

Attachment 1. Through-the-Fence Operations Introduction and MnDOT Guidance

Introduction

Through-the-fence (TTF) operations are broadly defined as aircraft that can access to an airport's airside facilities from land adjacent to – but not part of – airport property. TTF operations can be conducted to engage in commercial or non-commercial activities by business enterprises; private individuals; or federal, state, or local government entities. If properly administered, some types of TTF operations can be mutually beneficial for both the operator and the airport by providing an additional means of revenue generation while overcoming certain challenges potentially affecting airports. While TTF operations can generate new opportunities for airports in terms of economic development and community relationships, TTF operators can also incite issues for airports and conventional on-airport tenants and users. TTF operations at federally-obligated airports are of particular interest due to federal grant assurances under the Airport Improvement Program (AIP).

Recognizing both the opportunities and challenges associated with TTF operations, the Federal Aviation Administration (FAA) allows TTF operations in certain circumstances and provides guidance to airport sponsors regarding structuring and administering such operations. Minnesota Department of Transportation, Office of Aeronautics (MnDOT Aeronautics) has historically prohibited TTF operations at airports under its jurisdiction, although this historical precedence is not codified in Minnesota Statutes, Administrative Rules, or formal policies.

As such, this component of the 2022 Minnesota State Aviation System Plan (2022 MnSASP or MnSASP) provides structured, uniform, and transparent guidance to airport sponsors, existing and potential future TTF operators, MnDOT Aeronautics, and other stakeholders regarding TTF operations at Minnesota state system airports. State system airports comprise 133 publicly owned, public-use airports eligible to receive state funding through the State Airports Fund. This includes 125 general aviation (GA) and eight commercial service facilities.

This objective is achieved by first summarizing existing literature and guidance on TTF operations, identifying state system airports with existing TTF operations, and presenting the pros and cons such arrangements in Minnesota. This information is used to guide the development of MnDOT Aeronautics' official position on residential and commercial TTF operations (referred to as MnDOT's TTF Position Statement). Airports must follow the processes, requirements, and standards established in MnDOT's TTF Position Statement to remain eligible for state investment. Most fundamentally, airports must obtain FAA or MnDOT Aeronautics' approval prior to executing a TTF access agreement to ensure operations:

- Provide a net positive social or economic benefit to the airport and community
- Are structured, operated, and administered in compliance with state and federal obligations
- Mitigate the potential for conflicts with existing/future airport tenants and other authorized users
- Do not limit or restrict airport development potential or airport/aircraft operations due to airport land use compatibility issues, height restrictions, or other potential negative impacts



MnDOT Aeronautics strongly recommends airport sponsors consider potential development alternatives and carefully weigh the advantages and disadvantages of TTF operations prior to engaging in this type of activity. Once established, TTF access agreements are often difficult, costly, and complex to terminate and should only be entered into with full recognition of all potential implications for the airport and community. This paper is structured as follows:

- Existing Literature and Guidance Review (page 2)
- Existing TTF Operations in Minnesota (page 13)
- MnDOT Aeronautics TTF Guidance to Airports (page 17)

Existing Literature and Guidance Review

The following subsection provides an overview of existing guidance available to state departments of transportation (DOTs), municipalities, and airport sponsors regarding TTF operations. This section also includes information regarding the FAA's position on TTF operations, which is applicable to federally-obligated airports due to grant assurances and/or surplus or non-surplus land conveyances.

ACRP REPORT 114: GUIDEBOOK FOR THROUGH-THE-FENCE OPERATIONS

Contributors: Stephanie A. D. Ward, Regan A. Schnug, Jeff A. Kohlman, Paul A. Meyers, Daniel Reimer, Summer Marr, Sarah Arnold, and Kevin Shirer; ACRP; Transportation Research Board (TRB); National Academies of Sciences, Engineering, and Medicine

Summary: Commercial service and GA airports across the country host TTF operations associated with a variety of commercial, residential, and governmental/military activities. At the time of publishing in 2014, objective guidance regarding the management of existing activities and structuring of future agreements was unavailable. As such, the ACRP developed a guidebook to discuss the financial, operational, regulatory, legal, and other issues associate with TTF operations. The guidebook also provides a several worksheets to assess proposed TTF operations and a presentation template for airport sponsors to present to TTF operators.

The tools, guidance, and best practices documented in ACRP Report 114 have been used extensively in the development of this MnSASP paper. Appropriate citations are provided in all cases. It is recommended that airport sponsors consult ACRP Report 114 if considering establishing a new or renewing an existing TTF agreement.

FEDERAL LAW, POLICY, AND GUIDANCE

FAA Order 5190.6B, *Airport Compliance Manual*, recognizes that there may be times that an airport enters into agreements to permit access by aircraft located on land adjacent to, but not part of, airport property. Historically, the FAA has strongly discouraged these types of arrangements, citing the likelihood of conflicts with federal obligations and Transportation Security Administration (TSA) security requirements. FAA Order 5190.6B notes, "As a general principle, the FAA does not support agreements that grant access to the public landing area by aircraft stored and serviced off-site on adjacent property." However, the FAA recognizes that TTF agreements can play an important role in airport economic self-sufficiency and the provision of aviation services to the general public in certain circumstances. TTF



agreements may also be long-standing or deeded in perpetuity. Because of these and other reasons, the FAA provides specific guidance and federal requirements associated with commercial and residential TTF operations. The FAA is careful to specify that the agency has no obligation to permit access to any airport by aircraft from adjacent property, and TTF agreements are a privilege granted under certain circumstances and when particular conditions have been met.

The FAA primarily discourages TTF operations because of the high risk for conflict with federal grant assurances (or obligations). Federal obligations are triggered when an airport accepts funding through a federal airport assistance program, including the Airport Improvement Program (AIP) or land conveyances. In most – but not all – cases, an airport must be included in the National Plan of Integrated Airport Systems (NPIAS) to be eligible to receive federal assistance. Federal obligations remain active through the useful life of the funded improvement project or in perpetuity in cases of land acquisition or conveyances. Airports that are not compliant with federal grant assurances risk losing future federal investment and may be required to pay back previously awarded dollars.

The following section provides an overview of the FAA's Airport Compliance Program and highlights the specific grant assurances that may be impeded by TTF operations. The FAA's position and requirements associated with commercial and residential operations are then presented in turn.

FAA COMPLIANCE PROGRAM

The FAA has clearly indicated that TTF operations may negatively impact an airport's ability to remain compliant with grant assurances. Issues of noncompliance can have major implications for airport sponsors; most notably, airports may lose access to federal investment or be required to pay back funds that were previously received. This could create serious financial hardship for small communities and place other municipal priorities at-risk. As such, airport sponsors should carefully consider all grant assurances in relation to existing or proposed TTF operations. ACRP Report 114 identifies eight grant assurances with the highest potential to place airport sponsors in-conflict with federal obligations. The report also notes that, "The FAA has stated clearly that a TTF entity is not entitled to certain protections provided by the assurances to on-airport operators, tenants, and users" (p. 23).

Grant Assurance 5, Preserving Rights and Powers

This assurance stipulates that an airport sponsor must not permit any action that would deprive its ability to perform or fulfil the obligations associated with the AIP grant agreement. The FAA amended Grant Assurance 5 in 2012 for compliance with the FAA Modernization and Reform Act of 2012 (Public Law [P.L.] 112-95) as follows:

- Prohibits TTF agreements at commercial service airports
- Requires that GA airports comply with P.L. 112-95 and all grant assurances

P.L. 112-95 is discussed in significantly more detail later in this attachment (see **Federal Residential TTF Policies**).



Grant Assurance 19, Operation and Maintenance

Airport sponsors must ensure that airport facilities are always operated in a safe and serviceable condition.

Grant Assurance 20, Hazard Removal and Mitigation

Airport sponsors must protect the airspace surrounding the airport in compliance with 14 Code of Federal Regulations (CFR) Part 77 – Safe, Efficient Use, and Preservation of Navigable Airspace (Part 77).

Grant Assurance 21, Compatible Land Use

Airport sponsors must take appropriate action to protect land in the vicinity of airports from incompatible uses.

Grant Assurance 22, Economic Nondiscrimination

Airport sponsors must make the airport equally available to all types of aeronautical activities offering services to the public.

Regarding TTF agreements, this means that airports must develop a schedule of rates and charges that does not unjustly discriminate against on-airport entities by charging lower rates for similar facilities/services located off-airport property.

Grant Assurance 23, Exclusive Rights

Airport sponsors must not allow "exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public."

Grant Assurance 24, Fee and Rental Structure

Airport sponsors must establish rate and fee schedules that make the airport as self-sustaining as possible, "under the circumstances existing at the particular airports, taking into account such factors as the volume of traffic and economy of collection."

Grant Assurance 29, Airport Layout Plan (ALP)

The ALP must be kept up-to-date at all times and minimally depict airport boundaries as well as all existing and proposed future airport facilities, structures, and non-aeronautical-related areas. Any airport that has an outdated ALP may be ineligible to receive AIP funds until the ALP is compliant with Grant Assurance 29.

This Grant Assurance was amended in 2012 to specially require the depiction of, "all proposed and existing access points used to taxi aircraft across the airport's property boundary" in compliance with P.L. 112-95.

Additional information about federal grant assurances including the full text is available online at https://www.faa.gov/airports/aip/grant assurances/.

2022 MnSASP 4



FEDERAL COMMERCIAL TTF POLICIES

Commercial TTF operations occur when an off-airport business enterprise requires the use of on-airport airside facilities to conduct commercial business activities. Examples of such activities could include a fixed base operator (FBO) providing fuel, inspection, maintenance, or storage facilities or a Specialized Aviation Services Provider (SASO) offering aircraft cleaning, painting, or upholstery services. Flight schools, crop dusting outfits, aerial sightseeing, or other aeronautical business may also store aircraft and operate their business adjacent to – but not physically on – airport property.

Based on research conducted for ACRP Report 114, the FAA is strongly opposed to commercial aeronautical TTF activities. Such operations can threaten the viability of other on-airport businesses, particularly when TTF agreements and rates and charges schedules are not carefully crafted to ensure economic parity between on- and off-airport users. However, the FAA recognizes that TTF operations may offer a viable alternative at airports with development constraints unable to otherwise expand.

Thus, while the FAA discourages commercial TTF activities, they are not prohibited. Commercial TTF operators are governed by FAA Order 5190.6B, *Airport Compliance Manual*, and Advisory Circular (AC) 150/5190-7, *Minimum Standards for Commercial Aeronautical Activities*. Both documents specify that airports must be careful to ensure that TTF operations do not threaten the airport's ability to meet its federal obligations now or in the future. AC 150/5190-7 specifically states that airports should:

[Establish] requirements to ensure operating safety and equitable compensation for use of the airport. Special safety and operational requirements should be incorporated into any access agreement to ensure that the TTF access does not complicate the control of vehicular and aircraft traffic or compromise the security of the airfield operations area.¹

To obtain FAA approval for a proposed commercial TTF operation, airport sponsors must depict current and potential future TTF development and access points on their ALP and submit a description of the proposed TTF operations and TTF access agreement to the FAA Regional Office (see page 7 for specific requirements). FAA Order 5190.6B adds that TTF access agreements should specify that TTF operators do not have the right to grant access to the airfield through their property. If the TTF operator decides to sell its property, TTF access privileges do not convey with the sale of the property without the express written consent of the airport sponsor.

FEDERAL RESIDENTIAL TTF POLICIES

The FAA's current position on residential TTF operations is defined by the FAA Modernization and Reform Act of 2012 (P.L. 112-95), Section 136, Agreements Granting TTF Action to General Aviation Airports, and the FAA Reauthorization Act of 2018 (P.L. 115-254). Section 136 of the FAA Modernization and Reform Action of 2012 specifies that a GA airport will not be in violation of its grant assurance or otherwise be deemed noncompliant with any federal obligations solely because it has executed a new residential TTF agreement. However, the airport sponsor must sign an agreement with the property owners "that prescribes the rights, responsibilities, charges, duration, and other terms the airport sponsor determines

¹ AC 150/5190-7, p.7.



are necessary to establish and manage the airport sponsor's relationship with the property owner" (Section 136, Subpart 2a). Under this agreement, the property owner must (Section 136, Subpart 2b):

- Pay access charges comparable to those charged to on-airport tenants and operations making similar use of the airport
- Be responsible for the cost of building and maintaining the infrastructure necessary to provide access to the airport from the adjacent property
- Maintain the property for residential, noncommercial use for the duration of the agreement²
- Prohibit aircraft refueling from occurring on the adjacent property³
- Prohibit access to the airport from other properties through the property of the owner with whom the agreement has been signed⁴

Section 185 of the FAA Reauthorization Act of 2018 exempts certain residential TTF agreements from these terms and conditions if they were signed prior to the FAA Modernization and Reform Act of 2012 and are considered perpetual and cannot be readily changed. Section 185 does not apply if the agreements can be modified.

On July 21, 2021, the FAA published Compliance Guidance Letter (CGL) 2021-03, FAA Review of Existing and Proposed Residential Through-the-Fence Access Agreements. This CGL provides the FAA's current interpretation and guidance regarding existing and proposed new residential TTF agreements based on federal statutes and several associated policy statements published in the Federal Registrar (FR). According to CGL 2021-03, airports with existing residential TTF agreements had to demonstrate compliance with Section 136 of P.L. 112-95 no later than October 1, 2014. GA airports proposing to establish new agreements must also comply with the terms and conditions established by P.L. 112-95, and the FAA will not waive these terms for new agreements. In addition to providing additional clarification regarding the FAA's interpretation of P.L. 112-95, CGL 2021-03 notes the following key points regarding the statute's implementation:

Airports with Existing Residential TTF Access Agreements

- The FAA was required to notify airports regarding the statutory requirements associated with P.L. 112-95 no later than August 20, 2013. (In response, airports were required to demonstrate compliance no later than October 1, 2014.)
- All proposed and existing residential TTF access agreements must be depicted on the ALP. A
 temporary designation through a pen and ink change is acceptable until the ALP is updated via
 the master planning process.
- The FAA will undertake the following procedures to review and accept access plans as submitted by the airport sponsor:

2022 MnSASP 6

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² The FAA interprets this term to specify that commercial aeronautical-related activities are prohibited, even if those activities are not currently offered on-airport property. The FAA will not concern itself with non-aeronautical-related commercial activities.

³ The FAA interprets this term to specify that the commercial sale of aviation fuel is prohibited. The FAA will not concern itself with self-fueling activities that may be permitted by local regulations.

⁴ The FAA interprets this term to specify that access agreement holders are prohibited from allowing unauthorized users from accessing the airport. The FAA encourages airport sponsors to limit the number of access points in a manner that is consistent with good airport planning practices.



- For GA and privately owned Reliever airports, proposed access agreements will be reviewed for compliance with P.L. 112-95 by the Airports District Office (ADO) and Regional Office.
 Access agreements must be approved by the Regional Office.⁵
- For commercial service airports, proposed access agreements will be reviewed for compliance with P.L. 112-95 and sponsor grant assurances by the ADO, Regional Office, and the Airport Compliance Division (ACO-100). Access agreements must be approved by ACO-100. Commercial service airports seeking to renew or extend existing agreements are also required to comply with the FAA's Policy on Existing Through-the-Fence Access to Commercial Service Airports from a Residential Property contained in CGL 2021-03 as Appendix I.^{6,7}
- FAA review and acceptance are valid for a period of 20 years or until a triggering event occurs.

Airports Proposing New Residential Access Agreements

- GA airports proposing a new residential TTF agreement must submit its updated ALP and a copy of the draft access agreement with a copy of the FAA's access agreement review sheet.⁸
 - The FAA strongly encourages airport sponsor to consider how a proposed TTF operation may impact its ability to meet current or potential future grant assurances.
- Commercial service airports and privately owned Reliever airports may not enter into new residential TTF agreements.⁹

In all cases, costs associated with residential TTF operations are ineligible for AIP funding. This includes costs associated with the development and preservation of on-airport infrastructure and facilities used primarily to support residential TTF users. Additionally, pen and ink ALP revisions to depict existing TTF access points and costs associated with the development of access agreements are ineligible for AIP funding. ALP updates proposing new access are allowable costs for AIP funding only if they are incidental costs associated with an AIP-funded master plan and ALP update. The FAA will not pay to relocate, soundproof, or mitigate noise at any homes with residential TTF access. Airports that are not compliant with P.L. 112-95 are ineligible to receive federal AIP funding.

⁵ See Appendix C of CGL 2021-03 for the applicable FAA Access Agreement Review Sheet and Appendix D for the checklist used by the FAA to evaluate compliance with P.L. 112-95.

⁶ See Appendix E of CGL 2021-03 for the applicable FAA Access Agreement Review Sheet and Appendix F for the checklist used by the FAA to review existing documentation. The FAA's review of existing residential TTF operations at commercial service airports considers compliance with P.L. 112-95; adequacy of submitted airport and access drawing, summary table, and narrative; airport sponsor's level of control of airport land and access points; safety of airport operations; rates and charges; protection of airspace; and airport compatible land use.

⁷ See Appendix J of CGL 2021-03 for the FAA's checklist for reviewing a commercial service airport's application for renewing or extending existing access agreements.

⁸ See Appendix G of CGL 2021-03 for required documentation from GA airports proposing new access and Appendix H for the FAA's checklist for reviewing submitted documentation.

⁹ There are no privately owned Reliever airports in Minnesota.



SUMMARY OF FAA POSITION ON TTF OPERATIONS

The FAA maintains stringent requirements associated with existing and proposed new TTF operations. In most cases, the FAA discourages such agreements – citing serious concerns about the agency's and local sponsors' abilities to maintain the highest level of control over airport safety, security, operations, and efficiency. Additionally, the FAA has the obligation to protect billions of dollars in federal investment at airports. These investments may be threatened by the interests of current or future inhabitants of homes or businesses located adjacent to airport property.

To mitigate against such concerns, federal statutes and associated FAA interpretations and enforcement activities are designed to provide the highest level of protection for airport sponsors and on-airport operators, tenants, and users. Federal grant assurances are the primary mechanism for the FAA to ensure that AIP-eligible airports follow federal statutes, regulations, and guidelines. Airports that do not comply with their grant assurances risk eligibility to receive federal entitlement and discretionary grants and may open themselves to federal administrative and judicial penalties. Airport sponsors seeking to establish commercial or residential TTF agreements should coordinate with their FAA ADO early and often to ensure all federal mandates and best practices are met to protect the airport and preserve its ability to receive federal investment for preservation and improvement needs.

AIRCRAFT OWNERS AND PILOTS ASSOCIATION

Author: Bill Dunn

Summary: In response to member interest in residential TTF operations at publicly owned, public-use airports, the Aircraft Owners and Pilots Association (AOPA) published a policy whitepaper entitled, "Airport 'Through the Fence' Operations and Residential Airparks at Publicly Funded Airports" (2008).¹⁰ While the whitepaper was published over a decade ago, the issues addressed and discussions regarding the issues remain largely the same as today. Author Bill Dunn notes,

Association members are squarely on both sides of this issue. Some favor TTF access to the airport (most of those are members who own off-airport property or existing structures off-airport) while members who are located on the airport paying the airport's current rates and charges, do not necessarily favor off-airport access to the airport since they believe the TTF operator is not adequately funding the airport; especially in cases with the TTF access is legally deeded with little or no access fee paid to the airport.¹¹

The AOPA whitepaper first presents information regarding the statutory and regulatory context of residential through the fence operations at airports eligible to receive AIP funding. The whitepaper than notes that AOPA strongly encourages the FAA and airport sponsors to work together to resolve TTF issues on a case-by-case basis – recognizing that each airport and situation is unique. As the whitepaper concisely states, "Each identified TTF issue should be negotiated and resolved on an airport-by-airport

¹⁰ Dunn, Bill (2008) "Airport 'Through the Fence' Operations and Residential Airparks at Publicly Funded Airports." AOPA ePilot Volume 10: Issue 10. Available online at https://www.aopa.org/-/media/Files/AOPA/Home/News/All-News/2008/AOPA-ePilot-Volume-10-Issue-9/airportOps0712.pdf (accessed November 2021) p. 1.

¹¹ Dunn, Bill (2008) p. 2.



basis. One size does not fit all." Based on this principal, AOPA provides several strategies that can be employed by airports to resolve or mitigate FAA concerns. These strategies are summarized below:

- Discontinue airport eligibility to receive federal AIP airport development funding [in order to allow for TTF operations]
- Establish economic uniformity between TTF and on-airport users
- Modify existing access agreements and/or deeded access easements to bring parity between onairport and TTF operators, including airport procedures, rules, policies, minimum standards, and access fees. Additionally, AOPA recommends that residential property sales should include avigation easements recorded on property deeds named in favor of the airport¹²
- Avoid any expansion of TTF access and facilities to not cause new issues to arise for existing operators and the airport
- Remove any obstacles resulting a Part 77 obstruction

AOPA also states that the FAA could seek a legislative change to Grant Assurance 21, Compatible Land Use. However, this would likely threaten the agency's ability to object to residential developments in the vicinity of airports without airport access (i.e., existing or future developments that are near or adjacent to airport property but not seeking TTF access). Additionally, some states and jurisdictions have local statutes and zoning ordinances that prohibit or discourage residential development in the vicinity of airports. In these cases, any revisions to Grant Assurance 21 would not alleviate the fundamental concern – that is, residential TTF operations are in inherent conflict with federal, state, and/or local statutes, regulations, and ordinances designed to protect airport land use compatibility.

AVIATION BUSINESS JOURNAL

Author: Shelley A. Ewalt

Summary: Published in the Aviation Business Journal, a 2019 article entitled, "Through-the-Fence Maintenance: Which Side of the Fence Are You On?" discusses the differences between, and specific issues associated with, "true" TTF operators and independent contractors. As discussed throughout this attachment, TTF operators refer to easements or similar agreements that allow aircraft to taxi between land adjacent to an airport and airport property. Independent contractors are businesses that engage in commercial aeronautical activities at a specific airport without a physical base or operating permit to conduct business at that airport. For example, independent contractors could include an airframe and powerplant mechanic, flight instructor, or mobile repair unit.

Airports that host TTF operators and/or independent contractors (either knowingly or unknowingly) are responsible for meeting federal grant assurances. Author Shelley Ewalt highlights the pertinence of Grant Assurance 23, Exclusive Rights, and Grant Assurance 22, Economic Nondiscrimination. She also observes that most airports fail to implement well-drafted minimum standards that "serve to protect users from unauthorized products and services, encourage the availability of services for all airport users, promote

¹² Dunn, Bill (2008) p. 5.

2022 MnSASP 9



the utilization of airport property, and ensure efficient operations."¹³ To comply with FAA requirements, minimum standards must be reasonable and applied fairly to all on- and off-airport service providers. Finally, airports must consider requirements specific to their airport including insurance, indemnification, fees, and security.

OTHER STATE GUIDANCE

Federal requirements associated with TTF operations are limited to federally-obligated airports. In limited cases, individual state DOT and local governments also publish guidance, ordinances, or mandates applicable to airports and/or TTF operators within their jurisdictions. While a comprehensive review of all state and local statutes and other policy-related documents potentially affecting TTF operations was not included in the scope of the MnSASP, only Oregon and Idaho were identified to have specific TTF guidance for airport sponsors potentially applicable to the topics addressed by this paper. The Michigan Department of Transportation (MDOT) effectively adopts the federal policy on TTF operations at airports within its state system. The agency's website notes, 15

[TTF] agreements are discouraged by MDOT and FAA as they can create a problem controlling aviation activities on or near the airport. However, FAA recognizes the advantages to offering a variety of proposals to prospective tenants and therefore provides guidance in FAA Order 5190.6B.

As such, the following subsections present the Oregon and Idaho policies and programs associated with TTF operations.

OREGON

In response to a Senate Bill passed in 2005 and revised in 2009, the Oregon Department of Aviation (ODA) was tasked with establishing a pilot program at up to six rural airports "designed to promote economic development by creating family wage jobs, by increasing local tax bases, and by increasing financial support for rural airports." This statute was codified in Oregon Administrative Rules (OARs) Chapter 738-014-0010 through -0060. To

Airports proposing TTF operations under this program are required to develop a "TTF Operating Plan" to accompany their ALP that includes the following elements:¹⁸

• Identify current operating costs and revenues for the pilot site airport. Describe how the TTF operations will provide financial support to the pilot sites in compliance with FAA regulations.

¹³ Ewalt, Shelley A (Spring 2009). "Through-the-Fence Maintenance: Which Side of the Fence Are You On?" Business Aviation Journal, Q1. Available online at https://www.mklawnyc.com/sites/default/files/Through%20the%20Fence%20Maintenance%20by %20Shelley%20Ewalt%201st%20Qtr%20Airport%20Business%20Journal-1.pdf (accessed November 2021).

¹⁴ ACRP Report 114 (2014) similarly noted that few states and local governments publish statutes or rules associated with TTF operations.

¹⁵ MDOT Aeronautics (2021). "Airport Property Land Use: Through the Fence." Available online at https://www.michigan.gov/aero/0,4533,7-352-79281_84369---,00.html (accessed November 2021). ¹⁶ Oregon Revised Statutes (ORS) 836.640 and 836.642.

¹⁷ OAR Volume 60, No. 11, November 1, 2021. Note the ORS states up to six airports for inclusion in the pilot program; however, this was amended prior to inclusion in the OAR to encompass three airports.

¹⁸ OAR 738-014-0050



- Require each TTF operation to submit a facility site plan for its own property to the airport sponsor. The TTF operation, in cooperation with the airport sponsor, then may proceed to seek any necessary land use approval from the appropriate local government. Any such approval must be made in compliance with statewide land use planning requirements. If the facility site plan is approved by the appropriate local government in compliance with applicable statewide land use planning requirements, the facility site plan shall be incorporated into the local government's airport plan and airport boundary.
- Require that each TTF facility only be permitted to operate through a written contract with the airport sponsor that includes specific provisions indicated within the ORS

According to ODA's *Fiscal Year 2018 Annual Report*, the state hosts eight "TTF airports" (more recent data are unavailable; it is also unknown if six of these eight airports were part of the original six pilot program). The Department's Commercial Leasing Policy also states that ODA must have a written agreement with commercial operators located at any of the 28 GA airports owned and operated by ODA. Aircraft owners/operators with aircraft hangered adjacent to these state-owned and -operated airports must submit an "Application for Through-the-Fence Airport Access."

IDAHO

The Idaho Administrative Code Title 39 – Idaho Transportation Department (ITD) establishes the rules governing TTF operations at state-owned airports. According to Idaho Administrative Code (IDAPA) 39.04.06, any entity wishing to establish a private or commercial aviation facility adjacent to a state-owned airport must make a formal application to the Idaho Division of Aeronautics (ITD Aeronautics). At a minimum, this application must include:

- Sketch showing the location of the proposed facilities
- Description, sketch, manufacturer's brochure, etc. of the proposed facilities
- Description of the proposed operation

Upon review and approval by the State Aeronautics Board, ITD Aeronautics negotiates an TTF operational agreement with the applicant. At a minimum, this agreement must include:

- Lease fee
- Term
- Operational limits as appropriate

The IDAPA emphasizes that aviation safety is paramount during the evaluation of any TTF applications. ITD Aeronautics carefully considers the number of access points proposed as part of the development plan to ensure the highest standard of safety is maintained.

¹⁹ IDAPA 39.04.01, Rules Governing Aeronautics and Aviation, Subchapter C – Rules Governing Commercial and TTF Operations and Hangar Construction at State Airports



PROS AND CONS OF TTF OPERATIONS

TTF operations can provide new opportunities for airports in terms of meeting aviation demands and generating revenue for the airport, along with enhanced economic impact in the surrounding community. At the same time, such arrangements can present challenges associated with impacts to airports' efficiency, safety, and security. Additionally, while federal grant assurances are not directly applicable to the 37 non-NPIAS airports in Minnesota, many of the topics they address – such as land use compatibility, economic nondiscrimination, and ALPs – are considered best practices for all facilities, regardless of federal obligation.

Table 1 summarizes some of the most common pros and cons associated with residential and commercial TTF activities at airports. Airport sponsors are strongly encouraged to carefully weigh these considerations to determine if allowing a TTF operation is the best choice for their airport. Such assessments must carefully evaluate airports' current needs while considering how a TTF operation may impact the airport's ongoing ability to develop in response to future aviation demands. Once established, TTF agreements are difficult and complex to discontinue – meaning any agreements must be cautiously crafted and prudently signed in full awareness of the potential implications for the airports through the term of the contract.

Table 1. Pros and Cons Associated with TTF Operations

Pros

- ✓ Commercial aviation activities often create sustainable and high-paying jobs. Wages in aviation/aeronautics-related industries are typically significantly higher than the average wage across all industries. Additional jobs increase the economic impact of the airport, which may ultimately lead to greater community support and higher local investment into the airport.
- ✓ Commercial and residential TTF activities can generate additional tax revenues for local and county governments.
- ✓ For airports with limited airport property available for development (due to space availability or environmental constraints), TTF operations may be the only feasible means to expand to meet aeronautical-related demands including but not limited to hangar storage.
- ✓ Residential TTF communities are typically inhabited by aviation enthusiasts who can serve as "champions" for the airport, promote the aviation industry, and facilitate additional local investment for preservation and expansion projects.
- ✓ Multiple aviation-related businesses (such as FBOs and SASOs) can increase competition for various aviation-related services, resulting in lower prices and higher levels of service for customers.
- ✓ Residential and commercial operators generally bring additional based aircraft to an airport to mitigate concerns about falling below the 10 based aircraft minima associated with inclusion in the NPIAS.
- ✓ Residential TTF developments can bring new life and energy to rural airports.
- ✓ TTF operators can attract new based and transient aircraft, which may support other types of airport revenue generation such as fuel sales, aircraft landing/tie-down fees, and sales commissions.
- ✓ TTF operations that attract transient users may generate additional economic activity in the local community due to visitor spending in hospitality-related industries such as restaurants, retail, and lodging.



Cons

- Residential TTF activities can cause serious land use compatibility conflicts, as residential developments are deemed inherently incompatible with airports. These types of developments open the airport to safety, noise, emission, and other nuisance complaints which could ultimately lead to flight curfews and other mitigation measures that limit aeronautical activities.
- **×** Development can cause obstruction to air navigation, which may cause safety hazards and/or result in higher approach minimums.
- Fueling, deicing, and other routine maintenance activities may cause environmental issues that can be more difficult to control when conducted off-airport property.
- TTF operators may result in conflicts with conventional on-airport users due to economic discrimination, competition for customers, increased aircraft operations, and other issues. In some cases, existing on-airport operators, tenants, and other users may decide to relocate elsewhere or deter potential users from conducting operations at that facility.
- ➤ Self-fueling activities on property adjacent to the airport can pose fire risks to people and property onand off-airport.
- Enforcement of TTF agreements is difficult for most airport sponsors, causing a host of issues including but not limited to inadvertent or unknown issues of grant noncompliance.
- For federally-obligated airports, the risk of losing AIP funding due to noncompliance with grant assurances can outweigh economic and social benefits potentially associated with TTF operations.
- **x** TTF access points increase the potential of unauthorized personnel accessing the airfield, causing security concerns for authorized airport users.
- Once established, TTF operations can be difficult, expensive, and timely to prohibit even if an operator fails to comply with the terms of a signed TTF agreement.
- Airport sponsors may become liable to issues associated with insurance and indemnification should an incident occur even with an established TTF agreement.

Sources: Kimley-Horn, 2021; ACRP Report 114, 2014

Existing TTF Operations in Minnesota

To guide the development of recommendations to enhance MnDOT Aeronautics' position on TTF operations, the 2022 MnSASP team collected data about existing residential and commercial TTF operations in Minnesota. The MnSASP Airport Inventory Form asked all 133 airports to indicate if their airport hosted any TTF operator and, if yes, to specify if operations were commercial or residential. Six Minnesota airports reported hosting any TTF operations during the data collection effort, including five Intermediate airports and one Landing Strip Turf facility. MnDOT Aeronautics also identified Litchfield Municipal Airport (LJF) as having commercial TTF operations during the planning process.

Although not reported during the data collection process, ACRP Report 114 (2014) identified three Minnesota state system airports with residential TTF operations: Glenwood Municipal Airport (GHW), Paynesville Municipal Airport (PEX), and Worthington Municipal Airport (OTG). Of these airports, only Glenwood Municipal Airport appears to currently have a residential TTF operation located north of airport property (based on a visual review using Google Earth).

Figure 1 presents the findings of these research efforts. In total, this represents 5.2 percent of the total Minnesota state aviation system. **Table 2** lists the Minnesota airports with TTF operations, provides



details regarding airport-reported operators, and indicates if TTF operations are depicted on the ALP onfile with MnDOT Aeronautics (as available).

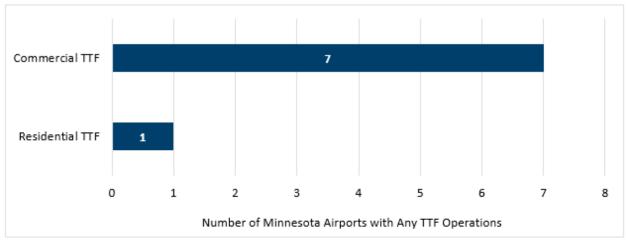


Figure 1. Number of Minnesota Airports Supporting TTF Operations by Type¹

Note: (1) One airport reported a TTF operation during data collection. However, the ALP appears to depict this operator on-airport property. As such, Minnesota may host only five TTF commercial operators. Sources: MnSASP Airport Inventory Form, 2021; ACRP Report 114, 2014; MnDOT Aeronautics, 2022



Table 2. Existing TTF Operations in Minnesota

Associated City	Airport Name	FAA ID	State Classification	TTF Details	Depicted on ALP?
Backus	Backus Municipal Airport	7Y3	Landing Strip Turf	There are two hangar buildings located adjacent to the airfield and an unoccupied house. While the hangars are occupied by airworthy aircraft that regularly use the air strip, the airport does not collect any access fees. The airport manager is currently working to establish a TTF agreement with associated TTF fees.	ALP not provided (N/P)
Benson	Benson Municipal Airport	BBB	Intermediate Large	One aerial sprayer operates from a hangar located adjacent to the airfield. A TTF agreement is not in place.	No
Glenwood	Glenwood Municipal Airport	GHW	Intermediate Large	Residential TTF operator located to the north of the airfield. The airport appears to be accessible via one taxiway that crosses the main arterial roadway north of airport property.	Yes – Visually depicted on satellite imagery but the development nor any controlled access points are depicted.
Hawley	Hawley Municipal Airport	04Y	Intermediate Small	The Rapat Corporation owns three hangars adjacent to the airfield administered via a perpetual lease established in 1973. No fees are assessed for this agreement. Multiple aircraft are housed in these storage facilities although the exact number is unknown.	Yes
Litchfield	Litchfield Municipal Airport	LJF	Intermediate Large	The airport hosts commercial and noncommercial hangars to the west of the runway. Existing and ultimate access points are depicted on the ALP (2015).	Yes
Princeton	Princeton Municipal Airport	PNM	Intermediate Large	Kruse Aviation is a maintenance, repair, and overhaul (MRO) shop. Flight Expo, Inc. is an affiliated enterprise that builds aircraft with local youth. It is unknown whether fees are assessed for this agreement. Issues have been reported regarding who is responsible for maintaining a private taxiway used to access the airfield.	Yes



Associated	Airport Name	FAA	State	TTF Details	Depicted on ALP?
City		ID	Classification		
Roseau	Roseau Municipal	ROX	Intermediate	A commercial agricultural spraying operation was reported as	Yes ¹
	Airport (Rudy		Large	having a TTF agreement with the Roseau Municipal Airport.	
	Billberg Field)			This operation has a signed access agreement with the city	
				and leases a 7,500-square-foot hangar for \$100 per year.	
South St.	South St. Paul	SGS	Intermediate	Wipaire, Inc., an aircraft supply store and FBO, is located on	No
Paul	Municipal Airport		Large	the northeast portion of Runway 16/34. While the facility is	
				depicted on the ALP, it is not indicated as TTF nor are access	
				points shown.	

Note: (1) Aerial applicator and private taxiway depicted on ALP. However, this operator appears to be within the existing airport property line.

Sources: MnSASP Airport Inventory Form, 2021; ACRP Report 114, 2014; Google Earth, 2021



MnDOT Aeronautics TTF Guidance to Airports

Residential, commercial, and noncommercial aeronautical TTF operations can offer new energy and vitality to struggling airports, as well as an economic boost to the communities in which they are located. Ocmmercial or noncommercial operations involved in aeronautical activities may support highpaying jobs in the aviation industry and provide aviation-related services to based and transient pilots unavailable on-airport property due to space constraints, environmental issues, and variety of other reasons. TTF operations can generate additional taxes for municipalities and enhance an airport's ability to be financially self-sufficient while providing a stable customer base for on-airport tenants.

While there are numerous benefits potentially associated with TTF operations, these arrangements can result in a host of major challenges for airport sponsors, on-airport tenants, and other authorized airport users. In addition to potential issues of safety and security, airports may inadvertently limit their future development potential and access to federal and state investment. Airports may also place themselves in conflict with existing tenants in cases of economic discrimination, resulting to costly, time-consuming, and contentious court battles. Due to the number and scope of potential negative impacts to airports and aircraft operations, airports must enter into TTF arrangements with extreme caution and only after all other development alternatives have been explored. Such arrangements must be pre-approved by MnDOT Aeronautics or the FAA (as applicable), and contractual terms and conditions must address specific conditions established by the department.

Airport sponsors in violation of MnDOT Aeronautics' TTF position and associated guidance may lose eligibility to receive funding via the State Airports Fund until compliance is reestablished. Airport sponsors ineligible for state funding but hold an airport license issued by MnDOT Aeronautics are strongly encouraged to follow the recommendations provided henceforth. However, compliance is not a condition of holding a public airport license as long as all other licensure requirements are met in accordance with Minnesota Administrative Rules Part 8800.1400 through 8800.2300.

MINNESOTA STATUTES AND RULES POTENTIALLY IMPACTED BY TTF OPERATIONS

An overview of key airport-related Minnesota Statutes and Administrative Rules associated with TTF operations are provided below. Note it is ultimately the responsibility of the airport sponsor to ensure compliance will all local, state, and federal requirements; the information here is for guidance only. All state system airports must meet these legal requirements in addition to guidelines established by the MnDOT TTF Position Statement that follows.

²⁰ It is assumed that all proposed commercial TTF activities are aeronautical in nature. Nonaeronautical commercial entities shall not be granted TTF access to any state system airport. A nonaeronautical commercial entity may be co-located with a commercial aeronautical entity; however, TTF access shall only be granted to the aeronautical commercial entity. For example, a commercial warehouse may be co-located with an aircraft paint shop with TTF access. Employees, customers, and other users associated with the commercial warehouse are not considered authorized airport users and may not access the airport via the TTF access point. The presence of the commercial warehouse, however, will not preclude the aircraft paint shop with gaining TTF access to airport facilities.



AIRPORT COMPATIBLE LAND USE ZONING

TTF operations must be established in a manner that promote the safety of aircraft in the sky and people and property on the ground while mitigating potential issues of noise, risks to human health, and other nuisance concerns. Residential TTF activities inherently conflict with airport compatible land use guidelines, and the federal government has made significant investments in sound-proofing homes, relocating residents, and otherwise deconflicting airports with incompatible uses in their vicinities.

This is a particularly important issue in Minnesota, as the state has established airport compatible zoning requirements as a condition of holding a public airport license. As prescribed in Minnesota Statutes Chapter 360.061 through 360.074 (airport zoning) and implemented in Minnesota Administrative Rules Part 8800.2400 (airport zoning standards), Minnesota has three minimum safety zones (A, B, and C). These zones are intended to restrict land uses that may be hazardous to aircraft using the airport and maintain the highest level of safety for people and property on the ground. Zones A, B, and C are depicted in Figure 2. Commercial and residential TTF operations are expressly prohibited in Zones A and B. Aircraft and people and property below them are most at-risk should an incident occur due to the height at which aircraft operate in these areas. Additionally, noise and other nuisance issues are most acute in Zones A and B. For these and other reasons, TTF operations are only permitted in Zone C with the following prohibitions:

- Uses that cause interference with:
 - Radio or electronic facilities on the airport
 - Radio or electronic communications between the airport and aircraft
- Lighting that:
 - Makes it difficult for pilots to distinguish between airport lights and other lights
 - Results in glare in pilot's eyes
 - Impairs visibility in the airport vicinity

Simple Example of Airport Zoning

B Zone A Zone A B

Zone C

Figure 2. MnDOT Safety Zones A, B, and C

Source: MnDOT Aeronautics, 2021

All other uses are acceptable in Zone C if structures do not exceed height restrictions. Additional implementing guidelines are established in Minnesota Administrative Rules Part 8800.2400 (airport zoning standards). Provisions should also be established in TTF access agreements or other compliance mechanism that hold the airport harmless should a safety or nuisance issue arise now or in the future due to an issue of airport land use incompatibility.

2022 MnSASP - 18



MNDOT CLEAR ZONES

Clear zones are trapezoidal shapes off each runway end. The specific dimensions are based on the runway category and approach types, as depicted in **Figure 3**. In accordance with the MnDOT Clear Zone Guidance Statement (2022), airport sponsor must own 100 percent of clear zones off all runway ends in fee simple or develop a Clear Zone Acquisition Plan (CZAP) approved by the Commissioner of Transportation. In no cases shall TTF operations be permitted within clear zones.

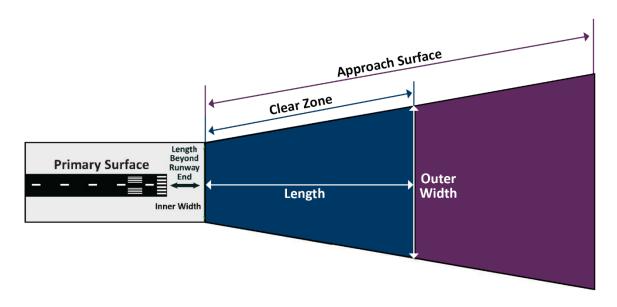


Figure 3. MnDOT Clear Zone Example

Sources: Kimley-Horn, 2022; MnDOT Aeronautics, 2022

AIRPORT LICENSURE REQUIREMENTS

All airports in Minnesota must obtain the appropriate airport license to operate. The licensure requirements established for a public-use airport are provided in the Minnesota Administrative Rules Parts 8800.1400 through 8800.1600. These requirements do not change for airports with a TTF property, and TTF operations shall be held to the same standards as property owned by the airport sponsor (as applicable).

MNDOT POSITION STATEMENT

This Position Statement defines MnDOT Aeronautics' official position on residential, commercial, and noncommercial aeronautical TTF operations at publicly owned, public-use airports eligible to receive state investment via the State Airports Fund.²¹ The purpose of this guidance is to define when each type (i.e., commercial, noncommercial aeronautical, residential) of TTF access is permitted at state system airports, establish MnDOT's responsibilities for reviewing and/or approving proposed/existing developments, and

²¹ It is assumed that all proposed commercial TTF activities are aeronautical in nature.



provide guidance to MnDOT personnel when conducting review and/or approval processes (as applicable).

As its guiding principles, MnDOT Aeronautics has established this Position Statement to ensure all TTF operations in Minnesota:

- Comply with all applicable Minnesota State Statutes and Administrative Rules
- Provide a benefit to civil aviation
- Maintain or enhance the long-term viability, safety, security, efficiency, utilization, and economic well-being of the airport and airport sponsor

MnDOT Aeronautics has adopted specific guidance for (1) federally-obligated airports, and (2) facilities only eligible to receive state investment (also referred to as "state-only airports"), each of which is presented in the sections that follow. MnDOT Aeronautics shall limit its approval to proposed new developments; however, existing developments must still comply with the **MnDOT TTF Standards** (see page 34) for the airport to remain eligible to receive state funding. Airports with existing TTF operations must establish a compliant TTF access agreement as soon as feasible, either immediately if no TTF access agreement exists or upon contract renegotiation at airports with executed TTF access agreements in-place.

FEDERALLY-OBLIGATED AIRPORTS

MnDOT Aeronautics shall limit its review of proposed new residential, commercial, and noncommercial aeronautical TTF access agreements to non-federally-obligated airports (airports may be federally-obligated due active grant obligations or surplus/non-surplus property conveyances). This is because the FAA maintains stringent policies associated with existing and proposed new TTF access agreements at federally-obligated airports developed in accordance with applicable federal laws and regulations. As such, MnDOT Aeronautics will not issue any recommendation that differs from the FAA as to not place airports potentially in-conflict with existing grant assurances and/or at-risk for losing future federal investment.

While MnDOT Aeronautics will support the FAA's decision to permit or deny TTF access at federally-obligated airports, access agreements, rates and charges, and other provisions must meet or exceed the state-specific standards established in the **MnDOT TTF Standards** (see page 34). Additionally, airports must comply with all applicable state and local laws, regulations, and ordinances including but not limited to:

- Minnesota Statutes Chapter 360.061 through 360.074 (airport zoning)
- Minnesota Administrative Rules Parts 8800.1400 through 8800.2300 (airport licensing)
- Minnesota Administrative Rules Parts 8800.2400 (airport zoning standards)

Commercial TTF operators providing any services on-airport property must hold applicable licenses as defined in Minnesota Administrative Rules Parts 8800.3100 through 8800.3950.

A summary of federal statutes and the FAA's implementing regulations and policies associated with TTF operations follows below.



RESIDENTIAL TTF

The FAA strongly discourages the development of residential TTF operations at federally-obligated airports due to potential conflicts with federal grant assurances as defined in 85 Federal Registrar 12048 (current as of December 2021).²² Such conflicts may hinder an airport's ability to receive federal investment via the AIP, either now or in the future.

- General Aviation Airports
 - While discouraged, the FAA permits residential TTF development at GA airports under of Section 136 of the FAA Modernization and Reform Action of 2012 (P.L. 112-95). Agreements must comply with specific terms and conditions contained in the law.
 - Section 185 of the FAA Reauthorization Act of 2018 (P.L. 115-254) grandfathers in certain residential TTF operations established prior to 2012 that do not comply with Section 136 that are considered perpetual and cannot readily be changed. Section 185 does not apply if an existing agreement can be modified.
 - New and existing residential TTF agreements at GA airports must be reviewed by the applicable FAA ADO and Regional Office.
- Commercial Service Airports
 - New residential TTF agreements are prohibited at commercial service airports in accordance with Grant Assurance 5(g).
 - Existing TTF agreements at commercial service airports may be permitted if grandfathered under Section 185 of P.L. 115-254. Access plans must address the terms and conditions contained in P.L. 112-95 and be consistent with sponsor assurances. Existing TTF agreements must be reviewed by the applicable FAA ADO, Regional Office, and ACO-100. Section 185 does not apply if an existing agreement can be modified.

COMMERCIAL AND NONCOMMERCIAL AERONAUTICAL TTF

Commercial and noncommercial aeronautical TTF access agreements are permitted at GA and commercial service airports. Such agreements must comply with all applicable provisions of FAA Order 5190.6B, Airport Compliance Manual, and AC 150/5190-7, Minimum Standards for Commercial Aeronautical Activities.

STATE-ONLY AIRPORTS

State-only airports represent those facilitates that are not deemed significant to the National Airspace System (NAS) but can play a valuable role in their local communities, regions, and statewide. State-only airports in Minnesota exclusively support GA activities, and many are in the state's most rural areas. Because TTF operations can provide a valuable economic opportunity for airports and the communities in which they are located, MnDOT Aeronautics permits TTF access agreements after undergoing stringent review processes. The review process will be conducted with the highest standard of care due to the

²² More information about grant assurances is available at https://www.faa.gov/airports/aip/grant_assurances/ (accessed December 2021).



inherent risks to the airport sponsor, existing or future on-airport tenants, and the surrounding population.

MnDOT Aeronautics shall follow the detailed process described in **Process for Reviewing Proposed TTF**Operations (below) to review proposed TTF developments at state-only airports. Access agreements must address the provisions established in the **MnDOT TTF Standards** (see page 34). Airports with TTF operations in violation of these standards may lose eligibility to receive state investment through the State Airports Fund. Violations may occur without the airport sponsor's knowledge or awareness; however, this does not eliminate nor negate responsibility. The airport sponsor retains full responsibility for enforcing the terms and conditions of signed TTF access agreements to maintain eligibility to receive state investment.

PROCESS FOR REVIEWING PROPOSED TTF OPERATIONS

MnDOT Aeronautics will work closely with airport sponsors to ensure proposed residential and commercial TTF operations are in the best interest of their airport; existing and potential future airport tenants, operators, and users; and the air traveling public. MnDOT Aeronautics will maintain focused attention to support the long-term viability of the airport throughout the review and approval processes.

Receiving final MnDOT Aeronautics approval for the development of a TTF operation is a multistage process. In the first step, airport sponsors evaluate potential alternative development options. Airport sponsors then development an Assessment Report, which documents compliance with all state and local laws and broadly collects the information needed to make an informed decision regarding permitting or restricting TTF operations. If MnDOT Aeronautics issues an initial recommendation of approval based on the information provided in the Assessment Report, the airport sponsor and TTF operator develop a TTF access agreement agreeable to all parties. The TTF access agreement is presented to MnDOT Aeronautics for comments and to ensure the agreement minimally adheres to the MnDOT TTF Standards. However, MnDOT Aeronautics is not responsible for approving the specific agreement. The TTF access agreement is a legal contract between the airport sponsor and TTF entity that should:

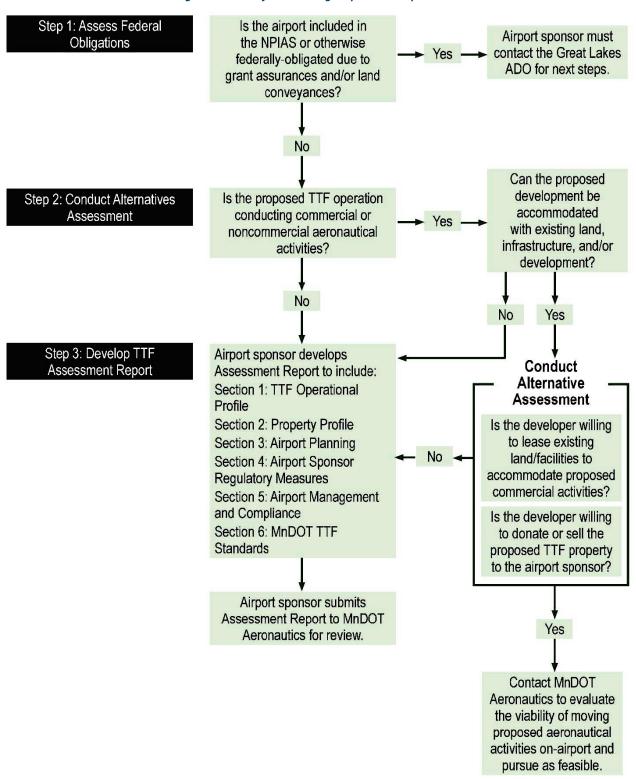
- Comply with all state and federal laws
- Clearly outlines the responsibilities, rights, and obligations of all parties
- Establish an equitable schedule of rates and charges
- Otherwise protect the airport sponsor and on-airport operators, tenants, and other users

Because a TTF access agreement should specifically reflect the situation at-hand, the airport sponsor is ultimately responsible for its contents, execution, and enforcement through the term of the agreement. Each of these steps is discussed in detail in this section, with the overall decision-making process depicted in **Figure 4**. Airport sponsors are strongly encouraged to review the guidance provided in ACRP Report 114: *Guidebook for Through-the-Fence Operations*. Chapter 5: Assessing TTF Operations provides details about how to identify the advantages and disadvantages of TTF access agreements, best practices associated with the assessment processes, and detailed worksheets including a comprehensive list of data that may be valuable in assessing existing or new TTF operations.

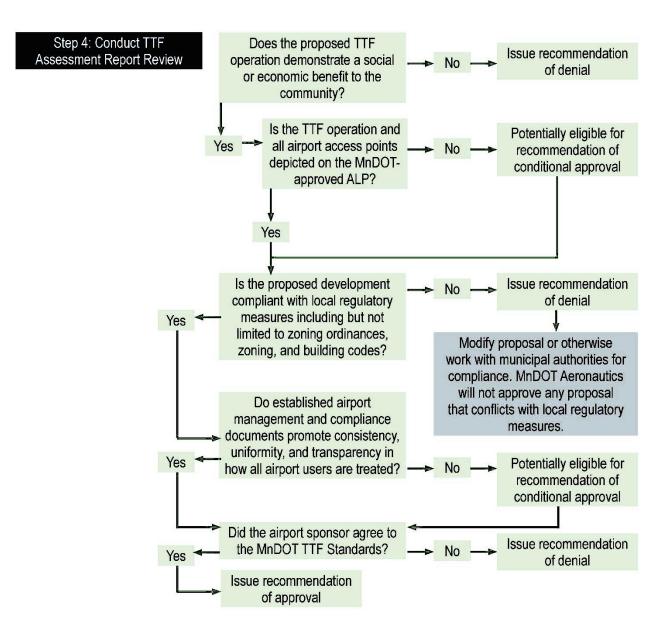
2022 MnSASP = 22



Figure 4. Process for Reviewing Proposed TTF Operations









Step 5: Develop TTF
Access Agreement

Airport sponsor develops TTF Access Agreement in consideration of airport- and community-specific needs and MnDOT TTF Standards

Submit to MnDOT Aeronautics for comments

MnDOT Aeronautics submit comments back within 30 calendar days

Step 6: Execute TTF Agreement and Submit Final Documentation

Airport sponsor presents draft TTF Access Agreement to the TTF entity and may execute the contract upon mutual acceptance by both parties

Airport sponsor must submit draft with redline changes and final TTF Access Agreement to MnDOT Aeronautics with all final documentation.

recommendation of conditional approval prior to executing a final TTF Access Agreement with a TTF entity. The ALP must be updated and submitted to MnDOT Aeronautics for approval prior to execution of the TTF Access Agreement. A pen and ink change is acceptable until a full ALP update is completed.

Airport sponsor must address

any deficiencies received with a

Source: Kimley-Horn, 2021

2022 MnSASP _______ 25



Step 1: Assess Federal Obligations

As discussed in the MnDOT Position Statement, MnDOT Aeronautics is only responsible for conducting a comprehensive review and approval of TTF operations at state-only airports. Federally-obligated airports (due to active grant obligations or surplus/non-surplus property conveyances) are required to follow federal statutes and implementing regulations. As such, these airports should coordinate with the FAA Great Lakes Regional Office to evaluate the potential for developing TTF access agreements. MnDOT Aeronautics will permit any proposed development in accordance with the FAA's recommendations (i.e., approval or denial). Federally-obligated airports must meet or exceed all state and local laws and regulations as well as the minimum requirements established by the MnDOT TTF Standards to maintain eligibility for state investment. An overview of FAA compliance procedures is provided in **Federally-obligated Airports** starting on 20.

Step 2: Conduct Alternatives Assessment (Commercial and Noncommercial Aeronautical TTF Only)

Before evaluating the feasibility and efficacy of developing a commercial or noncommercial aeronautical TTF operation at a specific airport, airports sponsors should work closely with the proposed developer to determine if such operations would be better suited on-airport property. By promoting on-airport aeronautical development, airport sponsors mitigate some risks in terms of conflicts with existing or future operators, tenants, and other users; may allow for greater control over on-airport activities and airport access; and may maintain greater flexibility over future airport development. ACRP Report 114 recommends carefully considering the following development alternatives (p. 64):

- Assess existing on-airport land, infrastructure, and improvements to identify if the proposed development could be accommodated using existing facilities. If yes, the airport sponsor should work with the proposed developer to understand if they would be willing to relocate all or some of the development on-airport.
- Assess the ability of the airport sponsor to acquire the proposed TTF property and effectively "move the fence." Note any purchases would likely require state support via the State Airports Fund and should be closely coordinated with MnDOT Aeronautics.

If neither of these alternative scenarios are viable or if the airport sponsor or developer are unwilling to consider on-airport activities, proceed to Step 3.

Step 3: Develop TTF Assessment Report

The TTF Assessment Report is a comprehensive document that provides airport sponsors and MnDOT Aeronautics with the information necessary to make an informed decision regarding a proposed commercial or residential TTF operation. The airport sponsor is required to develop the TTF Assessment Report in full, which is then transmitted to MnDOT Aeronautics for review. The TTF Assessment Report cannot be funded by state dollars, and its development if the full responsibility of the airport sponsor. The TTF Assessment Report must provide the following data in the order presented.



Section 1: TTF Operation Profile

Section 1 of the TTF Assessment Report provides a summary of the basic characteristics of the proposed TTF entity and operation by completing the following table. Airports may provide additional narrative regarding why the proposed operation provides a net positive benefit to the airport and community and the steps the airport has taken or will take to mitigate against the major issues generally associated with TTF operations.

TTF Characteristic	Response
Type of TTF Activity	☐ Residential (commonly referred to as "hangar homes")
	☐ Commercial Aeronautical (aeronautical activities for profit)
	☐ Aeronautical Noncommercial (aeronautical activities for not for
Summary of Droposed Activity	profit)
Summary of Proposed Activity ¹	
Number and Type of Aircraft	
Estimated Operations per Month	☐ Single-engine:/ month
Anticipated by Type ²	☐ Multi-engine: / month
	☐ Jet: / month
	☐ Helicopter: / month
Number of lebs Supported by Type ³	,
Number of Jobs Supported by Type ³	
- · · · · · · · · · · · · · · · · · · ·	
Economic Impacts (Total Airport) ⁴	This section should include four metrics for the current conditions (2018) and for the proposed new TTF operation: Employment
	(number), Payroll (\$), Spending (\$), and Total Economic Impact (\$).
	(+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Summary of Benefits to Civil	
Aviation	
Summary of Social Benefits to the	
Community, such as Emergency	
Services or Access to Aviation	
Services for Underserved	
Communities	

Notes: (1) If residential, this should include the number of homes at initial and maximum build-out (if development is to be phased). If commercial/noncommercial aeronautical, this should specify the type of activities to be performed. (2) An operation



is defined as a take-off and a landing. (3) e.g., Aircraft mechanic [2]. Annual compensation: \$35,000. (4) Using the MnDOT Aviation Economic Impact Calculator, provided the current [2018] and anticipated future economic impacts of the airport based on the inclusion of the proposed TTF operation. Consider jobs, capital improvements, and visitors when preparing your response. The MnDOT Aviation Economic Impact Calculator is accessible online at http://www.dot.state.mn.us/airport-economic-study/.

Sources: Kimley-Horn, 2021; ACRP Report 114, 2014

Section 2: Property Profile

Section 2 of the TTF Assessment Report shall provide a narrative and visual depiction of existing airport land and facilities in relation to the TTF development. Airport sponsors should complete the following table and submit a map in sufficient detail to depict each item (as applicable) in Appendix A.

Property Attribute	On-Airport	TTF Property
Size (acres)		
Existing/Proposed Structure(s)	N/A	
Proximity of Existing/Proposed TTF	N/A	
Structure(s) to Airport Infrastructure		
Access Points		
Available Utilities		
Known Environmental Issues		

Sources: ACRP Report 114, 2014; Kimley-Horn, 2021

Section 3: Airport Planning

Airport planning documents provide the framework for future airport development. In various ways, these tools define the airport's vision, goals, and objectives, as well as outline actionable steps to achieve a desired future state. Documents such as master plans or ALP narratives also help the airport maintain compliance with applicable laws, regulations, and design standards. The TTF Assessment Report should identify the availability of planning documents including but not limited to:

- ALP with narrative
- Master plan
- Business plan

Copies of all planning documents should already be on-file with MnDOT Aeronautics. As such, indicate the year(s) of all current planning documents in the TTF Assessment Report so MnDOT Aeronautics can confirm that the agency has the most current copies on-file for review.



Provide a narrative highlighting the specific reasons why the proposed TTF operation supports the airport sponsor's long-term goals. In areas where the proposed development fails to align with existing planning documents, the airport sponsor should provide justification for why the deviation is acceptable. In such cases, it is recommended that the airport sponsor revise its planning documents to ensure clarity of purpose and a coordinated strategy in achieving the airport's long-term goals.

Section 4: Airport Sponsor Regulatory Measures

Airport sponsors have two primary mechanisms to regulate the planning, development, operation, management, and use of an airport: (1) municipal ordinances, zoning codes, and building codes and (2) land use and other plans established as the landowner.²³ In general, such regulatory mechanisms are developed to protect the safety, security, economic well-being, and welfare of the people and property under their jurisdictions. This section of the TTF Assessment Report should provide the information necessary to evaluate if the proposed TTF development would comply with existing regulatory mechanisms established by local governments, including but not limited to:

- Ordinances
- Zoning codes
- Building codes
- Land use plan
- Local/regional comprehensive plan
- Local/regional transportation plan

The information provided in this section of the TTF Assessment Report must clearly indicate if the proposed development complies with all applicable local regulatory measures. This information should be provided in table format using the following template (add more rows as required).

Regulation/ Plan ¹	Type ²	Jurisdiction ³	Summary	Will the TTF Operation Be Compliant with this regulation? (Yes/No)

Notes: (1) Indicate chapter and subsection number and title [as applicable]. (2) Indicate ordinance, local zoning code, building code, or other [specify]. (3) Indicate municipality, county, or airport-specific. Source: Kimley-Horn, 2021

It is the full responsibility of the airport sponsor to identify and review municipal, county, and airport-specific regulatory measures including planning documents to determine pertinence to TTF operations. MnDOT Aeronautics will not conduct an independent review of local measures to ensure the information submitted in the TTF Assessment Report is accurate and complete. If current regulatory measures do not

²³ ACRP Report 114 (2014), p. 72.



address TTF operations, it is recommended that airport sponsor develop new or amend existing regulations to address permitting TTF operations.²⁴

This section of the TTF Assessment Report must also indicate compliance with the restrictions associated with MnDOT Zones A, B, and C and clear zones. Zoning and clear zones must be depicted on the airport vicinity map submitted as Appendix A of the TTF Assessment Report.

Section 5: Airport Management and Compliance

Airport management and compliance documents generally establish the terms and conditions by which airport users must abide and the policies that govern airport sponsor and user activities. Documents promote consistency, uniformity, and transparency in the way that airport users are treated, and the fees assessed to them. Additionally, documentation serves as an important mechanism for ensuring that the airport remains compliant with Minnesota airport licensing standards and state grant obligations (as applicable). Airport management and compliance documents may include:

- Leasing/rents and fees policy: Framework for leasing airport land for commercial and noncommercial purposes including the process for setting and adjusting rents and fees
- Minimum standards: Qualifications and standards that must be met as a condition of using the airport for commercial and non-commercial purposes
- Rules and regulations: Policies applicable to all airport users (e.g., operators, tenants, users, guest, TTF entities) "designed to protect the health, safety, and general welfare of the public and ensure the safety, utility, and efficiency of the airport for the benefit of the public." 25
- Development standards: Standards and procedures governing the development of all aeronautical- and non-aeronautical land, infrastructure, and improvements affecting airport property

At a minimum, airport sponsor must develop a leasing/rents and fees policy, minimum standards, and rules and regulations specifically tailored to address TTF operators.²⁶ The TTF Assessment Report must include these documents as Appendix B. All terms and conditions established in airport management and compliance documents must address the provisions of the MnDOT TTF Standards provided on page 34.

Section 6: MnDOT TTF Standards

MnDOT TTF Standards must be adhered to at all airports with residential, commercial aeronautical, and noncommercial aeronautical TTF operations. Section 6 of the Assessment Report must include a specific acknowledgement that the airport sponsor understands and accepts all MnDOT requirements associated with TTF operations and management. This certifies that the airport sponsor understands the expectations established as a condition of MnDOT Aeronautics' approval of a TTF access agreement. It is

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²⁴ ACRP Report 114 provides guidance and best practices regarding municipal and airport-specific mechanisms for managing TTF operations in Chapter 6: Structing TTF Operations and Chapter 7: Managing TTF Operations.

²⁵ ACRP Report 114 (2014), p. 56.

²⁶ While development standards are an effective way to protect on- and off-airport investment, maintain the preferred appearance of airport facilities, and support sustainability goals through "green" building practices, this document is not mandatory. Development standards are considered a "best practices" for Minnesota state system airports but are neither a condition of state funding nor considered during MnDOT's TTF review/approval process.



important to note that MnDOT TTF Standards do not provide comprehensive terms and conditions appropriate for all types of TTF operations at all state system airports. Airport sponsors must execute a specific TTF access agreement with each TTF entity reflective of the needs of their unique circumstances.

Airport sponsors knowingly or unknowingly in violation of the MnDOT TTF Standards risk losing eligibility for state investment. It is strongly recommended that airport sponsor's legal counsel review the MnDOT TTF Standards and airport management and compliance documents (described in Section 5 on preceding page) to ensure enforceability and compliance with local laws and regulations. Any MnDOT TTF Standards not compliant with local statutes/regulations may be waived by MnDOT Aeronautics, although such exceptions are anticipated to be rare.²⁷

Appendices

Include all required documentation as follows:

- Appendix A: Airport Vicinity Map
- Appendix B: Airport Management and Compliance Documents

Airport sponsors should submit the completed TTF Assessment Report and all required appendices/documents to MnDOT Aeronautics for review.

Step 4: Conduct TTF Assessment Report Review

Documentation should be submitted to the appropriate MnDOT Regional Planner via email. MnDOT Aeronautics will review the TTF Assessment Report and associated appendices/documentation in consideration of the evaluation components outlined in **Table 3**.

Table 3. MnDOT Aeronautics Evaluation Components for Proposed TTF Access Agreement

Evaluation Components	Requirements/Compliance Guidance
Benefit to the airport and community	 Proposed TTF operations must provide a demonstrable benefit to the airport and/or sponsor. In many cases, this benefit is financial in terms of revenue generation, job creation, expansion of the tax base, etc. Other benefits may include an increase in aircraft operations or based aircraft; the provision of aviation/aeronautical services, products, or facilities; or the availability of emergency services such as air medical transport, search and rescue, and aerial firefighting activities for the local community.
Compliance with all existing airport planning documents	 All properties with TTF access and airport access points must be depicted on the MnDOT-approved ALP. MnDOT Aeronautics may grant conditional approval if proposed developments are not yet depicted on the ALP; however, the ALP must be updated prior to executing a TTF access agreement. ALP updates triggered exclusively by proposed TTF access agreements are not eligible for state funding. However, the inclusion of a TTF entity/access point may be eligible for state funding as a component of an ALP update otherwise eligible for state funding.

²⁷ Waiver requests will be evaluated on a case-by-case basis. Contact the airport's regional planner for further instructions about requesting a MnDOT TTF Standards waiver.

2022 MnSASP 31



Evaluation Components	Requirements/Compliance Guidance
	- TTF access agreements that negatively impact future airport expansion will not be approved by MnDOT Aeronautics.
Compliance with all local and state regulatory measures	 MnDOT Aeronautics will not approve any proposed developments in conflict with existing state or local regulations. TTF entities are not permitted in MnDOT Zone A or Zone B and must comply with the height restrictions associated with Zone C. Airport sponsors must comply with the MnDOT Clear Zone Guidance (2021) through 100 percent fee simple ownership of all clear zones based on ultimate build-out conditions or by having a MnDOT-approved CZAP.
Established airport management and compliance documents that promote consistency, uniformity, and transparency in how all airport users are treated	 Airport sponsors must establish a leasing/rents and fees policy, minimum standards, and rules and regulations that address TTF access and entities. All compliance documents must promote consistency, uniformity, and transparency between conventional airport operators, tenants, and users and TTF entities. This is particularly important for on- and off-airport providers of commercial aeronautical activities. The standards established in all airport management and compliance documents must meet or exceed state requirements as provided in the MnDOT TTF Standards. MnDOT Aeronautics may grant conditional approval of a proposed TTF access agreement prior to having final airport management and compliance documents; however, these documents must be developed and approved by MnDOT Aeronautics prior to executing a TTF access agreement.

Source: Kimley-Horn, 2021

In addition to the evaluation components outlined in **Table 3**, airport sponsors must specifically acknowledge the MnDOT TTF Standards. Airport sponsors that cannot comply with a specific provision due to conflict(s) with local regulations may still receive MnDOT Aeronautics approval if adequate justification is provided.

Based on the evaluated noted above, MnDOT Aeronautics will issue one of the following findings based on the data submitted in the Assessment Report:

- Preliminary recommendation of approval: MnDOT Aeronautics deems that the proposed TTF
 operation will have a positive impact on the airport and/or community and is in full compliance
 with the requirements established in the MnDOT TTF Guidance to Airports.
- Conditional recommendation of approval: MnDOT Aeronautics deems that the proposed TTF operation will have a positive impact on the airport and/or community but is otherwise in conflict with at least one requirement of the MnDOT TTF Guidance to Airports. Airport sponsors that receive a conditional approval may proceed with drafting a TTF access agreement, but any deficiency must be addressed prior to executing that agreement.
- Recommendation of denial: MnDOT deems that the proposed TTF operation will not positively impact the airport and/or community or is otherwise in conflict with the requirements established in the MnDOT TTF Guidance to Airports that cannot be easily rectified.



If denied, the airport sponsor may revise its application for reconsideration for a maximum of two reviews per proposed TTF development.

Step 5: Develop TTF Access Agreement

Airport sponsors that have received a preliminary or conditional recommendation of approval are permitted to draft a TTF access agreement. Section 136 of P.L. 112-95 states that an access agreement for residential TTF activities shall "prescribe the rights, responsibilities, charges, duration, and other terms" the airport sponsor deems necessary. MnDOT Aeronautics requires that such an agreement be extended to include all types of TTF activities (i.e., residential and commercial/noncommercial aeronautical). Chapter 6 of ACRP Report 114 provides best practices associated with structuring TTF agreements and offers insight into common topics for inclusion.²⁸ It is recommended that airport sponsors review this guidance prior to drafting a TTF agreement. Additionally, terms and conditions provided in the TTF access agreement must meet or exceed those established in the MnDOT TTF Standards; however, these standards are not designed to serve as or replace all terms and conditions that should be included in a well-crafted TTF access agreement. Instead, MnDOT's TTF Standards provide minimum guidance on select topics important for all state system airports. Each airport's TTF access agreement should be developed in consideration of airport-specific needs and requirements and address topics such as (but not limited to):

- Terms of the agreement
- TTF access rights
- Permitted TTF activities
- Specific rents and fees
- Terms and responsibilities associated with infrastructure improvements and maintenance
- Hold harmless, indemnification, and insurance requirements

In addition to these specific topics, TTF access agreement should include copies of all applicable airport management and compliance documents including:

- Leasing/rents and fees policy
- Minimum standards
- Rules and regulations

The draft TTF access agreement shall be submitted to MnDOT Aeronautics prior to execution. While MnDOT Aeronautics has the option of reviewing and commenting upon the TTF access agreement, the airport is fully responsible for the terms established therein. As such, MnDOT Aeronautics is not responsible for approving the TTF access agreement beyond ensuring it reflects the MnDOT TTF Standards. It is strongly advised that the TTF access agreement be reviewed by the sponsor's legal counsel prior to submission to MnDOT Aeronautics. MnDOT Aeronautics has a period of 30 calendar days to submit comments on the TTF access agreement back to the airport sponsor.

Step 6: Execute TTF Agreement and Submit Final Documentation

²⁸ ACRP Report 114 (2014), pgs. 94 – 119.

2022 MnSASP _______ 33



Once the 30-day MnDOT review/comment period has elapsed, the airport sponsor can present the TTF access agreement to the proposed TTF entity for execution. Any changes that occur during the contract negotiation process should be submitted with redlines/track changes to MnDOT Aeronautics so they can be easily identified by the department. Any issues identified in a conditional recommendation of approval must be addressed and approved by MnDOT Aeronautics prior to contract execution.

The executed TTF access agreement and any final documentation associated with the contract shall be submitted to MnDOT Aeronautics for record-keeping purposes.

MNDOT TTF STANDARDS

MnDOT Aeronautics has established a set of conditions required to conduct TTF activities at airports eligible to receive state investment via the State Airports Fund. The MnDOT TTF Standards are not comprehensive terms and conditions associated with the planning, development, and management of TTF operations at publicly owned, public-use airports. Instead, these standards are minimum, baseline requirements for all state system airports hosting a commercial/noncommercial aeronautical or residential TTF entity. Airport sponsors must develop their own TTF access agreements that meet the needs of their airport and the community in which it is located. Airport sponsors must explicitly confirm their acceptance of the MnDOT TTF Standards to receive MnDOT's approval to host a TTF entity unless these standards conflict with local regulations.

The MnDOT TTF Standards were developed recognizing that airports benefit from having a vested user base, and TTF operations can offer significant economic and social benefits to communities and airports. However, such operations come with some risks associated with conflicts with other existing or future users; airport sponsor/TTF entity responsibilities, obligations, and rights; grant obligations; and other potential issues. It is strongly recommended that airports enter into TTF access agreements only after carefully weighing the advantages and disadvantages at their airport with their stakeholders.

In order for airports with residential or commercial TTF operations to remain eligible to receive state support, airport sponsors must abide by the following principles:

- Airport sponsor must adopt or amend minimum standards to dictate the parameters for conducting TTF operations. MnDOT Aeronautics has developed a minimum standards template for airports available online at http://www.dot.state.mn.us/aero/operations/ airportminimumstandards.html. These minimum standards should be amended to specifically reflect TTF entities at the airport.
- Airport sponsors must have an executed TTF access agreement with each TTF entity tailored to
 the needs of their community and airport. MnDOT Aeronautics has developed some guidance to
 Minnesota Airports in Step 5 of the Process for Reviewing Proposed TTF Operations; however,
 this guidance is not comprehensive to all topics that should be addressed in a well-crafted TTF
 access agreement.
- All parties (i.e., TTF entity and the airport sponsor) must agree to a deed restriction recorded with
 the County Clerk and Recorder certifying that TTF property shall be developed in accordance with
 the airport compatible land use and height restrictions established by Minnesota Statutes
 Chapter 360.061 through 360.074 (airport zoning) and implemented by Minnesota
 Administrative Rules Part 8800.2400 (airport zoning standards). Note that TTF access should not



- be deeded, especially into perpetuity, as this instrument is highly restrictive and difficult to unilaterally terminate should circumstances change over time.
- Airport sponsor shall develop strong access restrictions that protect against unauthorized users' accessing airport property. This may include full perimeter fencing (recommended) and controlled access points using gate codes, access cards, or other security measures (required). All users entering the airport via TTF access points must be preauthorized by the airport sponsor.²⁹ Authorized TTF entities are not permitted to grant the owners/users of other properties access to the airport via the subject TTF property.
- TTF access should be provided using the minimum number of access points and taxiways to provide reasonable access to the airport from adjacent properties. In many cases, this means that access should be provided through one controlled access point. In no cases shall individual "hangar homes" have individual access to airport property.
- The TTF entity is fully responsible for developing and maintaining the infrastructure necessary to
 provide access to the airport from the adjacent property. Under no circumstances shall public
 money be used on maintenance or improvement projects specifically used for the benefit of TTF
 users, unless such responsibilities are clearly defined in the TTF access agreement with
 commensurate fees established.
- Specific leases, rents, and fees, as well as the policies that govern those structures, must be the same (required) or higher (preferred) as those assessed to on-airport operators, tenants, and other users conducting similar activities. TTF entities must also be subject to commensurate insurance, hold harmless, indemnification, and security requirements as on-airport users to ensure a "level playing field."
- Commercial TTF operators providing any services on-airport property must hold applicable licenses as defined in Minnesota Administrative Rules Parts 8800.3100 through 8800.3950.

Airport sponsors must specifically acknowledge their understanding and acceptance of the MnDOT TTF Standards in Section 6 of the Assessment Report. Any standards that cannot be adhered to due to local regulations may be waived by MnDOT Aeronautics should appropriate justification be provided. Such waivers are anticipated to be rare.

2022 MnSASP _______ 35

²⁹ The airport sponsor may grant TTF access rights to a Homeowners Association (HOA). In such cases, the airport sponsor is responsible for reviewing the community's covenants, conditions, and restrictions (CC&Rs) to ensure this regulatory mechanism is consistent with the airport's management and compliance documents. As applicable, the CC&Rs should clearly specify TTF access rights such as method of access and control; aircraft, vehicle, and pedestrian access rights; and periods of access. Homeowners who do not abide by the CC&Rs may lose TTF access rights permanently or for a specific duration.



Summary

Throughout this document, the significant pros and cons of TTF operations have been highlighted repeatedly. With carefully crafted contracts, ongoing communication, and clear lines of responsibilities, residential and commercial TTF operations can offer new vitality to the airports and the communities where they are located. This is particularly true of some of the state's smallest and more rural airports, which have been hard-hit by concurrent trends of urbanization and an overall decline GA activity levels.

A residential TTF development may provide a new tax base for municipal and county governments as well as a stable customer base for fuel sales and on-airport aeronautical service providers such as FBOs and MROs. Commercial TTF operations can also meet aviation-related demands at airports where development constraints exist including, but not limited to, providing aircraft storage facilities at airports where the need is most acute. Conversely, airports with poorly structured administrative documents or a lack of enforcement of written policies can find themselves in major conflicts with on-airport operators, tenants, and other users as well as public funding agencies.

Because of the long-term implications of executing a TTF access agreement, airport sponsors, stakeholders, and the community should carefully reflect on their visions for the airport. TTF operations must help advance that vision and not impede its ability to grow and develop to meet the needs of the on-airport users and the community. MnDOT Aeronautics TTF Guidance to Airports and associated review/approval processes are designed to provide the agency and airport sponsors with the information needed to make an informed and well-considered choice regarding TTF operations at specific airports and in specific communities. Like so many topics in aviation, electing to permit or prohibit TTF operations is rarely a "one-size-fits-all" solution but requires careful reflection by all stakeholders involved in the decision-making process.