Airport Classifications

Airports have evolved to serve diverse roles in all transportation systems. Some of these roles are more obvious than others. The largest airports in and around major urban centers act as aviation hubs, primarily serving large numbers of airline passenger and cargo operations. They connect most of the national population to each other and the rest of the world. The rapid transportation of consumer goods, repair parts, and time-critical specialty items is only possible because of airports.

Medium-sized airports serve many of the same roles, just at a lower volume, with a greater focus on point-to-point national and regional transportation. Spread around urban areas, these airports also integrate the travel needs of local and regional businesses. Typically lacking scheduled passenger service, the smallest airports may serve the most diverse collections of industries and interests. They provide home bases for agricultural application businesses, wildfire suppression, critical access to emergency medical transportation, pilot training, aircraft maintenance, and recreational general aviation (GA).

Importantly, airports, especially the more than 5,000 that are open to the public, are all part of the greater air transportation system. Identifying infrastructure needs, facility improvements, airspace integration and safety, system mobility, local and regional economic development, and environmental impacts and noise mitigation, requires a classification framework to better prioritize investment and system improvement. The Federal Aviation Administration (FAA) classifies all airports that are a part of the National Plan of Integrated Airport Systems (NPIAS). Additionally, the Minnesota Department of Transportation (MnDOT) Aeronautics branch classifies all public airports within the state, including those that are part of the NPIAS. Eight of the nine airports within the Metropolitan Council 7-county region are NPIAS airports. All regional airports are in the state aviation system and also classified by MnDOT.

For a classification framework to remain relevant for understanding each airport's role in the regional system, facility planning and overall system integration, periodic review of the methodology is required. As a part of its regional planning authority, the Council is responsible for developing its own system of classifying regional airports. In the existing framework, the underlying classifications assigned to each regional airport have not changed in nearly 50 years regardless of the significant changes that have occurred at each airport in the intervening years.

History of Airport Classifications of the Metropolitan Region

Airport classifications have evolved as aviation demand has grown and changed. Throughout the 1960s and 70s, the cost of flying on passenger airlines reached a level attainable by a growing portion of the population. This sparked rapid growth in airline operations. To accommodate this growth, aircraft manufacturers developed increasingly larger and faster jet aircraft that demanded longer runways and larger airports. Existing commercial service airports began to experience issues with congestion. This was also a time of expansive growth in GA. The allure of aviation attracted many to recreational flying. Aircraft manufacturers introduced multiple new small aircraft models for personal and recreational use. This period also included nascent development of specialized business/corporate jet aircraft for rapid point-to-point travel between an ever-growing number of GA airports, skipping the congestion of major hub airports.

As the advancements in aircraft design and aviation demand grew and evolved, the systems used for classifying airports, to identify needs and prioritize projects, had to change as well. A

timeline of changes to the airport classifications affecting metro regional airports, are listed below beginning with the FAA classification framework in existence in 1970.[1]

Figure 1. 1970 FAA Classifications

Scheduled Air Transport (AT)	Airports accommodating certified air carriers using transport category aircraft. Runway length is approximately 8,400 ft	
Transport Airports	Airports accommodating transport category aircraft, including business/corporate/executive jets, and existing or planned precision instrument approaches. This is separated into two categories	
	General Transport (GT) Accommodate turbojet powered aircraft up to 175,000 lb. with a runway length of approximately 6,500 ft	
	Basic Transport (BT)	Accommodate turbojet powered aircraft up to 60,000 lb. with a runway length of approximately 5,500 ft
Utility Airports	Airports accommodating general aviation single and multi-engine aircraft up to 12,500 lb. Runway lengths in the Metro area range from 2,500 ft to 3,900 ft. This is separated into three categories	
	General Utility (G)	Accommodate propeller aircraft of 12,500 lb. or less. Primarily intended to serve high density locations. Runway lengths of approximately 3,900 ft
	Basic Utility – Stage II (B2)	Accommodate 95% of propeller aircraft 12,500 lb. or less. Designed to serve medium density locations with diversity of aircraft and potential increased activity. Runway lengths of approximately 3,900 ft
	Basic Utility – Stage I (B1)	Accommodate 75% of propeller aircraft 12,500 lb. or less. Designed to serve low density locations. Usually the first step in developing into a B2 airport. Runway lengths of approximately 2,500 ft
Landing Strip (LS)	Low activity airports with turf runways and minimum airport facilities. Used by small single and multi-engine piston aircraft and visual only approaches. Runway lengths of approximately 2,500 ft	

1970 – First MnDOT State Aviation System Plan (SASP) developed a classification framework used by MnDOT. This was updated in 1974 changing the Secondary classification to Intermediate.

Figure 2. 1970/1974 MnSASP Classifications

Key	Designed to accommodate all types up to heavy multi-engine aircraft. Includes all airports with scheduled airline service
Secondary / Intermediate	Designed to accommodate single and medium multi-engine aircraft corresponding to FAA classifications B2 / G and below
Landing Strip	Designed to accommodate single and light multi-engine aircraft corresponding to FAA classifications B1 / B2 and below

1972 – Metropolitan Council's Metropolitan Development Guide included metro area airport classifications that mirrored FAA's.[2] Regional airports St. Paul Downtown, Flying Cloud, and Lake Elmo were classified as Basic Transport (BT), Anoka-Blaine was General Utility (G), and Crystal and South St. Paul were Basic Utility (B1/B2).[3]

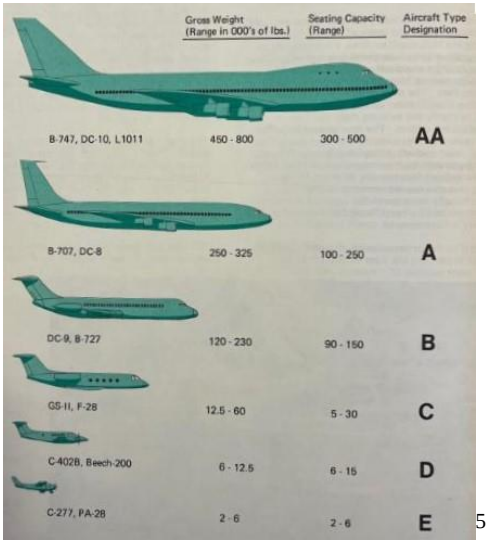
1977 – Metropolitan Development Guide debuts a new classification system (Major, Intermediate, Minor, and Special Purpose) still in use today.[4] These were based on several characteristics indicative of regional airports at that time, including aircraft size

[1] State of Minnesota Aviation System Plan: Summary Report, Prepared for The Minnesota Department of Transportation and The Metropolitan Airports Commission by R. Dixon Speas Associates, 1970, TL522.M6 S6, Minnesota Historical Society, Saint Paul, MN
[2] Metropolitan Development Guide, Airports Policy Plan, Metropolitan Council, Airport Systems Planning Report, 1972, Location 102.E.8.6F, Box 21, Minnesota Historical Society, Saint Paul, MN
[3] St. Paul Downtown Airport, Master Plan Study, Interim Report, 1974, Location 116.E.1.8F, Minnesota Historical Society, Saint Paul, MN
[4] Metropolitan development Guide, Aviation Chapter, Metropolitan Council, 1978, TL726.4.T9 M473, Minnesota Historical Society, Saint Paul, MN

and weight, airport user, runway length, instrument approach capability, and geographic service area.

Figure 3. 1977 Metropolitan Council Classifications

Classification	Aircraft Type	Primary User	Primary Service Focus	Runway Length	Instrumentation Capability
Major	AA – E	Air Carrier	International, National, State	8,000 ft – 11,000 ft	Precision Instrument
Intermediate	C – E	GA / Corporate	National, State, Metropolitan	4,000 ft – 8,000 ft	Precision Instrument
Minor	D & E	GA / Recreational, Business, Instructional	State, Metropolitan	2,500 ft – 4,000 ft	Non-Precision Instrument



[5]

As aircraft operations grew around the metro region, accompanying negative impacts, namely aircraft noise, focused municipal attention on limiting growth and expansion at regional airports. Metropolitan Airports Commission (MAC) ordinances were introduced to restrict the size of jet aircraft using some regional airports. Municipal counter resolutions were passed to encourage MAC to prevent the use of jet aircraft entirely. Lawsuits ensued. The Minnesota Legislature passed additional language to state statutes governing the classifications of MAC airports.

1980 – MN Legislature passes language change prohibiting the upgrade of Minor airports to Intermediate status as defined in the Metropolitan Council's Metropolitan Development Guide.[6]

Concerns over forecast congestion and insufficient capacity at MSP lead to an effort to improve MSP while studying locations for a new Major passenger airport.

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[5] Metropolitan development Guide, Aviation Chapter, Figure 8: Basic Aircraft Types, Page 12A, Metropolitan Council, 1978, TL726.4.T9 M473, Minnesota Historical Society, Saint Paul, MN

[6] 1980 Minnesota Statutes, Chapter 614, Section 154, Subdivision 4

1987 – The Citizens League presents its report on options to address capacity concerns at MSP.[7] It also proposes an aggressive campaign to redirect GA business jet traffic to the surrounding reliever airports, highlighting the continued suburban and corporate growth located on the western and southwestern sides of the metro area, as a way of reducing capacity issues at MSP.

1989 – MN Legislature passes the Metropolitan Planning Act, beginning the "Dual-Track" process, requiring the Metropolitan Council and MAC to forecast aviation demand and the feasibility of continuing at MSP while also determining the site of a new Major airport and beginning to plan for its construction should it be determined MSP cannot be upgraded to serve future aviation demand.[8]

March 1996 – The Metropolitan Council and MAC presented their report on the Dual-Track process, recommending the continued use of MSP through facility and infrastructure improvements, and the abandonment of the search and planning for a new replacement Major airport.

April 1996 – MN Legislature passes language updating Minnesota Statues to prohibit MAC from acquiring land for a new Major airport.[9] Section 8, Subdivision 4 requires MAC to develop and implement a plan to divert the maximum number of GA operations away from MSP to the FAA designated reliever airports.

Communities surrounding MSP reliever airports continued to oppose efforts to augment these airports to accommodate increased GA traffic through new municipal resolutions and legal action[10]. A united push by multiple metro communities and interest groups led to a new round of legislative changes.

2000 – MN Legislature updates Minnesota Statutes language prohibiting the upgrading of Minor category airports to Intermediate by replacing the Metropolitan Development Guide definition. A regional airport may now only be reclassified by a law, and Minor airports are defined solely by a maximum runway length of 5,000 feet.

Existing Federal and State Classifications

FAA and State classification frameworks have evolved to better represent the state of aviation requirements of aircraft. The FAA is tasked with a developing a plan for addressing those projects required to maintain a safe, efficient, and interconnected airspace system of public-use airports. According to the NPIAS,

> "Airport Capital development needs are driven by current and forecasted traffic, use and age of facilities, passenger and cargo security requirements and changing aircraft technology, all of which require airports to update or replace equipment and infrastructure." [11]

A variety of data is used by the FAA in determining the correct Category and Hub or Service Level/Role. These include passenger enplanements, aircraft operations and activity, facility

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[7] Make the Present Airport Better – Make A New Airport Possible, Citizens League, Dec. 1987
[8] 1989 Minnesota Statutes, Chapter 279
[9] 1996 Minnesota Statues, Chapter 464, Article 3
[10] Mounds View v. Metro Airports Commission, Mar. 30, 1999
[11] National Plan of Integrated Airport Systems (NPIAS) 2025-2029, Federal Aviation Administration (FAA), Sept. 30, 2024

ownership, public serving aeronautical functions, and system role and integration. The classification of those airports with more than 2,500 passenger enplanements per year are updated annually. All other airports are updated every other year.

Primary airports are defined as airports serving 10,000 or more enplanements per year. The term enplanements is a measure of revenue paying passengers to indicate the demand for airport boarding gates and luggage services. These are further broken down into four additional sub-categories, Large Hub, Medium Hub, Small Hub, and Non-Hub. Large Hub airports, of which Minneapolis St. Paul International (MSP) is classified, each account for 1 percent or more of the entire U.S. passenger enplanements, and combined, these airports serve 69 percent. To safely and securely accommodate the vast numbers of passengers moving through these airports, they are designed to Part 139 Certification standards. Due to the size of the large aircraft that frequent these airports and the rapid turnaround of commercial passenger and freight operations, smaller General Aviation traffic is often encouraged to use other surrounding airports to reduce congestion. As MSP is the only Part 139 airport with scheduled passenger service, no other airports are classified as Hub in the Twin Cities metro.

Non-primary airports include non-primary commercial service (between 2,500 and 9,999 enplanements), reliever, and general aviation airport classifications. Five additional sub-categories define non-primary airports further based on existing activity (based aircraft and operations volume) and geographic location to population and economic centers. The federal NPIAS airport classifications can be seen on the table below.

Figure 4. Current FAA NPIAS Airport Classifications

Category	Hub	Service Level	Role	Definition	Aircraft and Functions Primarily Supported
Primary	Large	-	-	1% of U.S. Enplanements	Scheduled Passenger and Cargo Airline Service
	Medium			0.25% - 1% of U.S. Enpls.	Air Carriers and Some GA Activity
	Small			0.05% - 0.25% of U.S. Enpls.	Uncongested Air Carriers and Significant GA Activity
	Non-Hub			< 0.05% of U.S. Enpls.	Least Air Carrier Activity and Significant GA Activity
Non-Primary	-	Comm. Service	National	Metropolitan Areas Near Major Business Centers / Average 235 Based Aircraft Including 38 Jets	Support National Aviation / Alternative to Primary Airports, High Levels of GA Activity with Many Jets and Multi-engine Prop. Aircraft
			Regional	Metropolitan Areas and Serve Relatively Large Populations / Ave. 90 Based Aircraft Incl. 3 Jets	Support Regional Economies with Interstate and Long-distance Flying / Jets and Multi-engine Prop. Aircraft
		Reliever	Local	Located Near Pop. Centers, But Not Necessarily Metro Areas / Ave. 31 Based Prop. Aircraft, No Jets	Support Local Economies with Regional Flying / Largest Number of NPIAS Airports
		General Aviation	Basic	Community Airport / Ave. 9 Based Prop. Aircraft, No Jets	Support Local Economies and Provide Recreational Flying / 2nd Largest Number of NPIAS Airports
			Unclassified	Limited Activity / Ave. 0 - 4 Based Prop. Aircraft, No Jets	Local and Recreational Flying

Public airports in Minnesota are also classified based on their function within the statewide aviation system. Just as inclusion in the NPIAS is required for an airport to receive federal

funding, airports are required to have MnDOT classification to receive state funding.[12] The state aviation system consists of 133 publicly owned, public use airports, 96 of which are also included in the NPIAS.[13] The 37 non-NPIAS airports often play important roles in connecting smaller and remote communities for business travel, emergency medical transport, natural disaster relief, agricultural application, and recreation. The state's previous classification system was introduced in 1970 with a modest change in 1974. It was last used as the classification framework for the 2012 State Aviation System Plan (SASP). An updated framework was developed in 2019 and adopted as part of the 2022 SASP. This update splits the existing Key and Intermediate classes into two each to better align the now four classes with the functions and position of each airport within the overall system.[14] Previous classifications and recent changes to the SASP classification framework can be seen below.

Figure 5. MnDOT SASP Airport Classifications

1974 - 2012 MnDOT Classifications	Criteria	2019 MnDOT Classification Changes	Criteria	Types of Aircraft Primarily Supported	Primary Functions and Users
Key	Paved and Lighted Runway 5,000' or Greater in Length	**Key Commercial Service**	Pt 139 and Paved / Lighted Runway ≥4,900'	Commercial and General Aviation (GA) Jets	Scheduled Passenger and Cargo Airline Service
		Key General Aviation	Paved and Lighted Runway ≥4,900'	Most Business Jets, All Single-Engine Aircraft, and Larger Multi-Engine Aircraft	Primary Landing Facilities for GA Jets That Serve Business and Air Freight Activity
Intermediate	Paved and Lighted Runway Less Than 5,000' in Length	**Intermediate Large**	Paved and Lighted Runway ≥3,800' - <4,900'	Small Aircraft with Approach Speeds of > Than 50 knots and 10 or More Pass. Seats	Recreational Flights, Flight Training, Emergency / Medical Transports, Business Flights, Agricultural Application, Other GA Uses
		Intermediate Small	Paved Runway <3,800'	Small Single and Multi-Engine Aircraft with < Than 10 Pass. Seats	
Landing Strips	One or More Turf Runways	**Landing Strip Turf**	Unpaved Turf Runway of Any Length	Single-Engine Aircraft and Some Multi-Engine Aircraft	Recreational GA, Agricultural Application
-	-	**Landing Strip Seaplane Base**	Water Runway	Single-Engine Aircraft and Some Multi-Engine Seaplanes	Recreational GA, Remote Area Accessibility

Both the NPIAS and SASP classification methods attempt to align an airports classification with the type and number of aircraft operations, physical airport and runway infrastructure, and its overall function within the greater aviation system.

Existing Metropolitan Regional Airports Classifications

The existing Metropolitan Council regional airport classifications, including a combination of 1996 Regional Aviation System Plan (RASP) and 2040 Transportation Policy Plan (TPP) definitions, can be seen below.

[12] Minnesota Statutes, Chapter 360, Section 305, Subdivision 2, Oct. 22, 2024
[13] State Aviation System Plan (2022 MnSASP), Minnesota Department of Transportation (MnDOT) Aeronautics, Sept. 2023
[14] Classification White Paper, Minnesota Continuous State Aviation System Plan Phase I, MnDOT Aeronautics, Apr. 10, 2019

Figure 6. Existing Metropolitan Council Regional Airport Classifications

		Functional Characteristics			Operational Characteristics	
Classification	**Airport (FAA ID)**	**System Role**	**Airport Users Accommodated**	**System Access**	**Runway Length**	**Instrumentation Capability**
Major	**Mpls. / St. Paul Inter. (MSP)**	Scheduled / Commercial Air Service Hub	Scheduled Passenger Air Carriers / Air Cargo / Charter / Air Taxi / G.A. Business Jet / Military	International National Regional	8,001' - 12,000'	Precision
Intermediate	**St. Paul Downtown (STP)**	Primary Reliever / Business Jet Reliever	Charter / Air Taxi / G.A. Business Jet / G.A. Recreational / Military	International National Regional	5,001' - 8,000'	Precision
Minor	**Flying Cloud (FCM)**	Secondary Reliever / Business Jet Reliever	Air Taxi / G.A. Business Jet	National Multi-State State Regional	5,000' (Maximum Allowed)	Precision / Non-precision
	Anoka Blaine (ANE)					
	Crystal (MIC)	Secondary Reliever / G.A. Reliever	G.A. Business / G.A. Recreational / Flight Training	Multi-State State Regional	3,751'	Non-precision
	Airlake (LVN)				4,099'	Precision
	Lake Elmo (21D)				3,504'	Non-precision
	S. St. Paul (SGS)				4,002'	
	Forest Lake (25D)	Recreational / Business	G.A. Recreational	State Regional	2,700'	Visual

The table below highlights the operational metrics of regional airports using a variety of recently recorded data and data sources as well as federal and state forecasts. The operational data for the busiest reliever airports aligns with the federal and state classifications of those airports. Under the existing Metropolitan Council classification framework, however, the three busiest airports for total operations (FCM, ANE, MIC, all Minor airports), as recorded by the air traffic control towers and MAC, significantly exceeded those of the only Intermediate airport within the system (STP).

Acknowledging that these airports handle a large portion of the small, piston engine recreational and training fleet within the region, the data for jet aircraft operations, recorded when a pilot logs a flight plan, is also included. Of note, the vast majority of business, corporate, and charter operations, jet or otherwise, occur with filed flight plans. For 2023, St. Paul Downtown (STP) only had 68 more jet operations than Flying Cloud (FCM). For 2024, FCM is on track to exceed total jet operations at STP indicating FCM's growing role as a primary reliever for MSP smaller jet operations in the region.

The classification systems used by the FAA and MnDOT have evolved as aircraft types and facility requirements, and the demands of business transportation, recreational flying, and the traveling public, have grown and changed over recent decades. The static system by which the Metropolitan Council classifies regional airports does not reflect the existing conditions and use of these airports and differs significantly from those of MnDOT and FAA. It is clear that demand at some of the busiest Minor relievers exceeds that of the only Intermediate airport, yet the assigned classifications do not reflect the existing conditions.

Figure 7. Comparison of FAA, MnDOT, and Metropolitan Council Airport Classification Metrics

		Mpls. / St. Paul Inter.	St. Paul Downtown	Flying Cloud	Anoka Blaine	Crystal	Airlake	Lake Elmo	South St. Paul	Forest Lake
FAA ID		**MSP**	**STP**	**FCM**	**ANE**	**MIC**	**LVN**	**21D**	**SGS**	**25D**
FAA	Serv. Level	Primary	Reliever	Reliever	Reliever	Reliever	Reliever	Reliever	Reliever	-
	Hub	Large	-	-	-	-	-	-	-	-
	Role	-	National	National	National	Regional	Regional	Regional	Regional	-
	Definition	1% of U.S. Enpls.	Metro Areas / Business Centers	Metro Areas / Business Centers	Metro Areas / Business Centers	Metro Areas / Large Populations	Metro Areas / Large Populations	Metro Areas / Large Populations	Metro Areas / Large Populations	-
TAF 2024 Ops		335,807	31,561	66,415	38,273	21,939	20,441	15,915	9,302	-
OPSNET 2023 (Tower)		323,945	38,167	136,622	69,908	45,541	-	-	-	-
TFMSC 2023 (Jets)		313,279	11,081	11,013	2,110	4	160	-	75	-
TFMSC 2023 (Total)		322,389	18,401	26,095	10,164	2,769	1,056	1,132	1,337	-
MnDOT	Classif.	Key Comm.	Key General	Key General	Key General	Intermediate Small	Intermediate Large	Intermediate Small	Intermediate Large	Intermediate Small
	Criteria	Pt 139 / ≥4,900'	≥4,900'	≥4,900'	≥4,900'	<3,800'	≥3,800' - <4,900'	<3,800'	≥3,800' - <4,900'	<3,800'
	Definition	Commercial Jets	Business Jets	Business Jets	Business Jets	Small / <10 Pass.	Small / >50 kn / ≥10 Pass.	Small / <10 Pass.	Small / >50 kn / ≥10 Pass.	Small / <10 Pass.
SASP (2020)		-	40,934	104,405	71,740	41,541	21,055	16,421	49,331	6,878
MET-C	Classif.	Major	Intermediate	Minor	Minor	Minor	Minor	Minor	Minor	Minor
	Role	Scheduled Air Service / Commercial Air Hub	Primary Reliever / Business Jet Reliever	Secondary Reliever / Business Jet Reliever	Secondary Reliever / Business Jet Reliever	Secondary Reliever / G.A. Reliever	Secondary Reliever / G.A. Reliever	Secondary Reliever / G.A. Reliever	Secondary Reliever / G.A. Reliever	Recreational / Business
	Runway Length (Statute)	8,001' - 12,000'	5,001' - 8,000'	5,000'	5,000'	5,000'	5,000'	5,000'	-	-
MACNOMS (2023)		320,803	33,503	140,383	67,884	43,488	38,678	41,593	-	-
Existing Runway Length		11,000'	6,500'	5,000'	5,000'	3,751'	4,099'	3,504'	4,002'	2,700'
	1st in Category (Non-MSP)			**2nd in Category (Non-MSP)**			**3rd in Category (Non-MSP)**			

Potential Metropolitan Council Airport Classifications Realignment

The existing classification system used by the Metropolitan Council when categorizing airports other than MSP, is based on a single static metric, namely a 5,000-foot runway length. Runway length, however, is only one metric used in MnDOT classifications. Similar to the federal classification system, MnDOT also bases categories on the types of aircraft and aviation users of an airport.

In general, the following describes the role and physical characteristics of the regional airports by classification type.

- A **major airport** is intended to serve commercial passengers and air freight with scheduled service connecting to the nation and the world. These airports handle the largest aircraft which require the most extensive runways, airfield services and support systems. These airports support the most flights and traffic in the region, they have extensive surface transportation needs in the region, drive the most economic benefits and create the greatest impacts for surrounding communities. MSP airport is the only airport in the region that meets these metrics and will remain the only airport that meets these metrics for the foreseeable future.
- An **intermediate airport** is intended to serve corporate jet traffic and other larger aircraft traffic that serves as a main source of congestion relief to aircraft traffic at the major airport in the region. Intermediate airports should see a majority of relief jet traffic from the major airport in the region and have airfield design, services and support systems to support this traffic. Currently, only Downtown St Paul Airport is classified as an intermediate airport in the region as designated by state law, however operational data indicates reliever jet traffic as meeting metrics for the intermediate classification. The type of aircraft that utilize an airport typically drives considerations of physical infrastructure at an airport, like the needed runway length, presence of air traffic control facilities, safety infrastructure and more.
- A **minor airport** is intended to serve as a secondary to tertiary reliever to the major airport and intermediate airports, but mainly serve other purposes like flight training, recreational flying and other less common aviation needs. Due to less demanding aircraft typically utilizing these types of airports, physical infrastructure needs are reduced, runways do not need to be as long, and airfield support infrastructure and services are reduced. Most airports in the region fall under this category. Currently, this classification covers a wide range of airports in the region, from larger relievers which handle significant jet traffic, like Flying Cloud, to minor relievers which handle no jet traffic and limited piston aircraft, like Forest Lake.

It is reasonable to assume that the criteria for classifying airports at a regional level, based on regional airport activity data and system metrics, would yield a more precise classification framework than one used to classify all airports at a state or federal level. As such, a revised classification framework may include some of the above referenced data point metrics.

Figure 8. Proposed Classification Framework Based on Activity and Service Objectives

Activity/Service	Major	Intermediate	Minor - Primary	Minor - Secondary	Special Purpose
Classification Metrics					
System Role	Scheduled / Commercial Air Service & Cargo Hub	Primary Reliever / Business Jet Reliever	Secondary Reliever / Business Jet Reliever	Secondary Reliever / G.A. Reliever	Recreational / Business
Critical Design Aircraft (Up To)	D-V	D-III	C-II	B-II	A-I
Most Demanding Airport Users	Commercial	Corporate / Business / Commercial	Business / Recreational	Recreational / Training	Recreational
Total Annual Operations	>250,000	>100,000	>60,000	≤60,000	N/A
Total Annual Jet Operations	>250,000	>10,000	≤10,000	Any	N/A
Employment (Jobs) Within ACA	>100,000	>100,000	50,000 – 100,000	<50,000	N/A
Existing Leg. Statute / Community Ordinances / Agreements	N/A	N/A	5,000' runway length	5,000' runway length	N/A

- System Role – The primary function of Major airports within the system is scheduled passenger air service and cargo operations, and the remaining airports are required to relieve General Aviation traffic away from the Major airport to reduce congestion. Reliever classifications are further broken down by reliever and aircraft type.
- Critical Design Aircraft – According to the FAA,
    - "The Critical Aircraft is the most demanding aircraft type, or group of aircraft with similar characteristics, that make regular use of the airport".[15]
    - Regular use is defined as 500 annual operations. A takeoff or landing count as one operation. The designations are based on the approach speed and size of the aircraft or group of aircraft.
- Most Demanding Airport Users – Larger, faster, and more complex aircraft require additional airport facilities and infrastructure to function effectively and safely.
- Total Annual Operations – The total number of all aircraft operations per year.
- Total Annual Jet Operations – The total number of jet aircraft operations per year.
- Employment – The total number of jobs within the Airport Compatibility Area, defined as the area within a radius of 3 nautical miles drawn from the existing or proposed ends of each runway at system airports. A larger employment base may provide a greater demand for corporate/business aviation.
- Existing Legislative Statute / Community Ordinances & Agreements – This metric includes
    - State statute pertaining to maximum runway length
    - Communities/Sponsor (MAC) airport agreements and ordinances

[15] AC 150/5000-17 Critical Aircraft and Regular Use Determination, Federal Aviation Administration (FAA), January 23, 2025

Regional Airport Facilities and Infrastructure

Different airport users require varied levels of airport facilities and amenities. More demanding aircraft operations require additional equipment, infrastructure, and facility planning to comply with agency standards and maintain safety. For an airport to serve its users and realize the greatest economic benefit to its surrounding community, providing the appropriate facilities is important. Based on the revised classification framework above, the following table highlights those facilities and amenities an airport within each classification should possess to best serve airport users and align with demand.

Figure 9. Proposed Recommended/Required Airport Inventory based on Revised Classifications

Facility/Service	Major	Intermediate	Minor - Primary	Minor - Secondary	Special Purpose
Classifications Inventory					
Existing Runway Length (Longest Runway)	11,000'	>5,000'	5,000' Maximum (Statute)	5,000' Maximum (Statute)	Any Unpaved
FAA Recommended Runway Length	11,000'	>5,000'	≥5,000'	4,000' or Less	Any Unpaved
Air Traffic Control Tower	Yes (24 Hrs.)	Yes (Part-Time)	Yes (Part-Time)	If Operational Activity Warrants	No
Amenities (Passenger Facilities, Jet Fuel, Aircraft Maintenance, Training, Courtesy Car, etc.)	Commercial Passenger Terminal facilities, Boarding Gates, Airline Maintenance Facilities, Air Cargo Facilities	FBO Passenger Facilities, 100LL / Jet-A, Should Have Major Maintenance Facilities	A/D Building, FBO, 100LL / Jet-A, Should Have Flight Training or Minor Maintenance Facilities	A/D Building, 100LL, May Have Flight Training or Minor Maintenance Facilities	N/A

- Existing Runway Length – A breakdown by class of the longest runway at system airports.
- FAA Recommended Runway Length – The FAAs recommended runway length calculations are derived primarily from airport location specific data (elevation and temperature) and Critical Aircraft performance data (aircraft weight, passenger/cargo and fuel load, climb performance).[16]
- Airport Traffic Control Tower (ATCT) – Ground based facilities staffed by Air Traffic Controllers that direct aircraft on the ground and through a given portion of airspace to maintain safe separation distances, reduce airspace and airport congestion, and provide support to aircraft crew in emergency situations.
- Amenities – A short listing of several basic facilities required to effectively accommodate the traffic at each class airport.

Regional Airport Impacts

Aircraft and aircraft related activities that take place on airport property are important in understanding how an airport fits into a broader system. It is important to recognize that each airport in the region impacts the surrounding communities. Data concerning the negative

[16] AC 150/5325-4B Runway Length Requirements for Airport Design, Federal Aviation Administration (FAA), January 23, 2025

impacts to sensitive populations, particularly noise and emissions, could also be included for evaluation and mitigation measures tied to each airport within the regional system.

- Aircraft Noise – The noise generated by aircraft operations, be they small piston-powered aircraft used in pilot training or large turbine-powered passenger jets, will vary by individual airport. It is recommended that Noise Exposure Maps (NEM) are regularly updated. Airport surrounding communities are encouraged to adopt Noise Attenuation Ordinances.
- Environmental Justice Demographic Index – is an average of two demographic variables, percent of low income and percent people of color. Populations represented in this index often experience greater exposure to environmental impacts of industry and transportations than that of the general population.[17]
- Particulate Matter (PM2.5) – This metric is a measure of potential exposure to inhalable particles, with diameters of 2.5 micrometers or smaller (30 times smaller than a human hair)[18], emitted by fossil fuel combustion, wildfires, agriculture, and industry.[19]
- Nitrogen Dioxide (NO_2) – This metric is a measure of potential exposure to nitrogen dioxide. One of a group of reactive gases (nitrogen oxides or NO_x), nitrogen dioxide is created in the combustion of fossil-fuels by cars, trucks, aircraft, power plants, etc.[20] Interactions of NO_x with water create acid rain. Interactions of NO_x with volatile organic compounds (VOC) create ozone.
- Ozone (O_3) – This metric is a measure of potential exposure to Ozone. A reactive gas, ozone is both a natural and man-made product.[21] Natural ozone is created high in the atmosphere by the interaction of solar ultraviolet (UV) radiation and oxygen (O_2), in the process creating the “ozone layer” that reduces the amount of harmful UV radiation that reaches the Earth’s surface. Man-made ozone is created at ground-level as a reaction between volatile organic compounds (VOC) and nitrogen oxides. Sources of VOC included chemical plants, gasoline pumps, oil based paints, automotive painting, and printing. Ozone contributes to smog, occurring mostly during summer months.

Conclusion

As other classification systems continue to evolve with time, the metropolitan system has not kept pace. The federal classification system has changed since 1970. MnDOT updated the State Aviation System Plan classification framework in 2022 to more precisely categorize airports within Minnesota to identify facility needs and prioritize infrastructure improvements. By contrast, the existing classifications for the metropolitan region have not changed in nearly 50 years.

The regional reliever airports have seen significant changes in the nearly 50 years since the classification system used by the Metropolitan Council was last updated. Regional aviation system planning is the purview of the Metropolitan Council. It and MAC are required by state government to plan, promote, and direct as much GA traffic toward the relievers to reduce congestion at MSP.

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[17] EJScreen: Environmental Justice Screening and Mapping Tool, EJScreen Technical Documentation, United States Environmental Protection Agency, January 23, 2025.
[18] Particulate Matter Basics, Environmental Protection Agency, January 24, 2025
[19] Inhalable Particulate Matter and Health (PM2.5 and PM10), California Air Resource Board, January 24, 2025
[20] What is NO_2 and how does it get in the air?, Environmental Protection Agency, January 24, 2025
[21] What is Ozone?, Environmental Protection Agency, January 24, 2025

Common concerns that have created the existing static classification system used today revolve around the negative impacts of regional airports. These concerns are valid and require attention. While aircraft designs continuously evolve, and the accompanying associated noise has been steadily reduced, the quietest of aircraft will continue to produce noise.

Population and wealth growth in recent decades in the western and southwestern suburbs. Accompanying relocation of large corporations using aviation for business travel and the directive to move smaller reliver traffic away from MSP, have migrated aviation activity to the surrounding reliever airports. The operational data shows that GA aircraft use at relievers airports has grown and is forecast to continue to grow. These aircraft, including business/corporate jets, are already operating at these airports, either as a consequence of state law requiring MAC to prioritize GA activity toward the relievers, or as natural demand for convenient access to neighboring communities and corporate headquarters. The existing circumstances that artificially limit runway length and airport classification may also constrain potential positive economic impacts and unrealized growth in the surrounding communities.

Yet, regional planners are limited in approaches to a comprehensive classification system based on the realities and forecast needs of the reliever airports due to statutes. There is also the potential that artificially limiting infrastructure and associated regional system planning may push some of this constrained aviation demand onto other airports and communities.

In light of the changes in socio-economic factors, business travel, aircraft design, and aviation demand, it appears to be time to update the classification system for metropolitan airports to better align with conditions as they are today and forecast to grow tomorrow.

Areas where Metropolitan Council authority and Regional Aviation System Planning goals intersect with updated airport classifications are detailed below:

1. **Region is Equitable and Inclusive** – Recognize individual airport strengths, airport demand, and existing operations at regional airports that serve the surrounding communities to ensure that aviation benefits and impacts are spread across the entire region.
2. **Communities are Healthy and Safe** – Develop a classification system that identifies existing conditions at regional airports to better align needed facility infrastructure and safety improvements, while highlighting airport impacts to surrounding communities from existing operations.
3. **Region is Dynamic and Resilient** – Align planning, development, and infrastructure improvement to actual conditions and operations at regional airports, aligning changing system roles to system classification, spurring economic growth and system vitality.

The Metropolitan Council will continue to monitor aviation industry trends in relation to our regional planning goals.

Figure 10. Proposed Regional Aviation System Classifications