TO: Mayor and Council

FROM: Milton Dohoney Jr., City Administrator

CC: Matt Kulhanek, Fleet, Facilities & Airport Manager
Paul Matthews, Public Works Manager
Sue McCormick, Interim Public Services Area Administrator
Marti Praschan, Interim Deputy City Administrator

SUBJECT: December 2, 2024 Council Agenda Response Memo

DATE: December 2, 2024

CA-1 – Resolution to Approve a General Services Contract with KBK Landscaping Inc. for Supplemental Residential Street Plowing Services (Not-to-Exceed $500,000.00, ITB 4756)

Question: Will salt usage change as a result of this contract or other operational changes this winter? (Councilmember Briggs)

Response: The proposed changes to winter operations will not increase the amount of salt applied during each snow event. Public Works will continue to balance road conditions, safety and the environment when determining the most appropriate salt application rates and placement.

DS-1 - Resolution to Approve a Grant Contract with the Michigan Department of Transportation for Engineering Services for the Safety Extension of Runway 6/24 at the Ann Arbor Municipal Airport ($623,200.00)

DS -2 - Resolution to Approve a Professional Services Agreement between the City and C&S Engineers, Inc. for Engineering Services for the Safety Extension of Runway 6/24 at the Ann Arbor Municipal Airport ($618,700.00)

CM Disch Question #1: Is the City already committed to moving forward with the airport expansion project or does the project still require Council approval? (Councilmember Disch)

Response: The City has made no commitment at this time to proceed with the proposed runway safety extension project.

CM Disch Question #2: If the City were to go forward with a safety expansion of the airport, is it correct that the expansion would not change the classification of the facility to allow larger planes to land at it? (Councilmember Disch)

Response: The airport is currently classified by the FAA as a B-II airport and that would not change as a result of the runway safety extension project. The B category refers to the approach speed of an aircraft on a scale of A - E with category A being the slowest aircraft. The II classification is the airport design group based on wingspan/tail height on a scale from I – VI with level I being the smallest aircraft. The B-II classification is based on the most demanding aircraft class that use the airport.

CM Disch Question #3: If, as projected, aircraft would fly at higher altitudes over Ann Arbor following the safety expansion, would that reduce airplane noise? (Councilmember Disch)

Response: As proposed, both runway ends would be farther away from the City which would result in a higher altitude and reduced aircraft noise for City of Ann Arbor residents. The specific increase in altitude would vary based on the individual aircraft performance specifications.

CM Disch Question #4: If the City does not approve a safety expansion of the airport, is there a risk that MDOT could decide to make an expansion that could allow for larger planes to land there? (Councilmember Disch)

Response: As long as the City of Ann Arbor owns and operates the airport, staff is not aware of any process that would allow MDOT to modify the runway without City approval. If the City were to consider closing the airport, there are processes available to the State of Michigan and FAA that could result in state ownership of the airport and an ability to expand the airport if warranted.

CM Briggs Question #1: Can you please attach the Runway Safety memo dated 5/8/23 to agenda response questions and include in the documents for DS-1 on Legistar? (Councilmember Briggs)

Response: The requested memo is attached to this response and has been included in Legistar.

CM Briggs Question #2: Can you summarize some of the highlights of the economic impact analysis attached to DS-1? (Councilmember Briggs)

Response: There are three highlights that staff will address from the State of Michigan's recent Economic Benefits Analysis for the Ann Arbor Municipal Airport. First is the number of on-airport jobs based at the airport. There are approximately 122 FTE positions that work at the Ann Arbor Airport in both aviation and non-aviation related positions. Second is the overall economic impact of the airport on the local and state economies. Nearly a $70 million impact on the local economy. These are jobs and wages, tourism and visitor spending, and businesses that are positively impacted by a healthy airport. Last are the nearly 200,000 passengers coming and going through the airport. For many visitors, this may be their first trip to Ann Arbor and having a first-class airport with safe and efficient facilities will leave a positive impression of the community.

CM Briggs Question #3: The 5/8/23 memo notes that although there are many notable economic benefits to our regional airport, it primarily functions as a pilot training facility. Can you please further articulate or restate why operational improvements are important at a pilot training facility? (Councilmember Briggs)

Response: The Ann Arbor Airport has multiple flight schools and is one of the busiest pilot training airports in the State. There has been a pilot shortage, both nationally and globally, for many years and it is expected to continue throughout the decade. More individuals are learning to fly as a result of this shortage as career opportunities and advancement are readily available. Dozens of pilots that learned to fly in Ann Arbor are now flying commercial and military aircraft around the nation. No matter the size of the aircraft, having additional runway length allows these students to learn in a safer environment. More runway length allows for more decision making time as they hone their flying skills.

CM Briggs Question #4: The 5/8/23 memo address concerns raised regarding the potential for more or larger jets coming to the airport. Can you please describe why insurance is also a limiting factor? (Councilmember Briggs)

Response: Many questions were raised during the Environmental Assessment process regarding large corporate or commercial jets overwhelming the airport, with the Ann Arbor Airport becoming a "jetport". The Ann Arbor Airport has had jet traffic for decades and will continue to have jets coming and going no matter the outcome of the proposed project. These are small, corporate jets that many businesses use throughout the country. There are many needs for these larger jets that are not available in Ann Arbor which result in them using other, larger airports, those factors will not change. One additional limiting factor that is very important is what the aircraft operator's insurance policy allows. Many corporate aircraft policies restrict the minimum length of runway that the aircraft are allowed to land at, other than in the event of a declared emergency. These are very expensive aircraft and if a pilot goes off the end of a 4,200' runway, when the policy specifies a 5,000' minimum runway, there is a good chance that the damages will not be covered.

CM Briggs Question #5: An Environmental Assessment (EA) for this project was required. An EA studies the proposed effects on the surrounding natural, social, and

economic environments. In October the City received a "Finding of No Significant Impact"? How long did it take to complete the EA? What does EA conclude regarding gas/electric usage as a result of these changes? (Councilmember Briggs)

Response: An Environmental Assessment (EA) was required under the National Environmental Policy Act for the proposed runway safety extension project. The EA was started in 2009 and included three public hearing events during its extensive review of the proposed project. The project was concluded in October 2023 with the US Department of Transportation Federal Aviation Administration and State of Michigan Department of Transportation Office of Aeronautics issuing their Finding of No Significant Impact for the proposed project. The EA found no substantial increase of gas or electric usage is expected because of the proposed runway extension. Additionally, the City intends to replace all airport runway and taxiway lighting with LED fixtures as part of the proposed project resulting in a reasonable energy reduction at the facility. With the recently installed solar arrays at the Ann Arbor Airport, the City's carbon impact should be reduced over current levels.

CM Briggs Question #6: Will this project require any general funds to complete? Does the Airport ever require general fund dollars for operations? Is this typical? (Councilmember Briggs)

Response: The Ann Arbor Airport is operated as an enterprise fund and receives no contributions from the City's general fund or any other City fund. The airport is financially self-sufficient. No general fund contribution is necessary for the proposed runway safety extension project. Airport improvement grant funds, and funding available in the airport fund will cover the cost of the project. The airport has not required general fund dollars for any reason in over 15 years. Providing a vibrant, well operated airport that meets the needs of the users is the key to financial stability. Financially self-sustaining general aviation airports are not typical in Michigan or across the country. Most require a municipal contribution or millage to maintain operations.

CM Briggs Question #7: How does our airport rank in terms of usage with all other airports in Michigan? (Councilmember Briggs)

Response: Airport activity is tracked in operations (a takeoff or landing) by the FAA through their Air Traffic Activity System (ATADS). The most recent 12-month period (9/23-10/24) shows that the Ann Arbor Airport is the fourth busiest airport in the State of Michigan behind Detroit Metro, Oakland County International and Traverse City.

CM Briggs Question #8: Will this project change the fundamental character of the airport? (Councilmember Briggs)

Response: The extension of the primary runway from 3,505' to 4,225' is not a significant increase and is not expected to change the character of the airport. The airport will continue to be classified as a B-II airport and continue to see similar aircraft that are currently using the airport. The difference is that all aircraft will have a safer operating

environment, which provides increased safety to the neighborhoods around the airport. More demanding aircraft will be able to operate at their normal efficiency without having to take weight limitations in fuel, passengers or cargo. From the beginning of this project over 15 years ago, the intent was to improve the airport to serve the aircraft that currently use the airport. Larger jets and commercial service aircraft are perfectly suited for neighboring airports and the Ann Arbor Airport is not looking to change that.

CM Briggs Question #9: Will this project address important identified deficiencies at the Ann Arbor and bring the airport into line with current best safety practices for operating an Ann Arbor of our size? (Councilmember Briggs)

Response: Three local safety concerns were identified in 2007 and City Council directed staff to bring back a revised Airport Layout Plan (ALP) to address those concerns. City Council approved that revised ALP in September 2008 and authorized staff to move forward with implementing the changes. The local concerns included runway length due to a history of aircraft going off the end of the runway, limited visibility where the Air Traffic Control Tower can't see a portion of Taxiway A near the end of Runway 24, and a non-conforming obstacle clearance surface for Runway 24 because of the proximity of State Road. Additional deficiencies to the FAA design standards were identified during the EA that will require the reconfiguration of Taxiway D where it intersects with Runway 06/24. The proposed runway safety extension project addresses all these concerns and will bring us into compliance with current design and safety standards.

CM Mallek Question #1: Budget Impact. At the 12/2 City Council meeting, Council is being asked to consider a resolution to approve a grant contract for engineering services related to a proposed project the Ann Arbor Municipal Airport. While this grant contract only requires a small portion of funds from the city that will come from the Airport Fund Operations and Maintenance budget, what is the anticipated city contribution for the actual construction component and implementation of the project as proposed, and from which city budget will the expected funds come from? (Councilmember Mallek)

Response: Staff responses will be forthcoming. Staff will be available to address at the Council meeting.

CM Mallek Question #2: Long-term Budget Impact**.** What is the anticipated long-term budget impact of the airport project as proposed on the city, compared to the anticipated long-term budget impact on the city if the no action alternative is taken? (Councilmember Mallek)

Response: Staff responses will be forthcoming. Staff will be available to address at the Council meeting.

CM Mallek Question #3: Safety Impact. Much of the Safety Extension of Runway 6/24 at the Ann Arbor Municipal Airport project emphasizes safety as the primary goal. Does an alternative possibility exist where needed safety improvements, such as the installation of new navigational aids and runway lighting, can be made without building an extension

of the existing runway? If the answer is yes, who would be responsible for funding the safety improvements in that scenario? (Councilmember Mallek)

Response: Staff responses will be forthcoming. Staff will be available to address at the Council meeting.

RE: **The Runway Safety Project and the Ann Arbor Airport**
TO: Mayor Taylor and Members of City Council
CC: Milton Dohoney, Jr., City Administrator; Atleen Kaur, City Attorney; Matt Kulhanek, Fleet, Facilities and Airport Manager; Sara Higgins, Director of Operations
FROM: John Fournier, Deputy City Administrator
DATE: 5/8/23

In this memo, staff summarizes the proposed runway safety project at the Ann Arbor Airport, discusses the importance of the airport to the community, what the future of the airport may be, and curates a recent questions section to provide answers to emerging inquiries from Council.

The Runway Safety Project

The Runway Safety Project is a long-standing project intended to make several important safety improvements at the Ann Arbor Airport. Council directed staff to pursue the project in 2008 after they approved a new Airport Layout Plan that addressed safety concerns for planes landing and taking off from the facility. It is important to note that the current runway configuration is not considered unsafe, but changes to the layout and length of the runway will create safety improvements. Work on a federal environmental assessment has been ongoing since 2009, when Council first authorized funding for the project, and we anticipate it will conclude this year.

There are three main issues with the runway that we are proposing to correct with this project, all of which have an impact on pilot safety: 1) The east runway approach is too close to State Street, which necessitates an approach surface that is steeper than recommended; 2) To the east there is an obstructed view from the FAA tower, such that air traffic controllers cannot physically see planes that are taxiing or in line to takeoff on that part of the runway; and 3) The runway should be longer to accommodate safer landings and takeoffs for the class of airplanes that currently use the airport. As a result of these recommended changes, we are proposing to move the runway 150 feet to the southwest, and to extend it an additional 720 feet to the southwest. It is worth noting that after extensive study of the topic by our consultants, we do not believe—nor is it our intent—that the size and type of airplanes that currently use the airport will change as a result of the runway safety project. This project is intended to make current operations safer.

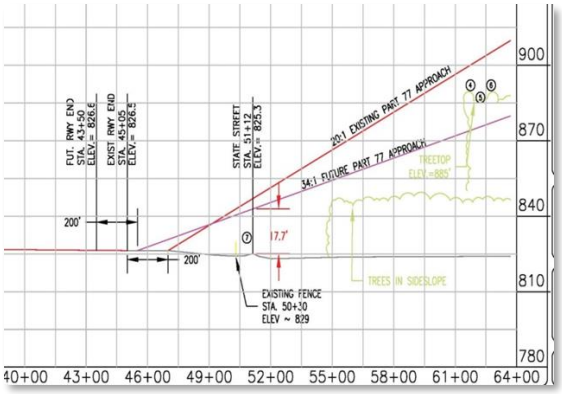

Figure 1. Graph Demonstrating the current and desired landing approach.

East Approach and State Street Obstruction

The current configuration of the runway requires a 20:1 obstacle clearance surface, which is steeper than recommended. By shifting the runway 150 feet to the southwest, the new obstacle clearance surface would be 34:1. To clarify, this is not the actual angle of approach of arriving or departing aircraft but is rather the allowable height of obstructions near the airport. The image above indicates the change in location of the runway and the change in the angle of the obstacle clearance. Planes currently land and will still land with a three percent pitch relative to the ground.

Obstructed View of the FAA Tower

The FAA tower currently cannot see planes taxiing or in line for departure on the extreme east end of the main taxiway (A) and on the connector (A1) from taxiway A to runway 24. While the tower still has radio contact with the planes, it is not ideal that they do not have visual contact. FAA regulations require that an air traffic control tower must have a clear line of site to all surface

movement areas, takeoff areas, and landing areas. The reason for this is that relying exclusively on radio contact to determine whether the runway is clear means that the air traffic control tower is only aware of obstructions that are reachable by radio. Wildlife, debris, maintenance vehicles that have not made radio contact, individuals who are unknowingly in an unsafe position, or other similar obstructions cannot be observed without a line of site to this blind spot.

Figure 2. (L) A view from the runway looking at the obstructed control tower, (R) A view from the control tower looking at the obstructed runway.

Not being able to see and confirm an aircraft's position in queue for takeoff can lead to a controller authorizing the wrong aircraft to proceed to the runway. Additionally, you have aircraft entering this blind spot from the NE t-hangar area. A controller cannot see if the taxiway is clear to allow an aircraft to enter from the hangar area. Aircraft operations continue to increase and just because a significant accident has not occurred to date does not mean it isn't a problem. That is why the FAA has identified it as a hotspot.

Extending the Runway by 720 Feet

While this is the most often discussed aspect of the project, the reasons for the runway extension are relatively straightforward. Our airport is a class B-II airport, meaning that the critical aircraft that serve it are small class B-II craft. The purpose of the runway extension is to create a runway that is adequately sized for the greatest safety during takeoffs and landings for our current mix of aircraft that use the airport. This project is not intended to change the aircraft that use the airport, and the design has been engineered so as not to cause a shift in airport utilization.

Figure 3. Examples of Class B-II Turboprops, the critical aircraft that fly out of Ann Arbor Airport

The Ann Arbor Airport has the smallest runway of any FAA towered airport in the state of Michigan and it will remain that way if the runway is extended as proposed. But because it has such a short runway, our airport has experienced 84.6% of the runway overruns at FAA towered airports in the entire state since 1998 (11 out of 13 total incidents). An overrun is an

instance where an airplane runs over the end of the runway because it has not reached a slow enough speed to safely stop. This can happen on either a landing or an aborted take-off. These incidents are unsafe, and it is important that steps are taken to prevent them as much as is feasible.

Air temperature and altitude affect the force that is needed to achieve lift-off from the ground, and therefore influence the length of the runway needed. Factoring in the size of critical aircraft that use our airport (B-II), the mean daily maximum temperature (84.6 degrees), and the elevation of the airfield above sea level (839 feet), FAA recommended methodologies indicate that we should have a runway that is 4,225 feet in length to meet current operational safety needs and that is exactly what we are proposing to build—no more.

Table 1. FAA Towered Airports and Runway Lengths in Michigan

Airport	Longest Runway
Ann Arbor	3,505'
Kalamazoo	6,502'
Battle Creek	10,004'
Detroit City	5,090'
Detroit Metro	12,003'
Flint	7,849'
Grand Rapids	10,000'
Jackson	5,351'
Lansing	8,506'
Saginaw	8,002'
Muskegon	6,501'
Pontiac	6,521'
Marquette	9,072'
Traverse City	7,016'
Willow Run	7,543'

A Safety Project, and Nothing More

While the city has studied and pursued this project over the last fifteen years, there have been misconceptions that have taken hold regarding what this project is and what it may achieve. The Runway Safety Project is not intended to, nor do we believe it will cause, a significant increase in jet traffic, an invitation for commercial airline traffic, or a fundamental change in what the airport is today. In other words, this project will not cause 747s to land in Ann Arbor.

There are several important reasons why this is the case. First, our runway is now and will remain too small for jet traffic beyond the small class B-II jets that currently land there. In 2019, the study year in the environmental assessment, there were 360 total jet operations at the airport (that is takeoffs and landings), or 180 total jets transiting from the facility. Regardless of whether the proposed changes to the airport runway are approved, our modeling indicates that by 2039—twenty years later—we may experience 462 total jet operations at the airport annually, an increase of 102 operations or 51 jets. That is largely attributable to population growth and increased economic activity in the region.

Why is this the case? We are currently a class B-II airport, we currently service class B-II airplanes and that includes small scale jets like the Cessna Citation or the Embraer Phenom. The Cessna Citation CJ4 can take off from our airport under ideal weather conditions at our current runway length. On extremely hot days, or when there is contamination on the runway (aviation speak for untreated snow, ice, or rainwater), then these jets do have to take off with weight restrictions and in some cases may be diverted to Willow Run. The same is true for our class B-II turboprops that fly in and out of the airport. However, the additional 720 feet is unlikely to incentivize more Cessna Citations to land at the airport because it is already safe to take off and land there in its current length and configuration under most conditions. Additionally, we have extremely limited hangar space for B-II sized jets with ten total, including those that are in private ownership and not leasable by the city.

What attracts pilots and passengers to Ann Arbor is the quality of the community we have and the amenities that our community offers. The additional length is being sought to prevent runway overruns and to create a generally safer landing environment—more length is more margin for error and more takeoff and landing opportunities in bad weather. The length recommended to be added has been specifically chosen to suit our current mix of planes, but not create an environment where more planes that don't already operate at the airport will come here.

Jets that are the next size up from the B-II jets are, for example, the Embraer Praetor 500 or Praetor 600. These are super luxury jets that are exceedingly rare in the aviation world—a Praetor 600 costs more than $21 million. The Praetor 500 can land on a runway as small as 4,222 feet at sea level, but in Ann Arbor where we are 839 feet above sea level the landing distance required would be well above the proposed 4,225 feet length of the new runway. That makes it impossible for jets of this size to plan operations at our airport. The Praetor 600 requires a minimum runway length of 4,436 feet at sea level, so it would not be able to land at the Ann Arbor Airport even if the extension project were to be completed. As a general guideline, jets larger than class B-II jets will require 5,000 feet runways and many pilots of B-II jets prefer 5,000 feet runways for the safety margins.

The runway length is not the only factor that limits or prohibits traffic from larger jets. Runway width is also important, and the current 75-foot runway would prohibit larger aircraft from landing as they often require a 150-foot wide runway. Most of our taxiways are not designed nor sized properly for them. We do not have a precision-control approach system, which is a computerized system that links with a landing airplane and provides control information to pilots to ensure a safe landing. We do not provide land services for larger aircraft such as a maintenance bay that is large enough for them or equipped for them, neither do we have deicing services or ground power units. For these reasons, many large planes physically cannot land here or operate here, or pilots will decide not to land their planes here because of the physical limitations, or in some cases FAA regulations simply will not allow larger craft to land at or operate at our airport. All of these factors work to keep jet traffic to a minimum and to keep the airplane traffic we have squarely in the B-II class range.

A final note on the safety aspects of this project is to repeat that the airport is safe today, but that does not mean that it meets all the technical standards of safety in federal regulations, federal guidelines, or engineering recommendations. Federal regulations require an air traffic control tower to have a clear line of site on all portions of the runways and taxiways, and ours does not. Federal guidelines prescribe recommended runway lengths for certain classes of airplanes, and our runway is short of them. Best practices and engineering guidelines recommend obstacle clearances that are greater than what we have at the airport today. While the environmental assessment classifies these projects as "operational improvements" in some areas, we also

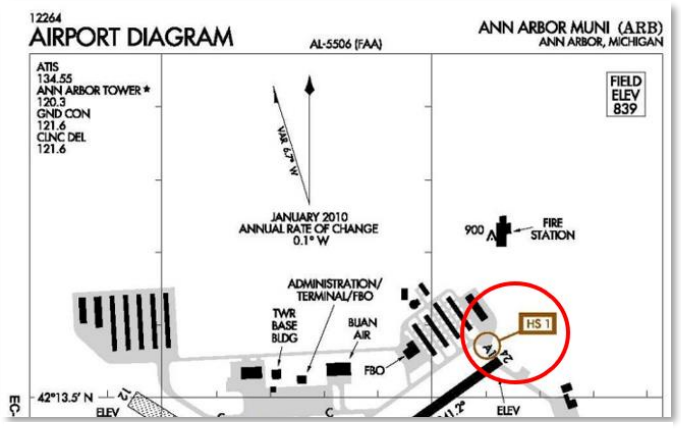

Figure 4. FAA published Ann Arbor Airport diagram indicating where the FAA has classified the hold short area of Runway 24 as a hotspot ("HS 1") for safety reasons.

make clear in the document that these improvements are being pursued for safety reasons. Additionally, the FAA highlights the tower site lines issues as a "hotspot" at the airport, which is identified as such for safety reasons. I would draw a parallel to the conditions that exist on Huron Street in our downtown. The roadway meets the minimum technical standards prescribed by MDOT. It is officially and legally a safe roadway. However, we know through technical study that this stretch of roadway could be made safer through improvements to signal timing, lower speed limits, off-peak parking arrangements, and better pedestrian infrastructure. The road is safe today by all legal standards, but it could be safer in meaningful and important ways. And so it is, also, with the airport.

The Importance of the Airport to the Ann Arbor Community

The Ann Arbor Airport is one of the oldest airports currently operating in the United States. The first flight landed at the airport on May 19, 1928—almost exactly 95 years ago. That flight was piloted by Lt. Leonard S. Flo, with Ann Arbor News reporter Harold G. Ristine and Ann Arbor Parks Superintendent Eli A. Gallup on board. Lt. Flo was a nationally well-known aviator who the summer before completed the first successful flight between Canada and Florida. He was intending to land in Cuba but had to abort the flight in the Florida Keys because of a stomach ailment. He was also an Ann Arbor resident, and a strong proponent of aviation in the region.

Figure 5. Lt. Leonard S. Flo, aviation pioneer and advocate for the Ann Arbor Airport.

Beginning in the early 1920s, the federal government pushed local communities to build airfields to help expand its airmail capabilities. Most mail at the time was delivered by ground transportation, but the federal government believed that moving mail by air would make the postal system much more efficient. Communities were slow to adopt the program, however, until Charles Lindbergh completed his successful flight across the Atlantic (roughly at the same time Lt. Flo completed his Canada-Florida flight). A zeal for aviation swept across the country and in the late 1920s communities across America began building airfields and airports.

Figure 6. Donald R. Knapp, seated, was the first student to graduate from Ann Arbor's Civilian Pilot Training Program in 1939, with George M. Downs (L), his instructor.

More than a decade earlier, in the spring of 1913 the city purchased an initial 55 acres of property from Professor Joseph B. Steere, a retired naturalist of national fame and former curator of the Museum of Natural History at the University of Michigan, for use as well-head area for our planned water treatment plant. By 1928, it occurred to Eli Gallup and local aviation enthusiasts that the land would also make an excellent airfield. The Council agreed and in 1928 authorized the construction of an airport, with a terminal building and hangars along the eastern edge of the property. The airport was dedicated on October 9, 1928 with a community luncheon hosted at the new hangar by the Mayor. The original terminal building is still there, and

vestiges of the original landing strip can still be seen from overhead images of the airport.

The early days of the airport saw activity primarily focused on US Airmail, shipping, and flight enthusiasts. Beginning in 1939 the airport started to develop as a center for pilot training after it was selected as one of the first locations for FDR's Civilian Pilot Training Program (CPTP). This program was intended to both bolster the country's burgeoning aviation industry during the Great Depression, but also to prepare pilots if the United States had to enter World War II. From 1939 to 1944, the CPTP trained more than 435,000 pilots including those trained at the Ann Arbor Airport.

In the post-war period the airport took on new life in the community as a destination for air taxis and charter air services, all while maintaining its importance as a destination for business travel and shipping, and of course as an important pilot training facility. As these uses grew, and as the federal government realized the important national defense capabilities that a well-developed network of airports could provide, city leaders began looking for opportunities to expand the facility. Between 1955 and 1974, the airport acquired more land in Pittsfield Township and expanded its footprint westward primarily using federal grant funds from the Civilian Aviation Authority and later the Federal Aviation Administration.

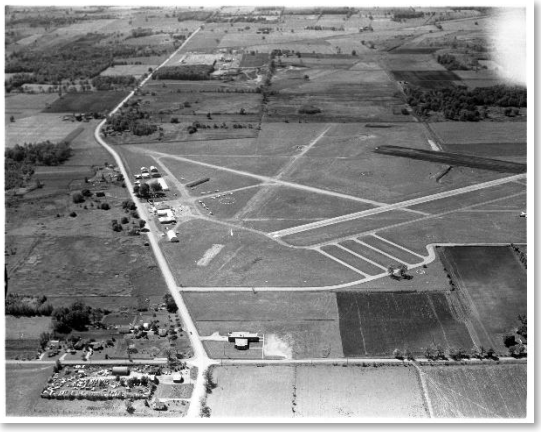

Figure 7. A 1963 Aerial Photo of the Ann Arbor Airport showing the old airport location along State Street, with the current runway under construction heading to the right in the photograph.

In the mid-1960s, a new airport runway was built at its current location along Ellsworth Road, with a new terminal building and an FAA tower to control air traffic added in the early 1970s. Concurrent with the construction of the new airport in Ann Arbor, air services across the country began to change dramatically. Commercial airlines became more available to travelers, and major airlines like Pan Am and Continental became dominant forces in the airline industry. With these changes, larger airports became more and more common. As commercial air travel consolidated in major regional hubs such as Detroit Metro Airport and Grand Rapids International Airport, the nature of airports like Ann Arbor's began to shift as well. The Ann Arbor Airport became what it is today, primarily a pilot training facility with a flight school, several flying clubs, and independent air instructors based out of the airport. But there are many activities at the airport that are important for our community and local economy.

Economic Impacts

The last economic evaluation of the airport's impact on the local economy was completed in 2016. At that time, it was found that 339 full-time equivalent positions were employed directly as a result of operations at the airport. An additional 199 full-time equivalent positions were supported from economic activity generated by the airport, for a total of 538 jobs supported by the airport. In addition to these employment figures, the airport creates approximately $93.7 million of economic activity annually, 90% of which is located in the Ann Arbor area.

Pilot Training

The Ann Arbor Airport is a regionally important pilot training facility. There have historically been two private flight schools, run by Solo Aviation (currently in operation) and Aviation Center (currently transitioning to new FBO ACE Aircraft), based at the airport. In addition, the Michigan Flyers and the Ann Arbor Flyers, both non-profit flying clubs, provide pilot training and currency (continuing education) options for pilots. Other organizations like the Experimental Aircraft Association and their Ann Arbor based chapter, the Flying Stinkers, and the local chapter of the Civil Air Patrol support education and training for pilots. While it is difficult to determine the total number of pilot training and continuing education operations at the airport annually, it likely represents a majority of the operations conducted there every year. This is one of the factors that has led MDOT to classify the airport a Tier 1 General Aviation airport, meaning that its continuing operations meet essential and critical state airport system goals.

Medical Transport

Currently the University of Michigan hospital system operates its Survival Flight helicopter fleet out of the Ann Arbor Airport, including three helicopters serviced by a maintenance bay leased to the university. The university also owns a Lear 75 Jet that it operates out of the Livingston County Airport in Howell. The Lear Jet cannot land at the Ann Arbor Airport, and would not be able to land there if the Runway Safety Project is completed because it requires, at minimum, a 4,400 foot long runway and for various reasons the university will not operate it at airports with runways of less than 5,000 feet. However, the proximity of the Ann Arbor Airport to the hospitals is critically important to the integrity of their operations. Notably, if these helicopters did not operate out of Ann Arbor, they would instead operate out of Willow Run which is twice the distance to UM Hospital and takes twice the time to get there via an ambulance.

Figure 8. A University of Michigan Hospitals Survival Flight helicopter that is stationed at the Ann Arbor Airport.

The university has indicated that the presence of the airport is important to the hospital's survival flight operations not just because of its proximity, but because the airport controls all air traffic in and around Ann Arbor through the FAA administered control tower. That means that the air space around the hospital, where the survival flights often land, is clear and controlled by the FAA, significantly limiting drone operations and conflicting air travel around their facilities. Without the control tower at the Ann Arbor Airport, the hospital would have to rely on their pilots to visually inspect the air around them before taking off and landing from their facilities to ensure their safety.

In addition to the Survival Flight, North Flight EMS operates flights out of the airport completing emergency medical transports for patients in need of treatment at either of the major hospitals in Washtenaw County. Similarly, Wings of Mercy and Angel Flights regular fly in and out of the Ann Arbor Airport. These are non-profit organizations that work with pilots who donate their time so

they may transport individuals and families in need of medical treatment who cannot otherwise afford the travel.

Civil Air Patrol

The Major Kevin A. Adams Memorial Squadron of the Civil Air Patrol is based out of the Ann Arbor Airport. The Civil Air Patrol (CAP) is a volunteer auxiliary service of the United States Air Force. While the CAP provides important air support and aid activities related to natural disasters, search and rescue activities, and medical transport, it is also an important resource for pilot training as many aspiring pilots log hours needed for advancement in their careers through the CAP.

What is the Future of the Ann Arbor Airport?

While the future of the Ann Arbor Airport is ultimately at the discretion of the City Council, its future can be informed by its past. While other airports in the region have grown significantly over the decades Ann Arbor Airport has chosen to remain small based on feedback from local stakeholders, including citizens, the City Council, and airport users. This has allowed the airport to flourish as a destination for pilot training, aviation enthusiasts, and important public services related aviation activities where the pilots involved would rather takeoff and land at a more intimate, smaller scale facility. The airport has found its niche, and there are important reasons why keeping the airport small—that is with a runway of less than 5,000 feet—is important for maintaining its current character and operations. Local control has been paramount to this outcome. The proposal to improve the safety of the runway design is intended to bolster this policy direction and ensure the continued safe operation of the airport as a class B-II facility for decades to come.

From time to time some members of the public speculate about what it might take to close the airport all together. The city has recently invested some time in researching this hypothetical question and has come to the unavoidable conclusion that while it may be theoretically possible to close the airport, the path to do so is so bureaucratically burdened and fraught with financial risk to the city that it is for all purposes practically impossible to do so.

The first obstacle preventing the closure of the airport is the grant assumptions that come along with all federal and state grants that the airport receives. The acceptance of each grant creates a new 20-year window where the city commits to keep the airport operating. If the city wishes to close the airport during this period, we would travel down one of two paths outlined in the grant documents. On the first path, the FAA or MDOT has the right of first refusal to take over ownership and operations of the airport from the city. On the second path, the FAA and MDOT pass on their option to take over ownership of the airport and it is closed. However, in this option we would owe the federal government a discounted portion of the grant dollars we have received over the last twenty years. If the airport were closed tomorrow, we would owe them more than a million and a half dollars. Given that the airport is revenue positive, its infrastructure is in

Figure 9. A view of the 2,303 foot runway at Canton Mettetal Airport, which was taken over by MDOT in 1995. Photo courtesy of Jeff Kosro.

relatively good shape, it is one of the most active airports in the state and is a regionally important destination for pilot training, and that it has been designated a Tier 1 general aviation airport by MDOT, it should be considered a near certainty that the FAA and MDOT would exercise their right to assume ownership and operational control of the airport. They have a history of doing so with much smaller, much less impactful airports in Michigan. Under this scenario the City of Ann Arbor would lose any local control over the airport, and MDOT would carry out its policy directive to develop any Tier 1 airport to its fullest and appropriate extent.

There are other complications that come with any hypothetical attempt to close airport. Any effort to close the airport would be reviewable by the FAA under Section 163 of the FAA Reauthorization Act of 2018. This section of the act requires the FAA to review airport layout plans when any proposed action by an airport operator would:

1. *Materially impact the safe and efficient operation of aircraft at, to, or from the airport.*
2. *Adversely affect the safety of people or property on the ground adjacent to the airport as a result of aircraft operations; or*
3. *Adversely affect the value of prior federal investments to a significant extent.*

We know that the federal government has invested heavily in the Ann Arbor Airport over the last 95 years. But we are also aware that on at least three occasions, potentially more, the city accepted grants from the federal government for the purchase of property to expand the facility in 1955, 1964, and 1974. This clearly qualifies the property for review under part three of Section 163, and potentially also under part one. What this means is the city would have to submit a revised plan for the airport to the FAA indicating our intent to close it, and the FAA would use its prior investments in real estate at the airport as authority to determine whether the closure comports with federal policy objectives to promote a safe and reliable aviation network in the country. It is reasonable to assume based on their stated policy objectives and their history that the FAA and MDOT would not see the issue from the city's perspective and would undertake whatever practical efforts they would have at their disposal to keep the airport open. Bear in mind, also, that the current environmental assessment for the Runway Safety Project has been ongoing for nearly 16 years and has cost the airport approximately a million dollars (mostly funded by federal grant dollars). We should assume that a review process to close the airport entirely would be lengthy, and costly, and the FAA would have little incentive to expedite the process or make grant funds available to defray the cost.

In addition to this review authority, FAA grants issued for the purpose of purchasing property come with unique contingencies that do not expire and that exist in perpetuity. These provisions can include the prior mentioned right of first refusal to assume ownership and operational control of an airport, claw back provisions to require the investment of federal funds in airport-related real estate to be paid back at present day market value, and requirements that airports not be closed at all. Some of the grant assumption documents related to the funds we received from the FAA as much as 70 years ago have not been located by city staff, and so we have asked the FAA for help in finding them and providing them to us. When we have them in hand we will provide an update for Council on what obligations-in-perpetuity the city may have assumed by accepting these grant funds.

The process of closing the airport would likely not be quick, or cheap, and could stretch over many, many years while the FAA and MDOT considered—or openly opposed—such a request. In the

meantime, if the city persisted toward closure, corporate and private tenants would be less interested in investing their resources at the airport and would seek other facilities, federal and state grant dollars would become scarcer, and the economic viability of the airport would be put in jeopardy. The airport would be doomed to become a financial liability on the general fund for years while the federal regulatory process played out. It also would be far from a guarantee that this process would conclude with the successful closure of the airport. In the cases of the other airports that MDOT owns and operates, the state and the federal government stepped in with sizeable financial offers to purchase the facilities and their lands so they could keep them open. It is possible the City Council would be put in the position of either closing the airport and taking a loss, or selling it to MDOT for a sizeable sum and allowing it to remain open.

Finally, if the airport were successfully closed the financial opportunities for the city to repurpose the land would be extremely limited. Much of the land on the southern portion of the airport is not developable as it is in the floodway—remember this land was originally purchased because it has an artesian well. The entire property is located in Pittsfield Township and due to existing agreements with the township that are extremely important to our relationship with them and our other municipal neighbors, the land could not be annexed. So, any tax benefits from land development would not accrue to the city, but to the township. Additionally, the township retains zoning control over the property and so we would be limited in what could be developed there. Finally, there is the potential for some revenue from the sale of land for development, but we would have to keep much of the land as wellhead protection area for our ground wells that we use as part of our drinking water supply. Additionally, we would likely have to provide a good portion of the proceeds of a land sale to the federal government as reimbursement for decades old grant allowances that we used to purchase the land in the first place. As a result of these factors, the opportunity for either recurring or one-time revenue related to the sale of land is extremely limited.

For these reasons we are forced to conclude that while it may be theoretically possible to close the airport, in reality the process is so bureaucratically burdened, so potentially expensive for the city with such limited financial upside, and so fraught with risk to the integrity of the airport's business operations that it would not be feasible to pursue.

The airport is owned by the City of Ann Arbor. But the federal government owns and operates the flight control tower, they have determinative input on the airport layout and design, they issue controlling regulations that we must abide by, and they gain quite a bit of control over the future of the airport through their history of grant support. In that way it is probably better to think of the airport as a joint venture between the city, MDOT Aero, and the FAA, and the future of the airport—whatever it may be—is only realized through alignment between our three agencies. If they are committed to a policy of keeping our airport open, then it will very likely remain open.

If the option of closing the airport is extremely unlikely to succeed, and we believe that for all practical purposes it is, then the future of the airport really only lies in two scenarios: One where the FAA and MDOT assume control of the airport and develop it to its fullest extent, or one where the city retains ownership and local control of the airport with local oversight and a directive to keep the airport small, safe, and economically viable. Staff have pursed the proposed Runway Safety Project with the latter scenario and objectives in mind.

Addressing Questions

In this section we will answer a compilation of questions we have received from council members and some members of the community. For reference, the environmental assessment document provides answers to a comprehensive listing of public comments received by the city during public engagement for the study. That document can be found here.

Q: From the 2022 EA purpose and need section, "the purpose of the proposed action is to improve operational utility of the Airport by meeting the takeoff and landing runway length requirements of aircraft that currently operate at the Airport and are projected to gradually increase operations over time." People have pointed out that "safety" is not included in this statement. Understanding the history of 11 overruns, and the fact that the expansion would have prevented most of those overruns done by pilots in training, why is safety not used?

It is true that the quoted portion of the EA does not mention safety, but it is also true that safety is mentioned as an important factor in other sections of the EA document. Safety concerns have been at the heart of the proposed changes since the beginning of this effort in 2007. As an example, the FAA has identified two "hot spots" at ARB and included them in our published Airport Diagram. The FAA defines a "hot spot" as a location on an airport movement area with a history of potential risk of collision or runway incursion, and where heightened attention by pilots and drivers is necessary. One of these FAA identified "hot spots" is the same blind spot for the tower that is a local safety concern, and that would be resolved as part of the proposed project. Additionally, the FAA has very specific airport design standards (FAA AC 150/5300-13b) for an airfield. These design standards exist for safety reasons. Per the FAA, "Use of these standards and guidelines are practices the FAA recommends for establishing an acceptable level of safety, efficiency, and capacity when designing and implementing airport development projects at civil airports." These changes are required to make a safe airport even safer.

There have also been some public comments alleging that the FAA directed us to stop calling the project a safety project. That is not true, the FAA has given us no such directive. We did amend the language from draft EAs so we did not give policy makers or members of the public the impression that the airport is currently unsafe. However, we clearly describe these as safety improvements in the EA and have consistently used this language over the last decade and a half.

Q: There have been comments about the operational utility, specifically that planes need to reduce weight at temperatures over 85 degrees and under 40 degrees. Please clarify what types of jets this applies to and how many days per year these temperature conditions exist. What is the economic impact considering that on those days the jets could just divert to Willow Run and their passengers would likely come to Ann Arbor to spend their money anyway?

The operational impact and safety improvements would benefit all aircraft at the airport, not just jets. Weight reduction may become necessary (based on the specific aircraft) for our critical aircraft (B-II Turboprops) at temperatures over 85 degrees as the air density decreases with increased temps and results in less lift for an aircraft. There is no significance of temperatures under 40 degrees and weight reduction is not usually necessary because of colder

temps unless there is "contamination" on the runway such as rainwater, snow and ice that would reduce the braking action of an aircraft, and to a lesser extent, the acceleration during takeoff. In those conditions, some pilots may choose to reduce weight to improve their safety margin. Based on local weather data, on average Ann Arbor experiences some level of precipitation 192 days a year. That does not mean that for 192 days out of the year our critical aircraft cannot takeoff or land, as the amount of precipitation is important, how it attaches or persist on the runway is important, and how well it is treated is important as well. The actual number of days that operations would be impacted by contamination is much lower than 192, but varies depending on conditions. In 2020, Detroit Metro Airport reported 54 days with temperatures over 85 degrees, but those days are also becoming more common.

In terms of economic impact, for a single flight it is likely not significant. As stated in the question, a person intending to come to Ann Arbor can land at Willow Run when necessary and still spend their time and money in our city. However, Willow Run is not our only competitor in this space. Livingston County Airport in Howell has a 5,000 foot runway, and Oakland County International Airport is a much larger general aviation airport than Ann Arbor. The consistent need to divert planes in inclement weather away from Ann Arbor could lead a business client to relocate their business operations entirely to another community. For instance, Avfuel is our largest corporate tenant at the airport. They have employees on site in a dedicated hangar, and an office not far from the airport where they house many employees. If hot and inclement weather events continue to increase and they become unable to land their planes at Ann Arbor airport more consistently, they may be tempted to leave for another Michigan community that can accommodate their needs. That would be an immediate lose of jobs and economic investment in Ann Arbor.

However, we have not done a formal analysis of the potential economic impacts of the Runway Safety Project because that is not the main rationale for the project. More important than the economic benefits are the safety improvements. A longer runway, a better line of site from the control tower, and less steep obstruction clearance will improve safety for all users of the airport regardless of what plane they are flying.

Q: How does the sight line from the tower affect safety? It seems that the airport has been functioning with large numbers of operations despite this blind spot?

The obstruction of this part of Taxiway A and A1 is problematic for air traffic controllers. This area is where aircraft are stacking awaiting takeoff on Runway 24. Not being able to see and confirm an aircraft's position in line can lead to a controller authorizing the wrong aircraft to proceed to the runway. Additionally, you have aircraft entering this blind spot from the NE t-hangar area. A controller cannot see if the taxiway is clear of other obstructions to allow an aircraft to enter from the hangar area. Just because a significant accident has not occurred to date does not mean it isn't a problem, or that one will not occur in the future. The FAA has identified this issue as a safety "hotspot" at the airport, recommending our attention to fixing it.

Q: Citizens have made claims about the 34:1 slope path enables airplanes to fly lower over houses and paths on Lohr road? Acknowledging the runway meets all FAA requirements for safe landings and impacts on homes/businesses, are there risks to this flatter glide slope?

The 34:1 obstacle clearance is an FAA Part 77 approach surface which is not the same as the actual angle at which a plane approaches a runway, and is not indicative of the altitude a plane may have at certain points in its landing. The airport's glidepath, which is the angle that the aircraft follows on approach, is a published approach that corresponds to the airport's navigational aids. ARB currently has a three percent glidepath which will not be changing with the potential change from our current 20:1 approach surface to a 34:1 approach surface. These Part 77 surfaces are obstacle clearance surfaces which dictate the height of any obstruction (tree, tower, building, etc.) under that surface. No obstruction is allowed to penetrate the Part 77 surface. A 34:1 Part 77 surface creates a larger safety buffer between obstructions on the ground and an aircraft on published approach glidepath. Aircraft will not be lower because of a change to the Part 77 approach surfaces.

Shifting the runway 870 feet to the southwest will mean that planes will be lower in their approach to the runway than they are now over some of the homes to the southwest of the airport. Our consultants estimate that over Lohr Road, planes will be 23 feet lower on landing than they are now. As part of the EA, we studied the noise impacts of this shift on the neighborhoods surrounding the airport and it would create a total noise impact of an additional 2.15 decibels on average, eclipsing 60 decibels total on only a very small section of the front yard of one of the residential properties along Lohr Road.

Q: It has been stated many times that the aircraft mix is not expected to significantly change. From my notes, even on the high end, a 20% increase in jet operations would lead to 300 operations, which is a small percentage of 80,000, but if we think that most of these operations occur on football Saturdays, theoretically we could see 20 more jets per day on game days. Please elaborate on other things that constrain the number of jets, like parking, hanger space, and insurance requirements of charter companies. It would be helpful to know a "worst case scenario" for increased private jet operations. A citizen group has claimed 500-655 game day operations at Willow Run could shift over, is that true?

In 2019 (the data set for the Runway Justification Study) the airport had 360 jet operations total. Since an operation is a landing or takeoff, this would equate to 180 jets in 2019. A 20% increase, which is very aggressive, would increase that number by 72 operations total (36 jets), which as indicated in the question is a small amount compared to the nearly 85,000 operations in 2022. In addition, getting 20 additional jets in on a single day would be very difficult to do, primarily because of parking ramp space. Depending on the size of the jet, parking 20 additional jets on the main terminal ramp is not feasible with the other smaller aircraft parking there. In addition to ramp space, the airport hangar occupancy rate is at 100% so open hangar space is non-existent. It is further limited by the fact that we only have about ten hangars (including private hangars) that would fit a jet. If you assume a typical seven home football games, the numbers you mentioned above would result in 70-95 additional jet operations per game which couldn't be handled at ARB.

The memo goes into some detail about the many restrictions that would prevent more jet traffic from coming to the airport, and so we reference that information in this answer. Our projections indicate that a marginal increase in jet traffic and other class B-II traffic could result from fewer flights being diverted to Willow Run from weather, but not a significant number.

Q: Since the expansion keeps us under the 5,000 feet that is desirable for most jets, I've heard this would mean organ transplant flights would not be able to operate out of the airport. Is this true? How does expansion affect medical uses? I have heard only helicopters use the airport for maintenance at present.

A 5,000 feet runway is the target for most jets for several reasons, including insurance restrictions. The use of organ transport flights through ARB is dependent on the jet, type of flight operation and the decisions by the pilot or their organization. Most medical flights that currently use our airport are turboprop aircraft or volunteer aircraft (Wings of Mercy, Angel Flights, Lifeline Pilots) bringing people to or from for medical treatments. UM Survival Flight has three helicopters, all of which are based at the UM Medical Center (during good weather) and at ARB. They are all maintenanced at ARB as well. Many helicopters from other medical facilities use ARB to land and transport with HVA ambulances to UM Medical Center. They cannot land at the medical center as the UM Survival Flight helicopter occupies the heliport. As it relates to tissue donation, Gift of Life Michigan is based in Ann Arbor not far from the airport, however they use Willow Run for their air transport needs right now and do not plan to shift to Ann Arbor even with the runway improvements because our airport would remain undersized for their needs. Similarly, the survival flight jet at UM Hospital is based at the Livingston County Airport and even with the runway improvements at ARB they have told us that they intend to continue operating their jet out of Livingston because they require 5,000 feet of runway.

Q: I have previously asked for projected emissions impacts which as I understand it would be negligible, or could decrease, given most jets would already come to Willow Run or are required to make extra fuel stops along the way to land at ARB. Nonetheless, a perception that we are making it easier for private jet fliers, or the potentially incorrect perception that we are "inducing demand" is hard to overcome when our A2 Zero goals are so ambitious. What are your thoughts?

The analogy that we are “inducing demand” in the same way that a road project would is not correct. Road projects induce demand when lanes (or, more technically, “capacity”) are added to a roadway. This induces demand because it prioritizes road speed and capacity over pedestrian safety and it shapes land uses in ways that are more car dependent and less walkable. In both the short- and long-term this causes communities to become more car dependent, less safe for pedestrians and bicyclists, and creates an incentive for travel by car.

At the airport, creating safety improvements on the existing infrastructure does not create the same tradeoffs as a road expansion does. We do expect there to be fewer flights that divert to Willow Run or other local airports in inclement weather, but the impact of this is negligible on the total number of operations at the airport. The fundamental makeup of

planes operating at the airport is not expected to change, and the number of operations is not expected to increase significantly as a result of this project. The scale of improvements proposed is not large enough to, on its own, move the needle in a meaningful way on the activity at the airport.

Investments in the airport that would increase capacity include projects such as extending the runway beyond 5,000 feet because this would open the airport up to other larger classes of airplanes. Adding a runway would also increase traffic significantly, and this is probably the closest parallel to adding a lane to a road and inducing demand. Building significantly more hangars would also increase activity at the airport. We are not proposing any of these investments as a part of this project.

Concerning projected carbon emissions from the airport, we do not have a comprehensive estimate of the carbon emissions related to the private flights that operate out of the airport, and this is an issue that staff are currently studying. We may need to engage an outside consultant to render an accurate accounting of carbon impacts from private users of the airport. Our A2Zero Carbon Neutrality Plan does call for the airport facility itself to be carbon neutral through building energy efficiency and the installation of alternative energy systems.

However, it is possible to judge the carbon impacts of this project from baseline. We project that the safety improvements will cause some marginal number of flights to divert to ARB from Willow Run. However, the carbon impact of this is neutral overall since these are not new flights, only diverted flights. Additionally, with our current runway pilots are forced to take off with weight restrictions during inclement weather, and the easiest weight to unload for many pilots is fuel. This necessitates them stopping partway through their trips to refuel, which increases their flight time and decreases their fuel efficiency from the additional landing and takeoff. With a longer runway, pilots will be able to takeoff fully fueled and so they will enjoy greater fuel efficiency overall. Finally, we are also proposing to replace all of the runway lights at the airport with LEDs, which will produce meaningful energy savings over our current operations. The total impact of these improvements on carbon emissions is unknown, but it is meaningfully positive (as in, there will be a meaningful decrease in carbon emissions).

There is still important work to be done on making the airport carbon neutral, including all private operations, and it is work that the staff is committed to doing. This project will neither solve, nor exacerbate that problem.

Q: Where does the local funding for this come from? Is it all housed within funds of the airport or will some come from General Fund? If any comes from the general fund or funds not solely dedicated to the airport, what is that total over the full expansion timeline?

The most recent cost estimate (from September of 2022) for the proposed project is just under $7 million, including engineering and design. The local share of the project is estimated to be just under $350,000. These local funds are all available in the airport operating budget and airport fund balance. No funding will be necessary from the General

Fund or other city sources. We will seek federal and state funding for the balance of the project needs.

Q: There has been a perception that this project has been "voted down" by council in 2009 and as recently as 2017. Also there were legal challenges in the past. What are the reasons the runway expansion has not yet happened? Which were most to blame: economic conditions, citizen opposition, regulatory hurdles or something else?

City Council has never voted the project down. Just the opposite, since the project concept started in early 2007 City Council has issued specific direction to pursue this project several times, and has approved 100% of the contracts and grant requests that have come before them related to the project. This includes more than 20 different approved City Council resolutions for Airport Layout Plan amendments, consulting contracts/amendments, FAA reimbursable agreements/amendments and MDOT-Aero grant contracts all supporting the project and required EA process. The only legal challenge was a petition to the US Secretary of Transportation, filed in January 2013, to deny approval and funding to ARB filed by Pittsfield Charter Township and some residents of Pittsfield Township. The petition was denied at the federal level and never required any legal response from the City. The proposed project has been slow because the environmental assessment has not been approved by the FAA to date. The FAA has never rejected or turned down the draft EA, just continued to require more and updated information that has delayed the EA approval. Part of the cause for this is the FAA issued a new interpretation of NEPA regulations 1050.F in 2015 which resulted in significant changes to the EA process and forced the city to essentially restart the EA process from scratch.

Q: Other CMs have asked what it would take to divest from the airport, to turn the land into housing. You have said that could result in millions of grants that have to be paid back. It would be helpful to have some more precise numbers on that and other barriers to any sort of plan to remove the airport and develop the land. Since the parcel is in Pittsfield township, would city even retain control of it, were the airport to be removed?

This topic is covered at length in the body of the memo, and I would direct readers to that discussion. While it may be theoretically possible to close the airport, it is likely not feasible, and we do not believe there is a viable path toward actually achieving an airport closure.

The airport is owned by the City of Ann Arbor. But the federal government owns and operates the flight control tower, they have determinative input on the airport layout and design, they issue controlling regulations that we must abide by, and they gain quite a bit of control over the future of the airport through their history of grant support. In that way it is probably better to think of the airport as a joint venture between the city, MDOT Aero, and the FAA, and the future of the airport—whatever it may be—is only realized through alignment between our three agencies. If they are committed to a policy of keeping our airport open, then it will very likely remain open.

Q: What is the current mix of airport traffic both in terms of planes and types of uses?

The following tables identify the types of aircraft that used the airport and their general uses in 2019, the study year referenced in the EA document.

Fleet Mix Projections by IFR Operations

Physical Class	Representative Types	2019 Ops	2019 %	Forecast Operations 2024	2029	2034	2039
Jet	C56X (Cessna Excel/XLS), C680 (Citation Sovereign), PC24 (Pilatus)	263	5.7%	283	302	321	338
Jet	E55P (Phenom 300), C25C (Cessna CJ4)	97	2.1%	104	112	118	125
	Subtotal Jets	**360**	**7.7%**	**387**	**414**	**439**	**462**
Turbine	TBM8 (TBM 850), TBM9 (TBM)	150	3.2%	161	172	183	193
Turbine	PC12 (Pilatus), B350 (Beech), P46T (Piper Meridian), C208 (Cessna Caravan)	966	20.8%	1,040	1,111	1,178	1,241
	Subtotal Turbine	**1,116**	**24.0%**	**1,201**	**1,283**	**1,361**	**1,434**
Piston	C172/182 (Cessna), PA32 (Piper Cherokee), SR22 (Cirrus)	3,049	65.6%	3,282	3,506	3,719	3,917
	Subtotal Piston	**3,049**	**65.6%**	**3,282**	**3,506**	**3,719**	**3,917**
Other	Helicopters, Unclassified	124	2.7%	133	143	151	159
	Subtotal Other	**124**	**2.7%**	**133**	**143**	**151**	**159**
	Total IFR Itinerant Ops	**4,649**		**5,004**	**5,346**	**5,671**	**5,972**

Source: 2019 Instrument Operations - FAA TFMSC, Mead & Hunt
Projections - Mead & Hunt, Inc.

Table 1-1 Projections Summary

Year	Itinerant Operations: Air Taxi	Itinerant Operations: General Aviation	Itinerant Operations: Military	Local Operations: General Aviation	Local Operations: Military	Total Operations	Based Aircraft
Historical							
2005	2,105	24,942	17	40,871	5	67,940	164
2006	2,082	26,530	263	42,910	0	71,785	148
2007	1,876	25,483	243	45,251	0	72,853	148
2008	1,198	22,677	42	40,991	2	64,910	136
2009	376	21,195	22	35,508	8	57,109	141
2010	208	21,102	33	42,629	7	63,979	129
2011	272	21,016	36	35,893	2	57,219	129
2012	474	23,285	51	39,737	3	63,550	168
2013	556	21,943	40	35,202	3	57,744	175
2014	524	21,728	57	35,051	3	57,363	176
2015	524	22,373	47	33,953	18	56,915	182
2016	568	23,761	72	33,933	49	58,383	188
2017	564	24,213	68	37,112	9	61,966	178
2018	570	24,196	41	38,264	31	63,102	164
2019	550	28,126	76	47,653	23	76,428	164
Projected							
2024	596	30,465	76	47,494	23	78,654	163
2029	636	32,547	76	47,264	23	80,546	163
2034	675	34,524	76	47,123	23	82,421	162
2039	711	36,357	76	47,168	23	84,336	162
CAGR (2019-2039)	*1.29%*	*1.29%*	*0.00%*	*-0.05%*	*0.00%*	*0.49%*	*-0.05%*

Source: Historical Operations – FAA OPSNET, Historical Based Aircraft – FAA TAF, Projections – Mead & Hunt

Q: What additional public hearings would need to be held before the construction could begin at the airport, assuming a FONSI is issued for the EA and Council approves the project?

There would be no further public hearings on the issue. The construction contracts and receipt of any grant funds for the project would be considered and approved by Council as a regular part of Council business. However, if these are approved the project would move forward.

Q: To what extent does the university use the airport?

Other than the previously mentioned Survival Flight activities, the university does not officially use the airport for any business travel. Their athletes will fly out of Willow Run because the size of jets they require are too big for our airport, and would still be too big for our airport if the Runway Safety Project is completed. Their executives fly out of Willow Run and Detroit Metro. Alumni may use the airport for personal travel, and employees may use the airport from time to time at their own discretion for personal or business travel. But officially the University does not use ARB for university related athletic or business travel and the Runway Safety Project is unlikely to change that.