

Waukegan National Airport

OWNED BY THE WAUKEGAN PORT DISTRICT

RUNWAY 5/23 REPLACEMENT PROGRAM SUMMARY

March 18, 2019



PREPARED BY



TABLE OF CONTENTS

Runway 5/23 Replacement..... 3

PROGRAM SUMMARY..... 3

 Airport Background..... 3

 Document Purpose..... 3

 Program Background..... 3

 Major Items, In Sequence..... 5

 Major Work Items..... 5

 Master Plan..... 6

 Airport Layout Plan..... 6

 Airport Geographic Information System..... 6

 Environmental Assessment..... 7

 Land Acquisition..... 7

 Master Drainage Study..... 8

 Roadway, Tunnel and Bridge Improvements..... 8

 Roadway Tunnel Construction..... 8

 Illinois Route 131 (Green Bay Road) Relocation..... 9

 Construct Parallel Taxiway Bridge over Illinois Route 131..... 9

 Coordination and Phasing Considerations..... 9

 Runway 5/23 Relocation..... 9

 Install New Runway 5/23 NAVAIDS..... 10

 Existing Runway 5/23 Conversion to Parallel Taxiway..... 11

 Extend Parallel Taxiway to Runway 5 Threshold..... 11

 Program Cost..... 11

 Funding Source Descriptions..... 13

 Airport Improvement Program (AIP)..... 13

 State of Illinois Funding..... 13

 Bonds..... 13

 Local Funds..... 14

 Letter of Intent..... 14

 Program Schedule..... 15

Appendix A – Sponsor’s Proposed Action Exhibit
Appendix B – Program Schedule Alternatives

Runway 5/23 Replacement PROGRAM SUMMARY

Airport Background

Waukegan National Airport (UGN), located in Waukegan, Lake County, Illinois, is a *General Aviation Reliever Airport* (Service Level) to Chicago O'Hare International Airport. UGN is owned and operated by the Waukegan Port District and serves general aviation and corporate aircraft. Presently, UGN has a total of 156 aircraft based at the airfield with approximately 42 being large corporate aircraft. The Federal Aviation Administration (FAA) has also categorized UGN under the FAA Asset Program¹ as a "National" airport. This designation underscores UGN position in the regional, State and National airport system.

"National airports support the national and state system by providing communities with access to national and international markets. They accommodate a full range of aviation activity, including large corporate jet and multi-engine aircraft operations, significant charter passenger services, or all cargo operations. They often work in conjunction with, and in support of, hub airports serving the aviation needs of larger metropolitan areas." Source: FAA General Aviation Airports: A National Asset (ASSET 1) Report.

UGN is in the northern suburban Chicago area and is home to numerous Fortune 500 corporations. Many of these corporations base their aircraft at UGN and use the airfield to connect to their markets worldwide. Present airfield facilities at UGN include:

- Runway 5/23 – 6,000 feet long and 150 feet wide (primary corporate runway)
- Runway 14/32 – 3,751 feet long and 75 feet wide (general aviation crosswind runway)

Document Purpose

This document is intended to define the overall Runway 5/23 Replacement Program. What follows is a summary of the program history and background, a definition of the major program elements, a summary of program costs, a description of potential funding sources and the overall financial feasibility of the program and a discussion of potential program implementation schedules.

Program Background

As far back at 2006, Waukegan National Airport had recognized the necessity for Runway 5/23 to be modified or replaced. At the time of project and program identification, the following issues were identified:

- The overall runway PCI value was rated between 25-40 on a scale of 100 (as low as 26)

¹ https://www.faa.gov/airports/planning_capacity/ga_study/

- Runway 5/23 and the parallel taxiway (Taxiway A) are separated by 320-feet, less than the 400-foot minimum specified by FAA
- The runway surface profile and cross-section are non-compliant with FAA criteria for both longitudinal and transverse slopes
- Neither end of Runway 5/23 meets FAA criteria for Runway Safety Areas (RSA) or Runway Object Free Areas (ROFA)
 - Illinois Route 131 (Green Bay Road) penetrates the standard 500-foot by 1,000-foot RSA for the approach end of Runway 5
 - Illinois Route 131 (Green Bay Road) penetrates the standard 800-foot by 1,000-foot ROFA for the approach end of Runway 5
 - Wadsworth Road penetrates the standard 500-foot by 1,000-foot RSA for the approach end of Runway 23
 - Wadsworth Road penetrates the standard 800-foot by 1,000-foot ROFA for the approach end of Runway 5
- As the primary runway, Runway 5/23's existing 6,000-foot length was not adequate for all users based on airport user input and FAA's runway length Advisory Circular.
- The existing Runway 5/23 pavement structure was not adequate to accommodate both the frequency and size of aircraft that had begun to utilize the Airport
- Having been constructed over 30 years ago and having been through multiple maintenance cycles, Runway 5/23 had reached the end of its useful life

Work by others on an Airport Master Plan and associated Environmental Assessment (EA) began in 2008. Between 2006 and 2017, the Airport obtained FAA approval of:

- A development concept depicting Runway 5/23 relocated and extended to 7,000-feet
- Description of Proposed Action Alternatives (DOPAA)
- Existing Conditions Report
- Aviation Forecasts
- Confirmation of proposed runway length (7,000 foot) for the short-term and long-term study horizons

Additionally, during the same 2006-2017 timeframe, the following Master Plan and EA tasks were also partially undertaken/completed:

- Draft Master Plan Report Airfield Alternatives and Implementation Plan chapters were prepared but to not appear to have been submitted for agency reviews.
- Draft Airport Layout Plan (ALP) was submitted to IDOT – Division of Aeronautics (IDA) for review. Draft ALP was submitted by IDOT to FAA for review, including an Airspace Determination Study.
- Draft Modification to Standards (MOS) and Runway Safety Area Determinations were submitted to IDA and FAA for review.
- Limited portions of a draft Environmental Assessment (EA) were prepared but not submitted to IDA or FAA for review.

- EA resource investigations were undertaken and completed including:
 - Wetland Delineation (Conducted by the Illinois Natural History Survey)²
 - Threatened/Endangered Species survey (Conducted by the Illinois Natural History Survey)
 - Archeological, Architectural, Historic and Cultural resources survey (Conducted by the Illinois State Archeological Survey)³
- Coordination of the project with stakeholders including:
 - Federal Aviation Administration, Great Lakes Region, Chicago Airports District Office (FAA CHI ADO)
 - Federal Aviation Administration, Air Traffic Division, Waukegan Airport Traffic Control Tower (UGN ATCT)
 - Illinois Department of Transportation, Division of Highways, Region 1, District 1
 - Lake County Forest Preserve District
 - Airport Users
 - Lake County Department of Transportation
 - Illinois Department of Transportation, Aeronautics

In 2018, CMT was retained by the Waukegan Port District to move the Replacement Runway Program forward – first, by completing the remaining Master Plan and EA project tasks and subsequently, undertaking the remaining items to complete the proposed runway development. , While it is assumed that the previously approved Master Plan tasks will require updates, CMT will be moving forward under the assumption that the approvals obtained by the Airport between 2006 and 2017 will remain valid through the duration of Master Plan and EA completion efforts. Essentially, it is assumed that the fundamental replacement runway program elements described in detail below will remain unchanged. Previous work associated with partially completed project tasks is also intended to be carried forward to the greatest extent possible.

Major Items, In Sequence

In order to assess the cost and schedule for the replacement runway program, it is critical to properly identify the full scope of the proposed improvements, their associated costs, and method/duration of program and project implementation

Major Work Items

- Master Plan
- Airport Geographic Information System
- Airport Layout Plan (ALP)
- EA Documentation & Approval

² INHS is a part of the Prairie Institutes of the University of Illinois at Champaign-Urbana and is under contract with IDOT Bureau of Design and Environment to conduct environmental studies for transportation projects.

³ ISAS is a part of the Prairie Institutes of the University of Illinois at Champaign-Urbana and is under contract with IDOT Bureau of Design and Environment to conduct environmental studies for transportation projects.

- Land Acquisition
- Roadway Tunnel Construction
- Illinois Route 131 Relocation
- Parallel Taxiway Bridge Construction
- Construction of Relocated Runway 5/23
- Install New Navigational Aids (NAVAIDS)
- Existing Runway 5/23 Conversion to Parallel Taxiway
- Extend Parallel Taxiway to Runway 5 Threshold

The major work items identified above are discussed individually below and can be seen on the Sponsor's Proposed Action Exhibit in **Appendix A**.

Master Plan

As previously discussed, past efforts by others have prepared the Inventory, Aviation Forecasts, Facility Requirements, Airfield Alternatives and Implementation Plan chapters. Several of these chapters were approved or accepted by FAA. However, due to the age of these documents, review of all the reports must be undertaken. Even more importantly, a new Aviation Forecast needs to be prepared to reflect existing aircraft operations, time of day operations and aircraft by type breakdowns. Along with the previously identified Master Plan report sections, Funding and Financial Feasibility section needs to be undertaken. This document is intended to serve as the foundation for this section.

Airport Layout Plan

As part of the previous planning effort, an Airport Layout Plan (ALP) was prepared. In December 2017, the ALP was submitted to the FAA for review. Recently, review comments from the FAA have been provided to CMT. CMT will continue to work with the FAA and Airport to bring the ALP to approval.

Airport Geographic Information System

AGIS is the Airport's Geographic Information System (AGIS) and is a required element of the master planning process. AGIS involves the collection of aerial photography, mapping and the development of GIS data. It is intended to provide the FAA with specific information about the airport's existing conditions, its runway approaches (existing and future) and its future development plans. To date, UGN's AGIS efforts have been limited to the Airport's existing condition.

In conjunction with the completion of the Master Plan and finalization of the Airport Layout Plan, CMT will complete the future condition component of the AGIS. Additionally, it is anticipated that new aerial mapping and imagery will be required to update existing conditions in support of the creation of Standard Instrument Approach Procedures (SIAP) for the replacement runway. FAA requires updated AGIS data to assist in the SIAP development process.

Environmental Assessment

The EA and associated approval period is a critical path item for the timing and overall success of the Runway 5/23 Replacement Program. The major components of the EA effort are as follows:

- Aviation Forecast & Demand Projections
- Purpose and Need
- Alternatives
- Environmental Consequences (Including Affected Environment)
- Draft Environmental Assessment Document Preparation
- Public Involvement / Agency Coordination
- Final Document Preparation

Efforts on the components listed above are already underway and the program summary and schedule contained herein will help guide completion of these critical pieces.

Land Acquisition

The Waukegan Port District does not own all the land required to construct the replacement runway and associated improvements. Total project is anticipated to include fee simple acquisition and avigation easements. A major portion of the land acquisition will be acquired from the Lake County Forest Preserve District (LCFPD). Section 4(f) of the U.S. DOT Act of 1966 (now codified at 49 U.S.C. § 303)⁴ defines protection for publicly owned parks, recreational areas, wildlife and waterfowl refuges and public and private historic sites. LCFPD is considered a Section 4(f) property and will need to be evaluated in the Environmental Assessment (EA).

Development of replacement Runway 5/23 will include the relocation of Illinois Route 131/Green Bay Road. To facilitate the roadway relocation, certain properties presently owned by UGN will be required to be transferred to IDOT Division of Highways, Region 1, District 1. UGN and IDOT will need to create a combined development schedule based on each mode's respective funding.

The sequencing of the proposed land acquisition program is anticipated to have an effect on the proposed construction schedule and overall project phasing. As a part of the overall program, land acquisition cannot begin until the following Master Plan and EA-related tasks have been completed:

- Review of EA by the FAA
- A public hearing and comment period opportunity is provided
- Issuance of a Finding of No Significant Impact (FONSI) by FAA following final report submittal having incorporated/addressed FAA, Agency, and citizen comments
- Approval of the ALP and Master Plan by the Airport and FAA

⁴

https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/media/5-dot-act-section4f.pdf

Upon completion of these items, acquisition of land most time critical to the phasing of program construction, can begin. It is likely that land acquisition will be completed in one concurrent phase in order to obtain funding in a timely manner.

It is likely that all land acquisition must be completed to satisfy timeline-critical elements of the overall program. While most of the program construction will take place on land already owned by the Waukegan Port District, construction funding is unlikely to be obtained prior to acquisition of all parcels. Therefore, it is assumed that construction will not begin until the completion of the land acquisition process.

Master Drainage Study

Because the replacement runway program will impact existing drainage facilities, stormwater management facilities, wetlands and an existing creek, while also constructing significant new drainage and stormwater management systems, it is anticipated that a Master Drainage Study will be required. This effort will provide a basis for overall stormwater management on the Airport and establish a framework for guiding the design and permitting of future projects. Agency coordination will also be initiated as part of the Study. This effort consists of working with Local, State, and Federal Agencies to determine jurisdiction, identify applicable environmental regulations, and determine permitting requirements to ensure that the projects making up the Replacement Runway Program comply with various Agency requirements.

Roadway, Tunnel and Bridge Improvements

Illinois Route 131/Green Bay Road is a major arterial roadway through and beyond Lake County for users. It serves an Average Daily Traffic (ADT) of 16,300 vehicles and the section adjacent to the Airport functions as a traffic bottleneck, as the section is two lanes. A project to widen the roadway from two lanes to four has been part of IDOT's Capital Improvement Planning for years and the Replacement Runway Program was viewed as an opportunity to move the roadway widening project forward. During previous Master Plan efforts between 2006 and 2017, meetings were held with IDOT-Highways to coordinate the implementation of both Illinois Route 131 improvements and Airport improvements. The primary outcome of these meetings was a tentative agreement to move the projects forward together, cost share to the extent possible, and begin the design effort for the highway portions of the work.

Roadway Tunnel Construction

To relocate Runway 5/23 as planned, a roadway tunnel must be constructed to accommodate the proposed realignment of Illinois Route 131.

By tunneling the roadway, a grade separation of the proposed Runway 5/23 and Illinois Route 131 is effectively created. The tunnel itself will reside only beneath Runway 5/23, subsequently daylight, and a bridge will be constructed for the parallel taxiway over this portion of relocated Illinois Route 131.

Prior to completing any significant airside work, the roadway tunnel must be constructed, and the roadway realigned. There is a potential to incorporate excavated materials from the tunnel construction on airport owned property to begin the fill necessary for the runway relocation.

Illinois Route 131 (Green Bay Road) Relocation

Following and potentially during the construction of the tunnels, Illinois Route 131 is to be relocated/realigned. Realigning the roadway provides many safety and phasing benefits for the program holistically, users of the airport, and the motoring public. Virtually all construction of the tunnels and relocated roadway can take place without disruption to the existing roadway. Upon substantial completion of the relocated roadway and tunnels, a “switchover” will occur to bring the new roadway online.

The roadway itself will be widened from a 2-lane section to 4-lane section with pedestrian/bike lane accommodations upon relocation. It is anticipated that construction of the tunnels and relocation of the roadway can be completed concurrently to maximize use of construction seasons and condense the overall program schedule.

Construct Parallel Taxiway Bridge over Illinois Route 131

As discussed previously, a parallel taxiway bridge over proposed Illinois Route 131 is to be constructed concurrently with the roadway tunnel and roadway relocation.

Coordination and Phasing Considerations

Because the existing roadway alignment intersects the existing Runway 5 RSA at a skew, it is anticipated that the construction of the bridge can be completed without impacts to the RSA. However, this same skew presents impacts to the RSA when considering the construction limits for both the roadway tunnel and roadway relocation. This issue will require extensive, long-term, coordination with the FAA to obtain the proper approvals for construction within the existing Runway 5 RSA. Off-peak construction hours and other means of mitigation may be considered.

Due to the proximity of the roadway, tunnel and taxiway bridge improvements to the end of existing Runway 5, proper airspace coordination is critical. Equipment height restrictions may need to be implemented or consideration given to off-peak construction hours. If off-peak construction hours are necessary, coordination with Lake County, Beach Park, and the City of Waukegan is recommended from a noise ordinance standpoint.

Additional consideration regarding the phasing of this work is related to necessary back-taxi movements for the time that the new runway is online without the parallel taxiway extension having been constructed. By completing as much of the parallel taxiway extension and associated roadway tunnel earlier in the program, it minimizes the time that back-taxi is necessary.

Runway 5/23 Relocation

Upon completion of the on-going planning items, the land acquisition program and the roadway tunnel and bridge improvements, full-fledged construction can begin on the relocated Runway 5/23. As mentioned previously, embankment construction could begin on Airport-owned properties as a

balance to the excavation efforts during the roadway and tunnel projects, but it is unlikely that any other construction pieces can begin on the relocated runway until:

- The tunnel and roadway relocation are complete
- Land acquisition has been finalized for those pieces critical to the runway and its Part 77 surfaces.

It should be noted that some replacement runway construction on Airport-owned land is possible before the completion of the land acquisition program and the roadway tunnel and bridge improvements. For the purposes of this document, however, it is assumed that the runway construction follows the implementation of these other items in sequence. Given the risk factors related to funding (public or private), non-sequential implementation is not recommended this early in the development program. However, the benefits may outweigh the risk based on the nature of the land acquisition and the project timeline. This will be an evolving discussion moving forward into planning, design and construction.

As part of the Runway 5/23 relocation, some reprofiling of the existing crosswind Runway, 14/32, will be necessary. Based on preliminary profiles, it is anticipated that approximately 500 feet of Runway 14/32 will require reprofiling. Efforts to reprofile the crosswind runway are not anticipated to have a detrimental affect on line of sight from runway to runway because this area is a low-point in the runway profile. While line of sight will not be affected, special consideration must be given to drainage patterns so as not to negatively impact Runway 14/32's ability to convey stormwater.

During the development of New Runway 5/23, Taxiway D will be extended from the new runway midpoint to the threshold of Runway 23. Continuation of Taxiway D to the southwest is precluded by the future relocation of Green Bay Road. Also, as part of the New Runway 5/23, a small realignment of York House Road will be constructed to allow for a compliant Runway Object Free Area (ROFA).

Install New Runway 5/23 NAVAIDS

Previous Master Plan documents assumed that the Runway 5/23 NAVAIDS would be relocated and reused from the existing Runway 5/23. However, to avoid closing relocated Runway 5/23 for NAVAID construction or losing ILS capability on existing Runway 5/23 for a substantial amount of time, it is proposed to install new NAVAIDS on the relocated Runway 5/23. NAVAIDS will be installed following completion of the runway surface and shoulder grading. The NAVAIDS to be installed are:

- Instrument Landing System (ILS) comprised of a glideslope and localizer for Runway 23
- Installation of a Precision Approach Path Indicator (PAPI) system on both Runway ends
- Runway End Indicator Lights (REIL) on the Runway 5 end
- Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) for Runway 23

The equipment utilized on the existing runway can be used as supplemental parts for local FAA tech ops staff. Other means of storage or use can be determined as the project evolves.

Existing Runway 5/23 Conversion to Parallel Taxiway

The conversion of Runway 5/23 to the parallel taxiway to be designated Taxiway A, can commence upon completion of the new Runway. The former runway will be commissioned as a taxiway through paint striping to a width of 50 feet and the remaining pavement will be designated as taxiway shoulders. It is anticipated that based on existing PCI values that rehabilitation and strengthening will be necessary to make the taxiway usable for the aircraft fleet mix. Other changes include the incorporation of Medium Intensity Taxiway Lights (MITL), change of guidance signs and associated legends, and removal of ancillary pavement, and remarking of the Taxiway and its new connectors.

Extend Parallel Taxiway to Runway 5 Threshold

The proposed extension of future Taxiway A to the new threshold of Runway 5 will complete the parallel taxiway system. It is imperative that this project be fast-tracked in order to minimize the back-taxi time when landing or departing Runway 5.

Upon its completion, the last major pieces of Airport Operations Area (AOA) fence can be installed to fully and permanently secure the airport perimeter. It is likely that installation of both permanent and temporary AOA fence will be a constantly evolving and modified process as the entire program progresses. While temporary security measures will be in-place for the duration of the project, the permanent fence will be the last item completed in the program.

Program Budget

Previous Master Plan efforts provided estimated Replacement Runway Program costs based on 2014 dollars. A review of these documents has been completed to verify and more accurately present unit costs in 2018 dollars. Additionally, using knowledge of the surrounding area, recent project bid-tabs, and in-house expertise, several components of the airside program were modified to reflect probable cost. These costs are still considered preliminary and subject to change.

A summary of the program budget can be found below in **Table 1**.

Table 1:
Proposed Program Budget

Funding Year(s)	Program Phase	Detailed Work Item Description	Estimated Cost
TBD	NEPA Documentation	NEPA Documentation, Master Plan Update Completion, and ALP Update Completion	\$700,000
TBD	Land Acquisition	Land Acquisition for: - Runway 5 (Fee Simple) - Runway 5 (Avigation Easement) - Runway 5 LCFPD (Land Use Easement) - Runway 23 (Fee Simple) - Runway 23 (Avigation Easement)	\$25,000,000
TBD	Engineering Design & Engineering Construction	Engineering Design Contracts: - Geotechnical Report - Roadway Tunnel - Roadway realignment - Parallel Taxiway Bridge - Runway 5/23 Relocation - Runway 5/23 NAVAID Relocation - Runway 5/23 Taxiway Conversion - Taxiway A Extension	\$19,400,000
TBD	Funding Strategy, AGIS, and IAP Development	Management and implementation of the preferred funding strategy, AGIS, and Instrument Approach Procedure (IAP) Development	\$500,000
TBD	Roadway Tunnel Construction	Completion of excavation, tunnel construction, selective fill placement within boundary for proposed Runway 5/23, incorporation of fire suppression, pump systems, and tunnel lighting	\$30,000,000
TBD	Illinois Route 131 Relocation	Construction of the relocated piece of roadway (as a 4-lane section) and subsequent switchover and removal of existing Illinois Route 131	\$5,400,000
TBD	Construct Relocated Runway 5/23	Placement and compaction of remaining fill material, construction of full depth pavement structure, associated drainage, installation of High Intensity Runway Lights (HIRL) and associated electrical vault modifications, pavement marking, and runway closure markers until dedication and opening	\$37,400,000
TBD	Construct Parallel Taxiway Bridge	Construction of the parallel taxiway bridge that will eventually house the parallel taxiway extension	\$7,600,000
TBD	Install New Runway 5/23 NAVAIDS and Conversion of Existing Runway 5/23 to a Taxiway	Install new Navigational Aids on new Runway 5/23. Decommission and convert existing Runway 5/23 by pavement removal, pavement rehabilitation/reconstruction, install Medium Intensity Taxiway Lights (MITL), modify edge drainage, and remark	\$8,400,000
TBD	Construct New Parallel Taxiway A & Complete AOA Fencing	Construct new parallel Taxiway A to Runway 5 Threshold through excavation of existing material, construction of full-depth pavement structure, associated drainage and electrical costs, installation of MITLs, and marking/signage. Complete AOA Fencing	\$4,300,000
TOTAL PROGRAM COST			\$138,700,000

Source: CMT Analysis

Funding Source Descriptions

Airport Improvement Program (AIP)

AIP is a cost-sharing program that assists in the development of a nationwide system of public use airports by providing funding for airport planning and development projects, including runways, taxiways, aprons, land purchases, airport access roads, safety and security projects, and certain terminal development. Funds obligated for AIP are drawn from the Airport and Airway Trust fund, which is supported by ticket taxes, fuel taxes, and other similar revenues sources.

AIP funding is administered through both non-primary entitlement and discretionary grant programs. The non-primary entitlement program is apportioned by Congress to general aviation airports. The current funding level is \$150,000 per year. Discretionary grants are distributed based upon a system of set-aside categories and national priority ratings and administered through FAA's state apportionment funds. This fund is administered through the State of Illinois FAA Block Grant Program. Airport projects must compete with other Illinois airports for these funds based upon their national priority, a value based upon both the type of project and airport. AIP funding can only be used on construction and planning related projects. AIP funding cannot be used for operating expenses or debt repayment. The federal share of eligible projects seeking AIP entitlement and/or discretionary funding is currently 90% for general aviation airports like Waukegan.

State of Illinois Funding

The State of Illinois provides an additional funding source for all federally eligible aviation developments and provides certain levels of funding for ineligible or low priority projects. If a project is being funded with federal monies (entitlement and/or discretionary), the State of Illinois will contribute up to 5% of the total project costs. The remaining 5% of the total project cost must be covered by the local sponsor (Federal = 90%, State = 5%, Local = 5%).

For ineligible or low priority projects which will not receive federal funding, the State of Illinois may contribute up to 90% of the total project cost depending on the type of airport requesting funding.

Bonds

An airport sponsor may obtain the required local share of a project through bonds. The airport sponsor will select the appropriate bond to acquire the necessary financing based upon the number of projects requiring local share monies and the type of airport. Airports typically use one of two types of bonds to fund capital development projects:

- **General Obligation Bonds (GOB):** Payments to the bondholders are secured by the full faith, credit, and taxing power of the issuing municipality. An advantage of general obligation bonds is that they are typically issued at a lower interest rate due to the community guarantee. However, there are typically limits on the amount of general obligation debt that can be incurred, and many states require voter approval before issuing general obligation debt. In addition, typically general obligation bonds can only be financed for 10-15 years, increasing the monthly payment.

- **General Revenue Bonds (GARB):** The debt service from these bonds is paid solely from the revenue received from the facility that was constructed with the proceeds of the bonds. This type of financing presents an opportunity to construct facilities without increasing the debt burden of the community, since the debt is backed solely by the revenue generated by the facility. Because these bonds are not backed by an additional government guarantee and are therefore perceived as a greater risk, they typically have interest rates that are higher than general obligation bonds. One advantage of GARB's is they typically can be financed for a greater amount of time (25-30-year terms) resulting in lower monthly debt payments.

Local Funds

After Federal and State funding has been defined, remaining capital costs can be funded through airport resources. Certain development costs can be paid for through airport revenues and/or reserves. If bonds or other borrowing vehicles are used, repayment can be through the collection of rents, fees or other charges such as hangar rents, fuel flowage fees, and land leases. Local funding of the project can also be augmented by capital investments by airport users into the development. To determine any potential mechanism or percentage of local user funding at this point in time is premature.

Letter of Intent (LOI)

A Letter of Intent (LOI) is a formal agreement with the FAA that states the intent to provide future funding in the form of discretionary and entitlement funding under negotiated terms (funding participation, schedule of payments, etc.). Under current AIP legislation, a portion of the AIP annual appropriation is set aside for LOI programs throughout the country. It should be noted that LOIs are limited to development projects at primary or reliever airports and associated with capacity enhancement or preservation initiatives.

The benefit of an LOI is the ability to begin project implementation without waiting for individual AIP grants as a schedule is established under the LOI for annual funding participation by FAA. Allowable project costs are eligible for reimbursement including debt service costs in accordance with the funding schedule set forth in the final LOI agreement. Therefore, the Sponsor initially funds the program with the understanding of a set reimbursement schedule by FAA. There are multiple strategies which can be utilized to minimize the amount of funding the Sponsor needs to "upfront" and the duration the Sponsor waits until reimbursement.

As part of the LOI application process, a Benefit-Cost Analysis (BCA) is required and is an integral component of FAA's decision regarding LOI approval. The BCA analyzes the project's costs versus benefits over a 20-year planning horizon to ensure FAA's investment is financially prudent. It is important to note the LOI application and associated BCA development requires multiple submittals/meetings, set by specific milestones, with FAA and therefore must be integrated into the overall program schedule if the Sponsor elects to pursue the LOI.

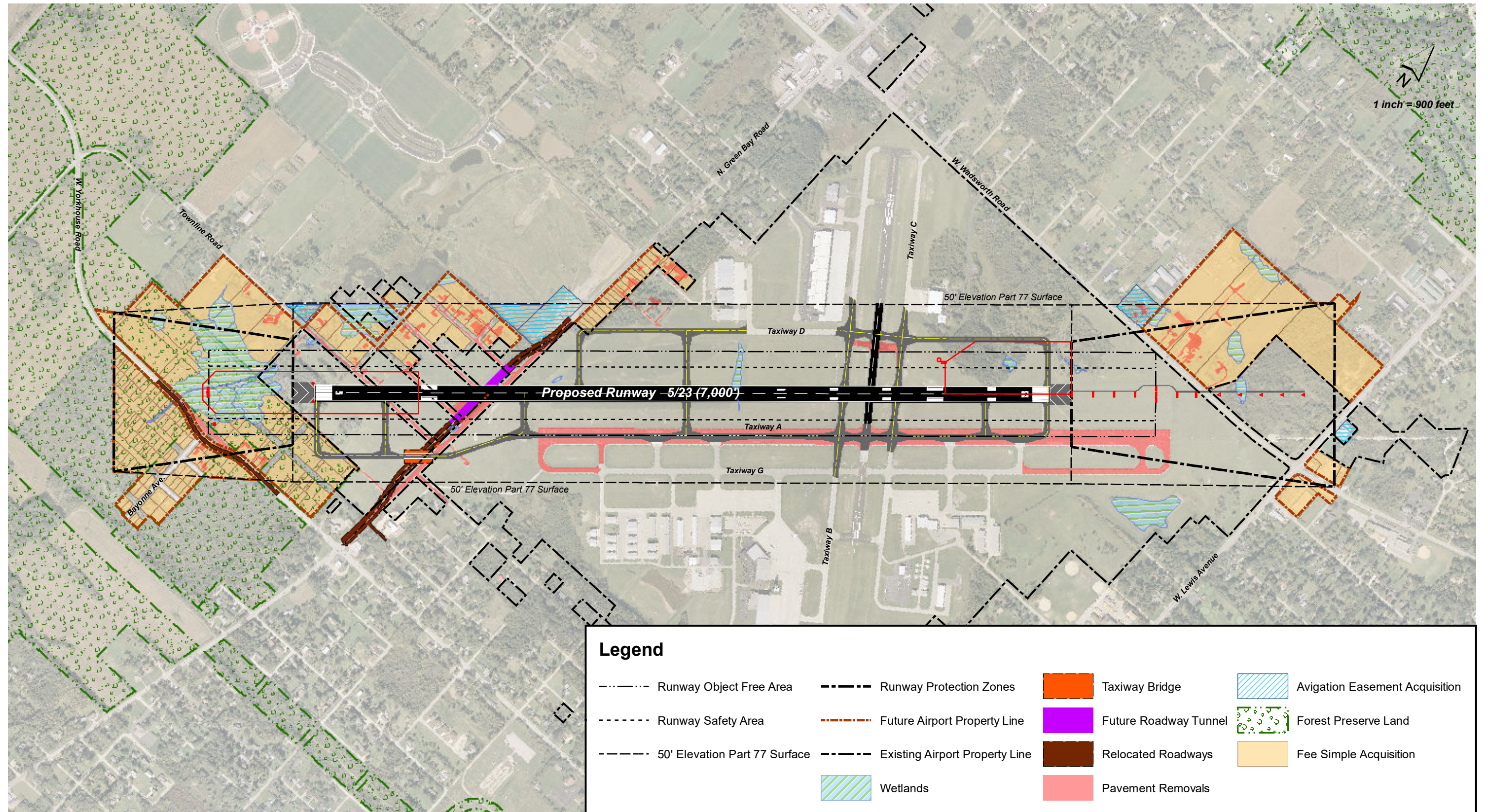
Program Schedule

Development schedules for large aviation infrastructure projects are influenced by numerous factors, some that can be controlled by the Airport and some that cannot. In the case of this program, a key variable in the determination of the estimated program schedule is availability of funds. While multiple funding sources have been identified and evaluated in the previous section, the overall funding plan is not yet determined. It is anticipated that three general scenarios exist based on the following funding partnerships:

- Public funding – there are several public funding opportunities possible through the FAA and including other arms of the Department of Transportation (DOT) to cost-share highway and airport costs:
 - Supplemental appropriation funding
 - Traditional AIP Discretionary funding in cooperation with the Airport’s traditional entitlements
 - Letter of Intent (LOI) – An application to the FAA for a LOI to fund the project either in-part or in-full. A traditional LOI would require a BCA and extensive review process totaling 18 months or more.
- Public/Private funding – A combination of private funds provided by Airport tenants/users with public funds in the form of supplemental, discretionary, or an LOI issued by the FAA.
- Private funding – funds provided by Airport tenants/users.

Each of these three funding scenarios assume different timeframes for funding availability, which are anticipated to result in very different overall program schedules. Program schedules matching these three funding scenarios are presented in detail in **Appendix B** and described in general below.

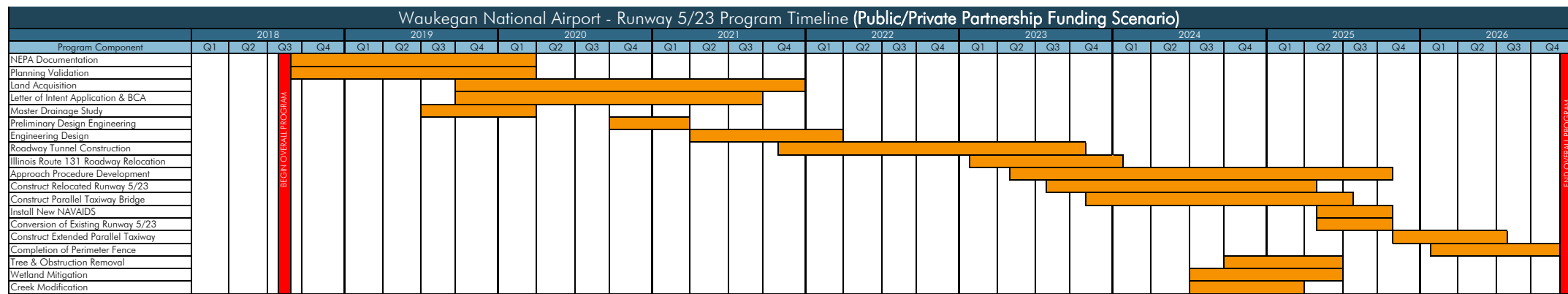
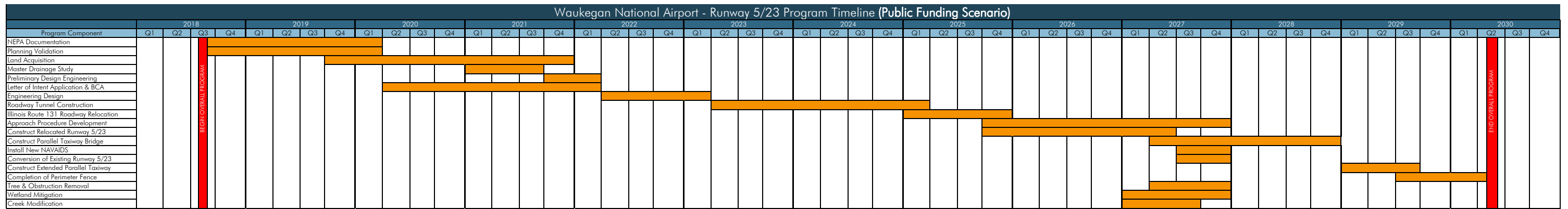
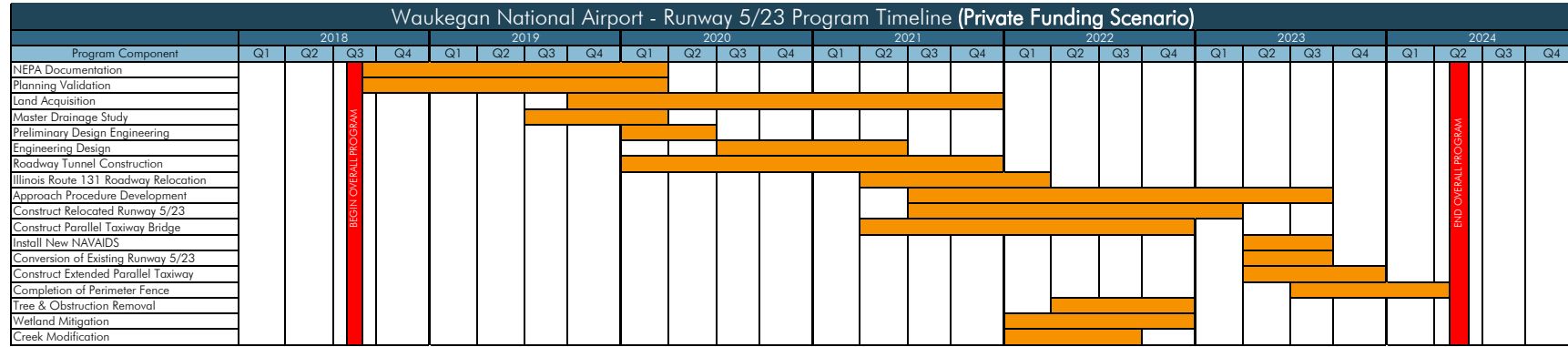
1. Public Funding Scenario – Project duration of approximately 12 years, with the replacement runway opening in 2030.
2. Private/Public Funding Partnership Scenario – Project duration of approximately 8 years, with the replacement runway opening in 2026.
3. Private Funding Scenario – Project duration of approximately 6 years, with the replacement runway opening in 2024.



Source: [182260200] Aerial Image - GRW1 Sid File 2011; Forest Preserve Boundaries - Lake County, Illinois Public GIS Data download.; Airport Property - Hanson Engineers Airport Layout Plan (ALP) 2011



Sponsor's Proposed Action



APPENDIX B - CONSTRUCTION SCHEDULE ALTERNATIVES