



Battle Creek Executive Airport Part 150 Implementation

Fly Quiet Program – Frequently Asked Questions (FAQs)

Why does runway use shift from one runway to another?

Battle Creek Executive Airport has in place an established runway use program that assigns pilots to use runways deemed to have the least noise impact. However, extraneous circumstances including inclement weather and high levels of activity can result in a shift of use from one runway to another. Specifically for Battle Creek Executive Airport, changes in wind direction often determine runway use.

The National Weather Service has reported a certain wind direction that would direct aircraft to use Runway 23. Why are aircraft using Runway 05?

The National Weather Service is updated only once per hour. It is possible that wind direction has changed since it was last updated. Further, use of Runway 05 can be an indication of increased activity and need for additional use of runways at the Airport.

What types of pilots are using the runways?

Pilots that use the runways at the Airport include private individuals, Michigan Air National Guard, pilots for local and national businesses, and students at the Western Michigan University College of Aviation. (Note that beginner pilots must use certain runways when in training due to crosswinds and the ability to maintain altitude.) Various military aircraft operations, including domestic, national and international, take place at the Airport.

How do I call in a noise complaint?

Please call 269-966-1665 to register a noise complaint via phone.

To leave a valid noise complaint, the following information is required: The date and time of the excessive noise event, your street address, including the city and zip code, type of aircraft (example: jet, propeller, turbo prop, helicopter, or don't know/not sure), and type of operation (example: takeoff, landing, training, or unknown). If you would like a return call from a Battle Creek Executive Airport Administration staff member, please provide your name and a phone number you may be reached at and we will be more than happy to return your call. Battle Creek Executive Airport will only accept noise complaints that include all of the required information within one week from the occurrence of the noise event and will not accept complaints, which use profane language.

Why can't the Airport adopt a curfew?

Once an airport has accepted funds from the FAA for projects on the airport, the airport becomes subject to certain "grant assurances" resulting in obligations that the airport has to the Federal government. Generally, one of the commitments is that the airport will be available for public use under reasonable conditions and without unjust discrimination. Prior to 1990 an airport could pass reasonable restrictions (a curfew) as long as it was consistent with those conditions. Congress passed the Airport Noise and Capacity Act of 1990 which severely limited an airport's ability to implement new access restrictions (a curfew). Based on that statute and the resulting regulations, an airport can no longer implement such restrictions without FAA concurrence, which is premised on solving an existing significant noise problem and a cost benefit analysis.



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What types of aircraft are used on the runways?

General aviation aircraft comprise the majority of aircraft that use the runways at Battle Creek Executive Airport. The table below provides a comprehensive list of the types of aircraft that use the runways at the Airport. Generally speaking, the larger, heavier aircraft require a longer runway to safely operate.

Group	Category	Representative Equipment Types
General Aviation	Single Engine	Cirrus SR-20/22, Cessna 150/182, Piper Cub, Piper Cherokee, Saratoga
	Multi Engine Piston	Twin Beech, Cessnas, & Pipers
	Turboprop	Beech King Air, Cessna 441
	Jet	G IV / Bombardier Challenger, Falcon900 / 2000, Hawker 400 / 800 / 850, Lear 35 / 45, Cessna CJ1 / CJ2 / CJ3 /501
	Helicopter	
Western Michigan University	Single Engine	Cirrus SR-20/22, Piper Arrow, Cessna 172,
	Multi Engine Piston	Piper Seneca, Seminole
	Turboprop	Beech King Air, Cessna 441
	Jet	Business jets
Military	Jet	A-10, C-21

Why do aircraft have to fly so low?

Aircraft are required to fly no lower than 500 feet over non-congested areas unless on approach to or departure from an airport. An aircraft will always be lower than 500 feet upon immediate landing or departure.

Why do they have to fly at night?

Many of the night flights are flown by students at WMU. In order to graduate, students must learn to fly outside of daylight hours so they can safely operate an aircraft at night and during inclement weather. In addition, many pilots fly at night due to schedules, mission and travel plans. Aircraft operate at all hours of the day and night the same as automobiles do.

What is a Part 150 Noise Compatibility Study?

Part 150 of the Federal Aviation Regulations (FAR) establishes a voluntary, Federal Aviation Administration (FAA) administered program that includes procedures to be followed by airports to assess aircraft noise and land use compatibility. It establishes a single system for the measurement of aircraft (and background) noise, a single system for determining the exposure of individuals to



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aircraft noise, and a standardized airport noise compatibility planning program. The planning program includes: (1) provisions for the development and submission to the FAA of a Noise Exposure Map and Noise Compatibility Program by airport operators; (2) standard noise units, methods, and analytical techniques for use in airport assessments; (3) identification of land uses which are normally considered compatible (or non-compatible) with various levels of noise around airports based on federal thresholds; and (4) procedures and criteria for FAA approval and disapproval of noise compatibility programs. The Noise Compatibility Program will contain recommendations for noise abatement and mitigation addressing both land use and aircraft operational issues.

Battle Creek Executive Airport completed a Part 150 Noise Compatibility Study Update in 2010 to evaluate noise exposure and land use compatibility at the airport. The study endorsed seven noise abatement recommendations, all of which were approved by the Federal Aviation Administration, along with a set of accepted Noise Exposure Maps. One of these approved recommendations included the development and implementation of a Fly Quiet Program for the Battle Creek Executive Airport.

How is aircraft noise measured?

In 1981, the Federal Aviation Administration (FAA) formally adopted the Day Night Average Sound Level (DNL) as the primary measure for determining exposure of individuals to airport noise. Day Night Average Sound Level is the annual, 24-hour average sound level, in decibels, obtained from the accumulation of all noise events, with the addition of 10 decibels to weighed sound levels from 10 P.M. to 7 A.M. The weighing of nighttime events accounts for the fact that noise events at night are more intrusive when ambient levels are lower and people are trying to sleep. The 24-hour DNL is annualized to reflect noise generated by aircraft operations for an entire year and is identified by “noise contours” showing levels of aircraft noise.

DNL is the most widely accepted descriptor for aviation noise because of the following characteristics: DNL is a measurable quantity; DNL can be used by airport planners and the general public who are not familiar with acoustics or acoustical theory; DNL provides a simple method to compare the effectiveness of alternative airport scenarios; and DNL is based on a substantial body of scientific survey data regarding the reactions people have to noise.

What are Noise Contours (Noise Exposure Maps – NEMs) and how are they used?

Noise contours are computer generated lines that are modeled to reflect both current noise conditions near airports as well as to predict what the future noise conditions will be. Technically, a noise contour represents the average annual noise levels (Day Night Average Sound Level, or DNL) summarized by lines connecting points of equal noise exposure.

The Part 150 Noise Study uses the 65 DNL contour to represent non-compatible land uses and determine eligibility for federal funds for noise mitigation. Any noise sensitive uses (such as residences,



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schools, churches, etc.) within the 65 DNL and greater contour are considered to be non-compatible with aircraft noise. Therefore, noise sensitive uses within this contour could be eligible for federal funding for noise mitigation measures that will be analyzed in the Part 150 Study Update.

A variety of information is gathered during the Study to create an accurate noise contour including: the number of flights, flight paths, type of aircraft, type of aircraft engines, time of day, weather conditions, and runway use. Actual on-site noise measurements specific to aircraft operating at Battle Creek Executive Airport are used to verify predicted individual aircraft noise levels contained in the computer model.

These data are used to generate noise contours that are overlaid onto base maps to create a Noise Exposure Map (NEM), which is used to identify where specific levels of aircraft noise occur. The Noise Exposure Maps developed for Battle Creek Executive Airport were used in several ways:

- Defined where areas of roughly equal noise exist in the communities surrounding the Airport
- Assessed various alternative solutions to reduce the effect of noise
- Defined eligibility for federal funds for noise abatement programs

What is considered a non-compatible land use?

The Part 150 Noise Study uses the 65 DNL and greater contour to represent non-compatible land uses and determine eligibility for federal funds for noise mitigation. Any noise sensitive uses (such as residences, permanent lodgings, schools, hospitals, nursing homes, churches, auditoriums, concert halls, and outdoor music shells and amphitheatres) within the 65 Day Night Average Sound Level (DNL) and greater contour are considered to be non-compatible with aircraft noise. Therefore, noise sensitive uses within this contour could be eligible for federal funding for noise mitigation measures. These measures and potential eligibility will be analyzed in the Part 150 Study Update.

Can the Study examine and change flight patterns?

Flight tracks were examined as part of the Study. However, it is important to note that the Study found that there are no feasible changes to the flight tracks. This Study's purpose was to reduce the number of people affected by noise, not to take noise from one area and impact another noise sensitive area. Additionally, while the Study may make recommendations on flight track changes, only the Federal Aviation Administration (FAA) can decide whether or not to implement them based on a number of factors, including safety.

Are there rules about how high a plane has to travel over a residential neighborhood?

Yes, there are rules. However remember that the judgment of the air traffic controller, the wind, other weather factors, surrounding air traffic, the capabilities of the aircraft, and the judgment and capabilities of the pilot, all outweigh any other considerations, including any noise abatement procedures that are in place. Generally speaking, aircraft must fly no lower than 500 feet over non-



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congested areas and 1,000 feet over congested areas unless they are approach or departing an airport.

My house is not supposed to be under the flight path, so why do I get over-flights?

BTL's informal runway use program is often used by pilots under ideal conditions. Factors such as weather, FAA ATCT instructions, operational necessity, safety, and the presence of other aircraft will often dictate a flight path that is different from the informal runway use program. In addition, aircraft at BTL are not capable of flying precise flight tracks like a railroad track or highway, but will vary widely depending on conditions mentioned above.

Who tells the pilots where and when to turn?

Pilots fly prescribed routes to and from Battle Creek Executive Airport as instructed by air traffic controllers. The FAA is responsible for managing BTL's airspace and for ensuring the safe and expeditious flow of traffic.

Will aircraft continue to become quieter?

Today's civilian aircraft is substantially quieter than the older technology aircraft. Dramatic reductions in engine noise have occurred since the early 1980s. However, the reduction in noise with each new generation of engine is not as dramatic as previous generations. Small improvements are being made, but the technological noise reduction achieved through higher engine bypass ratios has a limit, and that limit is being approached. This information does not imply that reductions achieved will not be maintained, only that the continued improvements may be less dramatic. A new Boeing 787 has approximately one-tenth the noise "signature" on departure as a Boeing 727-200, yet it carries more than twice the number of passengers. Because aircraft have operating lives of 20 or more years, it takes decades for airline fleets to catch up to the latest and quietest technology. Absent any compelling incentive or regulatory requirements to retire older aircraft, aircraft owners naturally expect to extend the usefulness of their capital investments for as long as possible.

At BTL the vast majority of the aircraft fleet operating at the airport is comprised of general aviation aircraft. The business jet fleet is generally the aircraft with the loudest noise footprint. The older, louder aircraft are classified as Stage 2 aircraft and the newer quieter aircraft are classified as Stage 3 aircraft, with many of the very newest aircraft meeting Stage 4 noise emission levels, which are quieter. Statutory requirements dictate that all of the older, noisier Stage 2 aircraft, including business jets, be retired and out of the domestic fleet by January 1, 2016



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What is a missed approach and what causes a missed approach?

A missed approach, also commonly referred to as a “go-around”, occurs when an aircraft cannot complete their landing and are required to go around attempting to land again. Reasons aircraft execute a missed approach are listed below. Please note that this list is not exhaustive.

- A departing aircraft is exiting the airspace/runway slower than an arriving aircraft is entering the airspace/runway. In an effort to ensure safe separation of each aircraft, a missed approach is executed.
- A change in weather conditions has reduced minimums to the point that the pilot must terminate the descent and executes a missed approach.
- A pilot is approaching the field at a speed or altitude that would not permit the aircraft to touch down at a reasonable distance past the displaced threshold (landing line) and still have enough runway remaining for braking and/or reverse thrust.
- Operations have been halted because foreign object debris (FOD) has been spotted on the runway and must be removed prior to resuming operations.
- Slow flow of departures and/or arrivals.