1.4%	No	
Jan-1990	5,685	January	7.7%	8.3%	-0.6%	No	
Jan-1991	5,536	January	8.1%	8.3%	-0.2%	No	
Jan-1992	5,759	January	7.7%	8.3%	-0.6%	No	
Jan-1993	6,289	January	7.6%	8.3%	-0.8%	No	
Jan-1994	7,097	January	7.4%	8.3%	-0.9%	No	
Jan-1995	7,944	January	8.0%	8.3%	-0.3%	No	
Jan-1996	8,734	January	7.9%	8.3%	-0.4%	No	
Jan-1997	8,759	January	8.0%	8.3%	-0.3%	No	
Jan-1998	8,436	January	7.8%	8.3%	-0.5%	No	
Jan-1999	7,260	January	7.3%	8.3%	-1.1%	No	
Jan-2000	7,167	January	6.9%	8.3%	-1.5%	No	
Jan-2001	8,210	January	8.1%	8.3%	-0.3%	No	
Jan-2002	7,995	January	8.1%	8.3%	-0.2%	No	
Jan-2003	7,608	January	8.2%	8.3%	-0.1%	No	
Jan-2004	7,499	January	8.2%	8.3%	-0.1%	No	
Jan-2005	7,137	January	8.2%	8.3%	-0.1%	No	
Jan-2006	6,442	January	8.1%	8.3%	-0.2%	No	
Jan-2007	6,133	January	7.5%	8.3%	-0.9%	No	
Jan-2008	6,774	January	7.7%	8.3%	-0.6%	No	
Jan-2009	6,626	January	7.1%	8.3%	-1.3%	No	
Jan-2010	6,070	January	8.7%	8.3%	0.4%	Yes	
Jan-2011	4,717	January	7.0%	8.3%	-1.3%	No	
Jan-2012	4,907	January	6.7%	8.3%	-1.7%	No	
Jan-2013	5,348	January	6.9%	8.3%	-1.4%	No	
Jan-2014	5,920	January	7.4%	8.3%	-0.9%	No	
Jan-2015	6,108	January	7.9%	8.3%	-0.5%	No	3 Positives
Jan-2016	5,562	January	7.0%	8.3%	-1.3%	No	32 Januarys

Average Delta
-0.6%

FORMAL ISSUE PAPER

Months Sorted

**Oct 2017
California
Kerosene-Type
Jet Fuel Retail
Sales by
Refiners
(Thousand
Gallons per**

Date	Day)	Month	Month % of CY	1/12 Average	Delta Test: > 0	Counts
Jul-1985	5,818	July	8.9%	8.3%	0.5%	Yes
Jul-1986	6,059	July	8.7%	8.3%	0.4%	Yes
Jul-1987	5,895	July	8.8%	8.3%	0.5%	Yes
Jul-1988	5,795	July	8.8%	8.3%	0.5%	Yes
Jul-1989	6,587	July	8.9%	8.3%	0.6%	Yes
Jul-1990	6,290	July	8.5%	8.3%	0.2%	Yes
Jul-1991	6,269	July	9.2%	8.3%	0.9%	Yes
Jul-1992	6,898	July	9.3%	8.3%	0.9%	Yes
Jul-1993	7,059	July	8.5%	8.3%	0.2%	Yes
Jul-1994	8,239	July	8.6%	8.3%	0.3%	Yes
Jul-1995	8,926	July	9.0%	8.3%	0.7%	Yes
Jul-1996	9,697	July	8.8%	8.3%	0.5%	Yes
Jul-1997	9,651	July	8.8%	8.3%	0.5%	Yes
Jul-1998	9,722	July	9.0%	8.3%	0.7%	Yes
Jul-1999	8,790	July	8.8%	8.3%	0.5%	Yes
Jul-2000	9,766	July	9.4%	8.3%	1.0%	Yes
Jul-2001	9,399	July	9.2%	8.3%	0.9%	Yes
Jul-2002	8,861	July	9.0%	8.3%	0.7%	Yes
Jul-2003	7,822	July	8.4%	8.3%	0.1%	Yes
Jul-2004	7,480	July	8.2%	8.3%	-0.1%	No
Jul-2005	7,314	July	8.4%	8.3%	0.1%	Yes
Jul-2006	7,149	July	9.0%	8.3%	0.7%	Yes
Jul-2007	7,120	July	8.7%	8.3%	0.3%	Yes
Jul-2008	8,562	July	9.7%	8.3%	1.4%	Yes
Jul-2009	8,362	July	8.9%	8.3%	0.6%	Yes
Jul-2010	5,253	July	7.5%	8.3%	-0.8%	No
Jul-2011	6,198	July	9.2%	8.3%	0.9%	Yes
Jul-2012	6,611	July	9.0%	8.3%	0.7%	Yes
Jul-2013	7,036	July	9.1%	8.3%	0.8%	Yes
Jul-2014	6,968	July	8.8%	8.3%	0.4%	Yes
Jul-2015	6,982	July	9.0%	8.3%	0.7%	Yes
Jul-2016	6,668	July	8.4%	8.3%	0.1%	Yes
						30 Positives
						32 Julys
						Average Delta 0.5%

Months Sorted

**Oct 2017
 California
 Kerosene-Type
 Jet Fuel Retail
 Sales by
 Refiners
 (Thousand
 Gallons per**

Date	Day)	Month	Month % of CY	1/12 Average	Delta	Test: > 0	Counts
Jun-1985	4,791	June	7.3%	8.3%	-1.0%	No	
Jun-1986	6,112	June	8.8%	8.3%	0.5%	Yes	
Jun-1987	6,059	June	9.1%	8.3%	0.7%	Yes	
Jun-1988	5,559	June	8.5%	8.3%	0.1%	Yes	
Jun-1989	6,360	June	8.6%	8.3%	0.2%	Yes	
Jun-1990	6,433	June	8.7%	8.3%	0.4%	Yes	
Jun-1991	5,754	June	8.5%	8.3%	0.1%	Yes	
Jun-1992	6,325	June	8.5%	8.3%	0.2%	Yes	
Jun-1993	6,796	June	8.2%	8.3%	-0.2%	No	
Jun-1994	8,273	June	8.6%	8.3%	0.3%	Yes	
Jun-1995	8,647	June	8.7%	8.3%	0.4%	Yes	
Jun-1996	9,595	June	8.7%	8.3%	0.4%	Yes	
Jun-1997	9,834	June	9.0%	8.3%	0.7%	Yes	
Jun-1998	8,744	June	8.1%	8.3%	-0.2%	No	
Jun-1999	8,791	June	8.8%	8.3%	0.5%	Yes	
Jun-2000	9,082	June	8.7%	8.3%	0.4%	Yes	
Jun-2001	9,164	June	9.0%	8.3%	0.7%	Yes	
Jun-2002	8,942	June	9.1%	8.3%	0.8%	Yes	
Jun-2003	7,456	June	8.0%	8.3%	-0.3%	No	
Jun-2004	8,174	June	9.0%	8.3%	0.6%	Yes	
Jun-2005	7,369	June	8.5%	8.3%	0.1%	Yes	
Jun-2006	7,167	June	9.0%	8.3%	0.7%	Yes	
Jun-2007	7,458	June	9.1%	8.3%	0.7%	Yes	
Jun-2008	7,214	June	8.2%	8.3%	-0.1%	No	
Jun-2009	8,491	June	9.1%	8.3%	0.7%	Yes	
Jun-2010	6,883	June	9.9%	8.3%	1.5%	Yes	
Jun-2011	6,008	June	9.0%	8.3%	0.6%	Yes	
Jun-2012	6,160	June	8.4%	8.3%	0.0%	Yes	
Jun-2013	6,732	June	8.7%	8.3%	0.4%	Yes	
Jun-2014	6,975	June	8.8%	8.3%	0.4%	Yes	
Jun-2015	6,916	June	8.9%	8.3%	0.6%	Yes	26 Positives
Jun-2016	6,075	June	7.7%	8.3%	-0.6%	No	32 Junes

Average Delta
0.3%

FORMAL ISSUE PAPER

Months Sorted

**Oct 2017
California
Kerosene-Type
Jet Fuel Retail
Sales by
Refiners
(Thousand
Gallons per**

Date	Day)	Month	Month % of CY	1/12 Average	Delta	Test: > 0	Counts
Mar-1985	5,045	March	7.7%	8.3%	-0.6%	No	
Mar-1986	5,704	March	8.2%	8.3%	-0.1%	No	
Mar-1987	5,307	March	7.9%	8.3%	-0.4%	No	
Mar-1988	5,813	March	8.9%	8.3%	0.5%	Yes	
Mar-1989	5,570	March	7.5%	8.3%	-0.8%	No	
Mar-1990	5,835	March	7.9%	8.3%	-0.4%	No	
Mar-1991	5,388	March	7.9%	8.3%	-0.4%	No	
Mar-1992	5,724	March	7.7%	8.3%	-0.7%	No	
Mar-1993	6,370	March	7.7%	8.3%	-0.7%	No	
Mar-1994	7,475	March	7.8%	8.3%	-0.5%	No	
Mar-1995	7,828	March	7.9%	8.3%	-0.4%	No	
Mar-1996	8,730	March	7.9%	8.3%	-0.4%	No	
Mar-1997	8,712	March	8.0%	8.3%	-0.4%	No	
Mar-1998	8,052	March	7.5%	8.3%	-0.9%	No	
Mar-1999	8,394	March	8.4%	8.3%	0.1%	Yes	
Mar-2000	8,061	March	7.7%	8.3%	-0.6%	No	
Mar-2001	8,602	March	8.5%	8.3%	0.1%	Yes	
Mar-2002	7,768	March	7.9%	8.3%	-0.4%	No	
Mar-2003	7,620	March	8.2%	8.3%	-0.1%	No	
Mar-2004	7,985	March	8.7%	8.3%	0.4%	Yes	
Mar-2005	7,184	March	8.2%	8.3%	-0.1%	No	
Mar-2006	6,317	March	8.0%	8.3%	-0.4%	No	
Mar-2007	6,361	March	7.7%	8.3%	-0.6%	No	
Mar-2008	7,014	March	8.0%	8.3%	-0.4%	No	
Mar-2009	7,226	March	7.7%	8.3%	-0.6%	No	
Mar-2010	6,724	March	9.6%	8.3%	1.3%	Yes	
Mar-2011	4,906	March	7.3%	8.3%	-1.0%	No	
Mar-2012	4,920	March	6.7%	8.3%	-1.6%	No	
Mar-2013	6,406	March	8.3%	8.3%	-0.1%	No	
Mar-2014	5,478	March	6.9%	8.3%	-1.4%	No	
Mar-2015	5,967	March	7.7%	8.3%	-0.6%	No	5 Positives
Mar-2016	6,160	March	7.8%	8.3%	-0.5%	No	32 Marches

Average Delta
-0.4%

FORMAL ISSUE PAPER

Months Sorted

**Oct 2017
California
Kerosene-Type
Jet Fuel Retail
Sales by
Refiners
(Thousand
Gallons per**

Date	Day)	Month	Month % of CY	1/12 Average	Delta	Test: > 0	Counts
May-1985	5,346	May	8.2%	8.3%	-0.2%	No	
May-1986	5,502	May	7.9%	8.3%	-0.4%	No	
May-1987	5,419	May	8.1%	8.3%	-0.2%	No	
May-1988	5,750	May	8.8%	8.3%	0.4%	Yes	
May-1989	5,911	May	8.0%	8.3%	-0.4%	No	
May-1990	6,033	May	8.2%	8.3%	-0.2%	No	
May-1991	5,727	May	8.4%	8.3%	0.1%	Yes	
May-1992	6,295	May	8.4%	8.3%	0.1%	Yes	
May-1993	6,563	May	7.9%	8.3%	-0.4%	No	
May-1994	8,016	May	8.4%	8.3%	0.0%	Yes	
May-1995	8,462	May	8.5%	8.3%	0.2%	Yes	
May-1996	8,969	May	8.1%	8.3%	-0.2%	No	
May-1997	9,405	May	8.6%	8.3%	0.3%	Yes	
May-1998	8,434	May	7.8%	8.3%	-0.5%	No	
May-1999	8,129	May	8.1%	8.3%	-0.2%	No	
May-2000	8,201	May	7.9%	8.3%	-0.5%	No	
May-2001	8,829	May	8.7%	8.3%	0.4%	Yes	
May-2002	7,893	May	8.0%	8.3%	-0.3%	No	
May-2003	7,533	May	8.1%	8.3%	-0.2%	No	
May-2004	7,220	May	7.9%	8.3%	-0.4%	No	
May-2005	7,184	May	8.2%	8.3%	-0.1%	No	
May-2006	6,974	May	8.8%	8.3%	0.5%	Yes	
May-2007	6,665	May	8.1%	8.3%	-0.2%	No	
May-2008	7,217	May	8.2%	8.3%	-0.1%	No	
May-2009	7,849	May	8.4%	8.3%	0.0%	Yes	
May-2010	6,611	May	9.5%	8.3%	1.1%	Yes	
May-2011	5,597	May	8.3%	8.3%	0.0%	Yes	
May-2012	6,409	May	8.7%	8.3%	0.4%	Yes	
May-2013	7,224	May	9.3%	8.3%	1.0%	Yes	
May-2014	6,185	May	7.8%	8.3%	-0.6%	No	
May-2015	7,028	May	9.1%	8.3%	0.7%	Yes	14 Positives
May-2016	5,936	May	7.5%	8.3%	-0.8%	No	32 Mays

Average Delta
0.0%

Months Sorted

**Oct 2017
 California
 Kerosene-Type
 Jet Fuel Retail
 Sales by
 Refiners
 (Thousand
 Gallons per**

Date	Day)	Month	Month % of CY	1/12 Average	Delta Test: > 0	Counts
Nov-1985	6,093	November	9.3%	8.3%	1.0% Yes	
Nov-1986	5,549	November	8.0%	8.3%	-0.3% No	
Nov-1987	5,523	November	8.3%	8.3%	-0.1% No	
Nov-1988	4,891	November	7.5%	8.3%	-0.9% No	
Nov-1989	6,443	November	8.7%	8.3%	0.4% Yes	
Nov-1990	5,969	November	8.1%	8.3%	-0.2% No	
Nov-1991	5,538	November	8.1%	8.3%	-0.2% No	
Nov-1992	6,123	November	8.2%	8.3%	-0.1% No	
Nov-1993	7,415	November	8.9%	8.3%	0.6% Yes	
Nov-1994	8,275	November	8.6%	8.3%	0.3% Yes	
Nov-1995	8,591	November	8.7%	8.3%	0.3% Yes	
Nov-1996	8,984	November	8.1%	8.3%	-0.2% No	
Nov-1997	8,108	November	7.4%	8.3%	-0.9% No	
Nov-1998	8,327	November	7.7%	8.3%	-0.6% No	
Nov-1999	8,173	November	8.2%	8.3%	-0.1% No	
Nov-2000	8,755	November	8.4%	8.3%	0.1% Yes	
Nov-2001	7,556	November	7.4%	8.3%	-0.9% No	
Nov-2002	7,854	November	8.0%	8.3%	-0.3% No	
Nov-2003	7,644	November	8.2%	8.3%	-0.1% No	
Nov-2004	6,852	November	7.5%	8.3%	-0.8% No	
Nov-2005	6,900	November	7.9%	8.3%	-0.4% No	
Nov-2006	6,269	November	7.9%	8.3%	-0.4% No	
Nov-2007	6,981	November	8.5%	8.3%	0.2% Yes	
Nov-2008	6,951	November	7.9%	8.3%	-0.4% No	
Nov-2009	8,142	November	8.7%	8.3%	0.4% Yes	
Nov-2010	5,380	November	7.7%	8.3%	-0.6% No	
Nov-2011	5,246	November	7.8%	8.3%	-0.5% No	
Nov-2012	6,275	November	8.5%	8.3%	0.2% Yes	
Nov-2013	6,070	November	7.8%	8.3%	-0.5% No	
Nov-2014	7,073	November	8.9%	8.3%	0.6% Yes	
Nov-2015	6,225	November	8.0%	8.3%	-0.3% No	11 Positives
Nov-2016	7,058	November	8.9%	8.3%	0.6% Yes	32 Novembers

Average Delta
 -0.1%

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Months Sorted

**Oct 2017
California
Kerosene-Type
Jet Fuel Retail
Sales by
Refiners
(Thousand
Gallons per**

Date	Day)	Month	Month % of CY	1/12 Average	Delta Test: > 0	Counts
Oct-1985	5,618	October	8.6%	8.3%	0.2% Yes	
Oct-1986	5,373	October	7.7%	8.3%	-0.6% No	
Oct-1987	5,108	October	7.7%	8.3%	-0.7% No	
Oct-1988	5,176	October	7.9%	8.3%	-0.4% No	
Oct-1989	6,477	October	8.7%	8.3%	0.4% Yes	
Oct-1990	6,520	October	8.8%	8.3%	0.5% Yes	
Oct-1991	5,416	October	8.0%	8.3%	-0.4% No	
Oct-1992	5,994	October	8.0%	8.3%	-0.3% No	
Oct-1993	8,085	October	9.7%	8.3%	1.4% Yes	
Oct-1994	8,561	October	8.9%	8.3%	0.6% Yes	
Oct-1995	8,242	October	8.3%	8.3%	0.0% No	
Oct-1996	9,502	October	8.6%	8.3%	0.3% Yes	
Oct-1997	9,351	October	8.6%	8.3%	0.2% Yes	
Oct-1998	10,241	October	9.5%	8.3%	1.2% Yes	
Oct-1999	8,304	October	8.3%	8.3%	0.0% No	
Oct-2000	8,970	October	8.6%	8.3%	0.3% Yes	
Oct-2001	7,787	October	7.7%	8.3%	-0.7% No	
Oct-2002	8,247	October	8.4%	8.3%	0.1% Yes	
Oct-2003	7,816	October	8.4%	8.3%	0.1% Yes	
Oct-2004	6,945	October	7.6%	8.3%	-0.7% No	
Oct-2005	6,677	October	7.7%	8.3%	-0.7% No	
Oct-2006	6,011	October	7.6%	8.3%	-0.8% No	
Oct-2007	6,761	October	8.2%	8.3%	-0.1% No	
Oct-2008	6,860	October	7.8%	8.3%	-0.5% No	
Oct-2009	7,917	October	8.4%	8.3%	0.1% Yes	
Oct-2010	4,745	October	6.8%	8.3%	-1.5% No	
Oct-2011	5,260	October	7.8%	8.3%	-0.5% No	
Oct-2012	6,436	October	8.8%	8.3%	0.4% Yes	
Oct-2013	6,070	October	7.8%	8.3%	-0.5% No	
Oct-2014	6,693	October	8.4%	8.3%	0.1% Yes	
Oct-2015	5,816	October	7.5%	8.3%	-0.8% No	15 Positives
Oct-2016	7,549	October	9.6%	8.3%	1.2% Yes	32 Octobers

Average Delta
-0.1%

Months Sorted

**Oct 2017
 California
 Kerosene-Type
 Jet Fuel Retail
 Sales by
 Refiners
 (Thousand
 Gallons per**

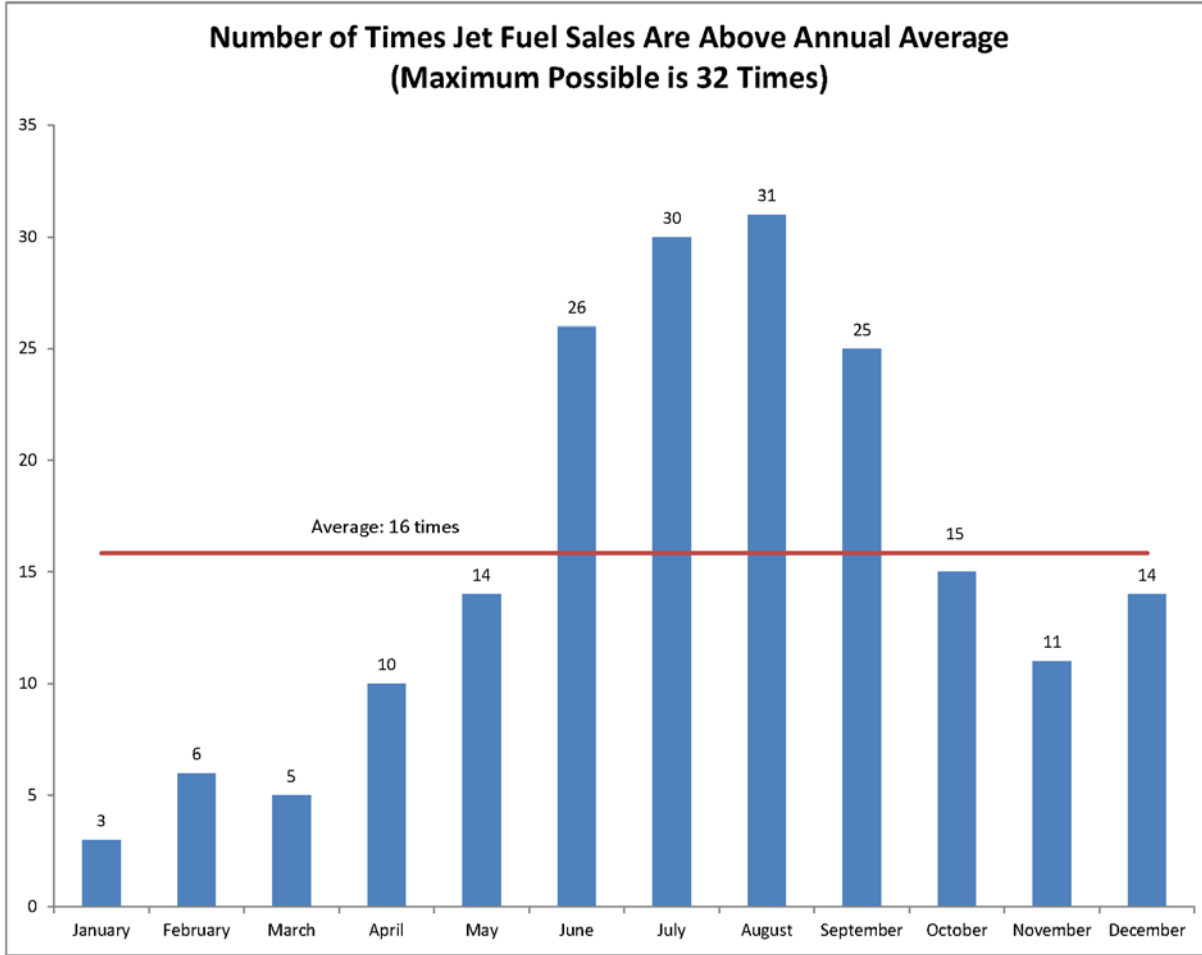
Date	Day)	Month	Month % of CY	1/12 Average	Delta Test: > 0	Counts	
Sep-1985	5,505	September	8.4%	8.3%	0.1%	Yes	
Sep-1986	6,239	September	9.0%	8.3%	0.6%	Yes	
Sep-1987	5,399	September	8.1%	8.3%	-0.2%	No	
Sep-1988	5,652	September	8.6%	8.3%	0.3%	Yes	
Sep-1989	6,925	September	9.3%	8.3%	1.0%	Yes	
Sep-1990	6,402	September	8.7%	8.3%	0.3%	Yes	
Sep-1991	5,467	September	8.0%	8.3%	-0.3%	No	
Sep-1992	6,481	September	8.7%	8.3%	0.4%	Yes	
Sep-1993	7,446	September	9.0%	8.3%	0.6%	Yes	
Sep-1994	8,351	September	8.7%	8.3%	0.4%	Yes	
Sep-1995	8,503	September	8.6%	8.3%	0.2%	Yes	
Sep-1996	9,853	September	8.9%	8.3%	0.6%	Yes	
Sep-1997	9,450	September	8.7%	8.3%	0.3%	Yes	
Sep-1998	10,135	September	9.4%	8.3%	1.1%	Yes	
Sep-1999	8,740	September	8.8%	8.3%	0.4%	Yes	
Sep-2000	9,281	September	8.9%	8.3%	0.6%	Yes	
Sep-2001	7,805	September	7.7%	8.3%	-0.7%	No	
Sep-2002	8,124	September	8.3%	8.3%	-0.1%	No	
Sep-2003	7,941	September	8.6%	8.3%	0.2%	Yes	
Sep-2004	7,797	September	8.5%	8.3%	0.2%	Yes	
Sep-2005	7,811	September	9.0%	8.3%	0.6%	Yes	
Sep-2006	6,708	September	8.5%	8.3%	0.1%	Yes	
Sep-2007	7,046	September	8.6%	8.3%	0.2%	Yes	
Sep-2008	7,828	September	8.9%	8.3%	0.6%	Yes	
Sep-2009	8,081	September	8.6%	8.3%	0.3%	Yes	
Sep-2010	5,080	September	7.3%	8.3%	-1.1%	No	
Sep-2011	6,345	September	9.5%	8.3%	1.1%	Yes	
Sep-2012	6,875	September	9.3%	8.3%	1.0%	Yes	
Sep-2013	6,329	September	8.2%	8.3%	-0.2%	No	
Sep-2014	7,293	September	9.2%	8.3%	0.8%	Yes	
Sep-2015	6,051	September	7.8%	8.3%	-0.5%	No	
Sep-2016	7,277	September	9.2%	8.3%	0.9%	Yes	
						25 Positives	Average Delta
						32 Septembers	0.3%

Source <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=A503650061&f=M>
 Downloaded 10-4-2017

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Summary

Month	Number of Times Jet Fuel Sales Are Above Average (Maximum of 32)	Average
January	3	16
February	6	16
March	5	16
April	10	16
May	14	16
June	26	16
July	30	16
August	31	16
September	25	16
October	15	16
November	11	16
December	14	16
Median	14	
Average	16	



EIA Jet Fuel Data Oct 2017D1.xlsx
Chart

APPENDIX 4: ADDITIONAL DATA SUPPORTING JET FUEL STUDY

Chart 1 (Bar chart)

Adds up the annual retail sales of jet fuel and determines the average for each month, and then the percentage for each month is calculated. The data spans 32 years. The chart shows the number of times for each month that the amount of jet fuel sales was over/under the average. This is calculated for each year. The closest to the average is the best representative month to use. In this case, it's October with 15; January is the fewest with 3. Data Source: EIA

Chart 2 (line chart)

Total operations, per the FAA, are takeoffs and landings. This chart shows a definite pattern between Total Operations and the Retail Sales of Jet Fuel. Data source: FAA and EIA

Chart 3 (line chart)

Same as chart 2, but it subtracts international flights. Again, this chart shows a definite pattern between Total Operations and the Retail Sales of Jet Fuel. Data source: FAA and EIA

How close is the correlation between Airport Total Operations (takeoffs/landings) and Jet Fuel Sales?

A regression analysis was performed with Operations as a function of Jet Fuel Retail sales, each iteration of the regression analysis show a t-stat of greater than 2.0. The t-statistic is the coefficient estimate divided by the standard error. A t-statistic greater than 2 (or less than -2) indicates the coefficient is significant with >95% confidence.

Function	Observations	Type	T-stat
Operations (Takeoffs and landings) as a function of Jet Fuel	27	Annual Data	2.1
Operations (Takeoffs and landings) as a function of Jet Fuel	27	Only Octobers	2.58
Operations (Takeoffs and landings) as a function of Jet Fuel	324	All months	8.28

Chart 1

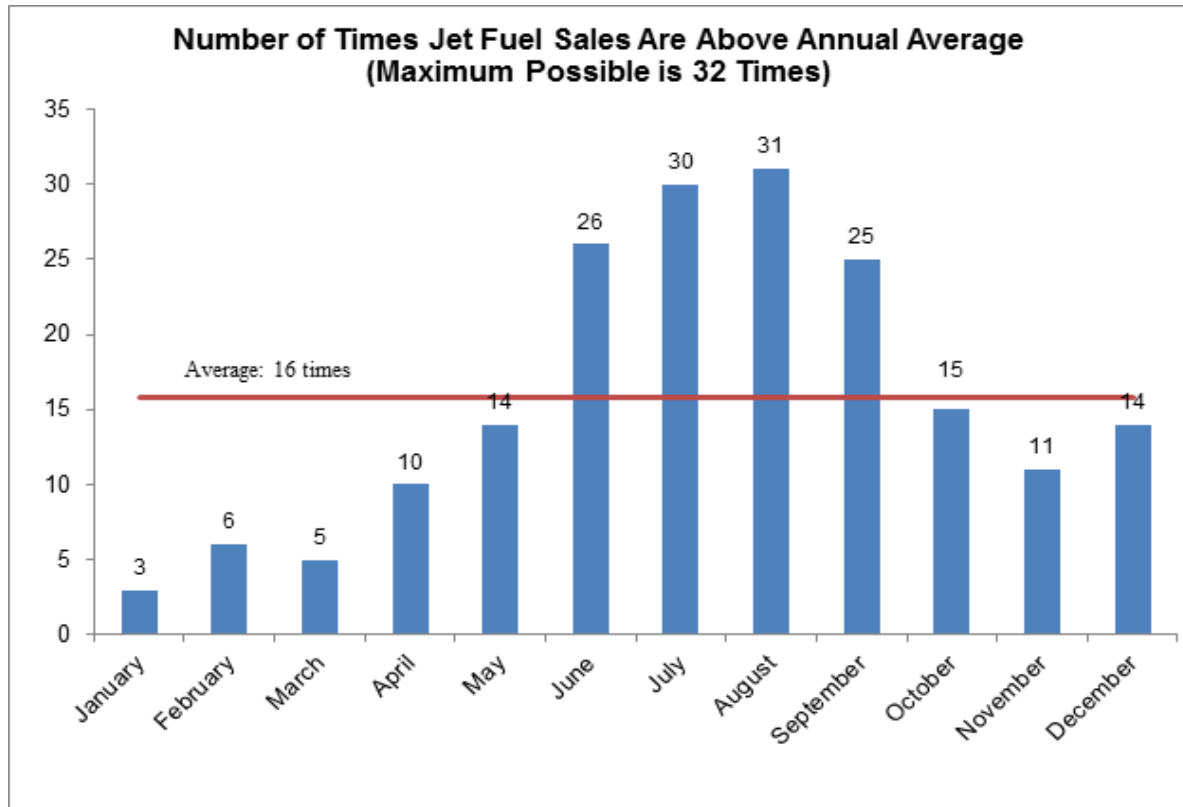


Chart 2

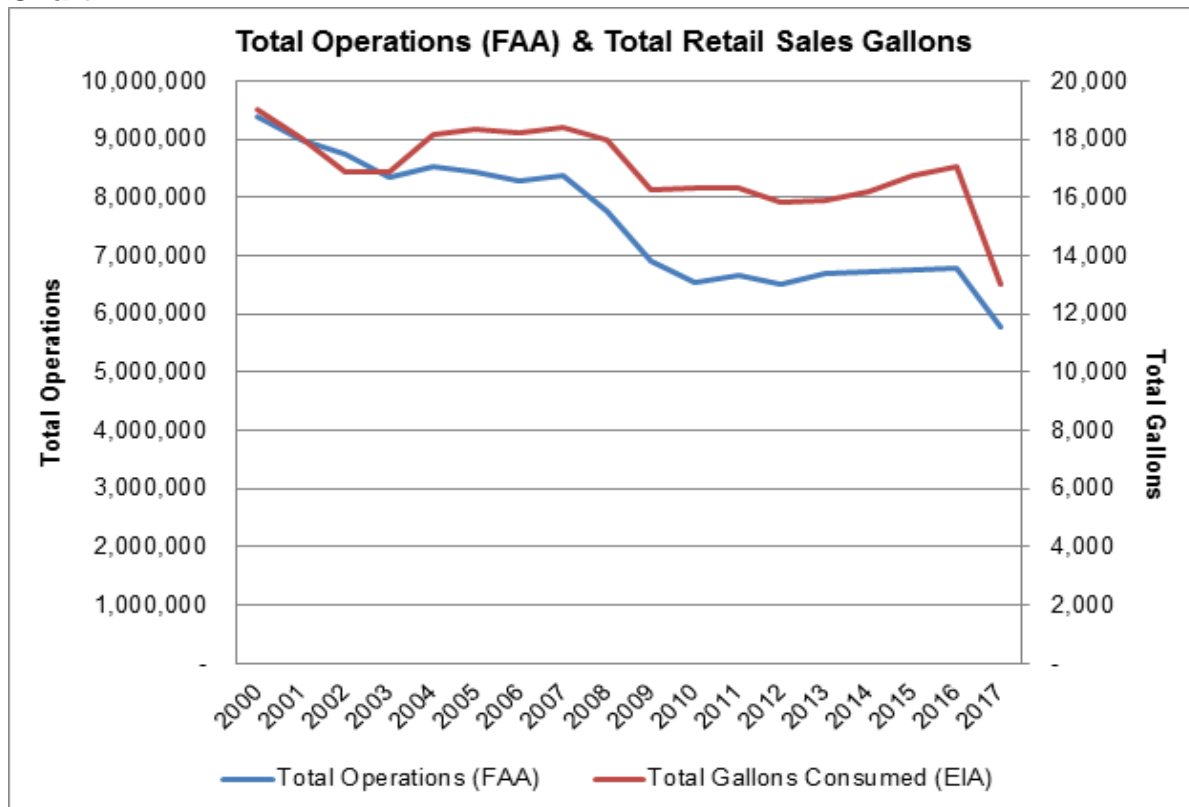
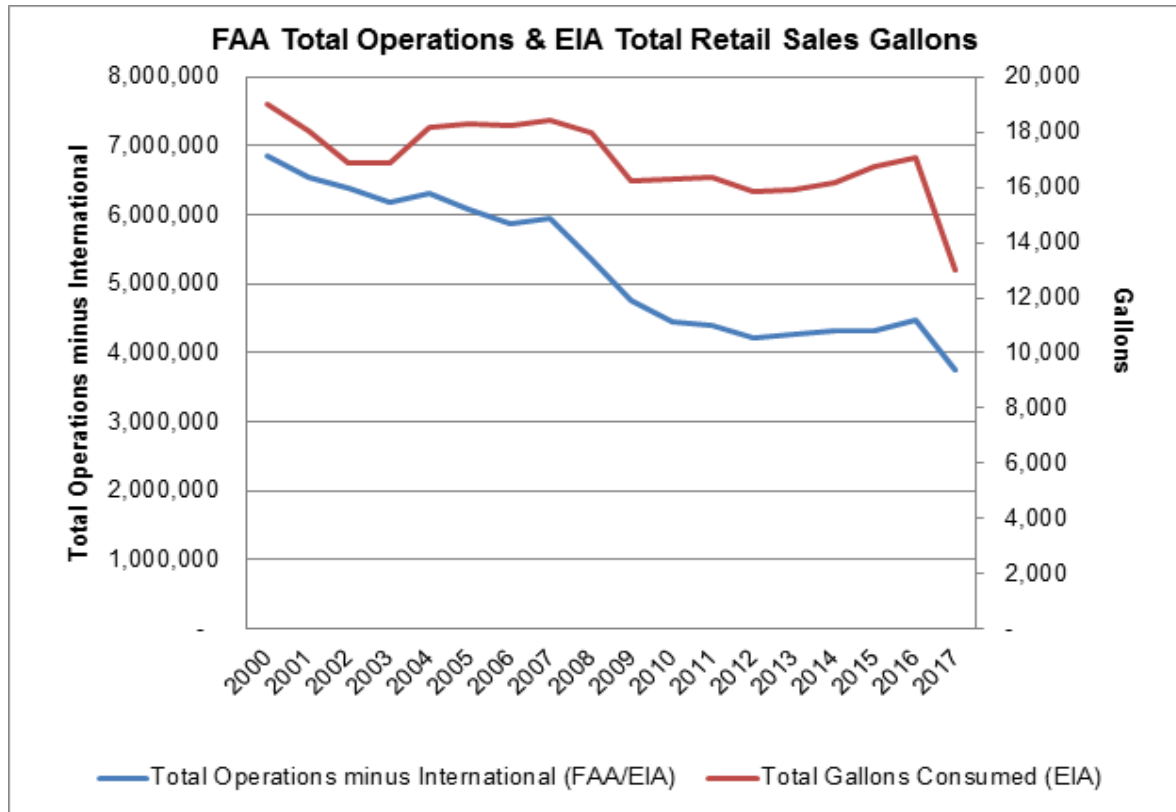


Chart 3



APPENDIX 5: TIME PERIODS USED FOR ALLOCATION BY STATE

Certificated Aircraft Assessment - Allocation Time Period Used by State

Survey prepared by CAA's Aircraft Subcommittee. Verified on a sample basis and updated by BOE staff.

State	Local or Central Assessment	Time Period Used for Allocation	2016 Enplaned Passengers ^a	Percent of Total Enplanements
California	Locally	Repres Period: 1 wk in Jan	105,694,717	12.9%
Massachusetts	Centrally	Repres Period: 2 wks, Jan & Jul	18,045,248	2.2%
Texas	Locally	Prior Year Actual Activity	79,882,973	9.7%
Georgia	Centrally	Prior Year Actual Activity	51,984,288	6.3%
North Carolina	Centrally	Prior Year Actual Activity	29,210,412	3.6%
Colorado	Centrally	Prior Year Actual Activity	30,021,004	3.7%
Arizona	Centrally	Prior Year Actual Activity	23,918,214	2.9%
Washington	Centrally	Prior Year Actual Activity	24,526,133	3.0%
Minnesota	Centrally	Prior Year Actual Activity	18,450,454	2.2%
Missouri	Centrally	Prior Year Actual Activity	12,758,076	1.6%
Utah	Centrally	Prior Year Actual Activity	11,342,735	1.4%
Oregon	Centrally	Prior Year Actual Activity	10,282,492	1.3%
Tennessee	Centrally	Prior Year Actual Activity	9,872,738	1.2%
Louisiana	Centrally	Prior Year Actual Activity	6,696,661	0.8%
Kentucky	Centrally	Prior Year Actual Activity	5,583,592	0.7%
Wisconsin	Centrally	Prior Year Actual Activity	5,049,179	0.6%
Alaska	Locally	Prior Year Actual Activity	4,878,633	0.6%
Indiana	Locally	Prior Year Actual Activity	5,111,444	0.6%
South Carolina	Centrally	Prior Year Actual Activity	4,377,734	0.5%
Oklahoma	Centrally	Prior Year Actual Activity	3,200,238	0.4%
New Mexico	Centrally	Prior Year Actual Activity	2,485,409	0.3%
Alabama	Centrally	Prior Year Actual Activity	2,348,393	0.3%
Nebraska	Centrally	Prior Year Actual Activity	2,376,133	0.3%
Montana	Centrally	Prior Year Actual Activity	1,937,634	0.2%
Arkansas	Centrally	Prior Year Actual Activity	1,757,256	0.2%
Mississippi	Centrally	Prior Year Actual Activity	888,695	0.1%
South Dakota	Centrally	Prior Year Actual Activity	817,417	0.1%
West Virginia	Centrally	Prior Year Actual Activity	354,912	0.0%
Nevada	Centrally	not based on activity	24,895,084	3.0%
Florida	Exempt		81,267,678	9.9%
New York	Exempt		51,972,433	6.3%
Illinois	Exempt		49,885,067	6.1%
Virginia	Locally		26,329,545	3.2%
Pennsylvania	Exempt		20,098,796	2.4%
New Jersey	Exempt		20,790,536	2.5%
Michigan	Exempt		19,423,183	2.4%
Hawaii	Exempt		16,829,046	2.0%
Maryland	Exempt		12,426,941	1.5%
Ohio	Exempt		9,605,721	1.2%
Connecticut	Exempt		3,010,105	0.4%
Idaho	Unknown		2,003,504	0.2%
Iowa	Exempt		1,887,670	0.2%
Rhode Island	Exempt		1,837,443	0.2%
North Dakota	Exempt		1,061,948	0.1%
Maine	Exempt		1,199,310	0.1%
New Hampshire	Exempt		1,078,895	0.1%
Kansas	Exempt		896,025	0.1%
Vermont	Exempt		598,457	0.1%
Wyoming	Centrally		543,056	0.1%
Delaware	Exempt			0.0%
Total			821,493,257	100.0%

^a Enplanements at commercial service airports only, from Federal Aviation Administration airports statistics:

https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/

APPENDIX 6: ASSESSORS' HANDBOOK SECTION 570 (AH 570) ASSESSMENT OF COMMERCIAL AIRCRAFT, EXCERPT

CHAPTER 4: REPRESENTATIVE PERIOD

Property Tax Rule 202 requires that the Board annually, on or before February 15, consult with assessors of the counties in which carriers' aircraft normally make physical contact. On or before March 1, the Board then designates the representative periods to be used by all assessors in assessing the aircraft of each carrier for the forthcoming tax year.

REASON FOR A REPRESENTATIVE PERIOD

The purpose of a representative period is to obtain air carrier operational data, for as brief a time span as possible, that can reasonably be expected to reflect the average activity of the carrier for the ensuing tax year.²

An entire year's past activity could be utilized; however, this proves too burdensome for air carriers with a high volume of air traffic. Also, the use of an entire prior year may be undesirable when a major change in the air carrier's activity has recently taken place. For these reasons the desirable representative period is one that is short enough not to be too burdensome, yet long enough and current enough to be reasonably representative of the near future.

REPRESENTATIVE PERIOD MAY VARY FROM ONE AIR CARRIER TO ANOTHER

Because of the varying operations conducted by different air carriers, no one representative period would fairly reflect every carrier's normal activity. To overcome this difficulty, a different representative period could be assigned to each air carrier operating in the State. It is customary to group carriers which are believed to have similar operating characteristics, but it is the Board's opinion that two carriers of the same class, e.g., two supplemental carriers, may properly be assigned different periods if there are reasonable grounds for differentiation.

SAME REPRESENTATIVE PERIOD FOR ALL COUNTIES SERVED BY ANY ONE AIR CARRIER

The representative period assigned to an air carrier will be the same for all counties within the State. This uniformity eliminates the possibility that an air carrier will have to report its activity to one county for one period and to another county for a different period, with the probability that it will be assessed on a larger or smaller portion or its fleet by all California counties than is fairly allocable to the State.

² *Slick Airways, Inc. v. County of Los Angeles*, 140 Cal. App. 2d 311.

CHAPTER 5: THE MECHANICS OF ALLOCATION

ALLOCATION FORMULA

The allocation formula is a means of allocating the full cash value of the aircraft a carrier controlled on the lien date by measuring the planes' activities within a California taxing agency during a specified period in relation to their total activity during this specified period. The formula is composed of two factors: (1) flight and ground time and (2) arrivals and departures. The flight and ground time factor is weighted 75 percent, and the arrivals and departures factor is weighted 25 percent.

DETERMINING THE FLIGHT AND GROUND TIME FACTOR

The flight and ground time factor for a given airport is derived as follows:

1. Determine the types of aircraft controlled on the lien date by each air carrier operating in the county.
2. Determine whether the aircraft of any of these types landed to discharge or embark crew members, passengers, or cargo within the county during the assigned representative period.
3. For all planes of a type that made such landings during the representative period, determine the amount of time spent at the port on the ground, both between flights and for maintenance, plus the allocated flight time.
4. Reduce (or expand) this total time to an equivalent week's time. (This may be accomplished by following the instructions contained in forms AH 570-1-S, AH 570-1-L, and AH 570-2.)
5. Determine the total time by multiplying the number of aircraft of the particular type controlled on the lien date by 10,080, the total minutes in one week.
6. Divide the time in (4) by the total time in (5) and multiply the result by 75 percent to obtain the weighted time factor.

To illustrate, assume an air carrier operates a scheduled flight at a California airport with its fleet of three aircraft of the same type. The representative period is one week. During this week the published schedule shows that the carrier's aircraft will spend 600 minutes on the ground and that the allocated flight time is 600 minutes, making a total of 1,200 minutes. The total time, computed by multiplying the 10,080 total minutes in the one-week period by three, the number of aircraft controlled on the lien date, is 30,240 minutes. The flight and ground time factor is calculated by dividing the 1,200 minutes by the 30,240 minutes, producing a factor of 3.97 percent. This factor is then multiplied by 75 percent to obtain a weighted time factor of 2.98 percent.