

Heliports — Key Catalyst in VTOL Industry Growth

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THE HELICOPTER is an unconventional air vehicle with extraordinary capabilities. Despite its relatively high acquisition and operating costs, a limited civilian market for helicopter services has been established in highly specialized applications. Primarily, this service consists of moving men and materials to and from remote or inaccessible sites where the savings over surface travel in time and effort more than justify the considerable added expense. Transportation, *per se*, particularly public helicopter transportation, is an infinitesimal part of the market, because the points between which helicopters can move in any large city are extremely limited. The relatively high cost of helicopter transportation is not as much a deterrent to the use of service as lack of convenience brought about by scarcity of places to which you can go. When we have as many places to land a helicopter in each of our large cities, as there are airports in the entire country, the demand will know no limits and cost consideration will bow to convenience.

Just as every form of transportation before the helicopter has experienced a growth in proportion to the expansion of supporting facilities, so can the use of VTOL services, and attendant equipment sales, be expected to propagate as more and more places to move between are established. The high initial cost, high operating costs, difficulty of acquiring handling skills and neighborhood opposition due to fancied danger are all obstacles that will fade into insignificance when the convenience and, therefore, the necessity of helicopter travel is established.

Time and again, in every one of our large cities, noble

efforts to establish heliports and helistops have failed. Enthusiasm for the unique qualities of the helicopter, love of its mode of flight, an intense desire to serve with it, and even a willingness to expend funds in promoting its use, are not sufficient. These efforts to establish urban area landing facilities have, for the most part, failed to effectively penetrate the wall of negativism which seems to rise up against each new attempt. The main reason is that most proponents enter formal hearings armed only with enthusiasm. Often they are unskilled in matching the emotion-packed oratory of the opposition. Seldom are they in possession of factual answers to key questions and "paper dragons" that are raised over and over again.

THE CENTURY CITY CASE

The forces that arise in any large city to oppose the establishment of heliports are fairly well defined in the Appendix, "The Face of the Opposition." The Century City case is a classic example of what it takes to win in some neighborhoods.

The Century City development, owned by Aluminum Co. of America, is located in West Los Angeles, Calif. It covers an area of some 260 acres, and is one of the most modern office building, shopping center, hotel, and residential apartment complexes in the world.

Unusually safe approach and departure paths over golf courses, which abut the boundaries of Century City, make operating procedures relatively simple and unhazardous.

ABSTRACT

The helicopter is an unconventional air vehicle. The commercial use and operation of helicopters has found a limited market in highly specialized applications and primarily in remote areas where the unique capabilities of these machines can justify the higher acquisition and operational costs. But the market offering the greatest potential for helicopter service and concurrent equipment sales is in

our heavily congested cities. This market is relatively stagnant and untapped because of a paucity of landing facilities. The proliferation of such facilities must be of as much concern to the airframe manufacturer as it is to the urban area operator. The problems facing the establishment of heliports in numbers sufficient to exploit this market and a joint manufacturer-operator program for attacking these problems form the basis for this paper.

However, in spite of an ideal operating configuration, good geographical position with references to Los Angeles International Airport, and profusion of high level business tenants that can use VTOL service, it took over 4 years of heart breaking effort to establish the Century City Heliport. Many important people participated and sizeable funds were expended before the Century City pad became a reality.

The opposition to this needed facility was actually lead by a kindly, grey haired, little old lady, who succeeded in arousing every neighborhood home owners group in the area, as well as surrounding school groups, church groups, and local politicians, against the project. Inconceivable as it may seem, this determined woman and her uninformed, but nevertheless articulate husband, succeeded in getting 8000 signatures on a petition opposing the helistop. Ultimately the support of a farsighted City Planning Commission, and the influence of a progressive Mayor, resulted in an eight to six vote by the City Council to permit the helistop.

This example is typical in one degree or another of what happens to almost every operator or property owner who seeks to establish this type of facility. The opposition increases in direct proportion to the proximity of the proposed pad to residential areas.

The Century City case is classic. Therefore, we have appended a paper which was prepared for the members of the City Council and which provided factual answers to the principal questions which the opposition raised at every one of the many hearings held in connection with this case. Changing the names, places and numbers would make these data suitable for almost every urban heliport proceeding.

LOCAL ORDINANCES, RULES, AND REGULATIONS MUST BE CHANGED

The entrance of the helicopter into our large cities has spawned a new set of widely diverse ordinances, rules, and regulations. Most of these are inimical to the establishment of helicopter landing facilities. Many were politically inspired as a result of pressure from home owner's groups and others. In the city of Los Angeles any one who would seek to establish a heliport must ultimately go through eight different agencies, unless the heliport lies in the heart of a purely industrial district. Unfortunately, these districts are never the point of origin and destination of large numbers of people. In other words, establishing a landing area has become a very costly and time consuming task. Building and safety codes in many instances are requiring overdesign for almost impossible circumstances, such as an uncontrolled crash from high altitude. These ordinances must be eliminated or changed to sensible parameters if more than just a few landing areas are to be established.

THE FEDERAL AVIATION AGENCY

The Federal Aviation Agency local aviation district offices have, for the most part, supported the operator at heliport hearings. FAA issued a fine design guide which was

widely distributed. However, city fathers and property owners are more apprehensive of those who would use the facilities. They are concerned with pilots with low skill levels, improperly maintained equipment, and inadequate insurance coverages. At one time it was suggested that the FAA give a special rating for roof-top landings or landings in congested areas. But, the one thing that is impossible to legislate is judgment. The only way in which the industry and the heliport owner can assure the community that proper operations will be conducted by pilots with necessary skill and judgment, in well maintained equipment with proper insurance protection, is by setting up his own rules and regulations.

HELIPORT RULES AND REGULATIONS

The problem mentioned in the paragraph above has been satisfactorily solved by setting up rules and regulations pertinent to a specific operation and making a permit to use the facility contingent upon the applicant's ability to prove that his pilots have proper experience, his equipment is properly maintained, and insurance coverage is correct and adequate. Pilot's skill and judgement is not taken for granted, regardless of the experience his application indicates. The applicant pilot must pass a flight examination by an "independent fee examiner" in which he must demonstrate to the examiner's complete satisfaction his skill and judgment in the equipment he proposes to use. The rules and regulations for a typical heliport are included in the Appendix and can be altered to fit any heliport anywhere.

NEED FOR PROFESSIONAL ACTION

It was noted previously that the average operator who seeks to establish a heliport has neither the training nor the resources to carry through to a successful conclusion. We suggest that the only way in which the problem can be attacked with any hope of success is the professional approach. A joint effort between the Vertical Lift Council of the Aero-Space Industry Association and the Helicopter Association of America would seem to be the answer. Action would consist of establishing a national committee of paid professionals in the various fields involved (legal, engineering, public relations, operations, etc.). This group would perform the following services:

1. Organize a team of experts whose mission will be to spend time in each of our large cities researching local ordinances and working with responsible city officials, politicians, and helicopter operators to effect deletions and changes to existing ordinances and regulations so that the final legislation will be favorable to the establishment of VTOL facilities.
2. Prepare canned presentations for local operators.
 - (a) Sound film which can be shown to home owners associations, church groups, schools, service clubs, chambers of commerce and city councils, telling the story of the

helicopter, its capabilities, its sound, its safety, its utility, and its value to the community.

(b) An operator's handbook outlining the best methods of enlisting local support, providing answers to the most often posed questions in a heliport hearing, and suggesting heliport rules and regulations that will insure safe day-to-day operations.

(c) Brochures which highlight the value of heliports and provide the answers to the questions that generally arise and which may be distributed to the groups noted above.

SUMMARY AND CONCLUSIONS

The demand for helicopter services and the concurrent increase in equipment sales can result only from the establishment of large numbers of facilities which exploit the unique capabilities of the aircraft.

Those who seek to establish these facilities can expect

immediate problems with unfair ordinances which in some areas make it almost impossible to build facilities and which must be changed or circumvented.

The opposition of local home owners groups, churches, and schools may be expected and will arise out of lack of knowledge of what the proposed facility actually represents to the community.

A joint, national effort on the part of both the manufacturers and the operators through a team of top professionals may provide the best solutions to the problem.

In short, we envision an educational program which will pay big dividends to those most concerned. The community must always be well prepared to receive a heliport before it is ever proposed. Dr. Marshall McLuhan, Canada's philosopher of the information age, said, "Education is now the biggest business in the world, and the educational budget of business is ten times the amount the community spends on the young."

APPENDIX

October 28, 1966.

TO MEMBERS OF THE CITY COUNCIL
CITY OF LOS ANGELES, CALIFORNIA

SUBJECT: THE CENTURY CITY HELISTOP

Gentlemen:

The Planning Commission of the City of Los Angeles has granted a permit for a helistop in Century City for the second time in the past four years. This helistop has had the unqualified approval of every Local, State and Federal agency concerned with the establishment of this type of facility. Yet, the matter will be appealed again - an appeal to the Council to reject the recommendations of the experts and again deny the permit.

The appeal arises out of fear, ignorance and a blind unwillingness, on the part of certain residents in the area, to accept the facts. It will be zealously and emotionally prosecuted, with every threat of political reprisal - a pattern followed by the opposition in its appearances before the Commission.

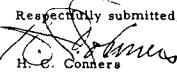
We hope that the attached, documented facts will assist the City Council to consider the matter on its merits alone, and that the data presented may be used again and again to arrive at future decisions of like kind that may come before the Council.

The following papers are enclosed.

- A. THE HELICOPTER
- B. THE CENTURY CITY HELISTOP
- C. THE FACE OF THE OPPONITION

Today's great cities are great because of the application of modern technologies to city building and city operation. Certainly, this is true of Los Angeles, and it would be a sad day indeed, when Los Angeles turns its back upon such technologies as have been duly tested and proved in practice.

We are sure the City Council will decide that it is necessary to move forward as technological developments afford opportunities to provide greater service to our Citizens.

Respectfully submitted,

H. C. Connors
Heliport Consultant

THE HELICOPTER

1. HISTORY

a. "When the pages of history are complete, the numerous achievements therein recorded may reveal no greater contribution to the convenience of mankind than the inven-

tion of the helicopter and the whole family of vertical landing and take-off vehicles which are being derived from it."

John F. Kennedy

b. The helicopter is a literal realization of man's dream of flight, for in the early days, observation of the free flight of birds was his only index to movement in the skies above him. Indeed, there are references even in the Holy Bible to this type of transportation. In Johns the following appears:

"And men shall fly like doves from their windows."

And again in Revelations:

"And men shall alight like doves on their rooftops."

c. Many believe the helicopter is a "new fangled contraption"; nothing could be farther from the truth. From the time of Leonardo Da Vinci in the 16th Century to the Wright Brothers at Kitty Hawk, men experimented with VTOL (vertical take-off and landing aircraft). They sought to duplicate the flight of birds.

d. The success of the Wright Brothers, early in this Century, so overshadowed these previous efforts, that almost all endeavor was directed toward the development of fixed-wing aircraft. But there were those who still believed in helicopters. Pioneers like Sikorsky, Cierva, and Breguet continued their experiments, and finally through the use of the lighter, more powerful gasoline engine, the helicopter became a practical reality early in the 1940's. Had the helicopter been successful first, the entire history of flight might have been changed.

e. The helicopter saw very limited use in WW II; but, in Korea, it became the veritable "Angel of Mercy", and was responsible for saving the lives of over 22,000 servicemen.

f. Between Korea and Vietnam, the helicopter has made rapid advances in both civilian and military applications. Today, in Vietnam, it is the prime mover for both the Army and the Marines, and it has given rise to an entirely new set of military tactics.

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g. More funds, both civil and military, have been expended on research and development in VTOL aircraft during the past five years than in the fifty preceding years. Almost every major airframe manufacturer has some VTOL/VSTOL project in some stage of implementation. At a recent meeting of the V/STOL Committee of the SAE, every major airline was represented, indicating the great interest even on the part of scheduled fixed-wing carriers in this type of flight.

h. The development of the gas turbine, which uses inexpensive fuel and which provides the highest horsepower per unit weight of any commercially available power plant, has given much of the impetus to VTOL projects. And, the use of the computer has reduced to a matter of hours, the solutions to complex VTOL problems which previously required months or years to accomplish.

i. All this means that VTOL aircraft are beginning to break through the economic barriers which deterred their expanded use for so many years. They are certainly the most versatile vehicles in the world, and bid fair to exceed even the most optimistic potential forecast for them. The helicopter, and all of its VTOL variations figures prominently in the future of Los Angeles and every large metropolitan area in the world.

2. NEW DIMENSION IN FLIGHT

All fixed-wing aircraft and almost all birds and insects fly in one direction and two dimensions: Forward and up, or forward and down. The helicopter can fly forward, backward, up, down and sideways; thus, it has added a new dimension to flight. It can hover in mid-air like a balloon or fly away at any speed from 1 to 100 mph (new designs now flying have reached speeds of over 200 mph). Helicopters can be controlled with greater precision than any other air vehicle.

3. THE SAFETY OF THE HELICOPTER

The National Safety Council has called the helicopter the "World's Safest Vehicle". Fatal accidents in properly maintained and flown commercial helicopters are rare indeed, because of the following reasons:

a. They travel an untenantanted segment of airspace: Helicopters normally travel at altitudes of 300-1000 ft above terrain. This segment of airspace is unused by any other vehicle, except in the immediate vicinity of airports where fixed-wing aircraft land and take off in the direction of the runway.

b. Unrestricted visibility: Helicopters enjoy approximately 180 deg of visibility - more than any other air vehicle. Mid-air collision is remote indeed. (Note: the recent collision of Capt. Max Schumacher's helicopter and the LAPD helicopter (1967) was conceded by the FAA to be a "one in a billion" chance tragedy).

c. Slow-fly and quick stops: Helicopters can be flown

And on the Other Hand... By Karl Hubenthal



49,000 of Us Died On Roads in 1965

CHICAGO, Feb. 12 (UPI)—At least 49,000 Americans were killed in traffic accidents last year, the National Safety Council has reported.

In its annual roundup of statistics, the council reported these statistics:

- The death rate was 3 per cent greater than in 1964, the former record year, when 47,700 persons were killed.
- At least 1.8 million persons suffered disabling injuries from traffic accidents.
- The resulting economic loss totaled \$8.5 billion in lost wages and man hours, medical expenses and insurance overhead.
- In December 4940 persons were killed, a 10 per cent increase over December 1964 when 4490 lost their lives.
- Deaths per 10,000 registered motor vehicles increased from 2.7 in 1964 to 2.9.

at crawl speed when necessary. They can be brought to a dead stop in mid-air in seconds, and they can hover like a dragon-fly.

d. Component strength: All components of a helicopter are products of special design and special metallurgy. They are "safe-lifed" by FAA regulation and are subject to maintenance inspection and replacement at regular intervals. Thus, structural failure in a helicopter is almost unheard of, and the Rotor Blade has no more chance of collapsing than the wing of an airplane.

e. A soft way down: The reliability of modern aircraft power plants is well known. Engine failure is extraordinary, when recommended maintenance procedures have been ob-

served. While loss of power is a major hazard in fixed-wing aircraft, it is of little consequence in helicopters.

A helicopter can be landed power off, under perfect control, gently as a feather, into areas as small as that subtended by the arc of its rotor blade. This procedure, called "autorotation", is as elementary to a helicopter pilot as pulling over to the curb in an automobile if the engine quits.

f. Transportation of Presidents: The helicopter is the only single engined flying machine in which a President of the United States is permitted to ride.

4. APPLICATIONS

The various types of work which helicopters are performing are well known and too numerous to detail here. It's sufficient to say that they are being used as buses, trucks, boats, jeeps, cars, camera and gun platforms, cranes, tugs, ambulances and patrol cars. In most instances they are doing a better job than the surface vehicles they replace. In many cases they represent the only way in which the job can be done.

5. THE HELICOPTER AND LOS ANGELES RAPID TRANSIT PROBLEM

a. A recent study prepared for the National Aeronautics and Space Administration by LTV Aerospace Corp. under contract NAS 2-3036, reports the following:

b. "The bulk of the population gain expected by 1980 will be in urban areas. At least three super-metropolitan regions - The Northeast corridor, the Great Lakes area and along the California Pacific Coast - will exist by 1980. They will each extend approximately 400 miles and they alone will contain approximately 50% of the country's population."

c. "The airports to serve these super-metropolitan areas are being forced to increase in size and thus move further from the population centers to find adequate space and avoid

problems associated with community acceptance. As a result of this and the increasing congestion on urban highways, the short-haul traveler is faced with a dilemma - the lack of a rapid short-haul transport system."

d. The LTV report concludes that some form of VTOL or STOL aircraft will provide one of the answers to this dilemma. We feel that VTOL Transport may be the only answer because of the following reasons:

(1) Right-of-way and construction of roadbed and terminal facilities for super highways and/or high-speed trains and monorails have risen to fantastic per-mile costs. They will continue to rise to almost unsupportable proportions without massive federal aid. On the other hand, the helicopter and other VTOL craft will become more attractive solutions because:

(2) VTOL craft require far less in the way of supporting facilities than any other form of transportation.

(3) Terminal facilities, even for the largest foreseeable VTOL craft, can be as modest as a 400 x 400 ft paved and fenced area with a small ticketing and waiting room building.

(4) No right of way purchase is involved.

(5) Operating costs of VTOL aircraft continue to improve with new technologies which are by-products of our space and missile research.

(6) The same research is producing quieter VTOL vehicles - thus nullifying the principal community objection to the location of terminal facilities in close proximity to residential areas.

e. This means that planning for the ultimate network of VTOL ports which will provide intra-city and inter-city terminals for the future super-metropolitan areas must begin at the earliest possible time.

f. However, the immediate demand is, and will continue to be, for non-subsidized heliport and helistop facilities for corporate, air taxi and air-bus helicopter services. It is this type of facility that is proposed for Century City.

g. Rooftop helistops, such as the one proposed for Century City, are the most practical type of landing facility for helicopters because:

(1) Ground level space with clear approaches is at a great premium, when it is available at all.

(2) A rooftop area offers space that is otherwise wasted.

(3) Rooftops provide more convenient access to the building.

(4) Rooftops, generally speaking, are safer than ground level heliports:

(a) Because they have the advantage of any prevailing wind, unshadowed by other ground level structures.

(b) Because they provide above-surface altitude and a less extensive climb-out is necessary.

(5) Rooftops make for less noisy operation. In a helicopter, the sound travels to the sides and aft of the engine compartment. Thus, sound generated at roof-top level is greatly attenuated before it reaches the ground.

Bitter Rows, Cost Rises Slow S.F. Rapid Transit

SAN FRANCISCO, Oct. 12 (UPI) — San Francisco's plans for a new rapid transit system, the first such network projected in the United States in 59 years, are producing bitter disputes and costly delays. The estimated cost of the system has been raised more than 20 per cent to more than \$1 billion and the completion of construction on the first section of track has been pushed back two years.

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CENTURY CITY HELISTOP

1. The Century City development in West Los Angeles covers an area of 260 acres and will become one of the most modern office building, shopping center, hotel and residential apartment complexes in the world.

2. Bounded on the NE and on the SW by golf courses, the Helicopter approach and departure paths conform to the prevailing winds in the area and provide what may be the safest operational configuration of any urban area heliport in the world.

Approximate time-distances from Century City to other parts of the area by present day commercial helicopter are as follows:

<u>TO:</u>	<u>TIME:</u>
L. A. International Airport	6 min.
Downtown Los Angeles	10 min.
Van Nuys	12 min.
Burbank	13 min.

3. When the new generation of quieter, faster turbine helicopters come into the commercial market in 1967 these time distances will be improved by as much as 40%.

4. The attached maps compare the helicopter time-distances with surface traffic movement times. The convenience to the entire area surrounding Century City is obvious, because the Century City Heliport is open to use by the public.

QUESTIONS AND ANSWERS

The opponents of the Century City Heliport are primarily individuals who represent home owners associations in the surrounding area. Here are the arguments they put forth, together with factual answers to these contentions.

Question: Helicopters are a threat to our safety. They will crash on our homes, on our schools and endanger the lives of our children.

Answer: Nothing could be farther from the truth.

a. Harry Bernard, chief of the steep gradient aircraft division of the Federal Aviation Agency recently stated that "We have no record of any third party damage or injury resulting from urban area commercial helicopter operations".

b. The traffic pattern established for Century City insures that no helicopter operating to or from the helistop needed ever pass over surrounding residential areas at less than 1000 ft above terrain.

c. Since the Century City Heliport is within the Santa Monica Airport Control zone, all approaches, departures, landings and take-offs into or from the helistop will be controlled by the FAA Control Tower.

d. The Flight Safety Foundation in evaluating the busy Pan-Am Building roof-top heliport in New York found "conservatively" that the probability of an accident which might injure non-occupants of the helicopter is one in 150,000 hr.

e. To accumulate 150,000 hr even at New York Airways

present high density schedule of fifty landings and takeoffs per day would require 333 years. Equating this with the low frequency operation forecast for Century City, the probability of an accident which might cause third party damage or injury is infinitely more removed.

Question: Why does insurance cost more for helicopters and helicopter pilots? Doesn't this mean that helicopters are more dangerous?

Answer: No! Helicopters are insured as a separate "category", that is they are carried as a risk, separate from fixed-wing aircraft. There are 11,585 fixed-wing aircraft registered in California, but only 406 helicopters. Therefore, the risk on helicopters must be spread over a much smaller number of policy holders and thus the rate is higher. If there were as many helicopters as fixed-wing aircraft, the rates would obviously be much lower than that set for fixed-wing aircraft and pilots.

Question: Being close to a heliport will make my property value go down.

Answer: False. An extensive survey was prepared for the American Institute of Real Estate Appraisers entitled, "Effect on Real Estate Adjacent to Helicopter Landing Areas" by Mr. Vincent F. Romano, M. A. I. of the United California Bank. Mr. Romano found no reduction in property values or saleability in over fifty locations surveyed in the Los Angeles area.

Question: The noise will disturb our sleep, our living, our schools.

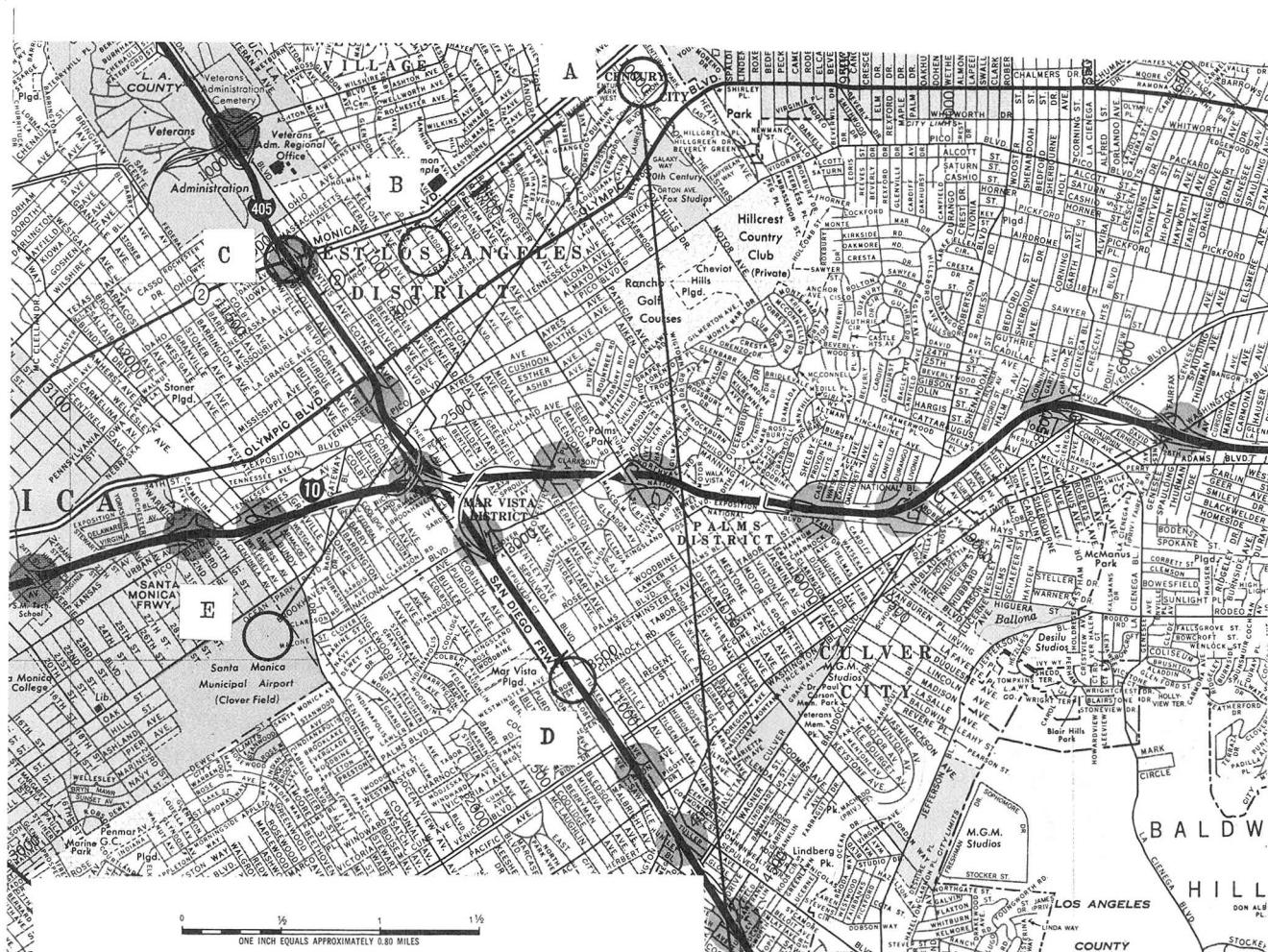
Answer: Untrue. In precise engineering sound tests and study prepared by leading sound engineers (Bolt Beranek & Newman) for the Beverly Hills City Council, the report concluded, "Therefore, in the light of the above facts, we would not expect the initially proposed helicopter operations at Century City to seriously interfere with school room activities". And in regard to the intrusiveness of helicopter noise in residential areas, the report concludes "However, these levels (generated by the helicopter) will be comparable with present existing noise levels".

There will be no night helicopter operations at Century City except in emergencies.

Note: It should be noted that in every case where a helistop has been established in Los Angeles, opposition has melted away following the start of operations, and few if any, complaints are ever again received. In the case of the 20th Century Fox Heliport, recently approved, the FAA reports that no complaints have been received since start of operations some sixty days ago.

Question: The Century City helistop will serve the convenience of only a few wealthy business men.

Answer: False. The Century City heliport is open to the use of the general public and will be served by qualified, certificated commercial helicopter operators. Service will be available at popular prices (slightly over cab fare to L. A.



"A" to "B" = 5 minute time-distance for automobiles, based on Dept. of Highways average on city streets. (12 mph)

"C" to "D"

5 minute time-distance for automobiles, based on Dept. of Highways average on Freeways. (30 mph) Peak hour traffic may drop this as low as 5 mph.

"A" to "E"

Helicopter time-distance, Century City to Santa Monica Airport. (2.5 minutes)

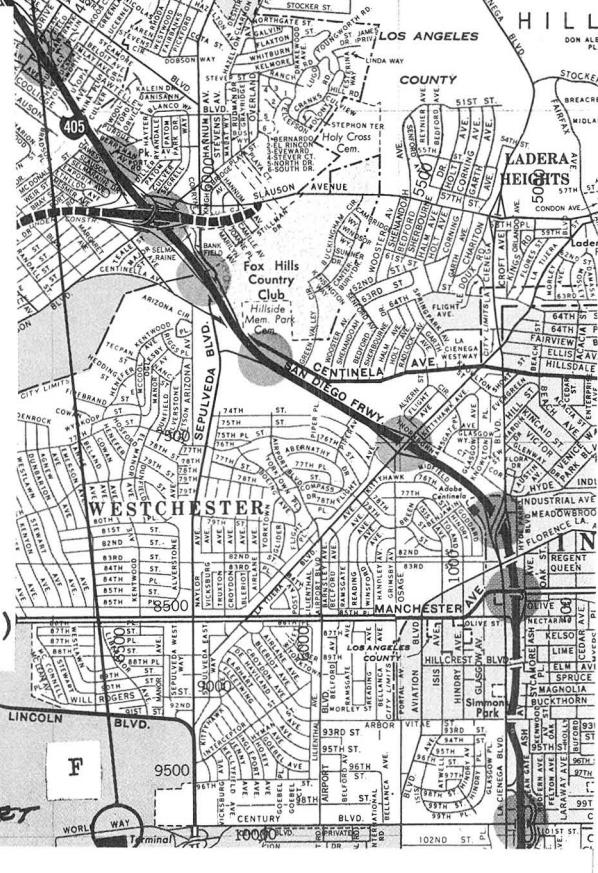
"A" to "F"

Helicopter time-distance Century City to Los Angeles International Airport. (5 min.)

B-14
C-13
D-11
E-9
F-8
G-7
H-6
I-5
J-4
K-3
L-2
M-1
N-0

205-X

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International Airport and eight times as fast as surface transport) to any one who wishes to use the facility whether they are a tenant of Century City or not.

Question: Why don't they go someplace else? There's a heliport just a few miles away (Kirkeby Center Building, Wilshire and Westwood Boulevard).

Answer: It can take two or three times as long to get to the Kirkeby Center Heliport as it takes to get to the airport by helicopter, to say nothing of the inconvenience of transferring passengers and bags from elevator to auto to elevator to helicopter.

Rather, the basic question would appear to be:

Question: Should every building which can meet the engineering and operational requirements for a helistop be permitted to have one?

Answer: The answer is yes, so long as the usage constitutes neither a nuisance nor a hazard to the surrounding community.

a. It would be unthinkable to build an office building, or, for that matter, even an apartment building or a home without a garage or parking area for automobiles. To require occupants to walk, or otherwise travel some distance to reach their cars, or get to a taxi pickup point would be anathema. Yet, this is exactly what happened in the early days of the automobile.

b. Owners were not permitted to park their cars on the streets in front of their houses or to have a garage on their property because of the supposed hazard to the neighborhood and noise nuisance. Garages had to be established in commercial or manufacturing districts; livery stable operators fought along side the home owners against the "horseless carriage", which in those days was dubbed a "foul nuisance and a great danger to man and beast". The new generation of helicopters using the gas turbine will be much quieter, faster, more efficient; and ultimately as acceptable to the community as the automobile. They must be as convenient to board as a private car or taxi, or bus; and this may eventually mean a helistop on every rooftop or ground level area that meets the established criteria.

Question: Why don't they establish criteria for helistops?

Answer: Helicopters have been in operation for so many years, that existing landing facility criteria could literally fill a library. The Federal Aviation Agency has briefed and abstracted the most pertinent parts of this wealth of data and has published a Heliport Design Guide.

a. One cannot help be impressed with the rigorous and exacting standards of the FAA which regulates both the operation and maintenance of helicopters.

b. The Los Angeles Fire Department and the Los Angeles Building and Safety Department have also established more than adequate criteria, rules and regulations applying to physical properties of the touch-down area itself.

c. As far as SOUND is concerned, it is a relatively subjective matter and intensity is not necessarily the critical

factor. Pitch is equally important, as is the range of sound sensitivity of the auditor.

(1) Century City is bordered and crossed by three heavily traveled East-West arteries. Santa Monica, Olympic and Pico Boulevards. These avenues are traversed by buses, trucks and automobiles with high noise generating potential. The study, by Bolt Beranek & Newman, previously mentioned, confirmed the fact that noise from the helicopter will not cause any significant increase in the existing noise levels in the area.

(2) It would appear that a perceived noise level of 85db would suffice as a standard not to be exceeded by helicopters, in almost any area in greater Los Angeles.

(3) But, no standard will satisfy everyone. The totally deaf live in a world of silence while some people are so sensitive to sound that their neighbor's whispering air conditioner sets their teeth on edge.

(4) Certain residents of the exclusive Century City Towers on the West side of the complex demanded that the management shut down the fountain in the courtyard after dark because they were disturbed by the noise. Other tenants wanted the fountain kept on; they said its soft splashing was soothing, and helped put them to sleep.

(5) In between, our general population presents a wide range of sound sensitivity just as it has a wide range of sensitivity to heat and cold, light and dark. The 85pNdb represents a fair average, and therefore finds acceptance in most cities where heliport criteria have been established by ordinance.

Question: Why don't they establish a master plan for heliports?

Answer: There is a "Master Plan".

a. In fact there are more than one. In the case of large, multi-engined passenger bus helicopters, designed to provide rapid transit service, only a few strategically located heliports may be necessary. The Department of Airports bond issue even provided funds for the execution of a Master Heliport Plan. It calls for five large heliports, one of which is to be located in West Los Angeles.

b. A later plan, contained in a Heliport study by an independent consultant for the department, recommended an increase in this number. However, neither of these Master Plans has been implemented. It stands to reason that the facilities included in these Plans will someday be completed and will offer our citizens swift, inter-community air transport at popular prices.

c. Nevertheless, there will always be those who will require the convenience of traveling from one specific point to another specific point in the area at a time of their own choosing - the same difference that exists today between the taxi and the bus.

d. Helicopter Air Taxi service can be expected to be available at prices somewhat above the air-bus fare, reflecting about the same difference that exists today between surface taxi and bus fares.

e. Small helistops for air taxi service must be encour-

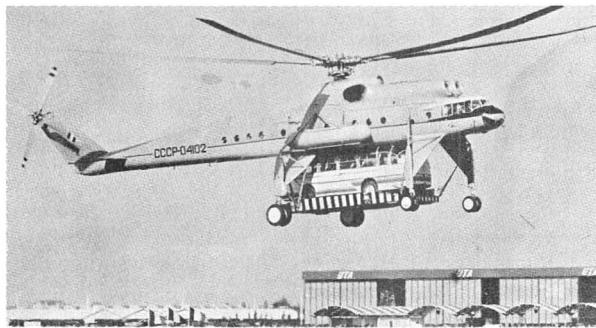
HELIPORTS - KEY CATALYST IN VTOL INDUSTRY GROWTH

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aged and approved wherever private industry can be persuaded to establish this type of facility, whether it be private or public, when conditions meet the exacting criteria now in effect.

f. It is interesting to note that the USSR is going all-out in the design and construction of helicopters from three-seaters to giant helicopters, carrying fifty passengers or thirty tons of cargo. The Russians have already gone on record, stating they cannot afford the great expense of super highways and freeways. They will use helicopters for both intra-and inter-city travel. Several of these routes are already in operation in the USSR.

Mi-10 SOVIET HEAVYWEIGHT CHAMP



THE FACE OF THE OPPOSITION

Who are the people who always resist helistops, airports, freeways, monorails, etc. The following is a brief history of the opposition that has been encountered by every new form of transportation man has devised.

Today, the names are different, the vehicles are different, but the faces of the obstructionists are strangely the same. The emotional zeal with which these "loyal defenders of the status quo" attack each new vehicle, sometimes borders on fanaticism - nor will they listen to, or be moved in any way by, the facts.

In the interest of identifying this opposition and determining what weight should be given to its protests, this

history is presented. We are indebted to the AFA for the research that produced the many historical references it contains.

THE COMMUNITY OBJECTS

Herbert J. Prochnow once said, "Few things are as bad as enthusiastic ignorance".

Many ridiculous laws, ordinances and regulations have been placed on the books of our towns and cities during the past Century. Few, if any, match in absurdity some of those designed to control or impede new forms of transportation.

This legislation was often the result of pressures brought to bear on Councils and Assemblies by special interest groups who saw in the new vehicles, a threat to their livelihood. But frequently, honest citizens, aroused by demagogues and zealots who played upon their fears and ignorance, demanded and received incredible rulings which they felt would protect them.

As the Helicopter (and the Jet) Age has problems in community relations, so did the Horse Age, the Steam Age, and the Age of Internal Combustion before it.

Down through the years of transportation progress, human beings have proved again and again that they would rather make a fuss than make a change.

When canals first appeared in this country, communities feared ruin and thought the land surrounding them would be destroyed. It was loudly proclaimed that inn-keepers, teamsters and stage coach operators would be deprived of a living; that pleasant neighborhoods would be overrun by strangers who would expose them to an objectionable class of society; that the canals would breed disease; that little children would fall into them and drown.

But the waterway interests had hardly gotten their feet wet in community relations when the same towns-people who had fought them now joined them - to gang up on the railroads.

Rail locomotives were opposed as smoke-belching monsters destined to overthrow the old order, and with only bedlam as a substitute. Canals suddenly became, in the words of Community leaders: "God's own highway operating on the soft bosom of the fluid that comes straight from heaven".

Railroads, on the other hand, were, "The Devil's own invention, compounded of fire, smoke and soot" and they threatened to spread their "infernal poison throughout the fair country-side".

Railroads, it was claimed, would set fire to houses along its slimy tracks; would throw burning brands into "the ripe fields of the honest husbandman and destroy his crops"; would leave the land despoiled and ruined, a desert "where only sable buzzards shall wing their loathsome way to feed on the carrion accomplished by the iron monster

New Englanders, terrified by the noise and speed of the snorting iron horse, fought to be bypassed by the fiery new contraption.

Philadelphians were called out to save their City with this

placard:

"Mothers, Look Out for your Children!
Artisans, Mechanics, Citizens!
When you leave your family in health
must you be hurried home to mourn a
DREADFUL CASUALTY?

Nevertheless, in the City of Brotherly Love the tragic announcement finally came: "Regardless of your interests or the lives of your little ones, the Camden and Amboy . . . are laying a locomotive railroad through your most beautiful streets". The result was obvious. It would mean "the ruin of your trade, annihilation of your rights" and the end of prosperity and comfort in Philadelphia.

The coming of the railroads led to the conclusion that steam carriages on the highways might be the lesser of two evils. In Congress it was argued that railroads were for "Aristocrats and gentlemen of wealth", whereas users of the highway were "All democratic republicans" and in any event, all railroads certainly were public nuisances.

But all over the world the steam carriage on the highway was having even more trouble than the locomotive on rails.

The steam carriage was branded a killer. Its terrific speed and the deafening racket of its approach would throw an entire countryside into a fit of terror. It dropped hot coals on roads that were meant to serve the gentle horse and was a constant peril to the pedestrian.

The problem of coping with the obnoxious road locomotive was preoccupied by lawyers and lawmakers back in the 1860's. The road locomotive acts in Great Britain set the pace. It was to be 4 mph on the open road and 2 mph in cities and towns. Speed limits were imposed primarily for the protection of innocent bystanders, but there also was the feeling that the passengers themselves needed to be saved from destruction.

A judge who was scheduled to depart on a long trip at the incredible speed of 10 mph was entreated by neighbors to select a slower method of transportation. Such speed, they told him, if maintained over an extended period of time, "will force the blood up into your head and you will die".

But the defenders of the status quo had more than speed limits to work with. They decreed that "every locomotive used on any turnpike, road or highway shall be constructed on the principle of consuming its own smoke; and any person using any locomotive not so constructed, or not consuming, so far as practicable, its own smoke, shall be liable to a fine"

According to the laws of those days, "the whistle of such locomotive shall not be sounded for any purpose whatever; nor shall the cylinder taps be opened within the sight of any person riding, driving or leading, or in charge of a horse..."

In Great Britain the law provided that at least three persons had to be employed to drive a steam carriage, and while the vehicle was in motion at least one of them had to precede the locomotive on foot, no less than 20 yd ahead. The postman was to assist horses, or carriages drawn by horses, that might have difficulty passing the mechanical

monster. The footman was to carry a red flag.

The same philosophy that led to the red flag law in England was accepted with a few reservations in the United States. More progressive thinking on this side of the Atlantic permitted the gentleman with the red flag to proceed on horseback. Until fairly recent history, this was the means by which New Yorkers were warned of the approach of New York Central trains on Tenth Avenue.

But lesser methods of transport have fared no better at the hands of the law. When the first horse-drawn omnibus began to carry up to eighteen passengers on city streets, the well-entrenched hackney coachmen put their trust in a law forbidding passengers to be picked up and set down on the street. Omnibus drivers, under this handicap, were exposed to such frequent arrest that they would chain themselves to their seats to keep from being taken into custody.

The horse-drawn street car met with even less approval. The most renowned New York merchants fought bitterly to prevent this new device from running them out of business. It would, they said, depreciate the value of New York property and destroy the benefits of city life. A New York drug store keeper defied the track-laying crews by planting himself in an armchair in the middle of the street. His attempt to turn back the clock was in vain, but the crowds cheered his bravery.

In the battles over horse cars in Philadelphia, objectors to street railways were finally denied a court injunction against what they insisted was a public nuisance. Even so, the judge could not refrain from agreeing that the street car would "occasion loss or inconvenience, and may depreciate the value of property and render its enjoyment commodious and almost impossible".

One Philadelphia newspaper, opposed to the street railway taking over the horse, seemed to resign itself to the inevitable. "It is scarcely worth while," wrote the editors, "to allude to the fact that in New York City they kill one person each week on city railroads Human life is really of little value nowadays."

The cable car was next, and when Chicago decided to try it, the cries of protest echoed the same howls that had gone up so many times before. Business would be ruined. Man would be put out of work. Horse car drivers would revolt. The terrific speed would kill and maim hundreds of good Chicagoans, and the noise would forever banish sleep and rest in the city.

Later, with the battle for the cables won, someone thought of the subway. In Boston, prominent citizens hastily signed petitions stating their unalterable opposition to a new form of transportation that "would seriously interfere with travel and traffic, proving ruinous to hundreds of merchants and in the end failing to relieve congestion"

New Yorkers, faced with the prospect of a subway, feared that the sudden change from surface temperatures to the cold damp underground would cause them to catch cold. They said that fog under Manhattan would be likely to fill the tubes and make dangerous rear-end collisions inevitable.

Electricity as transportation motive power met with equal

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opposition. Said one commentator of the day: "There are fixed laws of the universe which no ingenuity of man can ever change". And the President of a Pittsburgh street car line made it clear where he stood: "This company continues to operate its road with the somewhat discredited animal power. Having a practical duty to perform in the carrying of passengers, we are not experimenting"

Even the bicycle, in the Gay Nineties, caught staid elements of the community off balance. Newspaper editors and preachers decried the fact that free-wheeling females were outdistancing their chaperons. Barbers denounced the new vehicles because customers were too busy riding to stop for a haircut. Business was so bad for hat makers that one of them petitioned Congress to pass a law requiring every cyclist to buy at least two felt hats a year.

All the enemies of transportation progress ganged up on the automobile. Here was an evil-smelling, smoke-belching buggy that posed a real threat to the safety and well-being of every red-blooded American Community. Outside the big cities, local road agencies refused to put up direction signs in the hope that motorists who got lost would get discouraged and not come back. Regulations in rural communities held legal automobile speed to the pace of the horse. New York law required that any driver approaching a nervous horse would have to pull up to the side of the road and shut off the motor until the frightened beast had passed.

In Pennsylvania, the Anti-Automobile Society drew up a law that anyone driving an automobile at night should come to a full stop every mile and send up a rocket, then wait ten minutes to be sure the road was clear. If a team of horses should approach a "horseless carriage", the driver of the gas buggy was to pull off the road and cover his vehicle with a large canvas or painted cloth that would blend with the surrounding landscape.

Communities refused to accept the automobile in their midst. Parking or "stabling" of the car in the owner's home was prohibited in many areas. They were adjudged a noisy menace to the neighborhood and a fire hazard. Livery stables, aware that the horseless carriage trade was undermining their business, refused to provide stable room for the car. Some towns prohibited the "devil wagons" altogether. One community prohibited cars from parking for more than 15 minutes on the premise that dripping gasoline would destroy the pavement. The belief that oil would ruin the road surface led Green Bay, Wisconsin, to set a fine of \$5.00 for every drip.

In the rural areas the embattled farmers scattered tacks and glass on the roads on weekends to keep the city slickers away. Some strung barbed-wire across the road. Saws and other sharp instruments were buried teeth-up in the dirt highways to deflate the wheels of progress. Motorists were compelled to form protective associations and to venture forth in groups where there would be safety in numbers.

Today, the truck still offends the sensitive ear, along with the bus, the motorcycle and the airplane. Everybody is in favor of more and better freeways as long as they pass by some other property or town. Everyone favors close-in

airports or heliports provided they are close to someone else.

The transportation battle goes on, and the battle ground is strewn with the remains of defunct ways of getting from here to there. But we ought not conclude that the protagonists were always wrong or that the fighting has always been in vain. On the contrary, opposition has frequently made new forms of transportation grow up quicker. For example, the enemies of the automobile can take some credit for the fact that gasoline buggies have stopped smoking and smelling. And it was the weight of public opinion that forced the railroads to stop running down the middle of the street.

Communities can be expected to fight helicopters just as they have fought the horse cars, the steam carriages, and the railroads. But history makes it clear that the helicopters will win. And in the course of victory this new method of transportation will get some tips on how to be a better neighbor.

The helicopters and the jets may need all the friends they can get to help defend themselves against the rockets.

Westwood Unit Fights 'Copter Bill'

A spokesman for Tract 6193

Association, Westwood, Tuesday attacked a proposed California Assembly bill which would limit application of local laws restricting helicopter landings.

Elmer Bieck, chairman of the Tract 6193 Association heliport committee, said, "This bill, if passed, would allow 'rubber stamp' helicopter permits by the State Aeronautics Board and would prohibit local

control."

He said this is "a vicious attempt at further removing the rights of homeowners and taxpayers."

He pointed out that his association, as well as West Los Angeles Improvement Association, Tract 7260 Association, Cheviot Hills Homeowners Association, Fairburn District Association and others have registered opposition to "helter-skelter" placement of heliports.

Gentlemen:

Century City's new helistop on the Gateway East Building is now fully certificated.

You are invited to study the enclosed rules and regulations and to submit your application for a landing permit.

As you well know, Century City is located in a very sound-sensitive neighborhood; therefore, we are initially restricting operation to the following equipment:

All models Bell Helicopter

All models Hiller Helicopter

Brantley Helicopters - Models 5-2B and 305 only

Hughes Helicopters - Model 300 with tail-rotor modification only, and model 500

If you have any technical questions, please contact our consultant, Mr. Hal C. Conners, at area code 213 390-3646.

We will plan an official opening at some later date in which you will be invited to participate. Meanwhile, the helistop will be open to permit holders only, and such permits will be awarded to those whose applications are approved.

Sincerely yours,
CENTURY CITY, INC.

By _____

Date _____

CENTURY CITY HELISTOP RULES AND REGULATIONS

Section A

POLICY, RULES AND REGULATIONS GOVERNING CENTURY CITY HELISTOP

1. Century City, Inc., world's greatest office building, apartment, hotel and shopping center complex, will have an approved helistop on the roof of its Gateway East office building at the N.E. corner of Santa Monica Boulevard and Avenue of the Stars in West Los Angeles.
 2. As a public service, Century City will, until further notice, make no charge to passengers or to approved Commercial, Corporate, Governmental and private helicopter operators for use of this facility. An examination by an Independent Fee Examiner may be required as a condition of licensing.
 3. The Century City "Gateway East" building is a 14 story structure rising 183' above ground level. The helistop is a 40' by 40' concrete platform at roof level whose elevation is 465.44' ASL.
 4. The roof and helistop area is completely clear of obstructions except for a small 8' by 8' by 10' penthouse just South of the pad. A wind sock is on a mast rising 8' above the roof level of this penthouse.
 5. Approved peripheral lighting and reflective marking is available for night landings and takeoffs. However, operations will initially be restricted to the hours of 8:30 AM to 5:15 PM local time, emergencies excepted.
 6. Access to the Helistop from the ground will be as follows: The Gateway East Office Building is at 1800 Avenue of the Stars. Elevators may be reached either through the main entrance of the building, or from the under-ground parking garage. Six (6) elevators serve the building, one of which goes all the way to the penthouse. Passengers taking any of the other elevators will go to the 14th floor and then switch to the penthouse elevator. Signs will indicate the way to the roof doorway and stairs to the Helistop.
 7. At a later date, Century City may install Unicom (122.8 mc) for advisory and accommodation messages. Permit holders will be notified, if and when this two way radio communication system is installed.
 8. A telephone for incoming calls or emergency outgoing calls will be located on the East side of the small penthouse adjacent to the pad.
 9. Since the helistop will permit the landing of only one ship at a time and there is no parking space, landings will be allowed by reservation only to holders of User Permits. Advance reservations may be made by telephone or letter subject to prior scheduling. Call:
- Mr. Allen Stoms, area code 213, Phone 879-0700, Ext. 20. In emergencies (after 5:15 PM and before 8:15 AM) call "Security" at 277-1016.

Written reservation requests should be addressed to:

Century City, Inc., Office of the Building
1800 Avenue of the Stars, Los Angeles, Calif.

Section A (continued)

10. Operators will be allowed on the pad only for the purpose of picking up or discharging passengers. Parking will not be permitted unless no other landing reservations follow. Pilot desiring to standby, will check this with office of the building, Ext. 281 or 282, and in any event will remain near the phone on the east side of the penthouse. If the pad is reserved, for others, pilot may fly to Santa Monica Airport, 2 to 3 minutes East of Century City and wait at the airport refueling station. Phone 397-2227.
11. Reservations may be cancelled by phone at least one hour prior to scheduled landing, emergencies excepted.
12. Late arrivals must check by phone to insure that pad will be open at new ETA.
13. All landing and takeoffs will be controlled by Santa Monica FAA tower. Pilots will contact Santa Monica tower on 120.1 mc before entering the control zone and before takeoff from the helistop.
14. All arrivals and departures will be made at an altitude of 1000' MSL, weather permitting. Approaches and/or departures will be made over the Los Angeles Country Club or within the confines of Century City, with a climb-out to 1000' MSL before departing area. (See photo print attached.) No departures or approaches will be made over residential areas to the NW, SW, or SE of Century City.
15. All applicable Federal, State and local regulations, laws and ordinances, as well as these rules, will be strictly observed. Pilots will in every case, lock controls and conduct passengers to and/or from marked penthouse area at the head of the main stairway to the pad.
16. HELICOPTER OPERATOR'S PERMIT TO USE THE CENTURY CITY HELISTOP WILL BE ISSUED ONLY ON RECEIPT AND APPROVAL OF THE ATTACHED APPLICATION.
17. No landings will be allowed without a User's Permit, copy of which must be carried aboard helicopter.
18. The use of the Century City Helistop will be at the operator's own risk and Century City assumes no liability whatsoever.
19. Violation of any of these rules and regulations will lead to revocation of User's Permit.
20. Century City reserves the right to deny a User's Permit to any company, individual or agency, and/or to revoke a User's Permit for reasons sufficient unto itself and with no liability attendant to such an action.

CENTURY CITY, INC.

HELISTOP USER'S PERMIT APPLICATION

1. REQUIREMENTS:

- a. Applicant must complete application form in duplicate and sign it.
- b. Completion of the application form does not constitute permission to use the facility. A "User's Permit" will be issued in writing to approved operators. Pilots and machines will be approved on an individual basis. No substitutions will be allowed unless authorized.
- c. Century City may at its option require applicant to prove qualification to the satisfaction of an independent Fee Examiner before User's Permit is issued.

2. APPLICATION:

- a. NAME _____
- b. CATEGORY: COMMERCIAL OPERATOR _____; CORPORATE OPERATOR _____; PRIVATE OPERATOR _____; GOVT AGENCY _____
- c. ADDRESS: _____
- d. PHONE: _____
- e. OFFICIAL IN CHARGE OF FLIGHT OPERATIONS _____

AIRMAN'S LICENSE: TYPE _____ NUMBER _____

AIRCRAFT				
MAKE	MODEL	YEAR	REG. NO.	ENGINE TSO
MAX. TBO				
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

ARE ALL MACHINES EQUIPPED WITH MUFFLERS? _____

TWO-WAY RADIO? _____

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CENTURY CITY, INC.

HELISTOP USER'S PERMIT APPLICATION: PAGE 2MAINTENANCE

1. MAINTENANCE ORGANIZATION _____

2. ADDRESS _____ PHONE _____

3. NAME OF SUPERVISOR _____

INSURANCE

MINIMUM REQUIREMENTS FOR USERS ARE: \$1,000,000 PUBLIC LIABILITY, PROPERTY DAMAGE AND BODILY INJURY. CERTIFICATES OF INSURANCE SHOWING CENTURY CITY, INC. AS "ADDITIONAL NAMED INSURED" AND PROVIDING FOR 30 DAY NOTICE OF CHANGE OR CANCELLATION WILL BE REQUIRED BEFORE PERMIT IS ISSUED.

1. INSURANCE COMPANY _____

2. POLICY NUMBER(S) _____

3. POLICY TERM _____

4. EXPIRATION DATE(S) _____

PILOT QUALIFICATIONS

LIST ALL THE NAMES OF PILOTS IN YOUR EMPLOY WHO WILL FLY INTO THE HELISTOP. PROVIDE THE FOLLOWING INFORMATION FOR EACH PILOT: (USE SEPARATE SHEET)

A. NAME _____

B. AIRMAN'S CERTIFICATE NO. _____

C. CURRENT RATINGS _____

D. TOTAL HELICOPTER HOURS DAY. _____

E. TOTAL HELICOPTER HOURS NIGHT. _____

F. HOURS IN EQUIPMENT TO BE USED: DAY? NIGHT?

G. ROOFTOP EXPERIENCE: DAY? NIGHT?

I HAVE READ AND I FULLY UNDERSTAND THE CENTURY CITY HELISTOP REGULATIONS.

I HEREBY CERTIFY THAT THE FOREGOING IS TRUE AND CORRECT.

SIGNATURE _____ TITLE _____ DATE _____

(FOR CENTURY CITY USE ONLY - DO NOT WRITE BELOW THIS LINE)

CHECKED FOR CENTURY CITY, INC.

BY _____ TITLE _____ DATE _____

HELIPORTS ~ KEY CATALYST IN VTOL INDUSTRY GROWTH

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Section BPOLICY, RULES AND REGULATIONS GOVERNING CENTURY CITY HELISTOP1. ACCESS BY PUBLIC AND OTHERS

- Access to the roof around the Helipad will be restricted to the following:
- Maintenance personnel, inspectors and other employees having duties requiring their presence in the area.
 - Air Crew.
 - Unless accompanied by air crew, the public will not be permitted beyond the penthouse at the head of the stairway which will carry this sign:
DANGER! DO NOT PROCEED BEYOND THIS POINT. PASSENGERS WILL WAIT HERE UNTIL ESCORTED TO HELICOPTER BY PILOT.
 - In moving from penthouse to Helipad, passengers will be cautioned to stay within the clearly defined pathway.

2. OPERATIONAL ACCESSORIES

- A wind sock located on the small penthouse S. of the pad.
- An emergency telephone located in a weatherproof box located on the east side of the small penthouse at the south end of pad.
- Fire fighting equipment located at the NW and SE corner of the pad.

3. LICENSING REQUIREMENTS

Provided they can meet certain basic requirements, helicopter operators, both commercial and private, may be licensed to use the Century City Helistop.

a. INSURANCE

Any operator desiring to make use of the Helistop must carry at least \$1,000,000.00 of insurance coverage for Public Liability, Property Damage and Bodily Injury, and the policy must name Century City, Inc. as "Additional Named Insured", and contain a "Severability of Interest" clause. Policy must also provide for 30 days notice to Century City of cancellation or revision of the policy. Certificates evidencing the coverage in companies acceptable to Century City must be furnished with the prospective User's Application.

b. FLIGHT PROFICIENCY CERTIFICATION

- In the case of recognized commercial and governmental operators, Century City may, at its option, grant permission for the Chief Pilot of the operation to certify the proficiency of pilots under his control. This certification, if granted, will specifically cover pilot's familiarity with roof-top landings.
- In the case of all other operators, a certificate of proficiency must be obtained from one of the six (6) examiners listed below. In presenting himself to the examiner, the applicant must bring his flight logs, airman's certificate, current medical, and insurance certificates. He must furnish an acceptable helicopter, of the type he intends to

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Section B (continued)4. INDEPENDENT FEE EXAMINERS

Bill Davidson, Chief Pilot
Utility Helicopters, Inc.
P.O. Box 6526
Long Beach, California
Phone: GA 4-5235

Harry Hauss, Chief Pilot
National Helicopter Service & Engineering
16800 Hoscoo Blvd.
Van Nuys, California
Phone: 873-7312

John Kirk, Chief Pilot
Mercury-General American Helicopter Service
3103 Pacific Coast Highway
Torrance, California
Phone: SP 5-2042

Mrs. Loretta Foy, Chief Helicopter Pilot
Pac Aero
3000 N. Clybourn Ave.
Burbank, California 91502
Phones: 849-3481, Ext. 588
842-5171, Ext. 527

Evan Thomas, Chief Pilot
North American - Rockwell
1700 E. Imperial Hwy.
El Segundo, California
Phone: OR 0-9151, Ext 2160

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Section B. (continued)

operate on the helistop, with dual controls.

- The examiner's fee is \$25.00, whether or not applicant passes the examination.
- The examiner will fly with the applicant, check his experience and capabilities and then fill out the following certificate in duplicate and forward both copies to Century City.
- If all other requirements have been met, Century City will forward one copy of the certificate to the applicant, accompanied by a Permit or letter of regret as applicable.
- An applicant who has failed to qualify may not apply for re-examination before a lapse of 90 days. He may apply either through the same examiner or to any other on the approved list.

Section C (continued)CERTIFICATE

Date _____

I certify that I have flown with the following named pilot on the above date.

Name: _____

Address: _____

Phone: _____

Type of Helicopter: _____

In my opinion, the above individual (is) (is not) thoroughly qualified in skill and judgement to use the Century City Helistop.

Signed _____
EXAMINER

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Section DGUIDE FOR INDEPENDENT FEE EXAMINERS, CENTURY CITY HELISTOP

1. The new Century City HeliStop will be open, without charge to Commercial, Corporate, Private and Governmental helicopter operators who are approved by our company for User Permits.
2. While many established operations exist in the area, there will be applications from companies and individuals who represent an unknown quantity.
3. We recognize the fact that landing on roof-tops is precision flight and in order to insure that all applicants are thoroughly qualified from the standpoint of judgment and skill, we reserve the right, at our option, to insist that they submit to an examination by one of the independent fee examiners named on the foregoing list. In the event that examination is indicated, permits will be issued only on the basis of the examiner report.
4. Applicants will be required to:
 - a. Contact examiner for appointment at examiner's convenience.
 - b. Present the following to the examiner:
 - (1) 1 copy of User Permit application.
 - (2) Current Pilot's Flight Logs, Airman's Certificate and Medical Examination Report.
 - (3) 2 copies of Qualification Certificate (blank).
 - (4) Insurance Certificates per Section B, Par. 3a.
 - c. Furnish airworthy helicopter of the type applicant proposes to use on the helistop, with dual controls.
 - d. Pay the examiner a cash fee of \$25.00.
5. Independent Fee Examiners will:
 - a. Examine applicant's papers to see that they are valid and current.
 - b. Fly with applicant to determine his ability to operate safely into Century City helistop under any and all conditions.
 - c. Complete qualification certificates and return them to Century City together with copy of basic application and insurance certificates.
6. Examinations are voluntary on the part of the Fee Examiner. He may refuse to conduct the examination or abort it any time, for reasons he considers good and sufficient. Century City will in no way be liable for any action of the examiner.
7. Examiner's judgment will be final. If applicant fails, he may apply for re-examination after 90 days at which time he will again be required to provide necessary papers, helicopter and examiner's fee. He may choose the same examiner or may use another from the approved list, at his option.

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Section D (continued)

8. Examiners will not be held liable in any way for their conclusions.
9. Use of the Century City HeliStop for exam purposes will be allowed and scheduled at the request of the examiner, subject to prior reservations.
10. Chief Pilots of recognized Commercial, Corporate or Governmental operations may, at Century City's Option, be permitted to certify to the competence of pilots in their employ.

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LETTER GRANTING PERMIT

Gentlemen:

Your application to use the Century City helistop has been approved, as evidenced by the enclosed Permit, No. _____. A copy of this permit should be carried in each of the helicopters listed in your application, for identification when requested. Please notify us of any changes in your pilot personnel and/or equipment.

The attached photomap indicates the "sound sensitive" areas surrounding Century City. These sections must be avoided as shown, or overflown at altitudes above 1000' MSL.

Please remember that no landings at Century City may be made without a reservation. Call 879-0700, extension No. 20 for permission to land at the specific time you desire. Be sure to obtain clearance from Santa Monica FAA Control tower on 120.1 MC for landing and takeoff.

Thank you for your cooperation. Strict adherence to our Rules & Regulations will insure a long and useful tenure of this fine new facility.

Sincerely yours,

Century City, Inc.

By _____

CENTURY CITY HELISTOPUSER'S PERMIT

ISSUED TO: _____

PLEASE BE ADVISED THAT YOUR APPLICATION TO USE THE CENTURY CITY HELISTOP HAS BEEN REVIEWED AND APPROVED SUBJECT TO ALL OF THE TERMS AND CONDITIONS CONTAINED IN THE RULES AND REGULATIONS, THEREFORE,

YOUR APPROVAL AND PERMIT NUMBER IS: _____

THIS PERMIT IS ISSUED WITH THE FOLLOWING LIMITATIONS:

ANY DEVIATION FROM THE FACTS AND REPRESENTATIONS SET FORTH IN YOUR APPLICATION WILL VOID THIS PERMIT.

Very truly yours,
CENTURY CITY, INC.

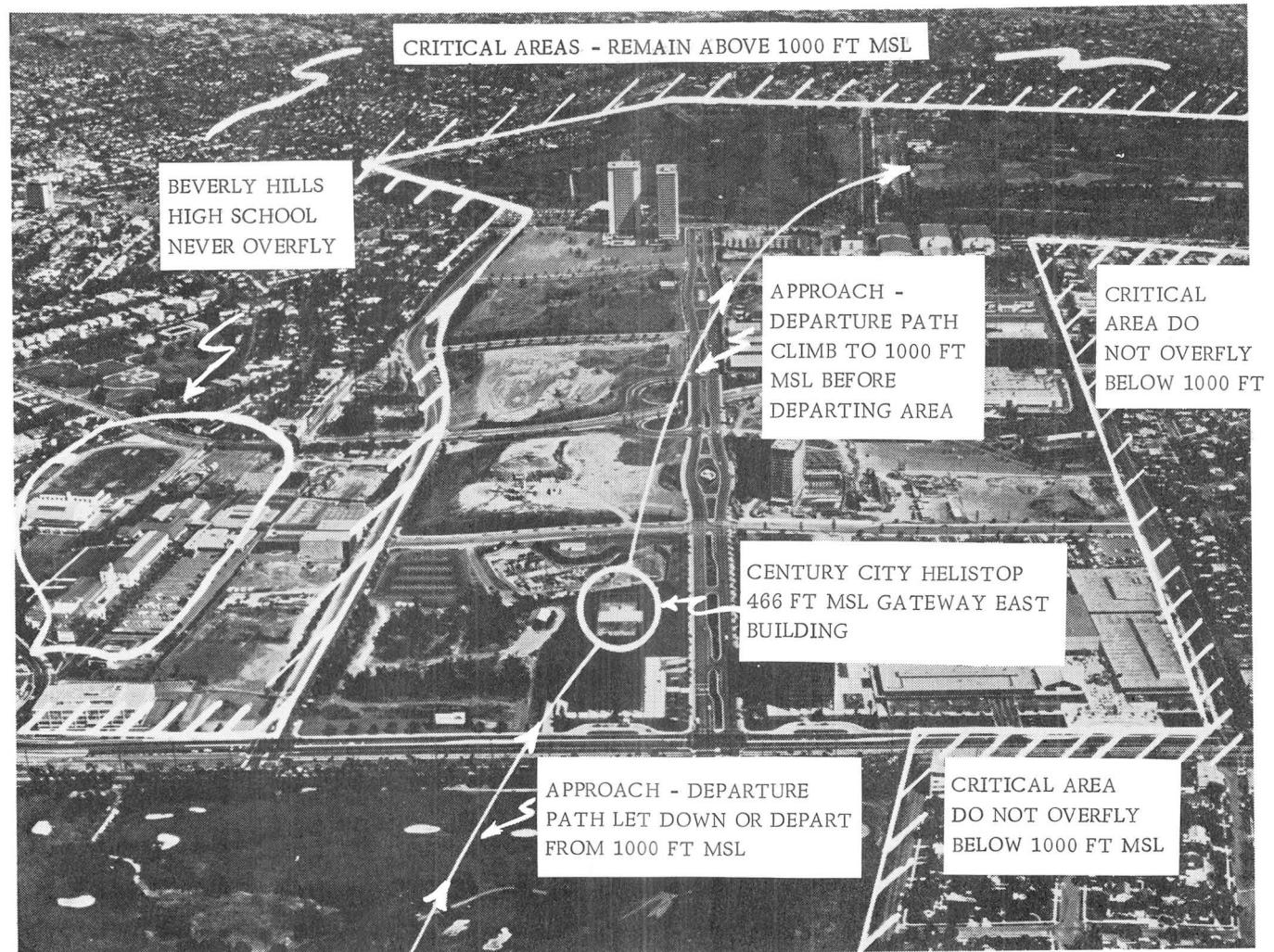
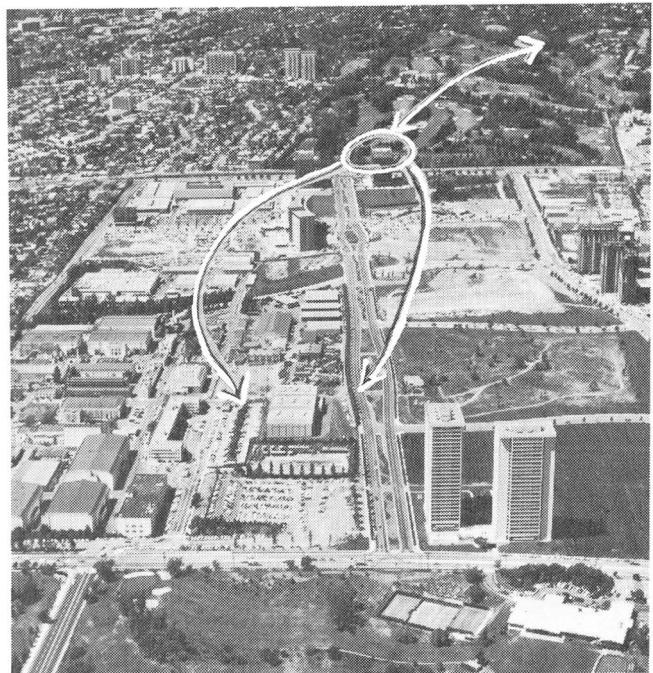
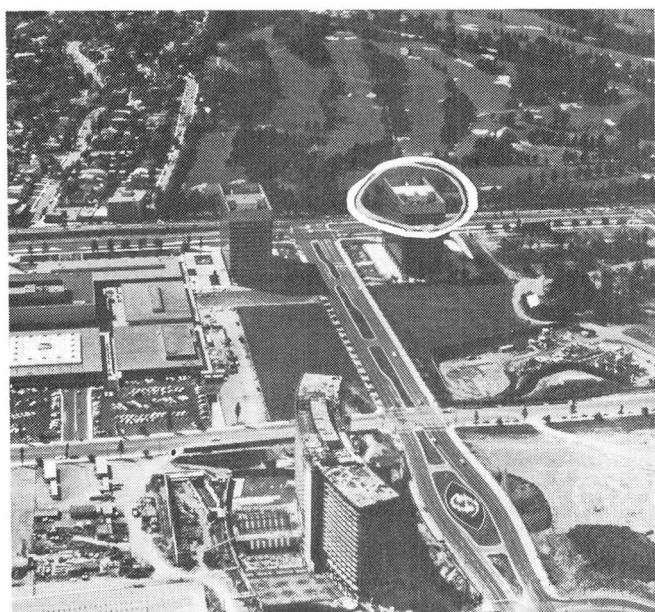
By _____

Date _____

* For list of approved pilots,
see reverse side.

HELIPORTS - KEY CATALYST IN VTOL INDUSTRY GROWTH

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LETTER TO FLIGHT EXAMINERS

We were delighted to hear from our consultant, Mr. Hal Connors, that you have agreed to be an independent flight examiner for the Century City Heliport.

The enclosed copy of our rules and regulations contains complete instructions for examiners, and these should govern your activity in this regard, without exceptions.

Thank you for your cooperation in insuring that only thoroughly qualified pilots are authorized to use our new facility.

Sincerely,
CENTURY CITY, Inc.

By _____

Date _____

LETTER TO TENANTS

Gentlemen:

When you moved into Century City, you had every right to expect the best. We think it is the most beautiful and unique business, hotel, shopping center, and residential apartment complex in the world. Into this neoteric achievement has gone some infinitely careful planning to insure that form and symmetry are married to usefulness. We expect our tenants to take advantage of every convenient facet of it.

That is the purpose of this letter. We believe, that of all Century City's many features that are yours to enjoy, only one may seem foreign to your normal operations. We refer to the helistop on the top of our Gateway East Building, 1800 Avenue of the Stars.

Perhaps you are already acquainted with the comfort and convenience of the helicopter, and the freedom of movement it represents. If so, you will be interested to know that this facility has been approved and is now open for your use.

You may enrage the services of any of the commercial helicopter operators who have qualified for permits to use our facility, or you may even wish to purchase your own corporate machine and obtain a permit.

The enclosed bulletin will explain available helicopter service and how you may use it. We can guarantee that if you try it you will want to use it again and again.

Happy landings!
CENTURY CITY, INC.

By _____

Date _____