

TORRANCE AIRPORT COMMISSION

**Committee to Recommend Policy Changes
to Capitalize on General Aviation Growth Segments**

Report on

JET FUEL POLICY

12 June 2008

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Study #1: City Policy on Jet Fuel Sales and Storage

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SECTION 1: STUDY DEFINITION

In accordance with its approved Work Plan, the Torrance Airport Commission formed a committee to evaluate city policies related to the Torrance Airport to:

1. evaluate whether a particular policy has satisfactorily performed its intended function,
2. evaluate whether a policy has resulted in adverse, unintended results,
3. determine whether policy changes should be recommended to City Council, and to
4. recommend what those changes should be.

A number of policies were identified as potential topics. The committee selected, as its first study, to evaluate the ban on jet fuel sales at the airport.

The Committee solicited inputs and supporting data from all airport stakeholders: users, businesses on and off the airport, and the surrounding community. Copies of the study plan (Appendix A) were distributed to all Torrance homeowners associations, airport businesses, the Torrance Airport Association, and other stakeholders. The Daily Breeze supported wide distribution of the plan through a news article. Airport users were surveyed regarding their current use of the airport, airport operations personnel were interviewed to discover their observations, and airport personnel at other local airports were surveyed. All persons wishing to provide data or inputs to this study were requested to provide contact information to the committee in order to verify its source and in case the committee had questions about the data or comment.

The Study Plan requested observations and supporting data to evaluate this issue from the following aspects.

- Projected future technology changes that might impact this policy
- Effects on Torrance-based aircraft
- Effects on transient aircraft traffic
- Effects on airport businesses
- Effects on safety
- Effects on surrounding neighborhoods
- Other considerations that might be suggested by stakeholders.

The Committee evaluated all information submitted to it and performed additional searches of data sources pertinent to the issue. The Committee believes that the information contained in this report is representative of all sides of this issue, although it cannot possibly be all-encompassing. The committee decided to include only that information in its report that can be traced to specific verifiable sources. If requested, the committee agreed to withhold names from the report, as long as it could trace that information to an individual or published source.

The Committee defined a number of terms to be used in the study:

Jet aircraft: Any aircraft deriving its power for flight from a turbine engine.

Turbojet: A turbine engine in which all air accelerated by the engine for thrust goes through the combustion cycle.

Turbofan: A turbine engine in which some of the air accelerated by the engine for thrust bypasses the combustion cycle.

Turboprop: A turbine engine in which some of the air accelerated by the engine for thrust passes through an unducted fan or propeller.

Jet fuel: A form of kerosene which meets the specifications for Jet-A.

Operation (FAA): A landing or a takeoff of an aircraft.

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Diesel aircraft: Any aircraft deriving its power for flight from a piston engine using Jet-A fuel

Section 2 of this document reviews the policy history of the jet fuel ban to understand the effects which this policy had *hoped* to produce.

Section 3 summarizes the process used in this study to establish the actual consequences (both intended and unintended) of that policy today.

Section 4 reviews all of the arguments and supporting data that has been submitted to the Committee in support of the current policy.

Section 5 presents the Committee's conclusions, the reasoning and data behind those conclusions, and recommendations for changes to the policy banning the sale of jet fuel.

Appendix A is the study plan initially published in October 2007 and provided to all homeowners associations, the Daily Breeze, and anyone who requested it. Finally, public communications that were sent to the committee and could be traced to a verifiable source are provided in Appendix B. Appendix C contains additional information, some of which could not be traced to verifiable sources. Appendix D contains comments made at the 10 April Airport Commission meeting with an analysis and response from the Committee.

SECTION 2: HISTORY OF JET FUEL POLICY AT TORRANCE

The Torrance Airport, which has existed since the 1930s, has become an irreplaceable transportation asset for the entire South Bay as well as a convenient recreational facility for the South Bay area. Many changes have occurred over the years, resulting in current airport policy.

1960's: The first jet business aircraft capable of operating at Torrance were pure turbojets. These aircraft were extremely loud by comparison to today's turbojet, turbofan, turboprop, and propeller driven diesel powered aircraft, all of which utilize jet fuel (Jet A).

1975: The City of Torrance commissioned an in-depth study of the noise environment around the Torrance Municipal Airport for current and future operations. The study was performed by the consulting firm Bolt, Beranek and Newman Inc. (BBN). The study predicted traffic rates to more than double over the following 20 years.

The executive summary of the BBN study stated:

The study shows that under the California Noise Standards, the airport does not have a "noise problem".

The projected growth in traffic will cause an increase in the noise exposure; however, provided there is a restriction on operations of aircraft noisier than those currently in use, this increase will be insufficient to cause a "noise problem". The introduction of aircraft such as the noisier business jets would cause a significant increase in noise exposure. Turbofan aircraft such as the Cessna Citation need not be restricted because their noise characteristics are comparable to those of the small two-engine aircraft currently using the airport.

The BBN study concluded:

Noise monitoring offers a means of measuring actual noise exposure over periods of years. Noise monitoring provides a direct means of enforcing noise level limits on aircraft operations. By setting reasonable noise level limits, operations at the Torrance airport would be open to all types of aircraft that can meet the accepted noise criteria, providing a more flexible mode of judging acceptable aircraft than one based on arbitrary definition or arbitrary statements of engine type.

1974: Torrance Airport was ranked as the second busiest general aviation airport in the country with 428,273 operations. There were 21,413 noise ordinance violations

1975: The City banned all "jet" aircraft from using the airport.

1979: The general ban on "jet" aircraft was rescinded after a similar ban in Santa Monica was overturned in a legal challenge. The Torrance ban on jet fuel sales and jet aircraft hangar storage were retained.

The City implemented a noise abatement program effectively limiting noisy aircraft that come into Torrance airport. This program does not specify specific types of aircraft; rather, it specifies noise limitations.

1990: The City banned general jet fuel sales; however, sales of jet fuel were allowed under "emergency" situations to enable an aircraft to safely take off and seek fuel elsewhere.

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- 1995: The City rescinded the policy allowing “emergency” jet fuel sales, resulting in the complete ban of jet fuel sales at Torrance airport.
- 2002: For the 12-month period ending August 31, 2002 (the latest period for which information is available), there were 278 noise violations—just 1.3% of the 1974 figure.
- 2007: Torrance ranked as number 40 on the list of general aviation airports, with about 170,000 operations—far less than half the level in 1974 and much less than one-fifth the level which BBN had concluded would still be insufficient to cause a noise problem.
- 2008: A new state of the art noise monitoring system is now in the final stages of installation and testing. Violators will be more easily identified with this new system.

Summary: Since the inception of the City's Noise Abatement Program, less than one half of one percent of all flights resulted in a noise violation. Types of aircraft that cannot meet the stringent noise controls are banned from the airport. Stated another way: any aircraft that meets the existing size, weight and noise limitations, regardless of fuel or engine type, cannot be restricted from using Torrance Airport.

Based on public comments, however, many in the community surrounding the airport continue to believe that:

- 1) the ban on the sale of jet fuel restricts or discourages jet aircraft from using the Torrance Airport, and
- 2) removing the ban will attract many more jet aircraft to the airport than would normally come.

The Committee set out to evaluate the validity of these beliefs and to determine if the ban on jet fuel sales has had and/or will have unintended, adverse effects on the community.

SECTION 3: THE STUDY AND ITS RESULTS

The committee began its study with an invitation for all interested parties to provide data for use in the evaluation (Appendix A). It also interviewed airport operations personnel and some of the airport businesses to understand the current state of operations and background of the jet fuel ban. Information on actual operations of jet aircraft was solicited directly from the operators, since neither the FAA nor the City keep that information.

3.1 Survey of Jet Aircraft Operators at Torrance Airport

The committee recorded the registration numbers of transient jet aircraft using the airport beginning in December 2007. Owners of 28 jet aircraft were identified through FAA records, and a survey was sent to each asking for data on their operations. Some data was obtained directly from pilots of aircraft at the airport. Although this does not account for all transient jet aircraft visiting the airport, it does represent a fairly random sample. Thirteen written responses were received from operators or pilots of transient aircraft:

ID	Annual Torrance Flights	Likely Jet Fuel Purchases at TOA (gal/yr)	Extra Refueling Flights from TOA (Annually)?	Avoid TOA because of jet fuel ban?
?	20	10,000	10	Yes
N251FX	25	8,750	Yes	Yes
N392QS	60	30,000	No	Yes
N441A	100	20,000	Yes	Yes
N576RG	10	1,000+	No	No
N606FX	15	800	Yes	Yes
N607FX	4	2,400	Yes	Yes
N679QS	2	200	No	Yes
N683QS	2	600	Yes	Yes
N707AV	Many	1,200	Yes	No
N715CA	250	10,000	12	No
N920TT	24+	3,840	Yes	No
N960SD	3	0	No	No

Some of the 13 respondents reported avoiding Torrance (when other alternatives existed) because of the jet fuel ban, but they still came to the airport many times (more than 220 visits per year). Of these 13 respondents, all but 4 of them reported making extra flights just to obtain fuel at neighboring airports.

Annual jet fuel purchases (if it were available at Torrance) by responding transient aircraft are estimated to be 88,000 gallons—an annual total of more than 170,000 gal when extended to all 28 transient aircraft identified.

One of the fractional operators, whose aircraft visit Torrance more than once weekly, stated that they annually purchase 450,000 gal of jet fuel at Long Beach, but that included flights where Long Beach was the destination as well as those made from Torrance just to refuel.

The total projected jet fuel purchases at Torrance cannot be accurately predicted without an estimate of the total number of transient aircraft actually visiting the airport.

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The ten operators of jet aircraft based at Torrance were also surveyed and five written responses were received:

Aircraft ID	Annual Torrance Flights	Projected Annual Fuel Purchase at TOA (gal)	Extra Fuel Flights from TOA (Annually)
N1MA	100+	10,000	50
N27VE	146	10,000	Yes
N425KC	48	3,000	No
N441GA	100	8,000	Yes
Haralambos	100+	3,000?	100

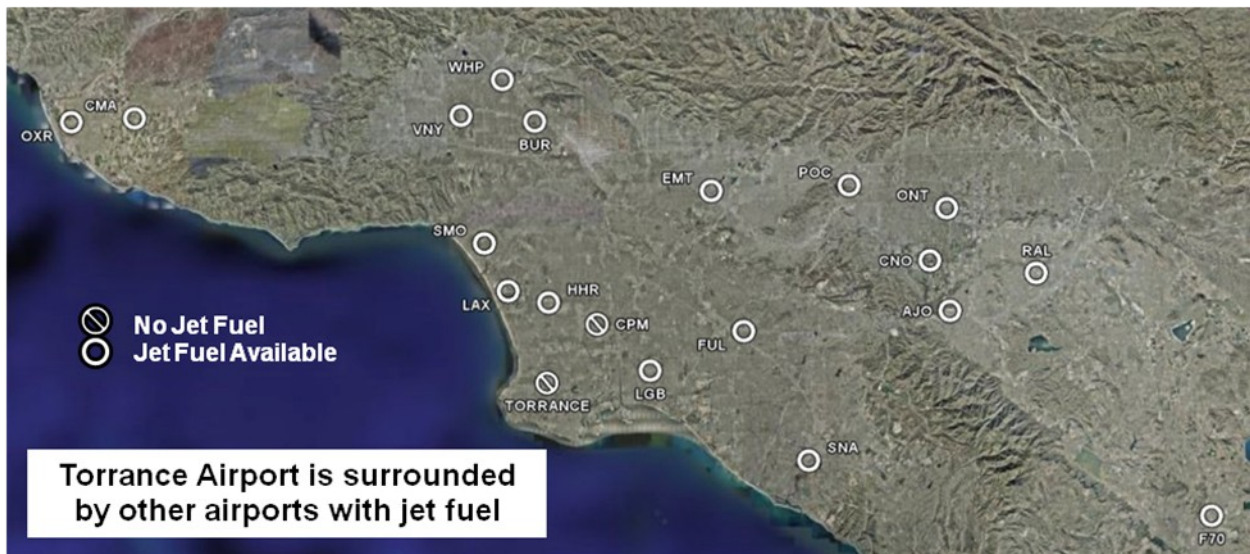
These five respondents report over 150 of their annual flights were extra flights just to obtain fuel from neighboring airports—30% of their total flights. Annual jet fuel purchases by Torrance-based aircraft (if it were available at Torrance) are estimated to be an additional 68,000 gallons if extended to all 10 based aircraft.

Conclusion: Based on this survey, the committee concluded that:

- **the ban on jet fuel sales is not a significant deterrent to jet aircraft using the airport,**
- **the ban on jet fuel sales causes hundreds of extra jet flights per year to be made from Torrance only to refuel at neighboring airports,**
- **airport businesses could realize significant additional revenue if the ban were lifted,**
- **as a result, city tax revenues from these sales would be collected in Torrance rather than by other cities.**

3.2 Availability of Jet Fuel at Neighboring Airports

Eighteen other airports within 50 miles of Torrance Airport sell jet fuel, including six with jet commercial passenger service. Only one, Compton Airport, does not. These are shown on the area map, below.



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A comparison of airports within 50 miles of Torrance is shown below.

Airport	ID	Max Runway Length (ft)	Have Exec FBOs & Maintenance	Operations per Day	Commercial Passenger Operations?
Ontario	ONT	12,197	1	373	Yes
Los Angeles	LAX	12,091	1	1388	Yes
Long Beach	LGB	12,000	5	1106	Yes
Van Nuys	VNY	8,001	6	1381	No
Chino	CNO	7,000	3	453	No
Burbank	BUR	6,886	1	344	Yes
Camarillo	CMA	6,013	4	420	No
Oxnard	OXR	5,953	2	236	Yes
John Wayne	SNA	5,701	1	915	Yes
Riverside	RAL	5,401	1	280	No
Torrance *	TOA *	5,001	No	474	No
Santa Monica	SMO	4,973	1	452	No
Hawthorne	HHR	4,956	1	220	No
LaVerne-Brackett	POC	4,839	No	317	No
Whiteman	WHP	4,120	No	318	No
El Monte	EMT	3,995	No	434	No
Cable	CCB	3,864	No	252	No
Compton *	CPM *	3,322	No	181	No
Corona	AJO	3,200	No	186	No
Fullerton	FUL	3,121	No	222	No

Compiled from AvWeb and FAA data

* = no jet fuel available

Ten of those airports have runways longer than does Torrance; six of those ten have executive fixed base operators and/or jet maintenance available.

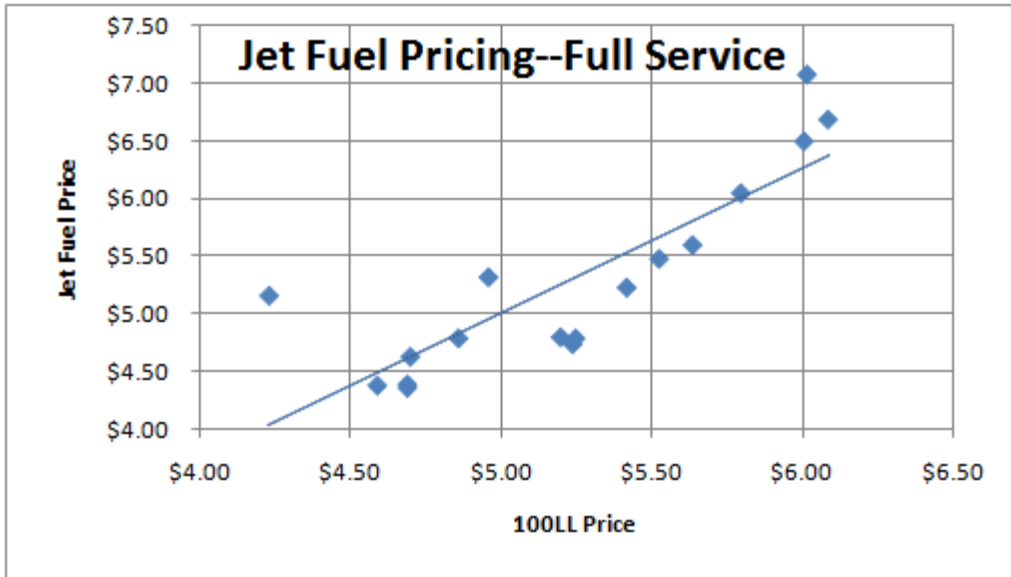
The only source of aircraft that might be attracted to Torrance if jet fuel were available would be Compton Airport. Compton, however, has no current jet aircraft based at the airport and its runway is only 3,300 feet long.

Conclusion: Lifting the ban on sale of jet fuel sales will not attract jet aircraft that are not already planning to land at Torrance.

3.3 Jet Fuel Pricing

The Committee reviewed the prices charged for 100LL at airports within 30 miles of Torrance and found that the price for 100LL aviation gasoline at Torrance is about average for the market at \$4.55/gal in February 2008. A comparison of 100LL price and jet fuel prices for those airports with both types was made.

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There is a strong relationship between the price charged for 100LL and that charged for jet fuel at the same airport by the same FBO. Full service for 100 LL in February 2008 ranged between \$4.23 and \$6.09 at the airports within 30 miles of Torrance and full service jet-A ranged between \$4.36 and \$7.08. At Torrance, the full service 100 LL price was \$4.86 at that time.

Conclusion: The price likely to be charged for jet fuel at Torrance will be comparable to the other eleven airports within 30 miles--providing no incentive for jet aircraft to make a transient stop at Torrance solely to purchase jet fuel.

3.4 Facilities and Passenger Market

Both Van Nuys and Santa Monica have facilities catering to jet charter, jet air taxi, and corporate jet customers. Hawthorne has, until just recently, not had any of these services (exclusive of Northrop Grumman flight operations) and has had less jet traffic than has Torrance. In September 2007, Million Air, an executive FBO catering to executive jet operations, obtained a lease to operate the Hawthorne Airport. Discussions with Bruce McCall (manager of Million Air at Hawthorne) in February 2008 revealed that he expects success in attracting more business by pricing jet fuel very low and adding upgraded executive FBO facilities. He plans to add jet maintenance, interior shop, and additional executive size hangars at Hawthorne, where he has a 50-year lease for the entire airport. He believes that availability of executive jet FBO services and low fuel price are key factors in attracting jet operations. It is too soon to evaluate the success of his strategy, but visits by committee members have not shown any visible increase in jet traffic as of the middle of March 2008.

The levels of jet traffic at Van Nuys and Santa Monica indicate that the most important factors in the amount of jet traffic are runway length, availability of executive jet FBO services, and passenger demand. Geography and demographics of the West L.A., Santa Monica, Beverly Hills, Culver City, Hollywood, L.A. and San Fernando Valley regions drive the high levels of business jet activity found at Santa Monica Airport, Burbank, Van Nuys, and LAX. Torrance airport has no executive facilities, no jet aircraft maintenance facilities (nor the space to construct such services), and the passenger demand is far lower. Compared to these airports to the north, the demographics of the South Bay do not point to an increase in jet activity based solely on the availability of jet fuel. Jet aircraft utilizing Torrance Airport are doing so today with little regard for the availability of jet fuel.

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Runway length and availability of executive jet services, coupled with the demographics and needs of local businesses, are the attributes that attract jet aircraft to use an airport—availability of jet fuel alone does not.

Conclusion: *Lifting the ban on jet fuel sales will not cause Torrance to emulate the situations at Van Nuys or Santa Monica.*

3.5 Effects on Safety Margins

Discussions in December 2007 with Torrance airport operations personnel revealed that some jet aircraft have landed at Torrance and the pilots were unaware that they could not refuel there. These pilots assumed that an airport of the size and activity level of Torrance would certainly sell jet fuel and failed to check prior to their arrival. As the jet fuel ban at Torrance is highly unusual on a national level, one pilot likened the situation to “Calling ahead to the supermarket to make sure they had milk before you went shopping.” Pilots of some of these craft were forced to takeoff from Torrance with low fuel levels in order to refuel at neighboring airports.

Others resorted to emergency measures by using unapproved fuel—100LL avgas, which is available at the airport. These pilots were required to obtain permission from the aircraft owner/operator. Discussions with Pratt & Whitney customer service determined that this emergency procedure is permissible with a number of unapproved fuels but it is subject to severe restrictions. Unapproved fuels contain additives that react at high temperature with the metals in the engine to cause damage. The use of 100LL is restricted to a maximum of 150 operating hours during any period between engine overhauls (3,500 operating hours). (Pratt & Whitney Service Bulletin No 1244R18, Rev 18, Feb 14, 2000).

Conclusion: *The ban on jet fuel sales decreases safety margins for these departures.*

3.6 Trends for the Future

In recent years, travel on scheduled airlines from congested major airports has become increasingly inconvenient and time consuming. Many of the hub airports served by scheduled airlines have reached their capacity during at least part of the day, causing passengers to miss connections and suffer frequent flight delays. U.S. airlines experienced a lower rate of on-time flights, more reports of mishandled baggage, and passengers filed more complaints with the government about airline service in 2007 than they did the previous year, according to the U.S. Department of Transportation’s (DOT) Air Travel Consumer Report. Overall, only 64% of the scheduled airline flights arrived on-time and some airlines achieved only 54% on-time arrivals.

Many businesses and individuals have discovered the convenience of being able to fly directly to one of the 5,000 communities near their destination which are served by general aviation airports. Last year, general aviation aircraft flew over 27 million hours and transported 166 million passengers—some of them into and out of Torrance Airport.

3.6.1 Air Charter/Air Taxi Operations and Fractional Aircraft Ownership

In addition to increased use of corporate-owned aircraft, a number of businesses have appeared which provide the same point-to-point air travel options for executives, high end travelers, entertainers and special missions (organ donor flights, critical equipment delivery, and customer service personnel).

Entrepreneurs have realized that by managing the aircraft that belonged to another entity (one that could afford to buy the multi-million dollar aircraft) they could help offset the cost of ownership through rental income and aggregate owner costs for insurance, fuel, maintenance,

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etc. Today, this type of aircraft ownership arrangement forms more than 75% of the on-demand air charter industry for the United States, which encompasses about 70% of the air charter activity in the world.

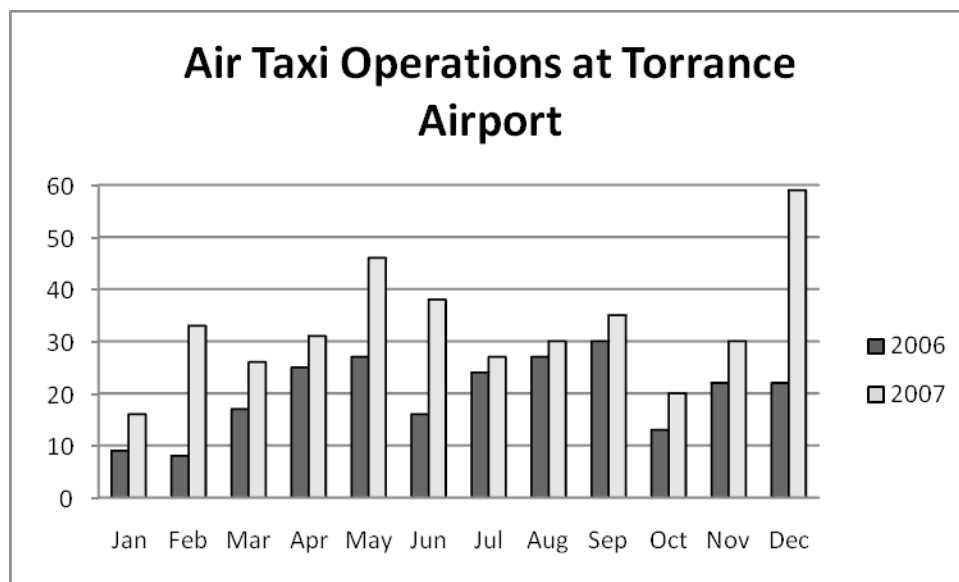
Fractional ownership programs popularized private aircraft use and ownership in the 1990's. A number of owners share an aircraft (or a certain type aircraft - one of many a fractional company manages). Owners typically purchase from 1/2 to 1/16 of an aircraft, pay a per-flight-hour charge, related fuel and flight fees, and divide management expenses.

Passengers (customers) of these flight services demand convenience. Once aboard, they expect to be transported to their destination by the most direct route and without unnecessary en route stops. Operators of these services must prepare for the next flight after dropping their passengers off and before the next group arrives. At Torrance, that means a quick flight to Long Beach or Hawthorne to refuel before returning to Torrance to enplane the next group of passengers.

The Internet enables this industry to reach more prospective customers and to more efficiently use their aircraft. Brokers are able to connect passengers with aircraft for charter nationwide or worldwide and are able to offer a wider aircraft selection at potentially lower cost and with more options available to the customer.

Business Week Magazine (10/19/05, by Michelle Dammon Loyalka) wrote: *"The number of companies operating business aircraft in the U.S. nearly doubled over the past decade, and fractional jet ownership has grown 62% since 2000."* That growth has continued.

Effects of these growth trends are already evident at Torrance Airport. The Torrance Control Tower maintains records of the number of air taxi operations that arrive or depart with passengers, using their air taxi call sign. When these aircraft do not have passengers, such as when they make extra flights to obtain jet fuel, they use their registration number and the flight is not recorded as an air taxi operation. The tower does not record the type of aircraft flown for air taxi operations. However, the tower chief indicates that most of the air taxi operators fly jet or twin turboprop aircraft.



Source: FAA's Torrance Airport Control Tower records

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The total number of air taxi operations at Torrance for 2007 (391) increased 63% over those for the prior year. For comparison, the FAA reports that 2007 air taxi operations at Fullerton (157) decreased 41% and at Hawthorne (517) decreased 46% over 2006 levels. Both sell jet fuel.

3.6.2 New Technology

Almost all of the aircraft operating at Torrance Airport currently use aviation fuel known as 100LL, which contains tetraethyl lead. This additive is required for safe operation of the gasoline engines which power these aircraft.

Ever since the airlines switched from gasoline to jet fuel and lead was eliminated from automotive fuel, most of the manufacturers of tetraethyl lead have exited the business. Just as 80-octane aviation fuel has all but disappeared from the market, 100LL is predicted to become more expensive and disappear from the market in a few years as well.

Recent advances in aircraft power plant technology have produced smaller turbofan and turboprop engines that are ideal for new general aviation aircraft and rotorcraft. Robinson Helicopter, already the largest producer of helicopters in the world, will begin producing a turbine helicopter in the near future. As the current ban prevents the sale of jet fuel to any type aircraft, customers who purchase the new turbine-powered Robinson helicopter will be unable to refuel at Torrance, and will have to make regular fueling flights to neighboring airports. Helicopters have shorter ranges than most aircraft.

In addition, advances in diesel engine technology have produced piston-powered diesel engines for new and existing aircraft. Over 1,500 diesel-powered airplanes are flying today, according to Aircraft Owners and Pilots Association (AOPA). Diesel power is now an option offered by Cessna for its most popular model 172 (a four-place single engine propeller driven aircraft) --both as original equipment and as a replacement for the 43,000 existing airplanes. The improved fuel efficiency, higher performance, easy access to jet fuel throughout the United States and around the world, coupled with increased reliability and time between overhaul (TBO) may make the diesel engine a very attractive replacement for existing gasoline installations.

Teledyne Continental is one of two major piston engine manufacturers for general aviation aircraft. With the future of 100LL avgas looking ever more doubtful, Teledyne Continental's new president, Rhett Ross, says the company is planning to aggressively develop a diesel or heavy fuel engine for certification in late 2009 or early 2010. Ross said he believes that general aviation will be forced out of the 100LL option and that a Jet A piston (diesel) engine will be one response to that.

These engines require jet fuel *not* automotive diesel fuel or 100LL avgas. No matter what their source of power, all of these aircraft must comply with the Torrance noise ordinances for the airport.

3.6.3 Predicted Growth

Business jet shipments reached an all-time high in 2007, surpassing 1,000 units for the first time. Piston airplane deliveries dropped by 2.9 percent in 2007. The General Aviation Manufacturers Association (GAMA) predicts that over the next 10 years, the number of piston-powered general aviation aircraft will increase at an annual rate of less than 0.5%. In the same period, the number of turboprop aircraft will increase 2.2% annually and turbojet aircraft will increase 6.0% annually. The number of turbine helicopters will increase 2.7% annually.

All aircraft, regardless of engine or fuel type, must meet the City of Torrance stringent noise standards to operate here. To ensure this, a state-of-the-art noise monitoring system is now in

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the final stages of installation and testing. Violators will be more easily identified than in the past, and habitual violators will be banned from Torrance.

New aircraft and helicopters will exhibit the latest technology, be more fuel-efficient, and must meet the FAA's most recent and more stringent noise and safety standards. (Note: Once certified, older aircraft are not required to be upgraded to newer noise or safety standards). Where the current jet fuel policy serves to discourage pilots from buying new jet fuel powered aircraft that would be based at Torrance, the policy may have the unintended effect of ensuring that Zamperini Field remains an airport of noisy aging and antique aircraft.

Conclusion: An increasing number of jet-fueled aircraft will use Torrance Airport in the future. A corresponding increase in "extra" flights just for fuel will occur if jet fuel is not available at the airport.

SECTION 4: DISCUSSION OF ARGUMENTS PROVIDED IN SUPPORT OF THE JET FUEL BAN

The Committee received a number of written and oral arguments supporting a continuation of the ban on jet fuel sales. The Committee had requested submitters to attach supporting data or documentation with their statements. Few submittals contained any supporting data (Appendix B). The opinions submitted generally link the sale of jet fuel to increased jet flight activity or assume that aircraft using jet fuel generate more noise than do those currently using the airport. The Committee evaluated supporting information for each argument and compared it to information derived from the study. The conclusion of the committee, based on that comparison, is presented along with each argument below.

4.1 The ban on jet fuel keeps jets from using Torrance.

Supporting data provided to the Committee: None

The 1974 court decision overturning Santa Monica's ban on jet aircraft means that any aircraft that meets the existing size, weight and noise limitations cannot be restricted from using Torrance Airport.

The survey of jet aircraft operators conducted by this Committee (Section 3.1) indicates that they select Torrance Airport as their destination based on the convenience to their passengers--regardless of fuel availability. The survey found some operators considered not landing at Torrance because jet fuel was unavailable when other alternatives existed. Some ambiguity exists here because the operators did, in fact, operate from the airport many times--indicating that this was not an important consideration. The transient respondents indicated that they either fly in with enough fuel to reach their next destination or fly to a nearby airport to refuel before returning to Torrance to pick up their passengers for the flight to the next destination. This practice accounted for a significant fraction of the 450+ annual flights they reported. The respondents based at Torrance report that they often fly to neighboring airports to fill up prior to an early morning departure the next day, accounting for about 30% of their flights.

Ten of the eleven airports within 30 miles of Torrance sell jet fuel. Turbine aircraft that select those airports as their destination would not need to visit Torrance just to refuel.

The Committee was unable to identify any source of increased traffic to Torrance that would result from lifting the ban on jet fuel. Normal future growth predicted for the general aviation fleet overall (Section 3.4) will, however, cause more jet flights at the airport--most likely from air taxi operations.

Conclusion: The ban on jet fuel does not serve as a significant deterrent to keep jet aircraft from using Torrance and it actually causes extra jet flights at the airport. More extra refueling flights will result as the general aviation fleet grows.

4.2 Lifting the ban on jet fuel will attract jets to use Torrance Airport

Supporting data provided to the Committee: None

Jet aircraft that are able to use Torrance have flight ranges of several thousand miles. Geography makes Torrance very unattractive as an en-route refueling point for these aircraft. The map of the western US shows that Torrance is not a candidate refueling point for any flight

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to the west. There is nothing but ocean for over 2,600 miles. Aircraft that can fly that distance would need the longer runways at Long Beach (12,000 ft long) as opposed to Torrance (5,000 ft long).

International flights must stop at Port-of-Entry (POE) airports to clear customs and immigration processing. These airports have jet fuel available. Torrance is not a POE airport. Outgoing International flights to either Mexican or Canadian POEs from almost any point in the US would pass so far east of Torrance that a detour here for fuel is impractical. Only flights between San Diego and airports in the small coastal strip between San Francisco and Santa Monica would pass anywhere near Torrance. Those flights can be no more than 600 miles in length before the aircraft encounters either the Mexican border or the Pacific Ocean—no en route refueling would be needed.

Other than the flights from Torrance to refuel, there is no evidence of any jet aircraft using Hawthorne airport for refueling unless that was the destination or origin of the flight.

Conclusion: Lifting the ban on jet fuel at Torrance will not attract any jet aircraft to refuel in Torrance if that is not its destination already.

4.3 Torrance will emulate Santa Monica or Van Nuys if it allows jet fuel sales.

Supporting data provided to the Committee: None

Runway length, available services and convenience for their passengers are the main considerations for planning aircraft destination. Van Nuys' runway is 8000 feet long and is home to 155 jet aircraft. It is the only airport serving the central/western San Fernando Valley, Simi Valley and the growing Santa Clarita Valley--66% of its 1381 daily operations are by transient aircraft. The only other general aviation airport serving that area is Whiteman. Both sell jet fuel, but Whiteman's 4120-foot runway and lack of services attract no turbine traffic beyond a few helicopters.

Santa Monica's runway is 4973 feet and lists 7 based jet aircraft, but it is the only airport serving Hollywood, Culver City, Santa Monica, West Los Angeles, Brentwood, Beverly Hills, Bel Air and Malibu—all home to affluent charter and air taxi users and to many businesses that support extensive use of business jet aircraft. Transient flights make up 61% of its 452 daily operations.

Santa Monica has a long and unsuccessful history of trying to ban jet aircraft. Courts have ruled that any aircraft that meets the existing size, weight and noise limitations for the airport cannot be restricted from using the airport. Discussions in February 2008 with Robert Trimborne, manager of the Santa Monica Airport, revealed that the city has never tried to ban the sale of jet fuel at the airport. He believes that such a ban would have no effect on jet traffic at the airport. He credits the increase of jet traffic to proximity of a large number of wealthy passengers and the large number of businesses using corporate aircraft, fractional jets, and air taxis.

None of the comments received by the Committee mentioned other airports in the area that have sold jet fuel for years. Hawthorne Airport (runway length 4956 feet) has 9 jet aircraft based there (including corporate flight operations for Northrop Grumman) and has about 220 operations per day—52% transient. Fullerton Airport (runway length 3121 feet) has no jet aircraft based there and has 222 operations daily—62% transient. Neither of these airports which sell jet fuel has significant jet traffic—Fullerton logged just 5 jet operations last year and Hawthorne, with the exception of Northrop Grumman flight operations, had few jet operations prior to 2007.

Torrance Airport's runway is 5001 feet long and serves the South Bay area—much smaller than the areas served by Santa Monica or Van Nuys. We have 10 jet aircraft based here and 55% of

Study #1: City Policy on Jet Fuel Sales and Storage

our 474 daily operations are transient aircraft. The markets that combine around Santa Monica and Van Nuys to support turbine aircraft use at those airports are far larger than similar market forces in the south bay. While that may change in the future, the resulting increase in traffic will occur regardless of jet fuel availability, as explained in Section 3.4.

Torrance Airport is currently fully leased for aircraft hangars and Robinson Helicopter. The remainder is occupied by City-owned hangars. There is no land available on which to locate the kinds of executive FBO and maintenance facilities that exist at Van Nuys, Santa Monica and Long Beach. However, the city could reclaim additional property from the parcels on the North and South sides of the airport that were released for non-aviation purposes many years ago. The City retains full control over the use of these properties. This is regarded as highly unlikely.

No connection between jet fuel availability and increased jet aircraft activity could be established. Market forces and the existence of executive and jet maintenance facilities are the predominate causes of higher levels of jet traffic at Van Nuys and Santa Monica. The examples of nearby Fullerton and Hawthorne airports--both of which sell jet fuel--show there is no direct link between availability of jet fuel and a high level of jet traffic using an airport.

Conclusion: Torrance will not become like Santa Monica or Van Nuys if it allows sale of jet fuel.

4.4 Sale of jet fuel will cause Torrance to become like El Segundo and Inglewood (damaging quality of life).

Supporting data provided to the Committee: None

This comment assumes that sale of jet fuel at Torrance would result in the kind of traffic found at LAX. The levels of jet operations and noise found around international airports with heavy jet traffic are vastly different from those found at general aviation airports like Torrance. The traffic situation at Hawthorne, Fullerton, and similar general aviation airports (where jet fuel is available) are much more representative of the environment expected at Torrance with jet fuel availability. These examples demonstrate that this assumption is false.

Conclusion: The assumption is false--sale of jet fuel will not cause Torrance to become like El Segundo and Inglewood.

4.5 If jet fuel were sold at Torrance, it would attract major airline operations.

Supporting data provided to the Committee: None

In order for any airport to support scheduled airline service, it must be certified by the FAA under FAR Part 139. There are a number of requirements under this part that include airport crash, fire and rescue facilities, and a complete operation manual. The Transportation Security Administration also establishes airport security requirements. The City of Torrance, as the airport sponsor, is the only entity that can request certification under Part 139.

The Committee was unable to find evidence that any airline has ever expressed interest in operating at Torrance. Runway length and strength also preclude operation by all but the smallest of aircraft in commercial service. Furthermore, there is no airport property available for the facilities required to support airline operations: parking, terminal, security, baggage, etc.

Even if the city sought certification of the airport for scheduled airline service with a jet fuel ban in place, the airline could plan to arrive with sufficient fuel to continue to its next destination (just like some of the current business jet aircraft).

Study #1: City Policy on Jet Fuel Sales and Storage

The Committee found that availability of jet fuel is not a factor in preventing airline service at Torrance. Many other conditions, which currently do not exist at Torrance, are required for airline operations and the City Council is in full control of requesting certification.

Conclusion: Major airline operations would not result from removing the ban on jet fuel sales.

4.6 Jet fuel sales will increase noise in the community surrounding the airport.

Supporting data provided to the Committee: None

All aircraft using Torrance Airport must comply with its noise limit ordinance. Torrance city noise abatement records for the 28-month period from July 1999 to August 2002 (the latest available) list the seven noisiest departures during each month. During 10 of those months (36% of the time), no turbine aircraft were listed among the seven. During 9 of the months (32% of the time), only one turbine aircraft was listed. During 5 of those months (18% of the time) two jet aircraft were listed. Only two of the 28 monthly periods (7% of the time) listed more than two jet aircraft. Even when a jet aircraft made the monthly list, over half of the time records show it was less noisy than piston-powered aircraft.

All of these jet violators were transient aircraft and were older stage I or II aircraft. (Federal Aviation Regulation Part 36 governs noise standards, and categorizes noise by “stages” and only jet aircraft meeting stage III or IV—the most stringent requirements—meet the Torrance noise standards). There was an average of 23 violations per month during that period. The large majority of these were gasoline-powered aircraft that exceeded noise limits.

Newer turboprop and turbofan aircraft are quieter than any of these aircraft and meet the ordinance requirements. Since the inception of the City's Noise Abatement Program, less than one half of one percent of all operations results in a noise violation. Types of aircraft that cannot meet the stringent noise controls are banned from the airport.

As noted in Sections 3.1 and 3.4 above, the Committee found evidence that the sale of jet fuel will, in the short term, decrease the number of flights (by eliminating extra fueling flights) and, in the long term, will reduce the multiplying effects of projected growth in turbine traffic (by eliminating the need for those extra flights). The Committee found no reason to believe that selling jet fuel will cause the traffic mix to change or operational volume to increase beyond that caused by normal general aviation trends (Section 3.4). These changes will occur with or without the sale of jet fuel at Torrance.

Conclusion: Removing the jet fuel ban will decrease noise in the community surrounding the airport in the short term, and will reduce any perceived negative effects of growth in the long term.

4.7 Selling jet fuel will decrease values of residential property around Torrance Airport

Supporting data provided to the Committee: None

According to figures published in the Los Angeles Times (compiled by DataQuick), the price per square foot of homes in zip code 90505 (the area surrounding the airport) increased faster than any other Torrance area during the period from January 2001 until September 2007—99.2%. By comparison, the increase in other Torrance zip code areas for that period ranged from 77.1% to 98.9% over that same period.

Changes in home prices in 90505 since September 2007 have been comparable with the rest of Torrance.

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This growth in value occurred subject to today's traffic mix and operational volume which includes the extra flights to neighboring airports for fuel. The Committee found no reason to believe the traffic mix or operational volume would increase (beyond that caused by normal general aviation trends) if the jet fuel ban were ended.

Conclusion: Sales of jet fuel will not decrease residential property values near the airport.

4.8 Jet fuel is dangerous to store and use.

Supporting data provided to the Committee: None

Jet fuel is a form of kerosene refined to specific standards with only certain additives allowed. It is nearly identical in formulation to diesel fuel and it is less volatile and less flammable than auto gasoline or aviation gasoline.

Conclusion: Jet fuel is less dangerous than is gasoline—a fuel in wide use throughout Torrance.

4.9 Jet traffic low over residential areas is subtle child abuse.

Supporting data provided to the Committee: Abstracts of two “studies” were submitted to the Committee and described environments very different from that surrounding Torrance Airport. One studied the area around a very large commercial airport in Europe with extensive heavy international jet activity. The other involved simulating “a noisy area around an international airport.” Noise levels involved were not listed.

The levels of jet operations and noise found around international airports with heavy jet traffic are vastly different from those found at general aviation airports like Torrance, Hawthorne, or Fullerton—with or without jet fuel.

Conclusion: Comment and studies are irrelevant to issues at Torrance Airport.

4.10 Torrance Airport's runway is 150 feet too short to safely land jet aircraft, requiring them to land with full throttle.

Supporting data provided to the Committee: None

Runway length and aircraft weight will prevent some large aircraft from ever using Torrance Airport even under ideal conditions, but none of these are the types currently landing there. Rain, snow and ice can increase runway requirements for all aircraft. These conditions are factored into the pilot's flight planning and decision to land. Take-off runway lengths are the limiting conditions and are typically longer than that required for landing, where brakes and reverse thrust are used.

An aircraft cannot descend and land under full throttle—it will accelerate and climb if full power is applied.

Conclusion: The runway is of sufficient length for landings and take-off of the types of aircraft currently using Torrance Airport under normal runway conditions.

4.11 Jet aircraft will damage Torrance runways if the jet fuel ban is lifted.

Supporting data provided to the Committee: None

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The study determined that no increases in traffic will result only from the sale of jet fuel at Torrance and that extra flights to neighboring airports just to refuel could be eliminated.

Aircraft runways have certified weight limits based on their construction. Aircraft that exceed those limits require prior permission to land on the runway. At Torrance, the weight limits are: 30,000 lb per single wheel, 50,000 lb for double wheel, and 90,000 lb for double tandem configurations. Aircraft whose landing or takeoff weights do not exceed these limits will not cause damage to the runways.

Landings place more stress on the runway than do takeoffs. Because of the ban on jet fuel sales at Torrance, jet aircraft must land with enough fuel to fly to its next destination, fly to its alternate airport, and hold for 45 minutes. If jet fuel were available at Torrance, jet aircraft would carry significantly less fuel (weight) on landing. In addition, the study shows that the ban on jet fuel requires jets to make more landings and takeoffs than would be required if jet fuel were available.

Conclusion: The ban on jet fuel results in more operations at higher landing weights and thus causes more wear on Torrance Airport runways than would occur if jet fuel were available at Torrance.

4.12 Noise and flight operations at the airport have increased since the 1970s.

Supporting data provided to the Committee: None

In 1974, Torrance Airport was ranked as the second busiest general aviation airport in the country with 428,273 operations. There were 21,413 noise ordinance violations. For the 12-month period ending August 31, 2002 (the latest period for which information is available), there were 278 noise violations—just 1.3% of the 1974 figure. In 2007, there were 169,078 operations—just 39% of the 1974 figure.

Conclusion: Noise and flight operations have decreased significantly since the 1970s—even with the introduction of jet aircraft.

SECTION 5: COMMITTEE CONCLUSIONS & RECOMMENDATIONS

The Committee concludes that the policy prohibiting the sale of jet fuel at the Torrance Airport

- 1) does not restrict or discourage jet aircraft from using the Torrance Airport,
- 2) that removing the ban will not attract any more jet aircraft to the airport than would normally come, and
- 3) that the policy has produced adverse and unintended effects on surrounding neighborhoods.

As a result of the study, the Committee recommends that the ban on sale of jet fuel at the Torrance Airport should be ended for the following reasons:

- **Increased Safety:** If jet fuel were available at our airport, departures with low fuel reserves or using emergency measures would be eliminated and safety margins will be increased. (Source: statements made by Torrance Operations staff and Pratt & Whitney Customer Service).
- **Reduced flight operations:** If jet fuel were available at Torrance, extra round-trip flights from Torrance just to refuel at neighboring airports would be eliminated—decreasing the total number of jet flights from the airport. (Source: survey of aircraft operators, conversations with airport operations, conversations with control tower chief, and discussions with other airport managers).
- **Increased Revenue:** The fuel flowage fees for an estimated 10,000 gal/month of jet fuel now goes to surrounding cities. Airport businesses at those airports benefit from these sales, but the extra flights occur at Torrance. If jet fuel were available at our airport, those flowage fees and taxes will be captured by the City of Torrance and local businesses will benefit from the sales. (Source: Operator survey, discussions with airport business owners).
- **Reduced Future Operations Growth:** The use of general aviation as a more attractive and convenient alternative to commercial airlines will cause more aircraft of all types to use our airport in the future. (Source: General Aviation Manufacturers Association). New technology diesel engines, which use jet fuel, will replace gasoline piston power in many existing and new aircraft. (Source: announcements by Cessna, Teledyne Continental, Thielert, and Aircraft Owners and Pilots Association). If jet fuel is available, the increasing number of extra flights just to refuel at neighboring airports that result from this growth will be eliminated.
- **Support for Emergency Operations:** The Torrance alternate emergency operations center is located at the Torrance Airport. In the event of a serious area emergency, that center would become a hub of activity for the entire South Bay. Aircraft and helicopters

Study #1: City Policy on Jet Fuel Sales and Storage

responding to that emergency will use the airport as a center of activity, and many of them will require jet fuel.

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APPENDIX A

Study Plan #1

City Policy on Jet Fuel Sales and Storage

Study #1: City Policy on Jet Fuel Sales and Storage

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Study #1: City Policy on Jet Fuel Sales and Storage

Torrance Airport Commission Policy Committee Study Plan #1

Policy

Current City policy, implemented in its ground leases for airport businesses, precludes the storage or sale of "jet" fuel by airport businesses. Rental agreements for City-owned hangars at Torrance Airport also preclude the use of those hangars for storage, service, or operation of "jet" aircraft.

History

In 1975, a study was undertaken by a consultant (Bolt, Beranek and Newman) for the City of Torrance. The major purpose of the study was to provide descriptions and interpretations of the noise environment (current and projected) in order to provide a technical basis for planning decisions by the City of Torrance.

The study concluded: *"Noise monitoring offers a means of measuring actual noise exposure over periods of years. Noise monitoring provides a direct means of enforcing noise level limits on aircraft operations. By setting reasonable noise level limits, operations at the Torrance airport would be open to all types of aircraft that can meet the accepted noise criteria, providing a more flexible mode of judging acceptable aircraft than one based on arbitrary definition or arbitrary statements of engine type."*

Although many of the BBN study recommendations were implemented by the City, the City departed from the study's recommendations by attempting to ban all "jet" aircraft from using the airport and by adding the restrictions quoted above. The general ban on "jet" aircraft failed after a similar ban in Santa Monica was overturned in a legal challenge.

Today several "jet" aircraft are based at the Torrance Airport and transient "jet" aircraft visit the airport on a regular basis to support business activities in the South Bay area. All comply with the Torrance noise ordinances for the airport.

The Study

In accordance with its approved Work Plan, the Torrance Airport Commission formed a subcommittee to:

- evaluate whether this policy has satisfactorily performed its intended function,
- evaluate whether this policy has resulted in adverse, unintended results,
- determine whether changes to this policy should be recommended to City Council, and
- specify what those changes should be.

Subcommittee request

The Subcommittee solicits inputs and supporting data from all airport stakeholders: users, businesses on and off the airport, and the surrounding community to evaluate this issue from the following aspects.

- Projected future technology changes that might impact this policy
- Effects on Torrance-based aircraft
- Effects on transient aircraft traffic
- Effects on airport businesses
- Effects on safety
- Effects on surrounding neighborhoods
- Other considerations

The subcommittee requests that inputs to this study (and supporting data) be submitted before 31 December 2007 to:

Torrance Airport Commission
Policy Subcommittee Study #1
3301 Airport Drive
Torrance, CA
90505

Study #1: City Policy on Jet Fuel Sales and Storage

Please include your name, address (both snail and e-mail) and phone number in case we need some clarification or further information regarding your input or supporting data. All pertinent responses will be included in an appendix of the Subcommittee's final report and recommendation.

[Note: The date for inputs was later extended to 1 March 2008]

APPENDIX B

Communications sent to the Committee

All communications and data that were sent to the Committee in accordance with its Study Plan are included here. The arguments they represent have been summarized in Section 4. The Committee's conclusions about each argument and the data on which that conclusion is based are also included.

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Study #1: City Policy on Jet Fuel Sales and Storage



H.T. Haralambos
1 Caballeros Road
Rolling Hills, CA 90274
fax (310) 541 3393
tel (310) 541 3996
lambi@haralambos.com

December 6, 2007

Torrance Airport Commission
Policy Subcommittee Study #1
3301 Airport Drive
Torrance, CA 90505

In response to the Subcommittee's request for input regarding jet fuel at Torrance Airport, I am submitting my comments below.

I have been a Torrance Airport hangar tenant for the past 30 years, operating a Turbo Commander turboprop airplane. For those unfamiliar with the term 'turboprop', it refers to a gas turbine engine, burning jet fuel, used in aircraft, where most of a turboprop engine's power is used to drive a propeller. This aircraft meets all Torrance Airport's noise criteria, as do many jet and turboprop aircraft.

The inability to obtain jet fuel at Torrance Airport has been a severe inconvenience and considerable added expense over the years. On many occasions (hundreds of times), I fly to a nearby airport to fill the tanks and then fly back again. This, of course is an expense, and additionally, results in two more operations at the airport; one takeoff, and one landing over the surrounding neighborhoods.

I have witnessed this same procedure, by other non based jets and turboprops that have landed at Torrance for business purposes. While the 'boss' is conducting his business, the crew departs to another local airport for fuel, and returns again to pick up the boss and leave for home.

Additionally, as more and more new aircraft come on stream, many are now light jets and single engine turboprops. Witness the growing number of jet fuel burning airplanes based at Torrance. All of these have the same problem - a ferry flight to get fuel. I think the availability of jet fuel at Torrance will actually reduce the traffic count.

I don't understand why the FBOs at Torrance are being penalized, and the City is forgoing an additional income source by not being able to sell fuel, and consequently other services to these aircraft. Especially since all these airplanes are required to meet the noise criteria.

I believe that the use of the noise monitoring system adequately protects the community from "noisy" aircraft. The prohibition of jet fuel sales is counterproductive. The sale of jet fuel is reasonable, and should be allowed.

Very truly,

H.T. Haralambos

SIRS,

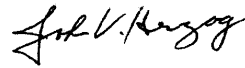
WE LIVE WITHIN A MILE OF THE AIRPORT —
WE DO NOT WANT JET FUEL SOLD AT THE TORRANCE AIRPORT —

Study #1: City Policy on Jet Fuel Sales and Storage

POLICY SUBCOMMITTEE STUDY NO. 1

12-21-07

IN REGARDS TO THE ARTICLE IN THE DAILEY BREEZE ^{12/17/07}
ABOUT "SHOULD TORRANCE AIRPORT SELL FUEL". LET ME ANSWER
THAT WITH A RESOUNDING "NO". ANYONE WHO LIVES IN THE AREA
AND HAS EXPERIENCED A PLANE BUZZ OVER THEIR HOME AT
BELOW THE LEGAL HEIGHT FOR AIRCRAFT AND ~~THE~~ THEN ATTEMPT
TO DISCUSS THIS WITH ANYONE IN AUTHORITY KNOWS THE FRUSTRATION
YOU EXPERIENCE. GOD HELP US IF WE EVER HAVE ADDITIONAL JETS
FLY OVERHEAD. ONE OTHER THING, ANYONE WHO IS A PILOT
(SELF-INTEREST) READ AIRPORT COMMISSION CHAIRMAN JIM GATES,
SHOULD NOT BE INVOLVED IN THE DECISION MAKING PROCESS.
AIRPORT COMMISSILER GERRY DINGMAN (ANOTHER PILOT) ASSERTION
THAT IF JET FUEL WAS AVAILABLE AT THE AIRPORT IT WOULD
ACTUALLY REDUCE THE NUMBER OF JETS FLYING OVERHEAD
FALLS INTO THE CATEGORY OF "WHEN PIGS FLY".



Mr. & Mrs. John V. Herzog
4213 Paseo De Las Tortugas
Torrance, CA 90505

310-944-1885 (CELL)

310-944-1886 (CELL)

E-MAIL

TORTUGASHERZOG@

YAHOO.COM

Study #1: City Policy on Jet Fuel Sales and Storage

Peter D. Joseph
2740 West 233 Street
Torrance, CA 90505

Email PDJoseph@earthlink.net

Torrance Airport Commission,
Policy Subcommittee Study No. 1,
3301 Airport Drive,
Torrance, CA 90505

December 18, 2007

Dear Sirs.

The people who live in El Segundo and Inglewood know that jet planes ruined their quality of life and their property values. Please, do not allow the sale of jet fuel in Torrance.

Yours truly.


Peter Joseph

Debate over jet fuel

Today we publish answers to our Question of the Week. We'll ask another question Sunday.

This week's question: **"Torrance is studying whether the city should allow jet fuel sales at its airport. Would lifting the ban on jet fuel sales help the airport modernize for the better, or would it bring more noise and safety risks?"**

Torrance airport is a public-use airport and cannot restrict jet- or turbine-powered aircraft. The airport has a very expensive and restrictive noise abatement system, and all aircraft must meet these noise limitations. Most jet aircraft today are quieter than some of the propeller aircraft, and all must meet the same noise limits.

Jet aircraft that land at Torrance airport to off-load passengers must then fly to either Long Beach or Van Nuys airports for fuel before returning to Torrance to pick up passengers, thus making extra operations into and out of the airport.

Robinson Helicopter Co. is in the process of certifying a jet helicopter and will have jet fuel at the airport for its operations. The city

of Torrance is losing a large revenue source by not selling jet fuel at the airport.

— **CHUCK LIVERGOOD**
Hermosa Beach

□ □ □

Selling jet fuel out of Torrance airport is not a very good idea.

We have enough noise pollution in Torrance and surrounding cities without adding to it by refueling jets out of the city's airport.

The majority of residents such an action would negatively impact should override the wishes of the small group that the action would benefit.

— **T. SABOSKY**
Torrance

□ □ □

My husband and I think it's a terrible idea. ... We think it would cause more risk and noise.

— **EILEEN and PETER BRANCH**
Redondo Beach

12/02/07

GENTLEMEN:

I LIVE IN GENTRE TOWNSHIP.
PLEASE DO NOT ALLOW TOWN
AUTHORITY TO STORE OR SELL JET
FUEL. WE DO NOT WANT IT
TO BECOME WHAT SANTA MONICA
IS TODAY.

FEEL FREE TO CONTACT ME
IF I CAN PROVIDE ADDITIONAL
INPUT ON THIS SUBJECT.

REGARDS,

LAUREN FISHER

310 874 9776

FISHERL@AOL.COM

Study #1: City Policy on Jet Fuel Sales and Storage



FRANK SCOTTO
MAYOR

CITY OF
TORRANCE

December 4, 2007

Richard Myers
407 Avenida De Jose
Redondo Beach, CA 90277

Subject: Letter of November 23, 2007

Dear Mr. Myers:

Thanks you for your letter outlining your concerns with regard to the Torrance Airport Commission and their study relating to jet fuel. The City Council was approached by a resident at the November 20, 2007 City Council meeting under "Oral Communications" with similar concerns over timing of the study. Based on the request, the City Council requested that a request be made to the Commission to extend the study period to allow for more input.

There will be an Action Item on the December 13, 2007 meeting requesting that the period for comments be extended to March 1, 2008. The purpose of the extension is to allow for as much input as possible into the subject.

I am forwarding your letter to the Commission so that they may have it in their file as they continue their study. I would encourage you to give input to the Commission on this issue.

Again, thank you for bringing your concerns to my attention.

Sincerely,

Frank Scotto
Mayor

FS:BKS:maw

cc: City Council Members
LeRoy Jackson, City Manager
Sheryl Ballew, General Services Director
Shant Megerdichian, Facility Operations Manager

Study #1: City Policy on Jet Fuel Sales and Storage

→ FRANK SCOTTO

To: Members, Torrance City Council (ONE COPY TO EACH) November 23, 2007
Subj: Four Questions On Jet Fuel Sales At Torrance Airport

1. Why has Torrance Airport Commission (TAC), despite requests by others, set the 'comments period' for their Study of Jet Fuel Sales in the busy Holiday Season to expire "before 31 Dec?" That deadline is in the Study Plan presented at the Nov 8 '07 meeting.

2. Why, 12 days into the comments period, was the plan not yet in the office of the Torrance City Clerk? On Nov 20, I called the City Clerk to request a look at the plan. Luckily for me, the lady who took my call had the time to put me on hold, make some calls, and locate the plan. It was still out at the airport.

3. Why do I consider TAC's criteria rotten? I Google-searched (aircraft+noise+psych). Over a million hits. At top, how jet noise hurts children. I attach one (1998 Cornell U release) which says:

- * Health and psychological well-being (adverse effects).
- * Higher blood pressure in children.
- * Increased levels of stress-hormones in children.
- * Children's general feeling of a lower quality-of-life.
- * Indications: higher blood pressure throughout adulthood.
- * The hormones link to some life-threatening adult illnesses.
- * Higher cholesterol in children.
- * Reduction in child's body's disease-fighting immune cells.
- * Children become poorer listeners.
- * Children become poorer readers.

I then searched (child+jet+noise). Near the top found: "Effects of daily noise on fetuses and cerebral hemisphere specialization in children" (jet-plane noise stimulus), dated 1988, online 2003.

But TAC's Oct 11 2007 recommendation to "reevaluate the policy" banning jet fuel sales defines "Issues" as 1.Safety; 2.Noise and its prediction; 3.Revenue, Airport Employment, Tax Revenue, and the "Value" (of jet operations) to businesses in or near Torrance.

The issue in last place is Community Relations, but only in terms of noise violations/noise monitoring. There is NO MENTION of jet-noise damage to children or fetuses. (4) Why? That info is not secret, is important, is long available, and is easy to find.

Sadly, the recommendation states it is from the TAC chairman and two of the three pilots on the Torrance City Council's commission.

I love jets. Served in the 68th, 319th, 18th, 337th, and 432nd Fighter-Interceptor Squadrons, the 68th having the first aerial victories of the Korean War; and flew as backseater on that war's final jet nightfighter mission, last man out of the war.) I still carry my civvie pilot license; one might call that gung ho. But I say jet traffic low over residential areas is subtle child abuse.

In my opinion TAC behavior (a) minimizes inputs by the impacted and (b) needs an ethics-check. Jet approach and departure paths cross several cities, not just Torrance. Small children, infants, and fetuses have no voice, no vote. Do not victimize them.

2 Atch: Kobe Univ. July 15 1988
Cornell U. March 4 1998



Richard Myers
407 Avenida De Jose
Redondo Beach, CA 90277

Study #1: City Policy on Jet Fuel Sales and Storage

(ATTN TO 11/19/07 LTR TO
TOWNSHIRE CITY COUNCIL
- R. MYERS)

Cornell News: Aircraft noise harms children

This is Google's cache of <http://www.news.cornell.edu/releases/March98/noise.stress.ssl.html>

as retrieved on Jul 24, 2007 12:01:22 GMT. Google's cache is the snapshot that we took of the page as we

Airport noise is harmful to the health and well-being of children and may cause lifelong problems, Cornell study shows

FOR RELEASE: March 4, 1998

Contact: Susan S. Lang

Office: (607) 255-3613

E-Mail: ssl4@cornell.edu

ITHACA, N.Y. -- The constant roar from jet aircraft can seriously affect the health and psychological well-being of children, according to a new Cornell University study. The health problems resulting from chronic airport noise, including higher blood pressure and boosted levels of stress hormones, the researchers say, may have lifelong effects.

"This study is probably the most definitive proof that noise causes stress and is harmful to humans," says Gary Evans, a professor of design and environmental analysis in Cornell's College of Human Ecology. This is, he says, the first longitudinal study of noise and human beings to look at the same group of individuals before and after noise pollution.

Other studies have been cross sectional, comparing people exposed to noise to well-matched controls who were not subjected to noise. Evans, an environmental psychologist and an international expert on environmental stress (such as noise, crowding and air pollution) and his German and Swedish colleagues, Monika Bullinger and Staffan Hygge, respectively, reported their findings in the January issue of Psychological Science, published by the American Psychological Association.

The researchers looked at 217 third- and fourth-grade children in rural areas 22 miles from Munich, Germany, before and after the opening of a new airport. About half the children live in an area under the flight path of the new international airport; the others, who were matched for age, parental jobs, family size and socioeconomic status, live in quiet areas. The children were tested for blood pressure, stress hormone levels and quality of life six months before the airport was completed as well as six and 18 months after it opened.

The children in the chronic noise group experienced modest but significant increases in blood pressure and significant increases in stress hormones (epinephrine, norepinephrine and cortisol) while the children in the quiet areas experienced no significant changes. Eighteen months after the airport opened, the children exposed to the chronic aircraft noise also reported a significant decline in their quality of life.

"Although the increases in blood pressure were modest in the children living under the flight path, they may predict a greater likelihood of having higher blood pressure throughout adulthood," says Evans. There are indications, he says, that elevated blood pressure in childhood predicts higher blood pressure later in life.

Boosts in stress hormones also are of concern because they indicate that noise induces physiological stress. These hormones are linked to adult illnesses, some of which are life-threatening, including high blood pressure, elevated lipids and cholesterol, heart disease and a reduction in the body's supply of disease-fighting immune cells.

Evans' and his colleagues' new study adds powerful evidence to cross-sectional and animals studies which have shown higher stress levels in children and adults working and living in chronically noisy environments. Evans also reported last year that New York children living near an international airport tended to be poor listeners and did not read as well as matched children in quiet schools. Later this year, Evans hopes to report on how chronic noise affects reading, learning and mental health in the Munich study group.

The study was supported, in part, by the Society for the Psychological Study of Social Issues, the National Institutes of Health, the Nordic Scientific Group for Noise Effects, the Swedish Environmental Protection Agency and the German Research Foundation.

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Effects of daily noise on fetuses and cerebral hemisphere specialization in children

Y. Ando

Department of Environmental Planning, Faculty of Engineering, Kobe University, Rokkodai, Nada, Kobe 657, Japan

Received 15 July 1988. Available online 25 July 2003.

Abstract

This paper first provides an overview of work by the author and colleagues on effects of noise on fetuses demonstrating growth inhibition. As a second issue, the effects of daily noise on the mental abilities of children are discussed in relation to task specification of cerebral hemispheres. Two different types of mental tasks were given to a total of 1286 children (7–10 years old) who live in a noisy area around an international airport or in a neighbouring quiet area, under conditions of no sound, jet-plane noise stimulus and music stimulus. In the quiet neighborhood, results may support a model that noise and calculation tasks are separately processed in the right and left cerebral hemisphere, respectively. Music perception and calculation are considered to be processed one after the other in the left hemisphere. In the pattern search task used as the right hemispheric task, no significant differences appeared under either stimulus sound, with the exception of a slight interference observed in the noise group. In the noisy living area, however, effects of temporary sound on mental tasks appeared to be quite different from the first-mentioned results. These facts suggest that daily noise affects the development of cerebral specialization of growing children. As little is known about effects of noise on growing children, it is recommended that international cooperation be initiated to

Many Christmas to the
Torrance Airport Commission
Please no jet fuel. I am
a long time resident and

Blessings at Christmas
and always.

live near the airport. I
have never appreciated the
jet noise.

Wendy,

Justin Myers



Study #1: City Policy on Jet Fuel Sales and Storage

CITY COUNCIL

Ken Blackwood
Susan Y. Dever
Margaret Estrada
Don Suminaga
Barry Waite



ADMINISTRATION

Tom A. Odom
CITY MANAGER

Dawn Tomita
CITY CLERK

CITY OF LOMITA

January 15, 2008

Zamperini Field Airport Commission
Policy Subcommittee Study #1
3301 Airport Drive
Torrance, CA 90503

RE: Policy Change/General Aviation Growth Sub-Committee's Study of Jet Fuel and City of Lomita Comments

Dear Chairman and Commissioners:

The City of Lomita would like to take this opportunity to provide the Torrance Airport Commission and the City of Torrance our comments relative to the existing policy that prohibits the sale and storage of jet fuel at the Airport.

It is our understanding that the current policy states "that there shall be no storage or sale of jet fuel on the Airport, with the exception of one lease which allows it for use in the manufacturing process only." The City of Lomita is very concerned about any proposed policy which would go beyond what is currently allowed. Our concerns are predicated on a number of environmental issues that would be detrimental to the quality of life in Lomita neighborhoods that are directly in the flight path of approaching jet aircraft en route to the Torrance Airport. These issues include increased noise and pollution that will be generated as a result of additional jet aircraft in search of fuel. The potential buildup of jet air traffic will dramatically increase the risk of accidents and it is important to note that three single engine propeller aircraft have crashed in Lomita neighborhoods over the past few years. These incidents have resulted in the death of pilots and caused significant property damage and trauma for residents involved in these unfortunate events. Increased jet air traffic will only compound the risk to the public safety for our residents and obviously the Torrance Airport Commission cannot assure residents that a jet aircraft will not crash and explode into a fireball in our densely populated neighborhoods, or any surrounding neighborhood for that matter.

The airspace at the Airport is crowded with frequent takeoffs and landings including helicopters from the Robinson facility. Expansion of the existing policy to allow sale and storage of jet fuel will increase safety risk, noise and pollution to surrounding neighborhoods in Lomita and Torrance.

City Hall Offices • P.O. Box 339 • 24300 Narbonne Avenue, Lomita, CA 90717
(310)325-7110 • FAX (310)325-4024 • WEBSITE: www.lomita.com/cityhall

Study #1: City Policy on Jet Fuel Sales and Storage

Zamperini Field Airport Commission

01/15/2008

Page 2

At a minimum, a study of the noise, safety and pollution problems that may be associated with the sale of jet fuel at the Torrance Airport utilizing Santa Monica Airport and other similar sized facilities as a model should be conducted. Furthermore, a subcommittee comprised of three pilots to review a policy change, in our mind, is not an acceptable process to render an objective opinion or recommendation of this magnitude which affects the quality of life for so many individuals.

The City of Lomita respectfully request that the Policy Subcommittee and the Airport Commission carefully consider the possible ramifications in recommending any changes to the current policy that prohibits the sale and storage of jet fuel at the Airport.

Thank you for your time and consideration of this matter.

Sincerely,



Margaret Estrada

Mayor

Cc: City Council
City Attorney
Mayor and City Council, City of Torrance

20 February 2008

Airport Commission
Sub Committee on Jet Fuel

Sub Committee Members,

As a Lomita resident living near the Torrance Airport, I request that you continue to prohibit the sale of Jet Fuel at the airport.

I believe that the additional noise and pollution resulting from such sale would significantly degrade the environment in this area.

Thank you for giving the local residents a voice in this matter.

Sincerely,

Robert M. Lemmer

26018 Cypress St. Apt 3

Lomita, CA 90717

Study #1: City Policy on Jet Fuel Sales and Storage

February 24, 2008

Torrance Airport Commission
Policy Subcommittee
Study No. 1
3301 Airport Drive
Torrance, CA 90505

I would like to comment on a survey that is being circulated by the Southwood Riviera Homeowners Association titled "Torrance Airport Questionnaire". The objective of this survey would, at first glance, to be to gauge the opinion of the local residents of south Torrance about whether the lifting of the ban on Jet A at Torrance Airport would be a good idea. However, one doesn't need to read past the second line on the back of the questionnaire to recognize what this is (the line reads: Your Response Will Help Keep Torrance Airport Jet Fuel Free). The author makes no effort to hide his extreme bias on this issue. He has already decided what the opinion of South Torrance residents should be and is simply looking for support for his case. The back of the questionnaire is nothing more than an emotional rant. Many of the statements that he makes represent opinions that are not shared by many others. More than a few of his statements are just factually untrue. Additionally, the occasional statement is just incomprehensible. For example, *"If Jet Fuel is available we know the massive congestion at LAX will become our problem as well."* WHAT!! Does anyone have any idea what this even means?

I think that Michael Wermers has done a great disservice to the members of his association. He could have provided some facts and solicited some opinions, but he chose not to. It is always discouraging when people use disinformation and fear to advance their agendas. We hope that most people are smart enough to see through such simplistic rhetoric and we count on our leaders not to submit to such hysterical campaigns.

I hope that the commission will consider the results of Mr. Wermer's survey for what they are and dismiss his results as having no more value than one person's opinion.

Thank you for your attention.


Peter Broen
22508 Shadycroft Ave
Torrance, CA 90505
pbroen@att.net
310 891 2848

Study #1: City Policy on Jet Fuel Sales and Storage

February 25, 2008
Torrance Airport Commission
Policy Subcommittee
Study No. 1
3301 Airport Drive
Torrance, CA 90505

I have been watching with interest the recent arguments both in favor and against the sale of Jet fuel at the Torrance Airport. On the one hand, those in favor of such sale point out that

- Noise levels are carefully monitored at the airport and enforcement of noise limits applies to all traffic including jets
- The new generation of jet powered small aircraft are amazingly quiet, quieter than many of the aircraft that are currently operating out of Torrance airport
- Turbojet and turboprop traffic is currently allowed at Torrance airport. Unavailability of fuel requires that such aircraft make additional takeoffs and landings in order to get fuel
- Sale of jet fuel would bring additional revenue to the airport and businesses at the airport

On the other hand, those not in favor of selling jet fuel make arguments that are much more emotional.

- The main argument is that jets are bad, plain and simple. Some comments give the impression that jets are currently not allowed at the airport. This ignores the reality that jets operate in and out of the airport every day and seem to go unnoticed by many.
- Some arguments suggest that the lack of jet fuel sales at Torrance is the only thing that keeps the airport from becoming another Santa Monica or Van Nuys in terms of jet traffic volume. In reality, there are many other reasons that favor jet traffic at Santa Monica and Van Nuys.

I think that a quiet change in the jet fuel rule would probably result in negligible increase or decrease in amount of turbojet and turboprop traffic and few would notice. I don't see a real risk that a large commercial interest is going to move in, open a high end FBO (fixed base operation) and become a center for lots of jet traffic. If a large commercial operator were considering such a move, then lobbying would have taken place and some on city council would likely already be in favor. It may be interesting to note that a waiver to the jet fuel ban was recently approved. A large commercial interest (Robinson Helicopter) needed jet fuel to develop a new turbine powered helicopter, and the approval of the waiver was fast and very quiet. One could argue that this waiver is much more likely to impact airport area noise than the sale of jet fuel to the few turbine powered fixed wing aircraft that use Torrance airport. When Robinson starts production of the it's new turbine helicopter, every one will be flown out of

Study #1: City Policy on Jet Fuel Sales and Storage

Torrance for all initial qualification tests as well as initial training and checkout of the purchasing pilots. Additionally, I would expect these helicopters to return to the airport for periodic maintenance and overhaul. It will be interesting to see how this all takes place without the sale of any Jet A.

I keep an airplane at Torrance airport that is not turbine powered so would gain nothing from availability of Jet fuel. Additionally, an increase in overall traffic might affect me negatively in the form of IFR clearance delays, etc. I also live directly under the extended centerline of runway 29R so all of the jet (almost always IFR) traffic goes directly over my house. That said, I expect that sale of Jet fuel would have minimal, if any negative noise consequences and I would be strongly in favor of it. The currently policy just does not make any sense.

Do we think that the airport board and city council can overcome the emotional responses from the nay side? I hope so.

Peter Broen

Torrance



Peter Broen
22508 Shadycroft Ave
Torrance, CA 90505
pbroen@att.net
310 891 2848

Study #1: City Policy on Jet Fuel Sales and Storage

ERNEST A MOORE III

February 28, 2008

Mr. Shant Megerdichian
Torrance Airport Operations Manager
3301 Airport Dr
Torrance, Ca 90505

Dear Mr. Megerdichian,

The purpose of this letter is to express my concerns over the potential of Jet Fuel being sold at the Torrance Airport. Let there be no mistake, I and virtually all of my neighbors are adamantly opposed to Jet Fuel being available for purchase at Zamparini Field.

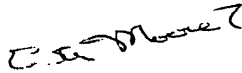
It is my opinion that the only thing keeping organizations such as Honda and Toyota from basing their corporate jets at Torrance as well as fleets of charter jets establishing Torrance as their base of operations is the lack of available fuel. Should fuel become available the impact on the communities surrounding the airport would be disastrous. The major issues include but are not limited to:

- Noise pollution from increased operations involving jets and turbo props.
- Environmental pollution directly attributable to jets such as experienced at Santa Monica Airport.
- Safety issues brought on by more aircraft above our communities. Not only would the increased volume of traffic increase potential for mishaps but also factoring in the differing approach and departure air speed of jets, single engine civil aviation fixed wing aircraft and rotorcraft in my opinion raises many safety issues.

In closing I would like to invite those involved in studying this issue to consider that there are very good reasons for residential streets being off limits to commercial 18 wheeler trucks. Why should the skies above be filled with jets and turbo props that create even more noise and pollution?

Sincerely,

Ernest A Moore III



Study #1: City Policy on Jet Fuel Sales and Storage

Torrance Airport Commission
Policy Subcommittee Study No. 1, 3301
Airport Drive
Torrance, CA 90505

Ladies/Gentleman;

I am writing to express my opposition to allow the sale of jet fuel at the Torrance Airport. The policy banning jet fuel was a well thought out restriction and recognized the fact Torrance residents would have more noise from the airport than they experience now. I hope this Commission will recognize the adverse impact this would have on the residents of Torrance and prevent another period of adversarial relations due to increased noise from jet aircraft. While many of us have tolerated the infractions of some of the planes we have made peace with the Airport and Torrance politicians. The lifting of the ban will once again start another "war" of Torrance residents against non Torrance residents who would most probably fly these aircraft. I cannot believe anyone would really think this would be a good thing for Torrance residents, and I would like to keep the Airport activities for "recreational" aircraft and not for providing fuel for corporate/private jet aircraft.

In conclusion, I am hoping that the majority of the Torrance residents who will become the victim of this change, are given due consideration. We do not want to become another LAX or Santa Monica airport.

Respectfully,



Lee Sode
310.316.8783
22424 Susana Ave
Torrance CA 90505
mesode@aol.com

Study #1: City Policy on Jet Fuel Sales and Storage

02/03/08

Torrance Airport Commission
Policy Subcommittee Study No. 1

Dear Committee Members:

This letter is against the sale of jet fuel at Torrance airport.

We have lived near the airport for almost 40 years. We don't like airplane or helicopter noise. And we know from years of direct experience that jet noise is worse than smaller piston planes.

And what about the noxious air jet fuel burning aircraft produce?
A letter to the editor (Daily Breeze, 2/1/08, p. A16) points out,
"Here are a few Santa Monica Airport facts: More than 90 percent of all noise violations are from jet operators. All of the complaints about noxious odors are due to jet operations...."

Is this what thousands of Torrance residents want? We doubt it. A 12/16/07 Daily Breeze online news article states, "The number of aircraft operations – defined as either a takeoff or a landing – at the [Torrance] airfield has declined by 67 percent since 1974...."

We Torrance residents think that's great—the less the better.

The interest of a few should not override the peaceful enjoyment of our homes and businesses around the airport.

In fact the current energy crisis and global warming catastrophe will eventually dictate a decrease in all dirty energy activities—from aircraft to autos. Anything that decreases these activities is a good move.

We urge you to continue the ban on the sale of jet fuel.

Sincerely,



Sherwin and Marilyn Rubin
4414 Greenmeadows Ave.
Torrance, CA 90505
310-375-4483
gondolier62@yahoo.com

Study #1: City Policy on Jet Fuel Sales and Storage

Maurice and Marie Dohner
2707 Grand Summit Road
Torrance, California
(310) 530-8721

February 7, 2007

Torrance Airport Commission
Policy Subcommittee Study No. 1
3301 Airport Drive
Torrance, CA 90505

My husband and I are against changing the policy to permit the sale of jet fuel at the Torrance Airport.



This will permit an increase in jet landings at the airport. Jets will be able to refuel when flying from one area to another, therefore, enabling jets that are not leaving or flying to the Torrance Airport to stop and refuel.

The argument that planes leave just to refuel and return **is just plain stupid**. And, if they are doing it, the practice should be stopped. We do not leave our house and drive our car simply to buy gasoline. What a waste of time, money, and gasoline. We stop and buy gasoline on the way to or from somewhere that we are traveling to such as the market.

Also, we feel it will make flying in the area more dangerous. Despite the claims made by the City of Los Angeles and the LAX airport, more and more flights from LAX are traveling over our area particularly after 11:00 PM at night. Why the planes do not fly further out over the ocean is beyond us.

We can see no valid reason to sell jet fuel at the Torrance Airport and feel it will have a very negative impact on the area.

Sincerely,



Maurice and Marie Dohner

cc: Torrance City Council

Study #1: City Policy on Jet Fuel Sales and Storage

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APPENDIX C

Other Data

The following one-page, double sided document was handed to the Committee at the February 2008 Commission meeting. It appears to be an opinion poll, but it is far from impartial and merely asks the reader to agree or disagree with pre-stated and biased opinions, without presenting a shred of data to support the opinions. The opinions presented are contradicted by the data examined in the study.

Three packages of completed polls were received by the Committee. Package #1 arrived via US mail without any return address or evidence of source (54 copies). Package #2, from the Torrance Airport Association, was hand delivered to the Airport Office by Nancy Clinton (20 copies). Package #3 was delivered to the airport office by Michael Wermers on March 13, after the closing date for submission of data (245 copies). All three packages contained filled-out copies of the opinion poll shown on the following pages. Package 3 contained copies of a similar “poll” using the same questions and biased statements. It also contained two other anonymous communications—both discussing the airport but providing no new arguments or data about the jet fuel issue.

None of the copies in package #1 contained any identification of the person(s) who filled out the poll; only 14 in the package #2 had names or signatures; 11 in package #3 had names or signatures, although many appeared to have had names blanked out.

The Committee did not know how to include this input into its report since it was inconsistent with the study plan approved by the Commission (Appendix A)—these polls were not sent directly to the Committee and most did not contain contact information, as the study plan directed.

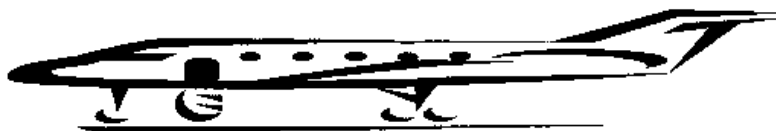
The Committee had concerns about the validity of the polls—particularly where it was filled out anonymously. It would have been possible for one person to submit many or all copies. It would also have been possible for the person submitting the copies to have filtered out those which did not agree with the views of the person who compiled or submitted the package.

The completed forms received by the Committee are available for the Commission and Council to review, but they provided no new data or arguments not already covered in the body of the report. A summary of the opinions contained in each package is presented in the table below:

Study #1: City Policy on Jet Fuel Sales and Storage

Source	Council should lift ban on jet fuel	Council should NOT lift ban on jet fuel
#1 Anonymous package		
Identified source	0	0
Source unidentified	52	2
#2 TAA package		
Identified source	14	0
Source unidentified	5	2
#3 Wermers package		
Identified source	0	11
Source unidentified	4	230

Sorted another way, 14 identified people stated they believed the Council should lift the ban on jet fuel at the airport and 11 felt that the ban should be retained.



JET FUEL at the TORRANCE AIRPORT

Your Response Will Help Keep Torrance Airport Jet Fuel Free

The Issues Concerning Jet Fuel at Torrance Airport

Jet Fuel is currently banned at the Torrance Airport and has been for decades. This ban keeps down the number of jets using the airport. Recently the Torrance Airport Commission began the process of lifting this ban on Jet Fuel.

If this ban is lifted the number of jets using the Airport will increase substantially. This means more jets flying over our homes, more noise, more pollution and lower home values. The pilots using the airport today do not need Jet Fuel; we do not need to pander to a vocal minority from outside our city.

While the Torrance Airport may be beneficial to its residents, the Noise Abatement department has repeatedly stated one of the major noise violators are "transient aircraft" over which they have no control. Lifting this ban on Jet Fuel will only increase the number of very noisy transient jets who will now have another location to land for fuel.

Local pilots and members of the Torrance Airport Commission will argue jet fuel will allow for quieter planes that pollute less. Let us be clear, we live here, jets are not quieter than other types of aircraft and this change will only provide for more planes, not less, regardless of the pollution they produce.

The argument will be made that allowing the sale of jet fuel will decrease number of flights. This "supposed decrease" will occur because jets now land, unload; fly out for fuel and then return. Now the number of jets using the Airport is very small as these jets cannot purchase fuel here. If this ban is lifted the number of jet flights will increase so substantially it will be impossible to see this reduction in flights.

The argument will be made Torrance is missing tax revenue from the sale of jet fuel. The larger and faster jets do more damage to the runways than the current population of smaller and lighter aircraft. This revenue will not compensate for the repairs needed to the runways.

It will be stated that Robinson Helicopter already has Jet Fuel; it does. The lease for Robinson includes the use of Jet Fuel for testing and research & development only, not for re-sale.

Our Airport is a "local airport" located within some of the most populated areas of Southern California. It is used by local pilots who fly for recreation. Santa Monica Airport sells Jet Fuel and it is a major private hub for the movie and entertainment business. Santa Monica City Council has voted to ban the largest and noisiest jets from their airport which will create a long and expensive legal battle with the FAA. This promises to cost the city of Santa Monica millions of dollars. This will surely repeat itself if the Jet Fuel ban is lifted in Torrance.

If Jet Fuel is available we know the massive congestion at LAX will become our problem as well. On the busiest of days the Torrance Airport has 500 pilots. This issue will impact 35,000 residents in three cities and serves not the existing pilot community but pilots with outside interests.

**Jet Fuel is bad for Torrance and its residents.
Help us stop this!**

Torrance Airport Questionnaire

The Torrance Airport Commission has received a report from a sub-committee tasked with determining if the ban on Jet Fuel needs to be lifted. Part of this report was a requirement to solicit input from various groups including the surrounding neighborhoods. This questionnaire is an effort to provide this input. Please answer the below questions and return this to the address below.

- 1) The Airport Commission is considering lifting the ban on the sale of Jet Fuel at the Torrance Airport. Do you consider this a good idea?
 Yes No

- 2) If the ban on Jet Fuel was lifted it will quite probably create an increase in Jet Aircraft traffic at the Torrance Airport. Is this something you would like to see?
 Yes No

- 3) If selling Jet Fuel were permitted it would most likely lead to an increase in modern aircraft taking off and landing at the Torrance Airport. Do you feel that selling Jet Fuel would be worth the increase in Jet Aircraft flights?
 Yes No

- 4) Do you feel that an increase in Jet Aircraft flights would have a positive effect on your quality of life and cause an increase in your property values?
 Yes No

- 5) Do you feel the Torrance City Council should lift the ban on Jet Fuel at the Torrance Airport?
 Yes No

Any other comments are welcome below. An anonymous response is acceptable; however if you are comfortable with providing your name and address, please do so. Your name and address will not be shared. It is only for validation of the response or to contact you with an update on these issues.

Should you have any questions please call or email **Michael Wermers at 310-791-5200** and **mwermers@gpsd.com**. As we move through this process your presence will prove useful at either an Airport Commission or City Council Meeting. We will keep you informed to when we would need your help. Thank you again for your support!!

Please return this questionnaire to **PO Box 10305, Torrance, CA 90505**.

Should you wish to contact the airport directly:

3301 Airport Drive, Torrance, CA 90505 – (310) 784-7900

Southwood Riviera Homeowners Association

Study #1: City Policy on Jet Fuel Sales and Storage

APPENDIX D

Committee responses to comments received at Airport Commission Meeting
10 April 2008.

Study #1: City Policy on Jet Fuel Sales and Storage

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**Torrance Airport Commission
Committee to Recommend Policy Changes
to Capitalize on General Aviation Growth Segments**

At the 10 April 2008 Airport Commission meeting, Commissioner Rhilinger read her comments on the Committee's report on Jet Fuel policy. She provided a written version as well. The following pages reproduce her comments (*italicized*) with the Committee's answers to specific questions and issues (regular font).

Nearly all of Commissioner Rhilinger's comments and questions stem from her own admitted unfamiliarity with the subject. This is to be expected. Without a firm understanding of aviation (and specifically jet aircraft and jet fuel) it will be difficult for one to understand the real issues and to reach appropriate conclusions on this subject. The same can be expected of the City Council and the public's reaction to the report.

The evidence uncovered in this report is compelling enough to indicate the need for further detailed research. Research at this level may exceed the capability of city staff, due to its specific technical nature.

For this reason, the committee suggests that the most logical next step is to pass this report on to the Torrance City Council with the recommendation that they hire consultants who will be familiar with these technical subjects, have the ability to study them in depth, and be able to provide a thorough understanding of the consequences of the jet fuel ban.

It is the belief of this committee that the potential for improvements brought about by a change to the jet fuel policy in the areas of interest, i.e., safety, noise, community relations, and revenue, are well worth the cost of hiring an outside consulting firm. Postponing or refusing to seriously investigate the policy at this time will only compound the issues and the irritants. City staff is not equipped with the resources to make this determination. A professional consulting firm dealing in such matters should be employed as soon as possible.

Clark Adams, Chairman
Jim Gates
William Tymczyszyn

Study #1: City Policy on Jet Fuel Sales and Storage

10 April 2008

In my prior career, part of my job was to review and evaluate reports to assure that they contained sufficient information to prove the allegation or position being promulgated, including documentation of supporting data and logical conclusions. I therefore read all reports, whether from Staff, a single author, or committees, with a critical eye.

In reviewing this report I had difficulty seeing and accepting some of the facts and conclusions being presented. I need to make it clear that this difficulty could be attributed to my lack of knowledge of the technical points being discussed. But to be an official document used to support a change in position on a topic of such volatility in our city, I feel that the report needs to be able to convince even the non-aeronautical experts among its reviewers.

I therefore have a list of questions and concerns that I believe need to be addressed before the document can be acted upon by the Commission. If the Commission is agreeable to Staff's recommendation that we accept the report but take no action until Staff and interested citizens have an opportunity to review the report (and its supporting documentation), then I will submit these questions to Staff and the Subcommittee rather than take the time in open session to do so. If the Commission intends to push for immediate action, I will discuss the concerns in open session before any such vote takes place.

Study #1: City Policy on Jet Fuel Sales and Storage

Page 3

- *the 1975 Bolt, Beranek and Newman report refers to "noisier business jets" . Is it possible that could be seen as a reference to the types of planes now being flown in and out of TOA?*
- *does the BBN report define "a noise problem"?*
- *the summary information indicates that in 1979, jet aircraft hanger storage was banned -- was that ban ever lifted? When? Why?*

The complete BBN report is available in the City records. As the report indicates, the study was performed for the City of Torrance. The aircraft referred to by the BBN report are obviously those in existence in 1975—not the newer technology aircraft that now exist over three decades later.

The Committee report quoted the BBN Executive Summary: "The study shows that under the California Noise Standards, the airport does not have a "noise problem".

The current rental agreements and land lease terms currently contain the jet storage, maintenance and servicing restrictions.

PageS [5]

Paragraph 1 indicates that the committee

- *".. .interviewed airport operations personnel and. some of the airport businesses to understand the current state of operations and background of the jet fuel ban."*
- *"info" on actual operations or jet aircraft was solicited directly from the operators, since neither the FAA nor the City keeps that information"*
- *Do we have written documentation of these interviews, including the names of the persons interviewed and the specific information they provided? This information is needed in order to evaluate the probable accuracy of the information to be able to re-contact the individuals involved for possible further clarification at a later date, perhaps in some future study.*

All survey forms obtained by the Committee are available. Airport operations personnel requested that their names not be recorded or used.

Section3.1

- *Do we have names and written documentation from each of the respondents (from the 13 transient jet operators and 10 jet operators based at Torrance)?*
- *Do we have written summaries of each interview?*

Study #1: City Policy on Jet Fuel Sales and Storage

Yes. All survey forms obtained by the Committee are available.

Data in chart on bottom of page 5 does not appear to compute:

FAA tower operations are being confused with what a pilot considers as a flight operation. In the survey responses on pages 5 and 6, "2 Ops" in the tables on pages 5 & 6 means two flights into and out of TOA. To the control tower, that would be 4 operations. Columns 2, 3 and 4 resulted from three separate questions on the survey:

How many times in the past 12 months has this aircraft flown out of Torrance Airport?

Have you made extra flights to neighboring airports just to purchase fuel (yes or no)?

How many times in the last 12 months?

- *How many gallons of gas does it take to fill a plane's gas tanks?*

Airplane fuel tanks vary greatly in size, depending on the design. For example, a very light jet might hold 400 gallons, a Lear or Citation jet 1000 gallons, and a medium jet capable of operation out of Torrance up to 3-4,000 gallons.

- *N607FX has only flown two round trips (4 ops) in or out of Torrance in a year, but predicts he would buy 2400 gals of jet fuel here if it were available??*

The Committee was not sure what issue Commissioner Rhilinger is raising here. FAA tower operations are being confused with what a pilot considers as a flight operation. That aircraft flew to Torrance 4 times in 2007 but obviously plans more trips in the coming year. One can see that taking on 2400 gallons in two flights is entirely feasible, based on the size of the aircraft and the duration of the upcoming flight.

- *N679QS and N683QS have each reported only one round trip to Torrance (2 ops) in a year, yet N683QS reports it made extra trips in and out of Torrance just to get fuel?? If the "annual ops" info is correct, then he flew the plane only once --to get fuel?*

FAA tower operations are being confused with what a pilot considers as a flight operation. The survey form asked "Have you made extra flights to neighboring airports just to purchase fuel? How many times in the last 12 months?"

No ID on the first plane in the list (should we therefore exclude the info from survey by the committee's own rules)

No. The survey form was sent to each specific airplane the Committee noted had landed at Torrance. The form was returned directly to the Committee in the return envelope provided by the Committee. Hence it came from a verifiable source. The results of the

Study #1: City Policy on Jet Fuel Sales and Storage

survey are the same regardless of inclusion of this data point.

- *Plane # 1 and N715CA both state they would buy 10,000 gallons of gas per year, yet plane #1 states he makes only 20 ops from Torrance (with 10 extra refueling ops) and N715CA made 250 ops from Torrance with only 12 extra refueling ops. Is 1,000 gallons of fuel an "average" tank fill-up?. Half of Plane#1 's ops were for fueling only?*

FAA tower operations are being confused with what a pilot considers as a flight operation. There is no "average"--they vary widely in size and a pilot may elect to fill only with enough to reach his next destination. Plane #1 had only started operating into Torrance in April. If he operates over long distances, it would be natural that each flight would require a refueling flight prior to departing with passengers. The pilot of N715CA commented: "Jet fuel at Torrance is a major problem for our operational planning to fly non-stop to other areas" and "We often tanker fuel into TOA that we would not if Jet A were available at TOA."

Page 6

Data on chart at top of page 6 does not appear to compute:

- *• 100+ annual ops (which should be the total number of take offs and landings for that plane during the year) with 100 extra refueling trips means most (if not all) trips were for fuel, not ordinary operations. What was the fuel being used for?*

FAA tower operations are being confused with what a pilot considers as an operation. He may have made 100+ flights out of Torrance with 50 of them just to refuel or he may have made 100 extra flights in addition. Either way, that shows a lot of extra flights just to refuel. Fuel was used to power the airplane.

- *NIMA and Haralambos both list 100+ annual ops with widely differing projected fuel purchases at Torrance and large differences in the extra fuel flights from Torrance.*
- *Haralambos would only buy 3,000 gallons of fuel here, despite having made 100 extra fuel flights annually?*

The Committee was not sure what issue Commissioner Rhilinger is raising. These figures are dictated by the types of operations and equipment flown. The reader should keep in mind that the size of the airplane and fuel tank capacities vary widely, plus the mission of the jet (short range trips versus long range). Thus, variation in the responses from one respondent to another is not discrepant.

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- *Five aircraft estimated a total of 34,000 gallons of annual fuel which would be purchased in Torrance, but the committee states that if those figures were extended to "all ten based aircraft" the gas purchased would be 100,000?? The extrapolation of possible purchases is not proportional. Twice the number of planes would be 64,000 gallons potentially purchased (twice the gas purchase for five planes). If the amount of gas that would be purchased is based on estimated number of flights, or miles being flown by the additional five aircraft, that data should be included in the report.*

The total of 34,000 is correct. The first draft of this table had included an aircraft that the Committee later determined should be in the transient list, but the total in the text was not corrected. Double 34,000 would be 68,000 (not 64,000), but this number would be highly dependent on the types of operations and equipment flown by the remaining aircraft that did not respond.

Page 7

" Conclusion: Lifting the ban on sale of jet fuel sales will not attract jet aircraft that are not already planning to land at Torrance. "

The conclusion is inconsistent with data on chart on Page 5 (eight out of thirteen planes avoid TOA due to lack of jet fuel). It is equally likely that these eight would fly in and out of TOA more frequently if jet fuel was made available here.

The point here is that they DID come to Torrance and DID make extra flights just to refuel. It should be understood that jets cruise at high altitude because that is where they are efficient. "Dropping in for gas" from 40,000 feet is just not cost or time efficient, so jets normally only fill up at their destination, unless the length of the flight exceeds the aircraft's range. If the jet is unable to fly into Torrance with enough fuel to continue to its next destination, the pilot's only choice is to make an extra refueling flight to Long Beach or to Hawthorne before boarding passengers for the next trip.

Page 8

Conclusion re: projected price of jet fuel at TOA not consistent with data using comparison of the cost of 100LL at airports within 30 miles of TOA.

100LL gas at TOA was \$4.86 Gas at other airports ranged from \$4.23 to \$6.09. This

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means that 100LL gas purchased at TOA was more than \$1.00 per gallon cheaper than some other airports in the area. Jet Fuel pricing could be equally attractive.

Available data does not support Commissioner Rhilinger's conclusion that jet fuel at Torrance would be priced lower than other airports in the area. Torrance has not historically had significantly lower 100LL prices compared to other similar area airports and there is no basis to assume that the pricing of Jet-A would be any different. Hawthorne charged \$4.74/gal for Jet-A and Fullerton charged \$4.80/gal. LAX charged \$6.44/gal and John Wayne charged \$7.08/gal. These significant price differences have not attracted aircraft to "drop in" to refuel at Hawthorne or Fullerton.

Comparing prices at Torrance to those at Long Beach, Burbank and John Wayne is like comparing apples to pineapples, because the bigger airports sell fuel from very large FBOs. Those FBOs provide aircraft servicing, storage, maintenance, catering, lounges, meeting rooms, and a host of other executive amenities used by well-heeled businesses traveling in large corporate jets. The high overhead of these big operations accounts for the price difference. Torrance Airport does not have these facilities nor room to build such lavish facilities.

The cost of descending from altitude, landing, taking off, and climbing back to cruise altitude far outweighs a price difference—even \$1 per gallon discount. Aircraft operating costs can easily exceed several thousand dollars an hour for a small to medium size jet, and fuel is only one of the costs (crew, maintenance, insurance, depreciation, storage, etc).

Page 10

Air Charter / Air Taxi operations: estimated number of ops at TOA annually appears to be growing (2006 vs 2007 in chart on bottom of page 10). Is there a way to limit these types of operations ??

No. Based on the court decisions in the Santa Monica cases, any aircraft that meets the existing size, weight and noise limitations, regardless of fuel or engine type, cannot be restricted from using any public-use airport like Torrance Airport.

Overall Committee Conclusions.(pg.19).

- *Who/what is Pratt and Whitney Customer Service?*

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Of the over 1 million references to “Pratt & Whitney” obtained from Google, Wikipedia states: “Pratt & Whitney is an American aircraft engine manufacturer of products widely used in both civil and military aircraft. As one of the "big three" aero-engine manufacturers, it competes with General Electric and Rolls-Royce, although it has also formed joint ventures with both of these companies. In addition to aircraft engines, Pratt & Whitney manufactures fixed gas turbines for industry and power generation, marine turbines, railway locomotive engines, and rocket engines.”

Jean Leger was the Pratt & Whitney customer service representative contacted by the Committee.

- *Data provided seems to indicate that some planes wouldn't be flown at all if it weren't for an "extra fuel flight"*

The Committee was unable to determine how this conclusion was reached from the data. The Committee believes that Commissioner Rhilinger confused the pilot's meaning of an operation (a trip in and out of TOA) with an ATC tower operation (a takeoff or a landing).

- *Increased revenue to the city from Jet Fuel sales must be considered in balance with the impact of the presence of that fuel on the surrounding community. There is no firm data available to accurately indicate just how lucrative the sale of Jet Fuel might, or might not, be.*

The Committee was not sure what issue Commissioner Rhilinger is raising—the FBOs will decide if they can make money or not. Currently ALL of the revenues go elsewhere.

- *I am not convinced that there is a significant number of additional ops at TOA due to extra fuel flights. The data provided on the charts on pages five and six appear to be highly inaccurate "guesstimates".*

Data on these pages are not “guesstimates” but are taken directly from the returned survey forms. The Committee suggests that Commissioner Rhilinger spend a few days at the GAC interviewing transient and TOA based jet pilots as they fly into and out of TOA. The committee has done this as much as deemed necessary to confirm the problem and to compile the data presented in the report.

- *As an Emergency Operations hub for the South Bay, is Torrance Airport adequate in terms of length of runway and other maintenance facilities needed for humanitarian aid "drops" to take place in an emergency? The larger transports that might be needed would have to be based from LAX or Long Beach, where Jet Fuel is already available, with smaller aircraft and helicopters shuttling to TOA from those locations. I believe most of the emergency activity at TOA would be of a ground nature*

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Several years ago, a serious grass fire in Palos Verdes was fought by county helicopters which reloaded with water at Torrance—enabling them to make frequent drops. In order to refuel, they had to fly to Long Beach and they were out of the fight for over an hour each time.

In the weeks following the last major earthquake in San Francisco, the Watsonville Airport served as the only way to get needed medicine and emergency supplies into that area for nearly a week. Ground access into the area was not possible.

TOA runways and taxiways are more than adequate to support fixed wing operations of medium large turboprop or medium size jet aircraft as might be used by the Coast Guard or other armed forces, as many of these are designed to operate from short fields.

Finally, while I agree with the committee's statement that the number of flight operations at Torrance Airport .will grow whether or not Jet Fuel is made available for sale at the airport, and while I can see that evolving technology in aircraft engine design will eventually make Jet Fuel the aviation norm of the future, I do not see anything in the committee's report which indicates a compelling need to start making Jet Fuel available at the airport at this point in time. I am particularly reluctant to do so in view of the fact that improvements in the airport Noise Monitoring Program has resulted in a lack of any measurable noise data since August 31, 2002.

For all these reasons, my vote on this committee recommendation will be "No".

Susan M. Rhilinger

Torrance Airport Commissioner

It is the belief of this committee that the potential for improvements brought about by a change to the jet fuel policy—particularly in the areas of interest (safety, noise, community relations, and revenue)--are well worth the cost of hiring an outside consulting firm for further investigation. The future of general aviation is now, and ignoring or postponing the issue will only guarantee that Torrance's Zamperini Field will slowly become an airport of aging aircraft, with newer aircraft that take advantage of technological advances either shut out or making wasteful refueling flights.

The current jet fuel policy has not kept jets out of Torrance or reduced jet flights into Torrance. Continuing the "ostrich approach" to this issue--burying our heads in the

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sand and hoping the problems will go away--is not working.

Committee responses to audience comments At Airport Commission 10 April 2008

A number of comments were also made verbally at the Commission meeting. Most comments expressed personal opinions but did not provide additional data for the study to consider. Excerpts from the minutes are provided below in *italics*. Committee responses are shown in bold type.

Rae Thrasher, Ladeene Avenue, stated that Southwood Riviera Homeowners Association did not receive a copy of the study plan, that 100% of its homeowners are against the sale of jet fuel, and that more time is needed to solicit input.

The study plan letter was mailed to all Torrance homeowners associations of record on November 16, 2007. The Southwood Riviera Homeowners Association newsletter for December 2007 reproduced the study plan in its entirety. The address of record (provided by the City Clerk and updated July 12, 2007) to which the study plan letter was sent was:

**Southwood Riviera Association
Rae Thrasher, President
23819 Ladeene Avenue
Torrance, CA 90505-4613
310.373.8204**

The Committee received no evidence to support the claim that 100% of the association members were against the sale of jet fuel.

Joe Arciuch, Kathryn Avenue, questioned the lack of supporting data in the Study and offered to provide data proving that property values of residential properties near the Airport are lower.

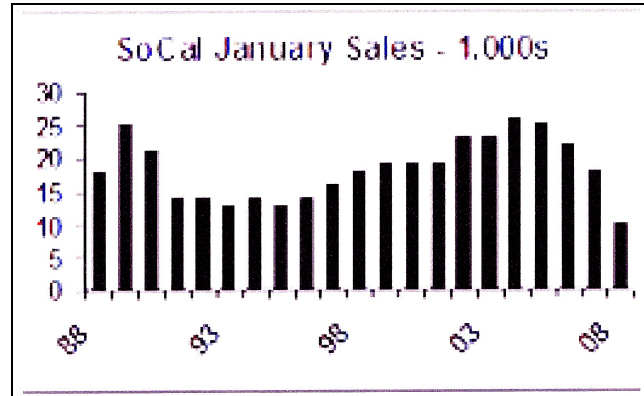
The Committee's conclusions about effects of the airport on home prices are based on the sales data provided by DataQuick. Data for 2003 was not available.

Torrance Single Family Home Sales Prices (\$/ft²)—Increase from prior year

ZIP Code	2005	2006	2007	Change from 2001
90501	22%	2%	-4%	108.0%
90502	28%	2%	-8%	115.1%
90503	11%	3%	1%	95.3%
90504	17%	6%	-5%	99.1%
90505	12%	13%	-6%	91.9%
90277	18%	4%	0%	83.4%

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These changes reflect the overall real estate market which began to soften in mid-2005 (see chart, right). Home sales in Southern California in January 2006 were 17% lower than for January of 2005. By January 2007, sales decreased 13% over the prior January. The annual decrease for January 2008 was an astounding 43%.



Mr Arciuch provided a set of vugraphs from the 2007 Aviation Noise & Air Quality Symposium titled: “Noise 101—Economics of Airport Noise Management.” It cites results of a study by John P Nelson of Penn State published January 2004 that attempts to quantify the impact of aircraft noise on property values.

Mr Arciuch also provided excerpts from that paper, dated July 2003. The study presents a method to quantify effects of airport noise on residential property values based on 20 studies reporting 33 estimates of those effects at 23 airports in the US and Canada in 1970. No identification of the airports studied or even whether they were similar to Torrance were included in the material provided. From the small number of airports included in the study (23 out of the over 20,000 airports in the US and Canada), it would be reasonable to assume they were done at large commercial airports in or near major cities and not at small general aviation airports.

Mr Arciuch provided L A Times data on median home sale prices for November 2006 (obtained from DataQuick) showing the change in median prices from the same month of the prior year. The data show a decrease in single-family home prices for zip codes 90505 and 90717 (Lomita) with 0% to 10% increases in other Torrance zip codes. He then claims this single data point as proof that Torrance Airport reduces home prices nearby.

Median home prices in any single zip code, because of the small number of sales in a given month and the range in prices for those sales, vary greatly from month to month. For example, data from June 2003 through March 2008 for a single Torrance zip code show month to month changes in single family residence prices per square foot ranging from +28% to -25%. Larger sample sizes (such as annual sales) are needed for meaningful comparison between two periods in a single zip code.

As noted above, annual home prices (\$/ft²) in 90505 increased MORE than in the rest of Torrance from the end of 2005 to the end of 2006—over 3 times more. This period includes the data cited by Mr Arciuch. Furthermore, median annual home prices (\$/ft²) in 90505 have averaged 3.6% higher than in the rest of Torrance from 2001 through 2007.

If one were to attribute these changes solely to the effects of the Torrance Airport (as Mr Arciuch does), one would have to conclude that proximity to the airport caused an INCREASE in home prices in 90505 for 2006 and that it made the homes MORE valuable.

The Committee did not have similar data for Lomita single family home sales (\$/ft²) over a

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period of years, but the median sales price of a single family residence in Lomita decreased 3.9% during 2007 compared to an increase of 0.6% for 90505 for the same period.

Michael Bettinger, 232nd Street, former Airport Commissioner, stated that there are no new facts in the Study that were not brought forward during the Master Plan hearings. He asserted that the Airport adversely affects property values, jet fuel can be trucked in, jet fuel is being illegally stored at Airport in hangars, and changing the Master Plan would require a full Environmental Impact Report.

The Airport Master Plan, dated August 1981 and provided to the Airport Commissioners, does not prohibit the sale of jet fuel. It is, in fact, silent on the issue of jet fuel, although the Plan appears to support availability of jet fuel and other amenities that support corporate business aircraft. It also appears to support the elimination of the extra refueling flights that have resulted from the jet fuel ban:

Page 6: “. . .Torrance Airport has a reputation for being a training field. Flight training results in large numbers of local operations (touch and goes) and very little local financial benefit per operation. Itinerant business aircraft, on the other hand, develop much higher financial benefits to the community per operation for services such as hotels, restaurants, car rentals, or corporate business ventures. Similarly, aircraft sales, rentals, and charter provide much higher benefits per operation than training. The FBO standards will encourage aeronautical uses that provide for the most benefit to the community and the least detrimental effects, through reduced operational levels.”

Page 14: “It is also the key to success for the aeronautical lessees transition to the corporate executive image.”

Mr Bettinger provided nothing to support his claims that the airport adversely affects property values (see Committee response to Mr Arciuch, above), that jet fuel is being trucked into the airport or that jet fuel is being illegally stored in airport hangars.