Park Ridge O'Hare Airport Commission

Aldermanic Update Report

August 15, 2011

Executive Summary

Since November 2008, when the first new runway in 40 years opened at O'Hare sending as many as 400 flights daily down Belle Plaine Avenue, many residents of Park Ridge learned how an expanded O'Hare would affect their daily lives. For residents close to the new runway, there are days when flights as loud as a lawn mower occur every 45 seconds for hours on end. Pollution is increased, safety is a concern, sleep is disrupted, outdoor areas can't be used for conversation, and the quality of life has decreased considerably.

For residents not near Belle Plaine, life will change as well. Plans for expansion include adding a runway on Granville. Two existing runways are planned to be decommissioned sending more traffic to the new Park Ridge runways AND more traffic to the existing runways crossing from the Country Club to Southwest Woods, to the Manor. In addition, a cargo facility is being constructed on the north side of the airport which will bring the loudest planes at nighttime hours directly over us. Park Ridge is forecasted to receive up to 250% more flight activity when O'Hare expansion is complete; over 1,000 flights daily throughout the day and night.

We know expansion is having a significant toll on those near Belle Plaine, and that will spread as expansion continues. We need to act as a unified government and community to get relief from the current situation and to push for responsible expansion going forward. We are stronger acting together- government and residents. There is support for action with many residents; the majority of the precincts south of Touhy voted "yes" to the recent referendum. We expect this support to spread as the Granville runway becomes active, and flight volume (including cargo) increases over the Country Club, Southwest Woods and the Manor. The time to act is now, before it is too late.

The Park Ridge O'Hare Airport Commission (OAC) believes there are common sense relief measures which can be taken such as stopping the decommissioning of existing runways, using previously existing non-residential runways for early morning, evening and weekend traffic, modifying flight paths, and stopping construction of cargo facilities if aircraft will be routed over primarily residential flight paths during nighttime hours.

The OAC supports city government efforts to convince federal officials to act. We also ask that you aggressively support the following: officially requesting the FAA for a supplemental Environmental Impact Statement (SEIS); consistent, aggressive representation of the community to the ONCC; additional effort pursuing support from local and federal officials; and communications to residents of the facts of O'Hare expansion. We hope that through this report you gain a better understanding of the significant issues caused by unmitigated O'Hare expansion, that the OAC can be of service to the Council, and that we can make progress together to improve the living conditions for those in our community.

NOISE:

Since November 2008, when the first new runway in 40 years opened at O'Hare sending as many as 400 flights daily down Belle Plaine Avenue, the residents of Park Ridge have had a new frame of reference on how an expanded O'Hare will affect their daily lives. Listed below are some facts about noise related to O'Hare expansion.

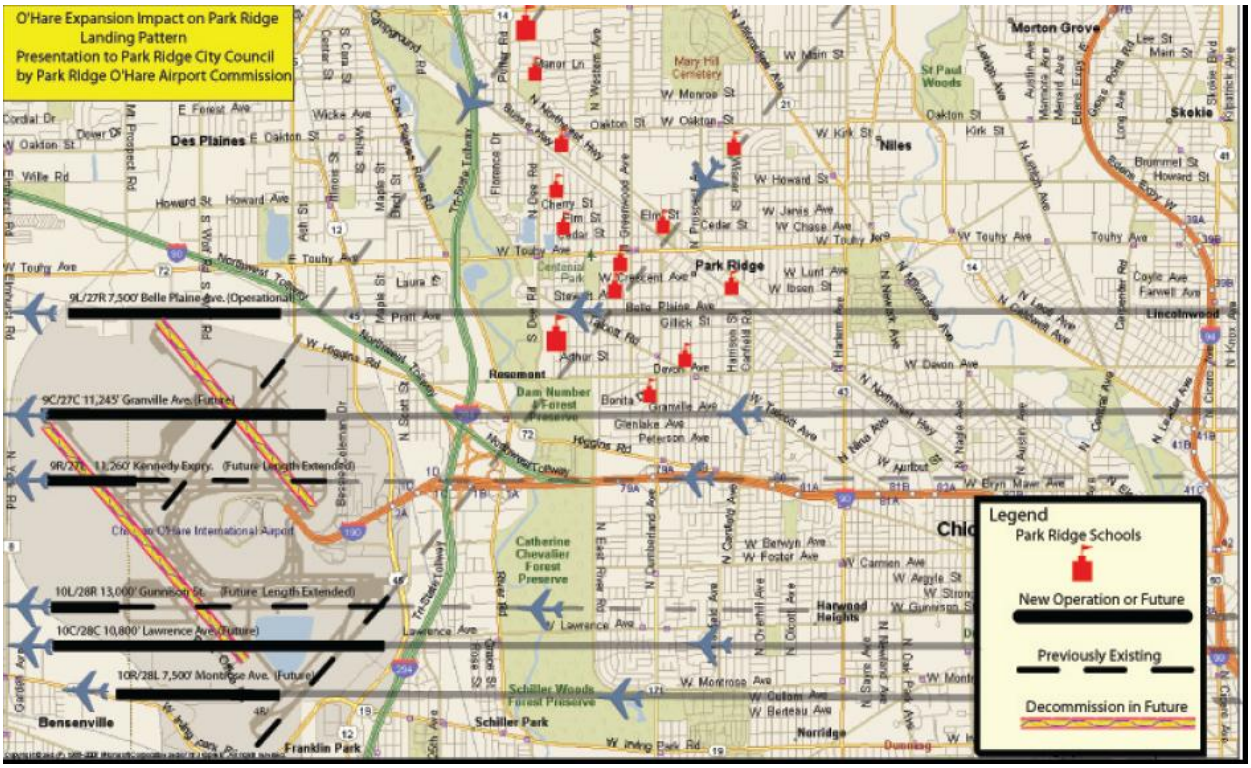
- The O'Hare Modernization Program (OMP) will bring more than **1,000** low level flights a day over Park Ridge upon completion. This more than doubles what the community has historically experienced.
- In a given day, there is a plane every 45 seconds for hours on end, lasting all day and into the night. Areas south of Touhy will be affected by daytime arrivals along Belle Plaine Avenue, Grandville Avenue and the "Manor" while areas from the country club to the Southwest Woods to the Manor will be affected by crisscrossing arrival and departure routes. Nighttime cargo flights will be primarily directed to arrive along the Kennedy Expressway, affecting homes in a noise spread extending to Devon Avenue.

Result- *Activities that make Park Ridge great, e.g. children's sports, music in the park, parades, family time at home, etc., are in imminent jeopardy. Perceptions will change and the intrinsic value of the community will diminish over time with the City of Park Ridge forever changed.*

- Over 30 years ago, the standard threshold for airport noise was set at 65 decibels using a day/night averaging formula over a 24 hour period (DNL). This standard determines which homes and schools receive soundproofing. The DNL standard does not accurately reflect the reality of the noise that is experienced daily since most aircraft events are concentrated into chunks of significant usage, one plane every 45 seconds for hours on end. FAA, at the request of Congresswoman Jan Schakowsky, has agreed to conduct a five year analysis to evaluate a potential change to the standard. There is much existing science, academically led and scientifically peer reviewed, recommending levels of less than 55 decibels as being the better standard for overall health and there is significant research, led by FAA, to support this conclusion.
  (See: FAA sponsored programs, led by Massachusetts Institute of Technology:
  http://web.mit.edu/aeroastro/partner/reports/index.html
  http://web.mit.edu/aeroastro/partner/reports/proj19/proj19-healtheffectnoise.pdf or the FAA's own site at http://www.fican.org/)
- Noise monitors in Park Ridge indicate noise above 55 decibels with many single event noise measurements **exceeding 85** decibels. (Lawn mowers operate at 85 decibels.) In one six month period, there was a 225% increase in the number of single noise events above 85 decibels.
- Overall, the day/night average for noise has increased between 3 and 6 decibels since December 2008 on all permanent noise monitors in Park Ridge.
- A two week portable noise monitor test at Maine South High School recorded 50-60 decibels and higher during school hours with many noise events **above 85 decibels**. The FAA sets the threshold for noise at 60 decibels for schools. The school experienced an average of 154 flights a day from all runways impacting the monitor during the test period. Upon completion of OMP, the school will experience on average 350 flights a day from one runway alone. In addition to Maine South, Lincoln and Roosevelt schools are within this same flight path.
- The World Health Organization defines the effects of airport noise on education to include impacts on reading test scores, learned helplessness relative to motivation, delays in language acquisition and memory deficits.
  (See Health Effects of Aviation Noise, UC Symposium on Aviation Noise and Air Quality, March 2007, Harris Miller Miiler & Hanson - www.hmmh.com)

Result*- Beyond being awakened overnight, residents are experiencing and commenting openly on how difficult it is to maintain their previous lifestyle under the onslaught of the increasing noise. In our elementary and middle schools, classrooms report being disrupted constantly by the noise. Some have commented that when the classroom is disrupted, it takes 20 minutes to recover previous levels of concentration. Concerns exist that classroom disruptions affect test scores and school ranking. Our schools have been the crown jewel of the community for many years and that may now be at risk.*

Community concerns will continue to mount with each stage of implementation of the OMP. Noise will not abate, but will only increase. Please see the graphic that follows for a look at how these runways impact the area.



For a look at runway utilization percentages, please see the Appendix that follows this report.

EMISSIONS:

Since the EIS for O'Hare was approved in 2005, the EPA has undergone two major revisions to emissions standards. Some emissions measurements reported at O'Hare in 2005 would not pass today's EPA levels. These include volatile organic compounds (VOC) and nitrogen oxide (NOx) as precursors to ozone, as well as particulate matter, especially level PM2.5. Jet aircraft produce hazardous air pollutants (HAPs) which accumulate within a 30 mile radius of an airport. These pollutants create varying degrees of known health effects, both cancerous and non-cancerous, within affected communities.

- VOC and NOx emissions were approved at an attainment level no longer valid related to ozone conformity. The standard is now an 8 hour attainment level. The EIS was approved at a1 hour attainment level.
  (Final EIS, page J-345-OMP ROD, page 59)

- Actual PM2.5 emissions (see picture in Appendix) are twice what is now deemed acceptable by EPA. PM2.5 emissions are also expected to increase beyond actual levels measured once O'Hare's expansion is complete. Particulate matter emissions are associated with increased respiratory diseases such as asthma, bronchitis, emphysema, cardiopulmonary disease and cancer. The EIS was not required to account for the associated health risk from exposure to these emissions.
  (See FEIS, Appendix I, I-1, also EIS – OMP – Environmental Consequences - 5.6.6)

- HAPs such as benzene and formaldehyde found in jet fuel are known to cause cancer or create other serious health effects.

- Jet aircraft carbon dioxide emissions are unregulated and are not required for inclusion in an EIS. A petition to regulate jet aircraft carbon dioxide emissions is pending before the EPA. (See: *http://www.biologicaldiversity.org/programs/climate_law_institute/transportation_and_global_warming/airplane_emissions/pdfs/Aircraft-GHG-Petition-12-05-2007.pdf*)

- Air toxics concerns reported in an independent study conducted for the City of Park Ridge in 2000 were dismissed by FAA for inclusion in the EIS for O'Hare as being "preliminary" and for not following a dispersion modeling protocol (AERMOD) which was adopted one year after the completion of the Park Ridge study. The Park Ridge study addressed this saying that, had "other dispersion modeling data" been used, the "geographic extent of the health risk and the degree of the health risk could have been higher" (than what was reported in this study at the time).
  (See: *http://www.faa.gov/about/office_org/headquarters_offices/aep/models/history/media/2003-06_Integration_of_AERMOD_into_EDMS.pdf; also https://www.faa.gov/about/office_org/headquarters_offices/apl/research/models/edms_model/; also read the entire Park Ridge Air Toxics Executive Summary at: http://www.parkridge.us/assets/1/Events/Park%20Ridge%20%20Air%20Quality%20%20Report%20%202000.pdf*)

- Several Park Ridge schools are directly under the path of the new and revised runways. They will be directly affected by an increasing number of low level flights and accumulation of emissions.

- EPA has also begun regulating nanoparticles such as titanium dioxide from jet engine parts and cerium oxide as a jet fuel additive and is research new materials as information warrants.

HEALTH:

Much emerging research exists indicating that current standards associated with the modeled science executed for a current day EIS are outdated and that these standards are not accounting for the health risks relative to airport growth and development projects. Some things to consider:

- Health effects of noise are two-fold: medical which includes hearing (auditory) and physiological (non-auditory).
- The American Academy of Pediatrics indicates that anything above 55 decibels is unsafe in outdoor settings. Our children and our adult residents are subject to continuous levels exceeding these safety guidelines and with the continued expansion and increased number of flights, they will be subject to more constant events.
- Averaging DNL does not accurately reflect the stress of the noise on area residents since DNL measures sound over a 24 hour period. Aircraft primarily run 16 hour days of active runway usage, with a concentration of aircraft operations occurring in an 8 hour period.
- A report from the Regional Commission on Airport Affairs in Seattle outlined the following:
    - Airport communities experience increased respiratory problems including asthma, decreased lung function, emphysema, sinusitis, rhinitis, sore throat, chest congestion, wheezing and runny or burning eyes.
    - Airport noise results in a significant use of tranquilizers and sleeping pills.
    - Airport communities have higher rates of alcoholism and admission to psychiatric hospitals.
    - Infants exposed to high noise levels will suffer lower birth rates and increased rates of birth defects.
    - Excessive noise has been associated with development of hypertension, high cholesterol and high blood sugar – which puts people at greater risk of heart disease.
    - Airport noise causes difficulty in sleeping leading to lethargy, impaired reaction times, fatigue, decreased efficiency and the desire to be left alone.
    - Noise is considered to be a non-specific biologic stressor, eliciting a response that prepares the body for "fight or flight."
    - Through the autonomic nervous system, noise can influence perceptual, motor, cognitive, behavioral, glandular, cardiovascular and gastrointestinal function.
    - People do not adjust to airport noise. Even five years after exposure, physical responses, including higher blood pressure and higher stress levels, continue.

Additionally, noise impacts greatly on education, affecting reading, motivation, speech and memory. *(UCD – Health Effects of Noise Symposium – March 2007.)*

In a Government Accountability Office (GAO) report from April 2000, the rise in the demand for air travel is presented as one of the most serious environmental problems facing the world today, linking aircraft emissions to global warming. (Jet aircraft emit carbon dioxide which can last in the atmosphere up to 100 years and jet aircraft emissions are directly deposited into the upper atmosphere, creating a greater global warming effect than those emitted by automobiles. One 747, on arrival and departure, generates smog equal to a car driven over 5600 miles. Airport ground vehicles run on fossil fuels and are a major source of pollution.) Demand is expected to generate more emissions than can be offset through technological advances alone.

The noise contour has not been updated since the O'Hare Modernization Program (OMP) was approved over 10 years ago and will not be updated until 2020 or at the end of the OMP completion. Homes outside the contour, which are experiencing greatly increased levels of noise, will not be offered sound proofing until that time.

IMPORTANT NEXT STEPS:

Creating sustainable and livable airport communities and airport regions begins with a focus on the importance of the need for continued aviation growth fused with the need for greater accountability to environmental and community concerns. The City of Park Ridge respectfully seeks the support of our federally elected officials in modernizing this process relative to federal policy.

Requests relative to relief solutions:

1. Pressure FAA to deliver a supplemental Environmental Impact Statement (SEIS) in the region based on a formal request of FAA by the City of Park Ridge. (Request pending.)
   a) Allow for specific noise and emissions testing with input from experts outside FAA to provide a counterpoint to established processes.
2. Aggressively pursue relief solutions including the following:
   a) Establish a new standard of noise sensitivity that includes residential flight paths five miles out from touchdown/take-off.
   b) Limit hours of use on noise sensitive paths.
   c) Restrict fleet mix on noise sensitive paths.
   d) Redraw the noise contour to include communities experiencing noise levels above 55 decibels.
   e) Provide a system of remuneration to affected municipalities which includes additional sound-proofing along with revenue to improve community infrastructure and development.

Federal legislative and policy changes:

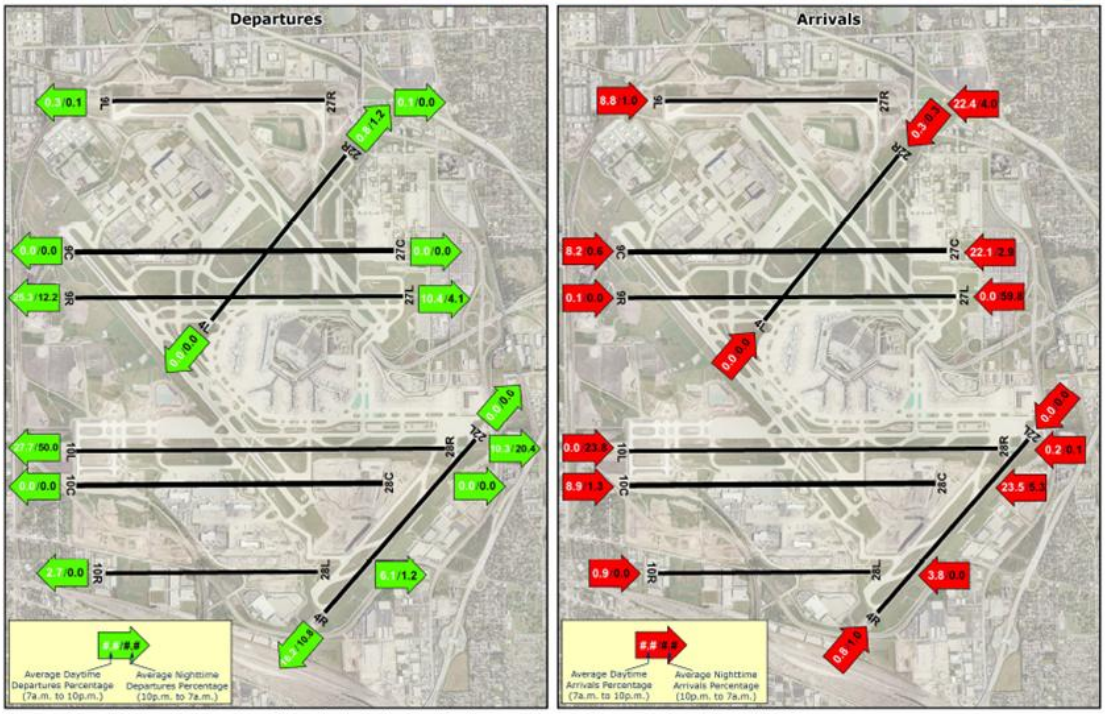
1. Revise noise metric standards.
   a) Establish a new noise threshold standard of <55 decibels.
   b) Eliminate DNL (day/night averaging) of sound as threshold standard and replace with level equivalent (LEQ) (or equivalent) based on aircraft traffic patterns.
   c) Remove noise standard control and monitoring from FAA and return authority to EPA.
2. Revise emissions standards relative to airport development projects.
   a) Revise criteria pollutants to include jet aircraft carbon dioxide emissions.
   b) Regulate jet aircraft carbon dioxide emissions.
   c) Revise particulate matter standards to include accountability to health based risks.
3. Mandate enforceability of an EIS.
   a) Mandate accountability to revisions in EPA standards occurring within a long term project, separating this accountability from the state implementation process (SIP).
   b) Mandate accountability to associated health risks occurring from long term and repetitive exposure to noise and emissions.
4. Establish new standards of land use compatibility relative to airport growth and development projects.
   a) Modify land use compatibility to include a redrawing of existing noise contours and expansion of emissions contours based on these new standards.
   b) Establish standards for remuneration to affected municipalities which include funding for ongoing community improvements relative to changes imposed by an airport's expanded presence.
5. Overhaul Airport Noise and Capacity Act (ANCA) to allow for a balanced approach to airport growth and development projects.
   a) Provide for balanced standards applied to aviation, environmental and community concerns.

Appendix


Comparison of Sound
COMMON OUTDOOR SOUND LEVELS
NOISE LEVEL
dB (A)
COMMON INDOOR SOUND LEVELS
110
100
90
80
70
60
50
40
30
20
10
0
B-747-200 Takeoff*
Gas Lawn Mower at 3 ft.
Diesel Truck at 150 ft.
DC-9-30 Takeoff*
Noisy Urban Daytime
B-757 Takeoff *
Commercial Area
Quiet Urban Daytime
Quiet Urban Nighttime
Quiet Suburban Nighttime
Quiet Rural Nighttime
Threshold of Hearing
Rock Band
Inside Subway Train
Food Blender at 3 ft.
Garbage Disposal at 3 ft.
Shouting at 3 ft.
Vacuum Cleaner at 10 ft.
Normal Speech at 3 ft.
Large Business Office
Dishwasher Next Room
Small Theatre, Large
Conference Room (Background)
Library
Bedroom at Night
Concert Hall (Background)
Broadcast & Recording Studio
* As measured along the takeoff path 2 miles from the overflight end of the runway.

Chicago O'Hare International Airport

Estimated Runway Utilization at OMP Build Out



Source: Federal Aviation Administration, O'Hare Modernization Final Environmental Impact Statement, Appendix F, Table F-39

Visit the Community Noise Resource Center on the internet at www.flychicago.com

July 2009

Picture

PM2.5 shown on a human hair

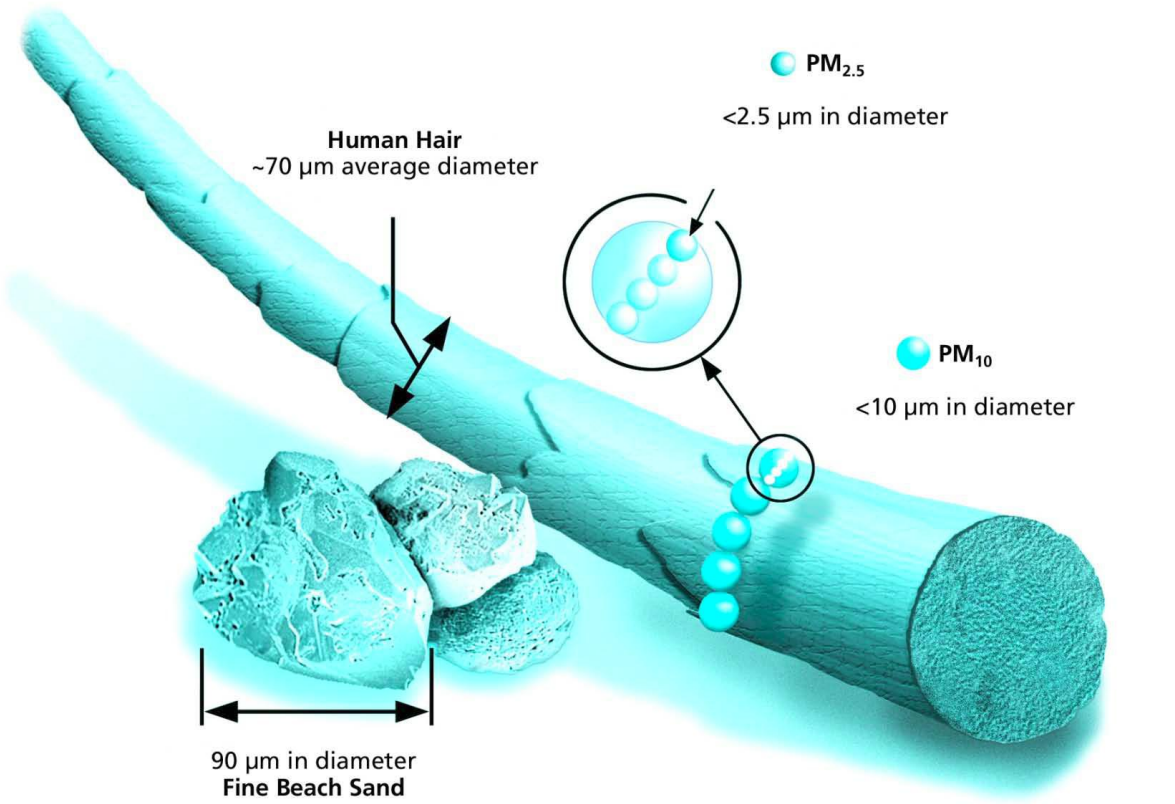


Image courtesy of EPA, Office of Research and Development