

AC — advisory circular	AOPA — Aircraft Owners and Pilots Association	ATCSCC — Air Traffic Control System Command Center
ACARS — aircraft communications addressing and reporting system	AP — autopilot system	ATC-TFM — air traffic control-traffic flow management
ACAS — airborne collision avoidance system	APC — auxiliary performance computer	ATCT — airport traffic control tower
AD — airworthiness directive	APV — approach with vertical guidance	ATD — along-track distance
ADF — automatic direction finder	ARFF — aircraft rescue and fire fighting	ATIS — automatic terminal information service
ADS — automatic dependent surveillance	ARINC — aeronautical radio incorporated	ATM — air traffic management
ADS-B — automatic dependent surveillance-broadcast	A-RNAV — advanced area navigation	ATS — air traffic service
AER — approach end of runway	ARSR — air route surveillance radar	ATT — attitude retention system
AFCS — automatic flight control system	ARTCC — Air Route Traffic Control Center	AVN — Office of Aviation System Standards
A/FD — airport/facility directory	ARTS — Automated Radar Terminal System	AWOS — automated weather observing system
AFM — airplane flight manual or aircraft flight manual	ASDA — accelerate-stop distance available	AWSS — automated weather sensor system
AFSS — Automated Flight Service Station	ASDAR — aircraft to satellite data relay	Baro-VNAV — barometric vertical navigation
AGL — above ground level	ASDE-3 — Airport Surface Detection Equipment-3	BRITE — bright radar indicator tower equipment
AIM — aeronautical information manual	ASDE-X — Airport Surface Detection Equipment-X	B-RNAV — European Basic RNAV
AIP — aeronautical information publication	ASOS — automated surface observing system	CAA — Civil Aeronautics Administration
AIS — airmen's information system	ASR — airport surveillance radar	CAASD — Center for Advanced Aviation Systems Development
ALAR — approach and landing accident reduction	ATC — air traffic control	CARF — central altitude reservation function
AMASS — airport movement area safety system [delete term]	ATCRBS — air traffic control radar beacon system	CAT — category
ANP — actual navigation performance	ATCS — Air Traffic Control Specialist	CDI — course deviation indicator
ANR — advanced navigation route		CDM — collaborative decision making
AOA — airport operating area		CDTI — cockpit display of traffic information
AOCC — airline operations control center		CDU — control display unit

CENRAP — Center Radar ARTS Processing	DRVSM — domestic reduced vertical separation minimums	FMS — flight management system
CFIT — controlled flight into terrain	DUATS — direct user access terminal system	FO — fly-over
CFR — Code of Federal Regulations	DVA — diverse vector area	FOM — flight operations manual
CGD — combined graphic display	EDCT — expect departure clearance time	FOWP — fly-over waypoint
CIP — Capital Investment Plan	EFB — electronic flight bag	FPM — feet per minute
CNF — computer navigation fix	EFC — expect further clearance	FSDO — Flight Standards District Office
CNS — communication, navigation, and surveillance	EFIS — electronic flight information system	FSS — Flight Service Station
COP — changeover point	EGPWS — enhanced ground proximity warning systems	FTE — flight technical error
COTS — commercial off the shelf	EICAS — Engine indicating and crew alerting system	GA — general aviation
CPDLC — controller pilot data link communications	EMS — emergency medical service	GAMA — General Aviation Manufacturer's Association
CRC — cyclic redundancy check	EPE — estimated position error	GBT — ground-based transmitter
CRCT — collaborative routing coordination tool	ER-OPS — extended range operations	GCA — ground controlled approach
CRM — crewmember resource management	ETA — estimated time of arrival	GCO — ground communication outlet
CRT — cathode-ray tube	EWINS — enhanced weather information system	GDP — ground delay programs
CTAF — common traffic advisory frequency	FAA — Federal Aviation Administration	GDPE — ground delay program enhancements
CTD — controlled time of departure	FAF — final approach fix	GLS — Global Navigation Satellite System Landing System
CVFP — charted visual flight procedure	FAP — final approach point	GNE — gross navigation error
DA — density altitude, decision altitude	FATO — Final Approach and Takeoff Area	GNSS — Global Navigation Satellite System
D-ATIS — digital automatic terminal information service	FB — fly-by	GPS — Global Positioning System
DACS — digital aeronautical chart supplement	FBWP — fly-by waypoint	GPWS — ground proximity warning system
DBRITE — digital bright radar indicator tower equipment	FD — winds and temperatures aloft forecast	G/S — glide slope
DER — departure end of the runway	FD — flight director	GS — groundspeed
DH — decision height	FDC NOTAM — Flight Data Center Notice to Airmen	GWS — graphical weather service
DME — distance measuring equipment	FDP — flight data processing	HAA — height above airport
DOD — Department of Defense	FIR — flight information region	HAR — High Altitude Redesign
DOT — Department of Transportation	FIS — flight information system	HAT — height above touchdown
DPs — departure procedures	FIS-B — flight information service-broadcast	HDD — head-down display
DSR — display system replacement	FISDL — flight information services data link	HEMS — helicopter emergency medical service
	FL — flight level	HF — high frequency
	FMC — flight management computer	HFDL — high frequency data link
		HGS — head-up guidance system
		HITS — highway in the sky
		HOCSR — host/oceanic computer

system replacement	MAMS — military airspace management system	NAS — National Airspace System
HSI — horizontal situation indicator	MAP — missed approach point	NASA — National Aeronautics and Space Administration
HSAC — Helicopter Safety Advisory Council	MAP — manifold absolute pressure	NASSI — National Airspace System status information
HUD — head-up display	MASPS — minimum aviation system performance specification	NAT — North Atlantic
IAF — initial approach fix	MAWP — missed approach waypoint	NATCA — National Air Traffic Controllers Association
IAP — instrument approach procedure	MCA — minimum crossing altitude	NAT/OPS — North Atlantic Operation
IAS — indicated air speed	McTMA — multi-center traffic management advisor	NAVAID — navigational aid
ICA — initial climb area	MDA — minimum descent altitude	NBCAP — National Beacon Code Allocation Plan
ICAO — International Civil Aviation Organization	MDH — minimum descent height	ND — navigation displays
IF — intermediate fix	MEA — minimum en route altitude	NDB — nondirectional beacon
IFR — instrument flight rules	MEL — minimum equipment list	NFDC — National Flight Data Center
ILS — instrument landing system	METAR — aviation routine weather report	NFPO — National Flight Procedures Office
IMC — instrument meteorological conditions	MFD — multifunction display	NGA — National Geospatial-Intelligence Agency
INS — inertial navigation system	MIA — minimum IFR altitude	NIMA — National Imagery and Mapping Agency
IOC — initial operational capability	MIT — miles-in-trail [delete term]	NM — nautical mile
IPV — instrument procedure with vertical guidance (this term has been renamed APV)	MLS — microwave landing system	NOAA — National Oceanic and Atmospheric Administration
IRU — Inertial Reference Unit	MNPS — minimum navigation performance specifications	NOPAC — North Pacific
KIAS — knots indicated airspeed	MOA — military operations area	NOTAM — Notice to Airmen
LAAS — Local Area Augmentation System	MOCA — minimum obstruction clearance altitude	NOTAM D — Distant NOTAM
LAHSO — land and hold short operations	MOPS — minimum operational performance standards	NOTAM L — Local NOTAM
LDA — localizer type directional aid, landing distance available	MORA — minimum off route altitude	NOZ — normal operating zone
LF — low frequency	MRA — minimum reception altitude	NPA — nonprecision approach
LNAV — lateral navigation	MSA — minimum safe altitude	NPRM — Notice of Proposed Rulemaking
LOA — letter of agreement/letter of authorization	MSAW — minimum safe altitude warning	NRP — national route program
LOC — localizer	MSL — mean sea level	NRR — non-restrictive routing
LOM — locator outer marker	MTA — minimum turning altitude	NRS — National Reference System
LPV — See glossary	MVA — minimum vectoring altitude	NSE — navigation system error
LTP — landing threshold point	NA — not authorized	NTAP — Notice to Airmen Publication
MAA — maximum authorized altitude	NACO — National Aeronautical Charting Office	NTSB — National Transportation Safety Board
MAHWP — missed approach holding waypoint	NAR — National Airspace Redesign	NTZ — no transgression zone

NWS — National Weather Service	RDOF — radio failure	STAR — standard terminal arrival
OCS — obstacle clearance surface	RJ — regional jet	STARS — standard terminal automation replacement system
ODP — obstacle departure procedure	RNAV — area navigation	STC — supplemental type certificate
OEP — Operational Evolution Plan	RNP — required navigation performance	STMP — special traffic management program
OpsSpecs — operations specifications	ROC — required obstacle clearance	SUA — special use airspace
OROCA — off-route obstruction clearance altitude	RSP — runway safety program	SUA/ISE — special use airspace/inflight service enhancement
PA — precision approach	RVR — runway visual range	SVFR — special visual flight rules
PAR — precision approach radar	RVSM — reduced vertical separation minimums	SWAP — severe weather avoidance plan
PARC — performance-based operations aviation rulemaking committee	RVV — runway visibility value	TA — traffic advisory
PCG — positive course guidance	RWY — runway	TAA — terminal arrival area
PDC — pre-departure clearance	SAAAR — Special Aircraft and Aircrew Authorization Required	TACAN — tactical air navigation
PDR — preferential departure route	SAAR — special aircraft and aircrew requirements	TAF — terminal aerodrome forecast
PF — pilot flying	SAMS — special use airspace management system	TAS — true air speed
PFD — primary flight display	SAS — stability augmentation system	TAWS — terrain awareness and warning systems
pFAST — passive final approach spacing tool	SATNAV — satellite navigation	TCAS — traffic alert and collision avoidance system
PIC — pilot in command	SDF — simplified directional facility	TCH — threshold crossing height
PinS — Point-in-Space	SER — start end of runway	TDLS — terminal data link system
PIREP — pilot weather report	SIAP — standard instrument approach procedure	TDZ — touchdown zone
PM — pilot monitoring	SID — standard instrument departure	TDZE — touchdown zone elevation
POH — pilot's operating handbook	SIGMET — significant meteorological information	TEC — tower en route control
POI — principle operations inspector	SM — statute mile	TERPS — U.S. Standard for Terminal Instrument Procedures
PRM — precision runway monitor	SMA — surface movement advisor	TFM — traffic flow management
P-RNAV — European Precision RNAV	SMGCS — surface movement guidance and control system	TIS — traffic information service
PT — procedure turn	SMS — surface management system	TIS-B — traffic information service-broadcast
PTP — point-to-point	SOIA — simultaneous offset instrument approaches	TLOF — Touchdown and Lift-Off Area
QFE — transition height	SOP — standard operating procedure	TM — traffic management
QNE — transition level	SPECI — non-routine (special) aviation weather report	TMA — traffic management advisor
QNH — transition altitude	SSV — standard : ce volume	TMU — traffic management unit
RA — resolution advisory, radio altitude		TOC — top of climb
RAIM — receiver autonomous integrity monitoring		TOD — top of descent
RCO — remote communications outlet		TODA — takeoff distance available

TOGA — take-off/go around

TORA — takeoff runway available

TPP — terminal procedures publication

TRACAB — see glossary.

TRACON — terminal radar approach control

TSE — total navigation system error

TSO — technical standard order

UAT — universal access transceiver

UHF — ultra high frequency

URET — user request evaluation tool

US — United States

USAF — United States Air Force

VCOA — visual climb over airport

VDP — visual descent point

VFR — visual flight rules

VGSI — visual glide slope indicator

VHF — very high frequency

VLJ — very light jet

VMC — visual meteorological conditions

V_{MINI} — minimum speed-IFR.

VNAV — vertical navigation

V_{NEI} — never exceed speed-IFR.

VOR — very high frequency omnidirectional range

VORTAC — very high frequency omnidirectional range/tactical air navigation

VPA — vertical path angle

V_{REF} — reference landing speed

V_{SO} — stalling speed or the minimum steady flight speed in the landing configuration

WAAS — Wide Area Augmentation System

WAC — World Aeronautical Chart

WP — waypoint

Glossary

Abeam Fix – A fix, NAVAID, point, or object positioned approximately 90 degrees to the right or left of the aircraft track along a route of flight. Abeam indicates a general position rather than a precise point.

Accelerate-Stop Distance Available (ASDA) – The runway plus stopway length declared available and suitable for the acceleration and deceleration of an airplane aborting a takeoff.

Aircraft Approach Category – A grouping of aircraft based on reference landing speed (VREF), if specified, or if VREF is not specified, 1.3 VSO (the stalling speed or minimum steady flight speed in the landing configuration) at the maximum certificated landing weight.

Airport Diagram – A full-page depiction of the airport that includes the same features of the airport sketch plus additional details such as taxiway identifiers, airport latitude and longitude, and building identification. Airport diagrams are located in the U.S. Terminal Procedures booklet following the instrument approach charts for a particular airport.

Airport/Facility Directory (A/FD) – Regional booklets published by the National Aeronautical Charting Office (NACO) that provide textual information about all airports, both VFR and IFR. The A/FD includes runway length and width, runway surface, load bearing capacity, runway slope, airport services, and hazards such as birds and reduced visibility.

Airport Sketch – Depicts the runways and their length, width, and slope, the touchdown zone elevation, the lighting system installed on the end of the runway, and taxiways. Airport sketches are located on the lower left or right portion of the instrument approach chart.

Air Route Traffic Control Center (ARTCC) – A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight

Air Traffic Service (ATS) – Air traffic service is an ICAO generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service, or aerodrome control service).

Approach End of Runway (AER) – The first portion of the runway available for landing. If the runway threshold is displaced, use the displaced threshold latitude/longitude as the AER.

Approach Fix – From a database coding standpoint, an approach fix is considered to be an identifiable point in

space from the intermediate fix (IF) inbound. A fix located between the initial approach fix (IAF) and the IF is considered to be associated with the approach transition or feeder route.

Approach Gate – An imaginary point used by ATC to vector aircraft to the final approach course. The approach gate is established along the final approach course 1 NM from the final approach fix (FAF) on the side away from the airport and is located no closer than 5 NM from the landing threshold.

Area Navigation (RNAV) – A method of navigation that permits aircraft operations on any desired course within the coverage of station referenced navigation signals or within the limits of self contained system capability.

Automated Surface Observing System (ASOS)/Automated Weather Sensor System (AWSS) – The ASOS/AWSS is the primary surface weather observing system of the U.S.

Automated Surface Observing System (ASOS) – A weather observing system that provides minute-by-minute weather observations such as temperature, dew point, wind, altimeter setting, visibility, sky condition, and precipitation. Some ASOS stations include a precipitation discriminator which can differentiate between liquid and frozen precipitation.

Automated Weather Observing System (AWOS) – A suite of sensors which measure, collect, and disseminate weather data. AWOS stations provide a minute-by-minute update of weather parameters such as wind speed and direction, temperature and dew point, visibility, cloud heights and types, precipitation, and barometric pressure. A variety of AWOS system types are available (from AWOS 1 to AWOS 3), each of which includes a different sensor array.

Automated Weather Sensor System (AWSS) – The AWSS is part of the Aviation Surface Weather Observation Network suite of programs and provides pilots and other users with weather information through the Automated Surface Observing System. The AWSS sensor suite automatically collects, measures, processes, and broadcasts surface weather data.

Automated Weather System – Any of the automated weather sensor platforms that collect weather data at airports and disseminate the weather information via radio and/or landline. The systems currently consist of the Automated Surface Observing System (ASOS), Automated Weather Sensor System (AWSS) and Automated Weather Observation System (AWOS).

Automatic Dependent Surveillance-Broadcast (ADS-B) – A surveillance system that continuously broadcasts GPS position information, aircraft identification,

altitude, velocity vector, and direction to all other aircraft and air traffic control facilities within a specific area. Automatic dependent surveillance-broadcast (ADS-B) information will be displayed in the cockpit via a cockpit display of traffic information (CDTI) unit, providing the pilot with greater situational awareness. ADS-B transmissions will also provide controllers with a more complete picture of traffic and will update that information more frequently than other surveillance equipment.

Automatic Terminal Information Service (ATIS) – A recorded broadcast available at most airports with an operating control tower that includes crucial information about runways and instrument approaches in use, specific outages, and current weather conditions, including visibility.

Center Radar ARTS Presentation/Processing (CENRAP) – CENRAP was developed to provide an alternative to a non-radar environment at terminal facilities should an ASR fail or malfunction. CENRAP sends aircraft radar beacon target information to the ASR terminal facility equipped with ARTS.

Changeover Point (COP) – A COP indicates the point where a frequency change is necessary between navigation aids when other than the midpoint on an airway, to receive course guidance from the facility ahead of the aircraft instead of the one behind. These COPs divide an airway or route segment and ensure continuous reception of navigational signals at the prescribed minimum en route IFR altitude.

Charted Visual Flight Procedure (CVFP) – A CVFP may be established at some towered airports for environmental or noise considerations, as well as when necessary for the safety and efficiency of air traffic operations. Designed primarily for turbojet aircraft, CVFPs depict prominent landmarks, courses, and recommended altitudes to specific runways.

Cockpit display of traffic information (CDTI) – The display and user interface for information about air traffic within approximately 80 miles. It will typically combine and show traffic data from TCAS, TIS-B, and ADS-B. Depending on features, the display may also show terrain, weather, and navigation information.

Collision Hazard – A condition, event, or circumstance that could induce an occurrence of a collision or surface accident or incident.

Columns - See Database Columns

Contact Approach – An approach where an aircraft on an IFR flight plan, having an air traffic control authorization, operating clear of clouds with at least one mile flight visibility, and a reasonable expectation of contin-

uing to the destination airport in those conditions, may deviate from the instrument approach procedure and proceed to the destination airport by visual reference to the surface. This approach will only be authorized when requested by the pilot and the reported ground visibility at the destination airport is at least one statute mile.

Controlled Flight Into Terrain (CFIT) – A situation where a mechanically normally functioning airplane is inadvertently flown into the ground, water, or an obstacle. There are two basic causes of CFIT accidents; both involve flight crew situational awareness. One definition of situational awareness is an accurate perception by pilots of the factors and conditions currently affecting the safe operation of the aircraft and the crew. The causes of CFIT are the flight crews' lack of vertical position awareness or their lack of horizontal position awareness in relation to terrain and obstacles.

Database Columns – The spaces for data entry on each record. One column can accommodate one character.

Database Field – The collection of characters needed to define one item of information.

Database Identifier – A specific geographic point in space identified on an aeronautical chart and in a navigation database, officially designated by the controlling state authority or derived by Jeppesen. It has no ATC function and should not be used in filing flight plans nor used when communicating with ATC.

Database Record – A single line of computer data made up of the fields necessary to define fully a single useful piece of data.

Decision Altitude (DA) – A specified altitude in the precision approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established. The term "Decision Altitude (DA)" is referenced to mean sea level and the term "Decision Height (DH)" is referenced to the threshold elevation. Even though DH is charted as an altitude above MSL, the U.S. has adopted the term "DA" as a step toward harmonization of the United States and international terminology. At some point, DA will be published for all future instrument approach procedures with vertical guidance.

Decision Height (DH) – See Decision Altitude

Departure End of Runway (DER) – The end of runway available for the ground run of an aircraft departure. The end of the runway that is opposite the landing threshold, sometimes referred to as the stop end of the runway.

Descend Via – A descend via clearance instructs you to follow the altitudes published on a STAR. You are not authorized to leave your last assigned altitude unless specifically cleared to do so. If ATC amends the altitude or route to one that is different from the published procedure, the rest of the charted descent procedure is canceled. ATC will assign you any further route, altitude, or airspeed clearances, as necessary.

Digital ATIS (D-ATIS) – An alternative method of receiving ATIS reports by aircraft equipped with datalink services capable of receiving information in the cockpit over their Aircraft Communications Addressing and Reporting System (ACARS) unit.

Diverse Vector Area (DVA) – An airport may establish a diverse vector area if it is necessary to vector aircraft below the minimum vectoring altitude to assist in the efficient flow of departing traffic. DVA design requirements are outlined in TERPS and allow for the vectoring of aircraft immediately off the departure end of the runway below the MVA.

Dynamic Magnetic Variation – A field which is simply a computer model calculated value instead of a measured value contained in the record for a waypoint.

Electronic Flight Bag (EFB) – An electronic display system intended primarily for cockpit or cabin use. EFB devices can display a variety of aviation data or perform basic calculations (e.g., performance data, fuel calculations, etc.). In the past, some of these functions were traditionally accomplished using paper references or were based on data provided to the flight crew by an airline's "flight dispatch" function. The scope of the EFB system functionality may also include various other hosted databases and applications. Physical EFB displays may use various technologies, formats, and forms of communication. These devices are sometimes referred to as auxiliary performance computers (APC) or laptop auxiliary performance computers (LAPC).

Ellipsoid of Revolution – The surface that results when an ellipse is rotated about one of its axes.

En Route Obstacle Clearance Areas – Obstacle clearance areas for en route planning are identified as primary, secondary, and turning areas, and they are designed to provide obstacle clearance route protection width for airways and routes.

Expanded Service Volume – When ATC or a procedures specialist requires the use of a NAVAID beyond the limitations specified for standard service volume, an expanded service volume (ESV) may be established. See standard service volume.

Feeder Route – A feeder route is a route depicted on IAP charts to designate courses for aircraft to proceed from the en route structure to the IAF. Feeder routes,

also referred to as approach transitions, technically are not considered approach segments but are an integral part of many IAPs.

Field – See Database Field

Final Approach and Takeoff Area (FATO) – The FATO is a defined heliport area over which the final approach to a hover or a departure is made. The touch-down and lift-off area (TLOF) where the helicopter is permitted to land is normally centered in the FATO. A safety area is provided around the FATO.

Fix – A geographical position determined by visual reference to the surface, by reference to one or more radio NAVAIDs, by celestial plotting, or by another navigational device. Note: Fix is a generic name for a geographical position and is referred to as a fix, waypoint, intersection, reporting point, etc.

Flight Information Region (FIR) – A FIR is an airspace of defined dimensions within which Flight Information Service and Alerting Service are provided. Flight Information Service (FIS) is a service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights. Alerting Service is a service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.

Flight Level (FL) – A flight level is a level of constant atmospheric pressure related to a reference datum of 29.92 in.Hg. Each flight level is stated in three digits that represents hundreds of feet. For example, FL 250 represents an altimeter indication of 25,000 feet.

Floating Waypoints – Floating waypoints represent airspace fixes at a point in space not directly associated with a conventional airway. In many cases they may be established for such purposes as ATC metering fixes, holding points, RNAV-direct routing, gateway waypoints, STAR origination points leaving the en route structure, and SID terminating points joining the en route structure.

Fly-By (FB) Waypoint – A waypoint that requires the use of turn anticipation to avoid overshooting the next flight segment.

Fly-Over (FO) Waypoint – A waypoint that precludes any turn until the waypoint is overflown, and is followed by either an intercept maneuver of the next flight segment or direct flight to the next waypoint.

Four Corner Post Configuration – An arrangement of air traffic pathways in a terminal area that brings incoming flights over fixes at four corners of the traffic area, while outbound flights depart between the fixes, thus minimizing conflicts between arriving and departing traffic.

Gateway Fix – A navigational aid or fix where an aircraft transitions between the domestic route structure and the oceanic route airspace.

Geodetic Datum – The reference plane from which geodetic calculations are made. Or, according to ICAO Annex 15, the numerical or geometrical quantity or set of such quantities (mathematical model) that serves as a reference for computing other quantities in a specific geographic region such as the latitude and longitude of a point.

Glidepath Angle (GPA) – The angular displacement of the vertical guidance path from a horizontal plane that passes through the reference datum point (RDP). This angle is published on approach charts (e.g., 3.00°, 3.20°, etc.). GPA is sometimes referred to as vertical path angle (VPA).

Global Navigation Satellite System (GNSS) – An umbrella term adopted by the International Civil Aviation Organization (ICAO) to encompass any independent satellite navigation system used by a pilot to perform onboard position determinations from the satellite data.

Gross Navigation Error (GNE) – In the North Atlantic area of operations, a gross navigation error is a lateral separation of more than 25 NM from the centerline of an aircraft's cleared route, which generates an Oceanic Navigation Error Report. This report is also generated by a vertical separation if you are more than 300 feet off your assigned flight level.

Ground Communication Outlet (GCO) – An unstaffed, remotely controlled ground/ground communications facility. Pilots at uncontrolled airports may contact ATC and AFSS via Very High Frequency (VHF) radio to a telephone connection. This lets pilots obtain an instrument clearance or close a VFR/IFR flight plan.

Head-Up Display (HUD) – See Head-Up Guidance System (HGS)

Head-Up Guidance System (HGS) – A system which projects critical flight data on a display positioned between the pilot and the windscreen. In addition to showing primary flight information, the HUD computes an extremely accurate instrument approach and landing guidance solution, and displays the result as a guidance cue for head-up viewing by the pilot.

Height Above Touchdown (HAT) – The height of the DA above touchdown zone elevation (TDZE).

Highway in the Sky (HITS) – A graphically intuitive pilot interface system that provides an aircraft operator with all of the attitude and guidance inputs required to safely fly an aircraft in close conformance to air traffic procedures.

Initial Climb Area (ICA) – An area beginning at the departure end of runway (DER) to provide unrestricted climb to at least 400 feet above DER elevation.

Instrument Approach Waypoint – Fixes used in defining RNAV IAPs, including the feeder waypoint (FWP), the initial approach waypoint (IAWP), the intermediate waypoint (IWP), the final approach waypoint (FAWP), the RWY WP, and the APT WP, when required.

Instrument Landing System (ILS) – A precision instrument approach system that normally consists of the following electronic components and visual aids; localizer, glide slope, outer marker, middle marker, and approach lights.

Instrument Procedure with Vertical Guidance (IPV) – Satellite or Flight Management System (FMS) lateral navigation (LNAV) with computed positive vertical guidance based on barometric or satellite elevation. This term has been renamed APV.

International Civil Aviation Organization (ICAO) – ICAO is a specialized agency of the United Nations whose objective is to develop standard principles and techniques of international air navigation and to promote development of civil aviation.

Intersection – Typically, the point at which two VOR radial position lines cross on a route, usually intersecting at a good angle for positive indication of position, resulting in a VOR/VOR fix.

Landing Distance Available (LDA) – ICAO defines LDA as the length of runway, which is declared available and suitable for the ground run of an aeroplane landing.

Lateral Navigation (LNAV) – Azimuth navigation, without positive vertical guidance. This type of navigation is associated with nonprecision approach procedures or en route.

Local Area Augmentation System (LAAS) – LAAS further increases the accuracy of GPS and improves signal integrity warnings.

Localizer Performance with Vertical Guidance (LPV) – LPV is one of the four lines of approach minimums found on an RNAV (GPS) approach chart. Lateral guidance accuracy is equivalent to a localizer. The HAT is published as a DA since it uses an electronic glide path that is not dependent on any ground equipment or barometric aiding and may be as low as 200 feet and $\frac{1}{2}$ SM visibility depending on the airport terrain and infrastructure. WAAS avionics approved for LPV is required. Baro-VNAV is not authorized to fly the LPV line of minimums on a RNAV (GPS) procedure since it uses an internally generated descent path that is subject to cold temperature effects and incorrect altimeter settings.

Loss of Separation – An occurrence or operation that results in less than prescribed separation between aircraft, or between an aircraft and a vehicle, pedestrian, or object.

LPV – See Localizer Performance with Vertical Guidance

Magnetic Variation – The difference in degrees between the measured values of true north and magnetic north at that location.

Maximum Authorized Altitude (MAA) – An MAA is a published altitude representing the maximum usable altitude or flight level for an airspace structure or route segment. It is the highest altitude on a Federal airway, jet route, RNAV low or high route, or other direct route for which an MEA is designated at which adequate reception of navigation signals is assured.

Metering Fix – A fix along an established route over which aircraft will be metered prior to entering terminal airspace. Normally, this fix should be established at a distance from the airport which will facilitate a profile descent 10,000 feet above airport elevation (AAE) or above.

Mid-RVR – The RVR readout values obtained from sensors located midfield of the runway.

Mileage Break – A point on a route where the leg segment mileage ends, and a new leg segment mileage begins, often at a route turning point.

Military Airspace Management System (MAMS) – A Department of Defense system to collect and disseminate information on the current status of special use airspace. This information is provided to the Special Use Airspace Management System (SAMS). The electronic interface also provides SUA schedules and historical activation and utilization data.

Minimum Crossing Altitude (MCA) – An MCA is the lowest altitude at certain fixes at which the aircraft must cross when proceeding in the direction of a higher minimum en route IFR altitude. MCAs are established in all cases where obstacles intervene to prevent pilots from maintaining obstacle clearance during a normal climb to a higher MEA after passing a point beyond which the higher MEA applies.

Minimum Descent Altitude (MDA) – The lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circle-to-land maneuvering in execution of a standard instrument approach procedure where no electronic glide slope is provided.

Minimum En Route Altitude (MEA) – The MEA is the lowest published altitude between radio fixes that assures acceptable navigational signal coverage and meets obstacle clearance requirements between those fixes. The MEA prescribed for a Federal airway or segment, RNAV low or high route, or other direct route

applies to the entire width of the airway, segment, or route between the radio fixes defining the airway, segment, or route.

Minimum IFR Altitude (MIA) – Minimum altitudes for IFR operations are prescribed in Part 91. These MIAs are published on NACO charts and prescribed in Part 95 for airways and routes, and in Part 97 for standard instrument approach procedures.

Minimum Navigation Performance Specifications (MNPS) – A set of standards which require aircraft to have a minimum navigation performance capability in order to operate in MNPS designated airspace. In addition, aircraft must be certified by their State of Registry for MNPS operation. Under certain conditions, non-MNPS aircraft can operate in MNPS airspace, however, standard oceanic separation minima is provided between the non-MNPS aircraft and other traffic.

Minimum Obstruction Clearance Altitude (MOCA) – The MOCA is the lowest published altitude in effect between radio fixes on VOR airways, off-airway routes, or route segments that meets obstacle clearance requirements for the entire route segment. This altitude also assures acceptable navigational signal coverage only within 22 NM of a VOR.

Minimum Reception Altitude (MRA) – An MRA is determined by FAA flight inspection traversing an entire route of flight to establish the minimum altitude the navigation signal can be received for the route and for off-course NAVAID facilities that determine a fix. When the MRA at the fix is higher than the MEA, an MRA is established for the fix, and is the lowest altitude at which an intersection can be determined.

Minimum Safe Altitudes (MSA) – MSAs are published for emergency use on IAP charts. For conventional navigation systems, the MSA is normally based on the primary omnidirectional facility on which the IAP is predicated. For RNAV approaches, the MSA is based on the runway waypoint (RWY WP) for straight-in approaches, or the airport waypoint (APT WP) for circling approaches. For GPS approaches, the MSA center will be the Missed Approach Waypoint (MAWP).

Minimum Vectoring Altitude (MVA) – Minimum vectoring altitude charts are developed for areas where there are numerous minimum vectoring altitudes due to variable terrain features or man-made obstacles. MVAs are established for use by ATC when radar ATC is exercised.

Missed Approach Holding Waypoint (MAHWP) – An approach waypoint sequenced during the holding portion of the missed approach procedure that is usually a fly-over waypoint, rather than a fly-by waypoint.

Missed Approach Waypoint (MAWP) – An approach waypoint sequenced during the missed approach procedure that is usually a fly-over waypoint, rather than a fly-by waypoint.

National Airspace System (NAS) – Consists of a complex collection of facilities, systems, equipment, procedures, and airports operated by thousands of people to provide a safe and efficient flying environment.

Navigational Gap – A navigational course guidance gap, referred to as an MEA gap, describes a distance along an airway or route segment where a gap in navigational signal coverage exists. The navigational gap may not exceed a specific distance that varies directly with altitude.

Nondirectional Radio Beacon (NDB) – An L/MF or UHF radio beacon transmitting nondirectional signals whereby the pilot of an aircraft equipped with direction finding equipment can determine bearing to or from the radio beacon and “home” on or track to or from the station. When the radio beacon is installed in conjunction with the ILS marker, it is normally called a compass locator.

Non-RNAV DP – A DP whose ground track is based on ground-based NAVAIDS and/or dead reckoning navigation.

Obstacle Clearance Surface (OCS) – An inclined or level surface associated with a defined area for obstruction evaluation.

Obstacle Departure Procedure (ODP) – A procedure that provides obstacle clearance. ODPs do not include ATC related climb requirements. In fact, the primary emphasis of ODP design is to use the least onerous route of flight to the en route structure while attempting to accommodate typical departure routes.

Obstacle Identification Surface (OIS) – The design of a departure procedure is based on TERPS, a living document that is updated frequently. Departure design criteria assumes an initial climb of 200 feet per NM after crossing the departure end of the runway (DER) at a height of at least 35 feet above the ground. Assuming a 200 feet per NM climb, the departure is structured to provide at least 48 feet per NM of clearance above objects that do not penetrate the obstacle slope. The slope, known as the obstacle identification slope (OIS), is based on a 40 to 1 ratio, which is the equivalent of a 152-foot per NM slope.

Off-Airway Routes – The FAA prescribes altitudes governing the operation of aircraft under IFR for off-airway routes in a similar manner to those on federal airways, jet routes, area navigation low or high altitude routes, and other direct routes for which an MEA is designated.

Off-Route Obstruction Clearance Altitude

(OROCA) – An off-route altitude that provides obstruction clearance with a 1,000 foot buffer in non-mountainous terrain areas and a 2,000 foot buffer in designated mountainous areas within the U.S. This altitude may not provide signal coverage from ground-based navigational aids, air traffic control radar, or communications coverage.

Operations Specifications (OpsSpecs) – A published document providing the conditions under which an air carrier and operator for compensation or hire must operate in order to retain approval from the FAA.

Pilot Briefing Information – The current format for charted IAPs issued by NACO. The information is presented in a logical order facilitating pilot briefing of the procedures. Charts include formatted information required for quick pilot or flight crew reference located at the top of the chart.

Point-in-Space (PinS) Approach – An approach normally developed to heliports that do not meet the IFR heliport design standards but meet the standards for a VFR heliport. A helicopter PinS approach can be developed using conventional NAVAIDS or RNAV systems. These procedures have either a VFR or visual segment between the MAP and the landing area. The procedure will specify a course and distance from the MAP to the heliport(s) and include a note to proceed VFR or visually from the MAP to the heliport, or conduct the missed approach.

Positive Course Guidance (PCG) – A continuous display of navigational data that enables an aircraft to be flown along a specific course line, e.g., radar vector, RNAV, ground-based NAVAID.

Precision Runway Monitor (PRM) – Provides air traffic controllers with high precision secondary surveillance data for aircraft on final approach to parallel runways that have extended centerlines separated by less than 4,300 feet. High resolution color monitoring displays (FMA) are required to present surveillance track data to controllers along with detailed maps depicting approaches and a no transgression zone.

Preferential Departure Route (PDR) – A specific departure route from an airport or terminal area to an en route point where there is no further need for flow control. It may be included in an instrument Departure Procedure (DP) or a Preferred IFR Route.

Preferred IFR Routes – A system of preferred IFR routes guides you in planning your route of flight to minimize route changes during the operational phase of flight, and to aid in the efficient orderly management of air traffic using federal airways.

Principal Operations Inspector (POI) – Scheduled air carriers and operators for compensation or hire are assigned a principal operations inspector (POI) who works directly with the company and coordinates FAA operating approval.

Record – See Database Record

Reduced Vertical Separation Minimums (RVSM) – RVSM airspace is where air traffic control separates aircraft by a minimum of 1,000 feet vertically between flight level (FL) 290 and FL 410 inclusive. RVSM airspace is special qualification airspace; the operator and the aircraft used by the operator must be approved by the Administrator. Air traffic control notifies operators of RVSM by providing route planing information.

Reference Landing Speed (VREF) – The speed of the airplane, in a specified landing configuration, at the point where it descends through the 50-foot height in the determination of the landing distance.

Remote Communications Outlet (RCO) – An unmanned communications facility remotely controlled by air traffic personnel. RCOs serve FSSs and may be UHF or VHF. RCOs extend the communication range of the air traffic facility. RCOs were established to provide ground-to-ground communications between air traffic control specialists and pilots located at a satellite airport for delivering en route clearances, issuing departure authorizations, and acknowledging IFR cancellations or departure/landing times.

Reporting Point – A geographical location in relation to which the position of an aircraft is reported. (See Compulsory Reporting Points)

Required Navigation Performance (RNP) – RNP is a statement of the navigation performance necessary for operation within a defined airspace. On-board monitoring and alerting is required.

RNAV DP – A DP developed for RNAV-equipped aircraft whose ground track is based on satellite or DME/DME navigation systems.

Roll-out RVR – The RVR readout values obtained from sensors located nearest the rollout end of the runway.

Runway Heading – The magnetic direction that corresponds with the runway centerline extended, not the painted runway numbers on the runway. Pilots cleared to “fly or maintain runway heading” are expected to fly or maintain the published heading that corresponds with the extended centerline of the departure runway (until otherwise instructed by ATC), and are not to apply drift correction; e.g., RWY 4, actual magnetic heading of the runway centerline 044.22°, fly 044°.

Runway Hotspots – Locations on a particular airport that historically have hazardous intersections. Hot spots alert pilots to the fact that there may be a lack of visibility at certain points or the tower may be unable to see that particular intersection. Whatever the reason, pilots need to be aware that these hazardous intersections exist and they should be increasingly vigilant when approaching and taxiing through these intersections. Pilots are typically notified of these areas by a Letter to Airmen or by accessing the FAA Office of Runway Safety.

Runway Incursion – an occurrence at an airport involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in a loss of separation with an aircraft that is taking off, intending to take off, landing, or intending to land.

Runway Safety Program (RSP) – Designed to create and execute a plan of action that reduces the number of runway incursions at the nation’s airports.

Runway Visual Range (RVR) – An estimate of the maximum distance at which the runway, or the specified lights or markers delineating it, can be seen from a position above a specific point on the runway centerline. RVR is normally determined by visibility sensors or transmissometers located alongside and higher than the centerline of the runway. RVR is reported in hundreds of feet.

Runway Visibility Value (RVV) – The visibility determined for a particular runway by a transmissometer. A meter provides a continuous indication of the visibility (reported in miles or fractions of miles) for the runway. RVV is used in lieu of prevailing visibility in determining minimums for a particular runway.

Significant Point – [ICAO Annex 11] A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes.

Special Instrument Approach Procedure – A procedure approved by the FAA for individual operators, but not published in FAR 97 for public use.

Special Use Airspace Management System (SAMS) – A joint FAA and military program designed to improve civilian access to special use airspace by providing information on whether the airspace is active or scheduled to be active. The information is available to authorized users via an Internet website.

Standard Instrument Departure (SID) – An ATC requested and developed departure route designed to increase capacity of terminal airspace, effectively control the flow of traffic with minimal communication, and reduce environmental impact through noise abatement procedures.

Standard Service Volume – Most air navigation radio aids which provide positive course guidance have a designated standard service volume (SSV). The SSV defines the reception limits of unrestricted NAVAIDS which are usable for random/unpublished route navigation. Standard service volume limitations do not apply to published IFR routes or procedures. See the AIM for the SSV for specific NAVAID types.

Standard Terminal Arrival (STAR) – Provides a common method for departing the en route structure and navigating to your destination. A STAR is a pre-planned instrument flight rule ATC arrival procedure published for pilot use in graphic and textual form to simplify clearance delivery procedures. STARS provide you with a transition from the en route structure to an outer fix or an instrument approach fix or arrival waypoint in the terminal area, and they usually terminate with an instrument or visual approach procedure.

Standardized Taxi Routes – Coded taxi routes that follow typical taxiway traffic patterns to move aircraft between gates and runways. ATC issues clearances using these coded routes to reduce radio communication and eliminate taxi instruction misinterpretation.

STAR Transition – A published segment used to connect one or more en route airways, jet routes, or RNAV routes to the basic STAR procedure. It is one of several routes that bring traffic from different directions into one STAR. NACO publishes STARS for airports with procedures authorized by the FAA, and these STARS are included at the front of each Terminal Procedures Publication regional booklet.

Start End of Runway (SER) – The beginning of the takeoff runway available.

Station Declination – The angular difference between true north and the zero radial of a VOR at the time the VOR was last site checked.

Surface Incident – An event during which authorized or unauthorized/unapproved movement occurs in the movement area or an occurrence in the movement area associated with the operation of an aircraft that affects or could affect the safety of flight.

Surface Movement Guidance Control System (SMGCS) – Facilitates the safe movement of aircraft and vehicles at airports where scheduled air carriers are conducting authorized operations. The SMGCS low visibility taxi plan includes the improvement of taxiway and runway signs, markings, and lighting, as well as the creation of SMGCS low visibility taxi route charts.

Synthetic Vision – A visual display of terrain, obstructions, runways, and other surface features that creates a virtual view of what the pilot would see out the window. This tool could be used to supplement normal vision in low visibility conditions, as well as to increase situational awareness in IMC.

Takeoff Distance Available (TODA) – ICAO defines TODA as the length of the takeoff runway available plus the length of the clearway, if provided.

Takeoff Runway Available (TORA) – ICAO defines TORA as the length of runway declared available and suitable for the ground run of an aeroplane takeoff.

Tangent Point (TP) – The point on the VOR/DME RNAV route centerline from which a line perpendicular to the route centerline would pass through the reference facility.

Terminal Arrival Area (TAA) – TAAs are the method by which aircraft are transitioned from the RNAV en route structure to the terminal area with minimal ATC interaction. The TAA consists of a designated volume of airspace designed to allow aircraft to enter a protected area, offering guaranteed obstacle clearance where the initial approach course is intercepted based on the location of the aircraft relative to the airport.

Threshold – The beginning of the part of the runway usable for landing.

Top of Climb (TOC) – An identifiable waypoint representing the point at which cruise altitude is first reached. TOC is calculated based on your current aircraft altitude, climb speed, and cruise altitude. There can only be one TOC waypoint at a time.

Top of Descent (TOD) – Generally utilized in flight management systems, top of descent is an identifiable waypoint representing the point at which descent is first initiated from cruise altitude. TOD is generally calculated using the destination elevation (if available) and the descent speed schedule.

Touchdown and Lift-Off Area (TLOF) – The TLOF is a load bearing, usually paved area at a heliport where the helicopter is permitted to land. The TLOF can be located at ground or rooftop level, or on an elevated structure. The TLOF is normally centered in the FATO.

Touchdown RVR – The RVR visibility readout values obtained from sensors serving the runway touchdown zone.

Touchdown Zone Elevation (TDZE) – The highest elevation in the first 3,000 feet of the landing surface.

Tower En Route Control (TEC) – The control of IFR en route traffic within delegated airspace between two or more adjacent approach control facilities. This service is designed to expedite air traffic and reduces air traffic control and pilot communication requirements.

TRACAB – A new type of air traffic facility that consists of a radar approach control facility located in the tower cab of the primary airport, as opposed to a separate room.

Traffic Information Service-Broadcast (TIS-B) – An air traffic surveillance system that combines all available traffic information on a single display.

Traffic Management Advisor (TMA) – A software suite that helps air traffic controllers to sequence arriving air traffic.

Transition Altitude (QNH) – The altitude in the vicinity of an airport at or below which the vertical position of an aircraft is controlled by reference to altitudes (MSL).

Transition Height (QFE) – Transition height is the height in the vicinity of an airport at or below which the vertical position of an aircraft is expressed in height above the airport reference datum.

Transition Layer – Transition layer is the airspace between the transition altitude and the transition level. Aircraft descending through the transition layer will set altimeters to local station pressure, while departing aircraft climbing through the transition layer will be using standard altimeter setting (QNE) of 29.92 inches of Mercury, 1013.2 millibars, or 1013.2 hectopascals.

Transition Level (QNE) – The lowest flight level available for use above the transition altitude.

Turn Anticipation – The capability of RNAV systems to determine the point along a course, prior to a turn WP, where a turn should be initiated to provide a smooth path to intercept the succeeding course, and to enunciate the information to the pilot.

Turn WP [Turning Point] – A WP which identifies a change from one course to another.

User-defined Waypoint – User-defined waypoints typically are created by pilots for use in their own random RNAV direct navigation. They are newly established, unpublished airspace fixes that are designated geographic locations/positions that help provide positive course guidance for navigation and a means of checking progress on a flight. They may or may not be actually plotted by the pilot on enroute charts, but would normally be communicated to ATC in terms of bearing and distance or latitude/longitude. An example of user-defined waypoints typically includes those derived from database-driven area navigation (RNAV) systems whereby latitude/longitude coordinate-based waypoints are generated by various means including keyboard input, and even electronic map mode functions used to establish waypoints with a cursor on the display. Another example is an offset phantom waypoint, which is a point in space formed by a bearing and distance from NAVAIDs such as VORs, VORTACs, and TACANs, using a variety of navigation systems.

User Request Evaluation Tool (URET) – The URET helps provide enhanced, automated flight data management. URET is an automated tool provided at each radar position in selected en route facilities. It uses

flight and radar data to determine present and future trajectories for all active and proposed aircraft flights. A graphic plan display depicts aircraft, traffic, and notification of predicted conflicts. Graphic routes for current plans and trial plans are displayed upon controller request. URET can generate a predicted conflict of two aircraft, or between aircraft and airspace.

Vertical Navigation (VNAV) – Traditionally, the only way to get glidepath information during an approach was to use a ground-based NAVAID, but modern area navigation systems allow flight crews to display an internally generated descent path that allows a constant rate descent to minimums during approaches that would otherwise include multiple level-offs.

Vertical Navigation Planning – Included within certain STARs is information provided to help you reduce the amount of low altitude flying time for high performance aircraft, like jets and turboprops. An expected altitude is given for a key fix along the route. By knowing an intermediate altitude in advance when flying a high performance aircraft, you can plan the power or thrust settings and aircraft configurations that result in the most efficient descent, in terms of time, fuel requirements, and engine wear.

Visual Approach – A visual approach is an ATC authorization for an aircraft on an IFR flight plan to proceed visually to the airport of intended landing; it is not an IAP. Also, there is no missed approach segment. When it is operationally beneficial, ATC may authorize pilots to conduct a visual approach to the airport in lieu of the published IAP. A visual approach can be initiated by a pilot or the controller.

Visual Climb Over the Airport (VCOA) – An option to allow an aircraft to climb over the airport with visual reference to obstacles to attain a suitable altitude from which to proceed with an IFR departure.

Waypoints – Area navigation waypoints are specified geographical locations, or fixes, used to define an area navigation route or the flight path of an aircraft employing area navigation. Waypoints may be any of the following types: predefined, published, floating, user-defined, fly-by, or fly-over.

Waypoint (WP) – A predetermined geographical position used for route/instrument approach definition, progress reports, published VFR routes, visual reporting points or points for transitioning and/or circumnavigating controlled and/or special use airspace, that is defined relative to a VORTAC station or in terms of latitude/longitude coordinates.

Wide Area Augmentation System (WAAS) – A method of navigation based on GPS. Ground correction stations transmit position corrections that enhance system accuracy and add vertical navigation (VNAV) features.

Saturday and Sunday, May 24-25 — 1930

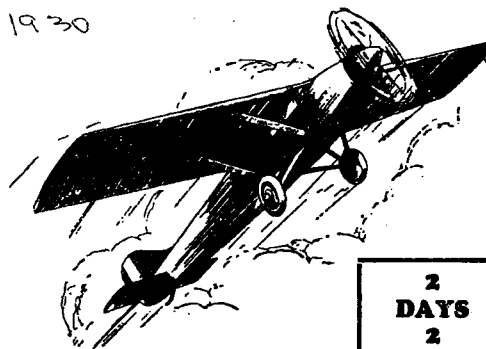
TWO GREAT DAYS

FORMAL DEDICATION OF BLOSSER FIELD

Concordia, Kansas

--and--

NORTH CENTRAL KANSAS



**2
DAYS
2**

Air Races AND Jubilee

PROGRAM

Saturday, May 24

"ON TO CONCORDIA RACE ARRIVALS"

10:30 a. m.—Formal Dedication of Blosser Field; Using Public Address System.

11:00 a. m.—Formation Flight by Army.

11:00 a. m.—Consecutive Loop Contest—(5 minutes) First Money \$20.00, 2d, \$10.00.

12:00 Noon—Parachute Leap.

12:30 p. m.—Aerobatic Exhibition.

1:00 p. m. to 6 p. m.—
Ground Exposition and Show.
Passenger Flights.
Aviation School Exhibits.
Introduction of Pilots.
Music—Open House.
Spot Landing Contest.

Sanctioned by N.A.A.

and conducted under Rules of Federation Aeronautique Internationale, and supervised by Dept. of Commerce.

\$200 'On To Concordia Race'

SATURDAY, MAY 24

First Prize \$100.00 Third Prize 20.00
Second Prize 50.00 Fourth Prize 20.00

RULES—REGULATIONS OF ON TO CONCORDIA RACE

Winners Declared on Point Total System:
Points allowed for average miles per hour plus motor points based on cu. in. displacement, plus 10 points for each passenger carried.

Entries:
No entry fees. You are required to file your entry by Western Union Wire to L. T. Hare, Concordia before 8 p. m., Friday, May 23. State make of plane, type and Department License Number.

Eligibility:
Any approved type plane of commercial design and any licensed civilian pilot eligible.

Starting Time: Starting Rules:
Any time after 8 a. m. Friday, May 23. Exact time of departure must be wired L. T. Hare, Concordia, Mo., by an airport or city official, giving central standard time of actual takeoff.

Dead Line of Finish:
7 p. m. Saturday, May 24, 1930. Arriving time clocked as you give the circle on center of field.

Minimum Distance:
Competing ships must fly from a distance of not less than 100 miles from Concordia shrine.

EXPLANATION POINT SYSTEM
One point per mile for average speed. Example 100 miles per hour average gives 100 points.
Motors of 240 cu. in. Displ. rate 175 points. For every additional cu. in. over 240 deduct ¼ point.
Load Carried: No dead weights. Passengers averaging 120 pounds scored at ten points per passenger. Overloading of ship's passenger capacity disqualifies. Best Point totals win prize money.

IMPORTANT
Disqualification results immediately on violation of any above rulings. Official contest committee reserves right to decide all matters of eligibility and to interpret rules with Department of Commerce rulings as partial guide.

PROGRAM

Sunday, May 25

NORTH CENTRAL KANSAS AIR RACES

1:00 p. m.—General Flight—10 minutes—all Ships.

1:15 p. m.—Special Aerobatic Exhibition Flight.

1:30 p. m.—Speed Race—18 Miles—Closed Course for Bi-Planes only, of 100 H. P. or Less. 1st, \$60—2nd, \$26—3rd, \$15.

1:50 p. m.—General Flight of Passenger Ships.

2:15 p. m.—Speed Race—18 Miles—Closed Course—Free For ALL—Planes of 110 H.P. or Less. \$60.00—\$25.00—\$15.00.

2:40 p. m.—General Flight of Passenger Ships.

3:00 p. m.—Balloon Busting Contest—\$25.00 \$15.00, \$10.00.

3:30 p. m.—Speed Race—23 Miles—Closed Course. Motors of 600 cu. inches or less. \$60.00—\$25.00—\$15.00.

4:00 p. m.—General Flight of Passenger Ships.

4:30 p. m.—Stunt Contest—\$25.00, \$15.00, \$10

5:00 p. m.—Speed Race—Free For All—23 Miles Closed Course; \$75, \$35, \$15.

5:30 p. m.—Parachute Leap—Power Glider; Passenger Flights.

Public Address System:

Jack Story, the "Graham McNamee" of aviation at the "Mike" to give vivid word pictures of all events, to fill your passenger ships, to publicize your schools, ships, personnel or what have you! Address system at your command for the two days.

Passenger Business And How!

No other air meet in the middle west has been so carefully planned as this one to make a profitable run of passenger business certain. Over ten thousand direct mail circulars have been mailed to the most air-conscious people in the Missouri Valley, lulling them the opportunity this two day meet affords to get both feet off the ground.

The entire program is built to give passenger ships a better than even break. There'll be between five and ten thousand people on the field both days and we are running a direct campaign to have them sold for you. Rides in open jobs will sell for \$2.50 and \$5.00 in the closed ships. You will be charged 10 per cent for the carefully planned selling campaign and landing pits we are inaugurating. You'll do well at this meet. You'll all get a break and keep busy.

SATURDAY and SUNDAY — MAY 24-25

PLEASE POST

Blosser Field

Located on south edge of Concordia in North Central Kansas, on U. S. Highway 81. Seven point runways of a half a mile or more in length, all rolled and due to natural rolling terrain are hard and dry enough for use after most severe rains. Ten ship hangar, gas and oil service. Blosser Field with directional arrow on downtown roof to guide you.

General Rules and Regulations

Management reserves right to postpone competitive events in case of bad weather conditions. Five entries required and four starters in all competitions offering cash prizes. Contest Committee of N. A. A. officials reserve right to suspend regulations of all flying. Ships not licensed by Department of Commerce will be prohibited a race.

FOR FURTHER DETAILS
Write, Wire or Phone
L. T. HARE
CONCORDIA, KANS.

What Its All About!

Charley Blosser, airplane salesman de-luxe, Chevrolet dealer and what have you—needs no introduction to most of the midwestern air fraternity. Charley lives in Concordia and thought it was time they took some action about an airport. So he bought a farm on the edge of town, built a hangar for ten ships, put in all the desirable service, paid all the bills, asked no one for anything and says, "Concordia, here's your airport." Now he wants it opened and hopes the boys will turn out to the meet.

His orders to me are simply—get all the boys here and build them the most satisfactory two day event you possibly can. This fellow has done something worth while for all who fly and this dedication among all others, deserves to be as big as I'm planning it.

L. T. HARE, Manager

SATURDAY and SUNDAY — MAY 24-25

PLEASE POST

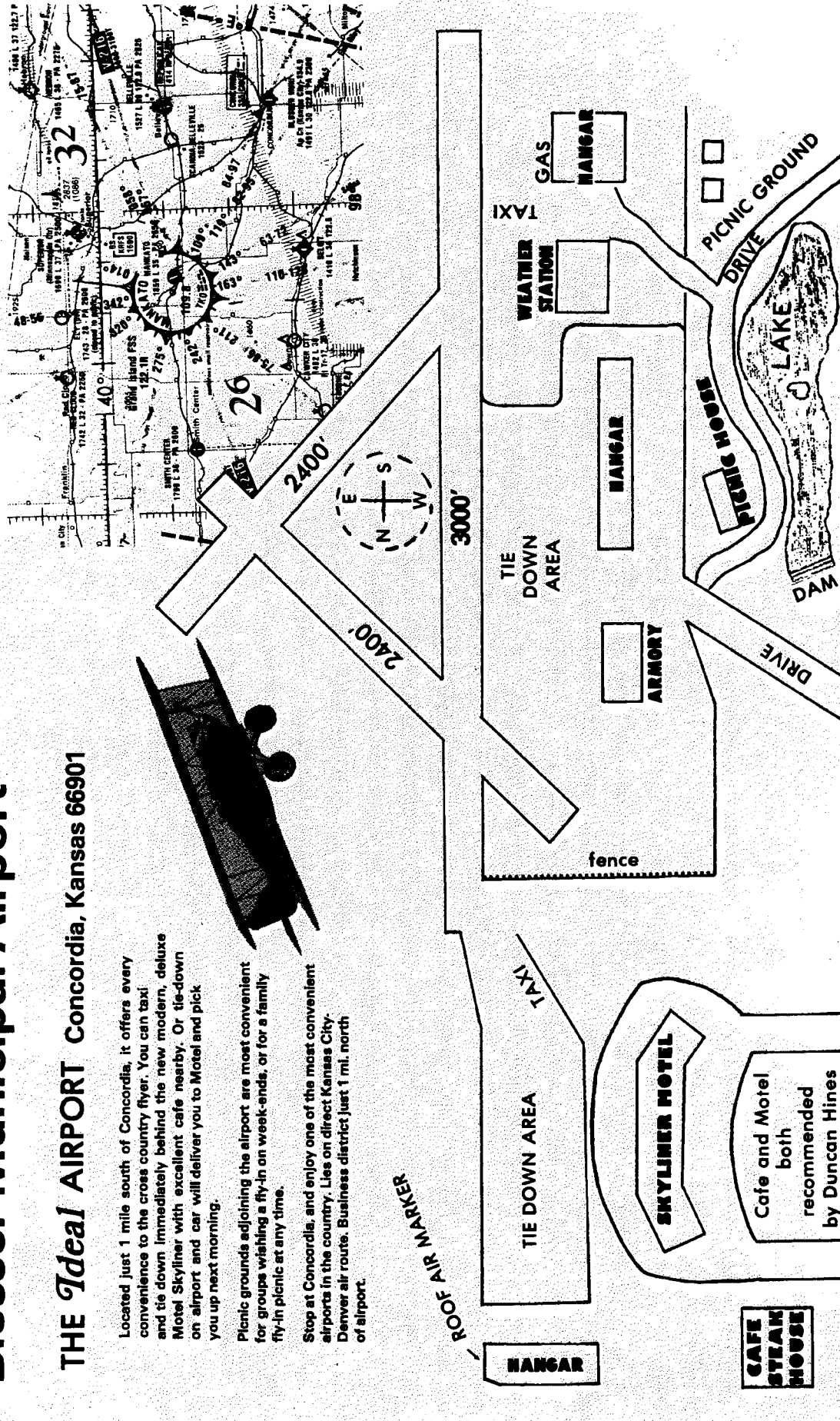
Blosser Municipal Airport

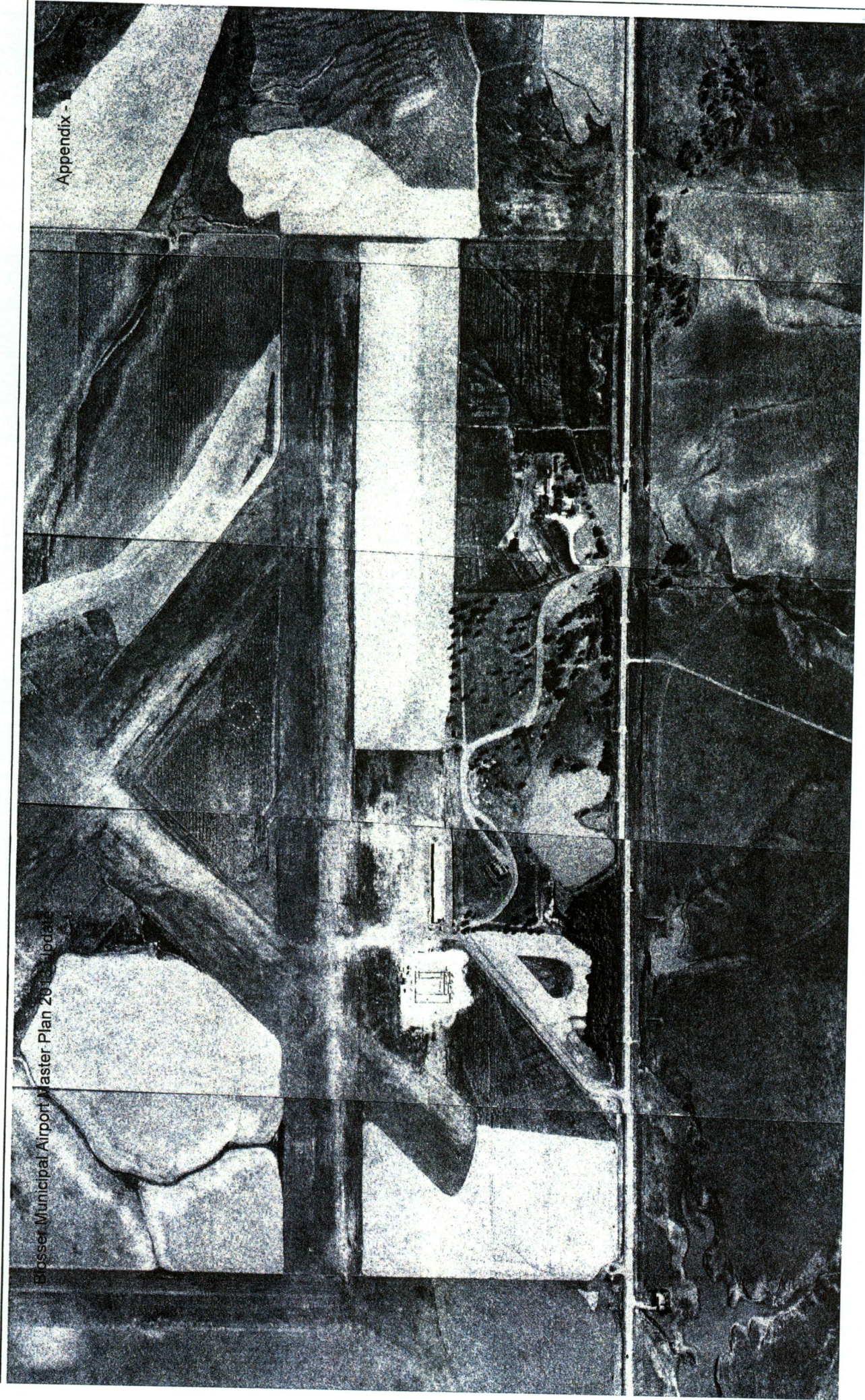
THE *Ideal* AIRPORT Concordia, Kansas 66901

Located just 1 mile south of Concordia, it offers every convenience to the cross country flyer. You can taxi and tie down immediately behind the new modern, deluxe Motel Skyliner with excellent cafe nearby. Or tie-down on airport and car will deliver you to Motel and pick you up next morning.

Picnic grounds adjoining the airport are most convenient for groups wishing a fly-in on week-ends, or for a family fly-in picnic at any time.

Stop at Concordia, and enjoy one of the most convenient airports in the country. Lies on direct Kansas City-Denver air route. Business district just 1 mi. north of airport.





06/11/2010 12:06 FAX 7852436101

cloud county title co.

0006/0007

Entered in transfer record in my Office this
21st day of September A.D. 2007Linda Vogt
County Clerk

(Space above for recording)

State of Kansas, Cloud County, ss
 This instrument was filed for record on the 21st day of
 September A.D. 2007 at 12:06 P.M.
 & was recorded in Vol. 152 of page 715-716
Jade Lambert Register of Deeds
 2007-07524 Sec 12-00

QUIT CLAIM DEED

**BELDON BLOSSER aka BELDON M. BLOSSER and MARILYN J. BLOSSER, husband and wife;
 BELDON M. BLOSSER and MARILYN J. BLOSSER, Trustees of the BELDON M. BLOSSER
 TRUST NO. 1 dated August 1, 2000**

QUIT CLAIMS TO

CITY OF CONCORDIA, KANSAS, a municipal corporation

all the following described real estate in the County of Cloud and the State of Kansas, to wit:

Tract 1: Beginning at the Southeast corner of the North Half (N ½) of the Southeast Quarter (SE ¼) of Section Nine (9), Township Six (6) South, Range Three (3) West of the 6th P.M., Cloud County, Kansas, said point being marked by a one inch (1") square iron bar; thence West along the South line of said North Half (N ½) of Southeast Quarter (SE ¼) for a distance of 1,922.1 feet to a point marked by a three-fourths inch (¾") iron pipe; thence with a deflection of 89°46' right for a distance of 1,375.1 feet to a point marked by a concrete monument; thence with a deflection of 00°38' left for a distance of 1,263.4 feet to a point marked by a concrete monument; thence with a deflection of 89°00' left for a distance of 601.9 feet to a point marked by a concrete monument, and located on the East right-of-way line of U.S. highway 81 and being the Northwest corner of the Cloud County Park; thence with a deflection of 89°20' right along the East right-of-way line of U.S. Highway 81 for a distance of 1,320.0 feet to a point on the North line of Section 9 and marked with a three-fourths inch (¾") iron pipe; thence with a deflection of 90°45' right for a distance of 2,571.6 feet to the Northeast corner of Section 9 and which is marked by a concrete monument; thence with a deflection of 89°00' right along the East line of Section 9 for a distance of 3,949.2 feet to the point of beginning, and containing 197.7 acres, more or less, less the following described tract presently titled in The Kansas Military Board, to-wit:

A tract of land in the Northeast Quarter (NE ¼) of Section Nine (9), Township Six (6) South, Range Three (3) West of 6th P.M., Cloud County, Kansas, described as follows: Beginning on the East Right-of-Way Line of U.S. Highway 81 at a point 579.84 feet S00°45'E of the intersection of the East line of said Highway and the North line of said Section 9 (which point of intersection is 2,571.1 feet West of the Northeast corner of said Section 9), and running thence S00°45'E a distance of 90.16 feet; thence E00°45'N a distance of 63 feet; thence E48°14'S a distance of 761.2 feet; thence East a distance of 263.76 feet; thence N01°00'W a distance of 338.25 feet; thence N48°06'W a distance of 477.27 feet; and thence West a distance of 473.94 feet to the point of beginning (containing 7.1 acres more or less);

Tract 2: A parcel of land in the Southeast Quarter (SE ¼) of Section Four (4), Township Six (6) South, Range Three (3) West of the 6th P.M., Cloud County, Kansas, more particularly described as follows: Beginning at the Southeast corner of said Section 4; thence N89°32'30"W along the South line of said Section 4 a distance of 1,048.49 feet to the true point of beginning; thence continuing along a prolongation of the last described course 800.12 feet; thence N00°32'45"W 481.20 feet; thence N89°27'16"E 800 feet; thence S00°32'45"E 505.23 feet to the true point of beginning (containing 398,588.8989 square feet or 9.1499 acres, more or less);

The aforesaid grant by Grantors to Grantee is for the purpose of exercise upon, across, under, over and through the above described Tracts all powers and authority conferred upon Grantee by law and in particular, K.S.A. 3-113 et. seq., as amended, to equip, improve, operate, maintain and regulate a municipal airport for aviation purposes; provided, however, that if Tract 1 or Tract 2 hereof shall cease to be used solely for airport purposes on or before September 30, 2032, Grantors, their legal representatives, successors, heirs and assigns shall have the right at their election to re-enter and retake Tracts 1 and 2 and thereafter all right, title,

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0007/0007

interest and claim in Tract 1 and Tract 2 shall revert to Grantors, their legal representatives, successors, heirs and assigns.

Grantors covenant that the Beldon M. Blosser Trust No. 1 dated August 1, 2000, is in full force and effect at this time; that Beldon M. Blosser and Marilyn J. Blosser are the presently existing Trustees under said Trust; and that said Trustees are authorized to convey and transfer the real estate hereinabove described without limitation.

for the sum of Negotiated settlement of respective claims asserted by Grantors and Grantee in Cloud County District Court Case No. 05 CV-31.-

NOTE: No Kansas Real Estate Sales Validation Questionnaire required pursuant to K.S.A. 79-1437e(a)(4).

Dated: September 14, 2007

Beldon M. Blosser
BELDON M. BLOSSER

Marilyn J. Blosser
MARILYN J. BLOSSER

BELDON M. BLOSSER TRUST NO. 1
dated August 1, 2000

by: Beldon M. Blosser, Trustee
BELDON M. BLOSSER, Trustee

by: Marilyn J. Blosser, Trustee
MARILYN J. BLOSSER, Trustee

STATE OF FL
COUNTY OF Col ss:

BE IT REMEMBERED, that on this 14 day of September, 2007, before me, the undersigned, a notary public in and for the County and State aforesaid, came BELDON BLOSSER aka BELDON M. BLOSSER and MARILYN J. BLOSSER, husband and wife; and BELDON M. BLOSSER and MARILYN J. BLOSSER, Trustees of the Beldon M. Blosser Trust No. 1 dated August 1, 2000; who are personally known to me to be the same persons who executed the within instrument of writing and such persons duly acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal, the day and year last above written.

Christopher J. Dornis
Notary Public

(Seal)



SETTLEMENT AGREEMENT

THIS AGREEMENT executed on this 19th day of September, 2007, between BELDON BLOSSER; and BELDON M. BLOSSER and MARILYN J. BLOSSER, Trustees of the Beldon M. Blosser Trust No. 1 dated August 1, 2000; hereinafter collectively referred to as "Blossers", and THE CITY OF CONCORDIA, KANSAS, hereinafter referred to as "Concordia".

RECITALS

WHEREAS, Blossers filed on August 3, 2005, their Petition in Cloud County District Court Case No. 05 CV-31 against the Defendants Concordia et. al.; said Petition generally alleged the following:

1. Blossers retain reverter rights in property condemned by Concordia in Cloud County District Court Case No. 11049 described as follows:

Tract 1: Beginning at the Southeast corner of the North Half (N ½) of the Southeast Quarter (SE ¼) of Section Nine (9), Township Six (6) South, Range Three (3) West of the 6th P.M., Cloud County, Kansas, said point being marked by a one inch (1") square iron bar; thence West along the South line of said North Half (N ½) of Southeast Quarter (SE ¼) for a distance of 1,922.1 feet to a point marked by a three-fourths inch (¾") iron pipe; thence with a deflection of 89°46' right for a distance of 1,375.1 feet to a point marked by a concrete monument; thence with a deflection of 00°38' left for a distance of 1,263.4 feet to a point marked by a concrete monument; thence with a deflection of 89°00' left for a distance of 601.9 feet to a point marked by a concrete monument, and located on the East right-of-way line of U.S. highway 81 and being the Northwest corner of the Cloud County Park; thence with a deflection of 89°20' right along the East right-of-way line of U.S. Highway 81 for a distance of 1,320.0 feet to a point on the North line of Section 9 and marked with a three-fourths inch (¾") iron pipe; thence with a deflection of 90°45' right for a distance of 2,571.6 feet to the Northeast corner of Section 9 and which is marked by a concrete monument; thence with a deflection of 89°00' right along the East line of Section 9 for a distance of 3,949.2 feet to the point of beginning, and containing 197.7 acres, more or less, less the following described tract presently titled in The Kansas Military Board, to-wit:

A tract of land in the Northeast Quarter (NE ¼) of Section Nine (9), Township Six (6) South, Range Three (3) West of 6th P.M., Cloud County, Kansas, described as follows: Beginning on the East Right-of-Way Line of U.S. Highway 81 at a point 579.84 feet S00°45'E of the intersection of the East line of said Highway and the North line of said Section 9 (which point

of intersection is 2,571.1 feet West of the Northeast corner of said Section 9), and running thence S00°45'E a distance of 90.16 feet; thence E00°45'N a distance of 63 feet; thence E48°14'S a distance of 761.2 feet; thence East a distance of 263.76 feet; thence N01°00'W a distance of 338.25 feet; thence N48°06'W a distance of 477.27 feet; and thence West a distance of 473.94 feet to the point of beginning (containing 7.1 acres more or less);

The condition of said reverter rights was the failure of Concordia to use Tract 1 solely as a municipal airport and field for aviation purposes.

2. Blossers conveyed by Quitclaim Deed fee simple determinable interest to Concordia in the following described real estate, to-wit:

Tract 2: A parcel of land in the Southeast Quarter (SE ¼) of Section Four (4), Township Six (6) South, Range Three (3) West of the 6th P.M., Cloud County, Kansas, more particularly described as follows: Beginning at the Southeast corner of said Section 4; thence N89°32'30"W along the South line of said Section 4 a distance of 1,048.49 feet to the true point of beginning; thence continuing along a prolongation of the last described course 800.12 feet; thence N00°32'45"W 491.20 feet; thence N89°27'15"E 800 feet; thence S00°32'45"E 505.23 feet to the true point of beginning (containing 398,568.8989 square feet or 9.1499 acres, more or less);

The determinable condition of said grant was that Tract 2 be used solely for purposes of exercise thereon, across, under, over and through said land all powers and authority conferred upon Concordia by law and particularly K.S.A. 3-113 et. seq., as amended, to equip, improve, operate, maintain and regulate a municipal airport for aviation purposes.

3. Concordia violated the use restraints established in the above referenced condemnation proceedings and in the above identified fee simple determinable grant by permitting the following:

- a. Utilization of fuel tanks and pumping facilities for other than airport purposes.
- b. Storage of Concordia equipment in unused hanger space.
- c. Conduct on Tract 1 by Concordia of police and fire training.
- d. Construction of water wells and pumps on portions of Tract 1.
- f. Grant by Concordia to the Kansas Department of Transportation of portion of Tract 1 for the purpose of expansion of Highway 81.

- e. Grant by Concordia to Rural Water District No. 1, Cloud County, Kansas, of an easement for the extension of waterlines.

Blossers further alleged that such conduct by Concordia triggered their reversion rights in both Tract 1 and Tract 2;

WHEREAS, Concordia generally denied in the above proceedings the aforesaid allegations asserted by Blossers in their Petition and further counterclaimed that it had acquired fee simple title in Tract 1 in Cloud County District Court Case No. 11049 or in the alternative that Concordia could exercise control over the surface area of Tract 1 and Tract 2 for agricultural uses, commercial and industrial development, and other activities compatible with aviation purposes and intended to enhance airport usage or provide revenues for the maintenance, upkeep and operation of the airport; or in the alternative that the uses made by Concordia of Tract 1 and Tract 2 did not cause actual harm to any rights of Plaintiffs;

WHEREAS, both Blossers and Concordia filed their respective Motions for Summary Judgment or Partial Summary Judgment in the above proceedings;

WHEREAS, after hearing the respective arguments of counsel Judge William F. Lyle, Jr., Kansas Senior Judge, on March 5, 2007, filed his Memorandum Opinion generally finding in favor of Blossers that Concordia only acquired an easement right in Tract 1 for the specific purpose of operating an airport and that Concordia acquired only a fee simple determinable interest in Tract 2 subject to the condition that said Tract could only be used for municipal airport purposes; a formal draft of Journal Entry journalizing Judge Lyle's Memorandum Opinion has not through date been filed in the above proceedings;

WHEREAS, Concordia has indicated to the Blossers its intent to appeal Judge Lyle's ruling evidenced by his Memorandum Opinion filed March 5, 2007, following the filing of a formal Journal Entry of said ruling;

WHEREAS, no decision has been rendered in these proceedings determining if the above expressed actions of Concordia permit reverter of title to Tract 1 or Tract 2 to Blossers;

WHEREAS, both Blossers and Concordia are desirous of settling the aforesaid disputes and differences without the requirement of further Court resolve;

NOW, THEREFORE, Blossers and Concordia agree as follows:

1. Blossers and Concordia agree to execute appropriate formal pleadings dismissing with prejudice their respective asserted claims in Cloud County District Court

Case No. 05 CV-31. Blossers and Concordia further agree that this Settlement Agreement shall only become effective upon the filing of said formal pleadings dismissing with prejudice all claims asserted by said parties against each other in Cloud County District Court Case No. 05 CV-31.

2. Blossers agree to convey by Quitclaim Deed fee simple title in Tracts 1 and 2 to Concordia subject to the condition that for a period of twenty-five (25) years from date of said Quitclaim Deed Concordia shall exercise thereon, across, under, over and through Tracts 1 and 2 all powers and authority conferred upon Concordia by law and in particular K.S.A. 3-113 et. seq., as amended, to equip, improve, operate, maintain and regulate a municipal airport for aviation purposes, provided, however, that if Concordia shall cease to use Tracts 1 and 2 exclusively for airport purposes, the Blossers, their legal representatives, successors, heirs or assigns may reenter and retake said Tracts and title to said Tracts shall revert to Blossers, their legal representatives, successors, heirs and assigns; a copy of said proposed Quitclaim Deed is attached hereto and is incorporated herein by reference.

3. As long as Tract 1 and Tract 2 shall be used for airport purposes, Blossers and Concordia agree that said ground shall continue to retain the identity of "Blosser Municipal Airport".

4. With the ultimate intent of eliminating non-aviation use of Tract 1 and Tract 2, pursuant to authority granted by K.S.A. 3-113 et. seq., as amended, Concordia agrees to immediately enact as a condition of this Settlement Agreement that certain Commission Policy Statement relating to the operation, administration and improvement of Blosser Municipal Airport, a copy of which is attached hereto and is incorporated herein by reference. The parties agree that in the event of any alteration, amendment, change, or supplement to said Commission Policy Statement at anytime within twenty-five (25) years from the date of recording of the Quitclaim Deed referenced in paragraph 2 above without the prior written approval of the Blossers, their legal representatives, successors, heirs or assigns, then the Blossers, their legal representatives, successors, heirs or assigns may at their option exercise their right to enter and retake Tract 1 and Tract 2 pursuant to the terms of the Quitclaim Deed referenced in paragraph 2 above. The parties hereto further agree that any violation of the terms of said Commission Policy Statement shall be deemed a breach of the condition subsequent contained in the Quitclaim Deed referenced in paragraph 2 hereof.

5. Blossers and Concordia entered into a certain Agricultural Land Use Agreement dated December 2, 1998; the same was recorded in Miscellaneous Book 89, at pages 160 - 162, records of the Register of Deeds of Cloud County, Kansas, and is incorporated herein by reference. Pursuant to the terms of said Agricultural Land Use Agreement Blossers reassumed possession and control of that portion of Tract 1 and Tract 2 which were not in use for airport purposes but instead were used for farming operations. Blossers and Concordia agree that said Agreement shall be terminated so

that Concordia may reassume sole control of that portion of Tract 1 and Tract 2 not in present use for airport purposes so as to continue farming operations thereon, subject to the condition that all benefits from said farming operations shall be used solely for capital improvements benefiting Blosser Municipal Airport. Termination of the Agricultural Land Use Agreement and transfer of possession of that portion of Tract 1 and Tract 2 currently in farming operations and in the control of Blossers shall be effected following harvest of any growing crop on said property. Blossers further acknowledge and agree that the agricultural use of portions of Tracts 1 and 2 not currently needed for airport purposes shall not be deemed a violation of the determinable condition identified in the Quitclaim Deed referenced in paragraph 2 hereof or the Commission Policy Statement referenced in paragraph 4 hereof.

6. Nothing in this Settlement Agreement shall be construed to constitute the consent by Blossers to any assignment of Concordia's interest in Tracts 1 and 2 or to right of Concordia to transfer possession and use of said Tracts for the twenty-five (25) year period commencing on the date of the Quitclaim Deed from Blossers to Concordia hereinabove referenced in paragraph 2 hereof.

7. The failure of Blossers or Concordia to assert any of their rights pursuant to the terms of this Settlement Agreement at any time shall not be construed as a waiver of their rights to assert the same at any later time and to insist upon and enforce strict compliance with all the terms and provisions of this Settlement Agreement

8. This Settlement Agreement shall be binding upon and shall inure to the benefit of the respective heirs, executors, successors and assigns of Blossers and Concordia.

IN WITNESS WHEREOF, Blossers and Concordia have executed this Agreement at Concordia, Kansas, on the day and year set forth in the separate acknowledgements of their executions.

"BLOSSERS"

Beldon Blosser
BELDON BLOSSER

BELDON M. BLOSSER TRUST NO. 1
dated August 1, 2000

by: Beldon M. Blosser Trustee
BELDON M. BLOSSER, TRUSTEE

by: Marilyn J. Blosser Trustee
MARILYN J. BLOSSER, TRUSTEE

"CONCORDIA"

CITY OF CONCORDIA, KANSAS

by: Charles B. Johnson
MAYOR

Attested by: Loa Fleming
CITY CLERK

STATE OF FL)
) ss:
 COUNTY OF Bay)

The foregoing Settlement Agreement was acknowledged before me this 1st day of September, 2007, by Beldon Blosser, husband of Marilyn J. Blosser and by Beldon M. Blosser and Marilyn J. Blosser as Trustees of the Beldon M. Blosser Trust No. 1 dated August 1, 2000.

Christopher J. Dorris
 Notary Public

My Commission Expires: 11-28-2010

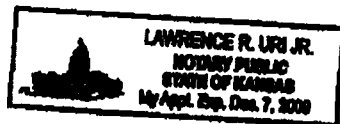


STATE OF KANSAS)
) ss:
 COUNTY OF CLOUD)

The foregoing Settlement Agreement was acknowledged before me this 19th day of September, 2007, by Charles B. Johnson and Lisa Fleming, respectively Mayor and City Clerk of the City of Concordia, Kansas as the act and deed of said municipal corporation.

Lawrence R. Uri Jr.
 Notary Public

My Commission Expires: _____



CITY OF CONCORDIA, KANSAS Commission Policy Statement #2007-1

Authority: KSA 3-113

Effective date: September 30, 2007

Resolution No. 2007-1781

Section: Aviation

Purpose: To establish policies concerning the operation, administration, and improvement of Blosser Municipal Airport

Statement of Policy:

Section 1. Primary Use of Airport Land and Facilities. The land, buildings and facilities of Blosser Municipal Airport shall be used primarily for aviation purposes.

Section 2. Airport Advisory Board. The officer or employee of the city who is designated by the city manager to serve as secretary of the Airport Advisory Board in accordance with section 2-443(b) of the Concordia Code will maintain a schedule of the dates on which the quarterly meetings of the board are to be held, will notify each of the members of the board of the date and time of each meeting, and will report regularly to the city manager concerning the meetings and activities of the board. In considering applicants for appointment to the board, the governing body will give preference to applicants who are licensed pilots and to a fixed-base operator who is based at the airport.

Section 3 Fixed-base operator. Day-to-day operation of the airport will be conducted by a fixed-base operator.

Section 4. Non-aviation Uses of Airport Land and Facilities. Non-aviation uses of airport land and facilities shall be discouraged. Any future non-aviation use of airport land and facilities shall be permitted only with the written consent and approval of the Airport Advisory Board. Any permitted non-aviation use of airport land and facilities by the city or persons authorized by the city shall be conducted in a manner that is not detrimental to the primary use of the airport for aviation purposes. Hangar space may be used for storage of city equipment and similar municipal purposes only if hangar space is available for all aircraft owners who desire to keep their aircraft at the airport. City departments using hangar space or other airport buildings for non-aviation purposes shall pay rent for same as is charged to members of the public or is as otherwise deemed by the Airport Advisory Board as a fair rental amount. All payments made by city departments for non-airport use of airport facilities shall be deposited into a capital improvement fund for airport purposes. Permitted non-aviation use of the fueling facilities, hangars, vacant buildings, and undeveloped areas of the airport will be curtailed or discontinued whenever the facilities, buildings, or land are needed for airport purposes.

Section 5. The city will immediately seek Federal Aviation Administration funding for runway extensions and other airport improvements. Non-airport use of the fueling facilities will be terminated upon timely withdrawal of 87 octane fuel from the airport fuel storage tank.

Section 6. All income received from agricultural uses of the airport will be used solely for capital improvements at the airport.

Section 7. In recognition of many contributions to local aviation that have been made by the Blosser family, the name of the airport will remain Blosser Municipal Airport.

Section 8. Alteration, amendment, change or supplement to this Policy on or before September 30, 2032, may result in the termination of certain rights granted to the City of Concordia, Kansas, by virtue of a certain Quitclaim Deed from Beldon Blosser aka Beldon M. Blosser and Marilyn J. Blosser, husband and wife; and Beldon M. Blosser and Marilyn J. Blosser, Trustees of the Beldon M. Blosser Trust No. 1 dated August 1, 2000, which Deed was recorded on August 7, 2007, in Book 152, at Pages 715-716 deed records of Cloud County, Kansas.

2009

KANSAS AIRPORT SYSTEM PLAN EXECUTIVE SUMMARY





STUDY BACKGROUND

This report provides a summary of the recently completed Kansas Airport System Plan (KASP). The plan was completed by the Kansas Department of Transportation's (KDOT's) Division of Aviation. The Kansas Airport System Plan is an update to a previous plan that was prepared in 1995. The system plan works in concert with other important planning documents that include:

- The Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS)
- The Kansas Department of Transportation's Kansas Long Range Transportation Plan (LRTP)
- Individual airport capital improvement programs, layout plans, and master plans

STUDY OBJECTIVES

The Kansas Airport System Plan helps to satisfy three objectives:

- To identify development needs for the state's airports
- To substantiate the level of investment needed to maintain and improve the airport system
- To provide information on how the airport system is used and on how it should be developed in the future to support key transportation and economic benefits

STUDY APPROACH

A performance based approach was used to evaluate current system adequacy. This approach provides the Division of Aviation with an important decision making tool. This tool helps the Division of Aviation to direct available funds to those projects and those airports that are most essential to the success of the airport system serving Kansas.

The KASP is not a programming document. Identification of a particular project(s) does not constitute a funding commitment. The Kansas Airport System Plan is a top-down planning document whose recommendations must be implemented by individual airports through normal planning, environmental, and funding processes.

GOALS FOR THE AIRPORT SYSTEM

To plan for a system of airports that is safe, efficient, and effective, the first step in the process was to establish goals for the system of airports that serves Kansas. Goals were established using themes from the Kansas Long Range Transportation Plan and input from the Division of Aviation and the Kansas Aviation Advisory Committee (KSAAC). Goals for the system of airports serving Kansas are as follows:

- Preserve the airport system
- Provide a modern network of airports
- Provide a system of airports that is accessible by ground and air

- Support local and statewide economic growth
- Support the promotion of aviation education

These goals are used as the basis for assessing the existing system of airports. Evaluating the system with these goals helps to insure that the airport system can meet the state's long term needs.

EXISTING AIRPORT SYSTEM

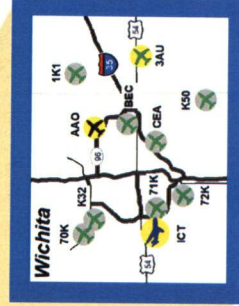
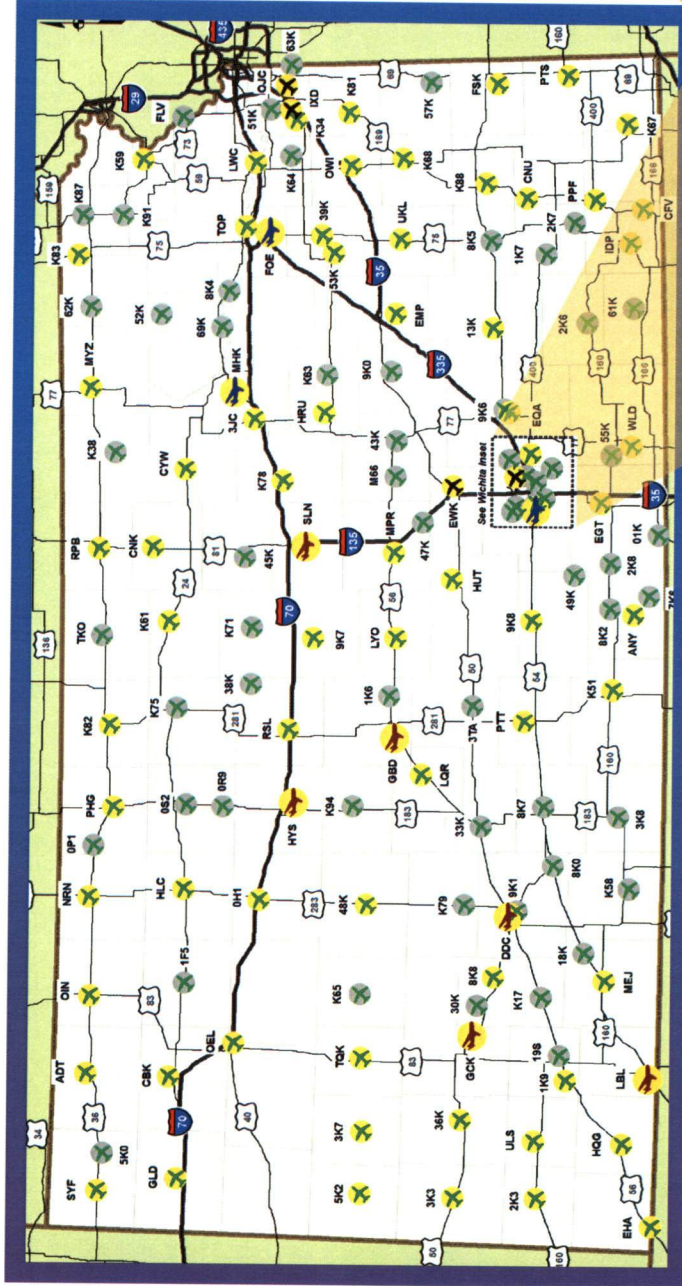
The existing airport system is comprised of 142 public-use general aviation and commercial airports. Some airports in the Kansas system are classified by the Federal Aviation Administration (FAA) as follows:

- Primary Commercial Service
- Commercial Service
- General Aviation Reliever
- General Aviation (NPIAS and non-NPIAS)

Seventy-nine of the 142 airports in the Kansas system are included in the National Plan of Integrated Airport Systems. Inclusion in the NPIAS makes these airports subject to FAA standards, but also makes them eligible for federal funding.

One of the first steps in the system planning process was to gather information on the existing system. An inventory of current airside and landside facilities, airport approaches and navigational aids, the status various airport planning documents, and airport services helps to support future analysis on the adequacy of the existing system.

KANSAS AIRPORT CLASSIFICATION



PROJECTIONS OF AVIATION DEMAND

With a complete cataloging of the existing system, the system plan then focused on developing a 20-year outlook for various aviation demand components. For each of the demand components listed below, a variety of forecasting methodologies were considered before a preferred approach was selected. Projections of demand were developed for:

- Commercial passenger enplanements
- Based general aviation aircraft
- Total annual operations

Demand projections prepared as part of the system plan considered national trends for both commercial and general aviation industries. Also considered were FAA's most current national projections for all facets of aviation. The state's historic trends in aviation activity were also important to developing demand projections.

COMMERCIAL AIRPORT DEMAND

The Kansas airport system has nine commercial airports. All commercial airports accommodate scheduled airline flights, some serve air cargo and charter carriers, and all accommodate general aviation activity.

Enplanements, boarding commercial airline passengers, are one of the primary indicators of demand at commercial airports. Information from the system plan's inventory effort indicates commercial airports in Kansas serve about 847,000 annual commercial airline passenger enplanements. Projections developed in the system plan project this number increasing to approximately 1.15 million enplaned passengers by 2027. Based general aviation aircraft at the commercial airports are expected to increase from 688 to 922 during this period, while total annual aircraft takeoffs and landings at the commercial airports are projected to grow from 471,580 to 697,902.

GENERAL AVIATION AIRPORT DEMAND

General aviation and commercial airline demand are both influenced by growth in factors such as population and employment. Unique factors in each airport's market area help to shape aviation demand. Based aircraft at general aviation airports in Kansas are expected to increase from 2,987 to 3,661 by 2027. Total annual operations at all general aviation airports could increase from their current level of almost 1.4 million to nearly 1.7 million by the end of the 20 year planning period.

ACTIVITY	ACTUAL 2007	2012	FORECAST 2017	2027
Enplanements				
Commercial Service Airports	846,958	907,145	975,903	1,150,516
Based Aircraft				
Commercial Service Airports	688	743	796	922
General Aviation Airports	2,987	3,140	3,303	3,661
Total Based Aircraft	3,675	3,883	4,099	4,583
Operations				
Commercial Service Airports	471,580	506,685	564,798	697,902
General Aviation Airports	1,397,595	1,461,844	1,529,810	1,677,938
Total Operations	1,869,175	1,968,529	2,094,608	2,375,840



ASSIGNMENT OF AIRPORT ROLES

An important part of the airport system planning process centers on determining the current role that each airport plays within the state airport system. While the FAA has criteria for roles for commercial and general aviation airports included in the federal airport system, not all airports in the Kansas airport system are included in the federal system. Further, within the federal system there is only limited distinction between roles played by general aviation airports. In reality, roles for general aviation airports in the state airport system can vary substantially.

To establish current roles for the 142 airports included in the Kansas airport system, the system goals or performance categories were used in association with 14 different role "defining factors." Defining factors are categorized in a manner that most follows the goals of the Kansas Long Range Transportation Plan with many being applicable to one or more performance categories. Using various types of research and analysis, these factors were reviewed for each system airport. Based on this review, each airport was evaluated for its relative ability to meet or satisfy each of the defining factors. This process ultimately resulted in system airports being assigned to one of five roles.

ROLES FOR SYSTEM AIRPORTS

Commercial Service Airports: Airports that accommodate scheduled commercial service.

Regional Airports: Airports that accommodate regional economic activities, connect the state and national economies, and serve all types of general aviation users.

Business Airports: Airports that accommodate local business activities and general aviation users.

Community Airports: Airports that serve a supplemental role in local economies, primarily serving smaller business, recreational, and personal flying.

Basic Airports: Airports that serve a limited role in the local economy, primarily serving recreational and personal flying.

Results from the role assignment process provide a baseline for evaluating the performance of the existing airport system. Based on the results of the current system evaluation, roles for some airports changed to address system adequacies or deficiencies. In other instances, results from the system evaluation process indicated that no change in the initial role assignment was required.



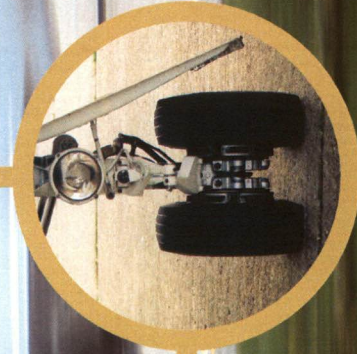
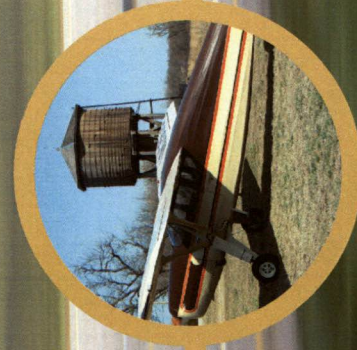
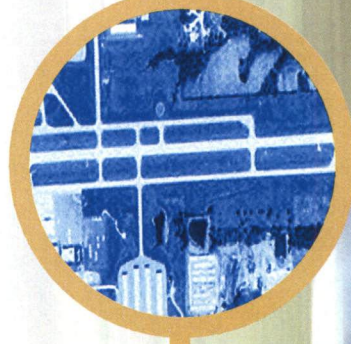
FACILITY AND SERVICE OBJECTIVES FOR SYSTEM AIRPORTS

With airports assigned to a role in the Kansas airport system, the next step in the system planning process was to establish a set of facilities and services that should ideally be in place at airports assigned to each of the five roles. Establishing facility and service objectives for each system role has several benefits. These objectives are important to determining what actions are needed to improve the performance of the airport system. The facility and service objectives provide a common basis for estimating levels of investment needed to enable the system to meet established study performance measures. Finally, the facility and service objectives provide a means to effectively bridge system plan recommendations with capital improvement plans developed as part of an individual airport master plan or airport layout plan.

SYSTEM EVALUATION

In addition to guiding the establishment of roles for Kansas airports, previously identified goals for the system were also used to guide the process to establish current system performance. The system evaluation focused on determining where the system is currently adequate, where the system is deficient, and where duplications or surpluses in the system exist.

Identifying facilities and services matched to each airport role helps to promote a balanced airport system, along with one which is more accountable.



A well-maintained airport system promotes safety and mobility. Actions aimed at preserving the existing airport system help to maximize previous investment in the airport system. Specific benchmarks used to measure the system's current performance are presented below:

• PERCENT OF AIRPORTS WITH A PAVEMENT CONDITION INDEX (PCI) OF 70 OR GREATER

PCI ratings of 100 represent new pavement. When PCI measures 70 or lower, it signals the need for pavement maintenance or improvement. Based on current PCI, 25% of paved primary runways in Kansas are in need of improvement.

Target Performance

100% of applicable airports should have a PCI of 70 or greater.

Current Performance

75% of applicable airports have a PCI of 70 or greater.

Recommended Action: 27 out of 110 applicable system airports are in need of projects to increase PCI ratings.

• PERCENT OF AIRPORTS WITH CLEAR APPROACHES TO PRIMARY RUNWAY

Approaches to runway ends fall into four categories: visual, non-precision, near-precision, and precision. Criteria established by the FAA determine if an approach is free of obstructions. Approaches to both ends of the primary runway should be clear of obstructions. System-wide, 36% of all airports now have clear approaches to both ends of their primary runway.

Target Performance

100% of system airports should have clear approaches to their primary runway.

Current Performance

36% of all system airports have clear approaches to their primary runway.

Recommended Action: 74% of system airports need further analysis on one or both runway ends to determine appropriate steps to resolve obstructions.

• PERCENT OF AIRPORTS MEETING FACILITY AND SERVICE OBJECTIVES

The system plan identified a minimal level of facilities and services that airports in each role should have to serve target users. Objectives for each role were established for airside and landside facilities and for aviation related services. The system plan evaluated each airport for its current ability to meet its respective objectives. For airfield facilities, the most notable deficiencies are in the areas of published approaches and runway lighting. For landside facilities, improvement in both hangar and apron space is needed. For aviation services, lack of a security plan and some type of ground transportation link showed the greatest deficiencies.

Target Performance

100% of system airports should meet facility/service objectives for their system role.

Current Performance

Performance varies by airfield, landside, and service objectives; demand, constraints, and financial capabilities influence target performance.

Recommended Action: As part of each airport's planning process, facility and service objectives identified in the system plan should be implemented as they are feasible and supported by local conditions.

• PERCENT OF AIRPORTS WITH AN ADOPTED EMERGENCY RESPONSE PLAN

Emergency response plans are desirable for first responder notification and for employee and public safety. Currently, 12% of applicable system airports are known to have adopted some form of emergency response plan.

Target Performance

75% of applicable system airports should have an emergency response plan.

Current Performance

12% of all applicable system airports have an emergency response plan.

Recommended Action: All Commercial Service, Regional, and Business airports in the Kansas system should have an emergency response plan.

*[continued from previous page]***• PERCENT OF AIRPORTS WITH AN ADOPTED WILDLIFE MANAGEMENT PLAN**

Wildlife management plans help to minimize hazards to aircraft operations that are associated with birds and other animals. Currently, 6% of all system airports are known to have adopted some type of wildlife management plan.

Target Performance

100% of all applicable system airports should have a wildlife management plan.

Current Performance

44% of Commercial service and 7% of Regional airports have a wildlife management plan.

Recommended Action: All Commercial Service and Regional airports in the Kansas system should have a wildlife management plan.

**• PERCENT OF AIRPORTS WITH AN ADOPTED SECURITY PLAN**

Airport security is important to all airports. The complexity of a security plan varies based on the type and volume of activity the airport serves. Security plans should consider information published by the Transportation Security Administration (TSA) and the Aircraft Owners and Pilots Association (AOPA). Currently, 23% of all applicable airports in the Kansas system have a security plan.

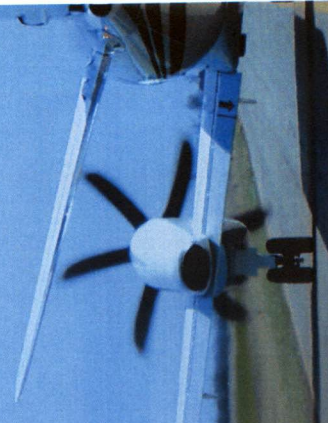
Target Performance

100% of Commercial Service, Regional, Business and Community airports should have a security plan.

Current Performance

23% of all airports in these system roles have security plans.

Recommended Action: All Commercial Service, Regional, Business, and Community airports in the Kansas system should have a security plan matched to their individual circumstances.



GOAL: PROVIDE A MODERN NETWORK OF AIRPORTS | PERFORMANCE MEASURE: MODERNIZATION

Modern facilities are a key characteristic of an airport system that satisfies the needs of its customers, in particular those customers using aircraft that are more sophisticated and demanding. Specific benchmarks used to measure the system's current performance as it relates to this measure follow:

• PERCENT OF AIRPORTS WITHIN 50 NAUTICAL MILES OF AN ILS OR LPV APPROACH

A hallmark of a modern airport system is one that has airports equipped to handle aircraft during periods of reduced visibility that are evenly distributed. To meet objectives for the Kansas system of airports, airports with an ILS or LPV approach should have a decision height of 300 feet above ground level and a visibility range of one mile. Currently, 93% of the airports in Kansas are within 50 nautical miles of an airport with an ILS or LPV approach.

Target Performance

96% of airports within 50 NM of an alternate airport with an ILS or LPV approach.

Current Performance

93% of all airports are now within 50 NM of an alternate airport with an ILS or LPV approach.

Recommended Action: Airports needing an approach to meet the target: Allen County, New Leavenworth Airport, Oberlin Municipal, and Northeast Kansas.

• PERCENT OF AREA WITHIN 50 NAUTICAL MILES OF AN AIRPORT WITH 24/7 FUEL

Based on the role they play, it is not necessary for all airports in the Kansas system to have fuel which is accessible 24/7. This fuel objective applies to airports in the Commercial Service and Regional roles.

Target Performance

100% of state within 50 NM of an applicable airport with 24/7 fuel.

Current Performance

85% of state now within 50 NM of an applicable airport with 24/7 fuel.

Recommended Action: Airports needing 24/7 fuel to meet target: Dodge City Regional and Renner Field/Goodland Municipal.

• PERCENTAGE OF AIRPORTS WITH JET FUEL

Business jets embody the essence of a modern airport system. Commercial Service and Regional airports in the Kansas system should have jet fuel available. Currently, 87% of the airports in these two roles have jet fuel.

Target Performance

100% of Commercial Service and Regional airports should have jet fuel.

Current Performance

87% of Commercial Service and Regional airports now have jet fuel.

Recommended Action: Airports needing jet fuel to meet target: Oberlin Municipal, Wellington Municipal, Strother Field, New Leavenworth Airport, and Northeast Kansas.

GOAL: PROVIDE A NETWORK OF AIRPORTS THAT IS ACCESSIBLE BY AIR AND GROUND | PERFORMANCE MEASURE: ACCESSIBILITY

For an airport system to be effective, it should serve the largest number of residents and businesses. Convenient access should be provided from both the ground and the air. Specific benchmarks used to measure the system's current performance as it relates to this measure follow:

• PERCENT OF POPULATION/AREA WITHIN 90 MINUTES OF A COMMERCIAL SERVICE AIRPORT WITH TWO OR MORE AIRLINES.

Wichita Mid-Continent is currently the only Commercial Service airport in the Kansas system served by more than one airline. Manhattan Regional Airport is scheduled to start jet service with a second airline, American Eagle, in August 2009. Analysis shows that 32% of the state's population and 18% of its landmass are within 90 minutes of an airport with multiple airlines.

Target Performance

80% of population and 50% of the state should be within 90 minutes of an airport with at least two airlines.

Current Performance

32% of population and 18% of the state are now within 90 minutes of an airport with two airlines.

Recommended Action: When out-of-state commercial airports are considered along with Commercial Service airports in Kansas seeking additional air carriers, performance increases to 90% of the population and 60% of the state.

• PERCENT OF POPULATION/AREA WITHIN 45 MINUTES OF A REGIONAL AIRPORT

Study analysis shows that 76% of the state's population and 31% of its landmass are within 45 minutes of a Regional airport.

Target Performance

91% of population and 55% of the state should be within 45 minutes of a Regional airport.

Current Performance

76% of population and 31% of the state are now within 45 minutes of a Regional airport.

Recommended Action: Three additional Regional airports are recommended: an upgraded role for Allen County and two new airports, Northeast Kansas and Leavenworth. With these additions, coverage of population increases from 76% to 91%, and the percent of landmass coverage increases from 31% to 55%.

• PERCENT OF POPULATION/AREA WITHIN 60 MINUTES OF A COMMERCIAL SERVICE AIRPORT WITH ONE OR MORE AIRLINES

When all nine Commercial Service airports in Kansas are considered, 76% of the state's population and 31% of its landmass are within 60 minutes of a Commercial Service airport.

Target Performance

91% of population and 59% of the state should be within 60 minutes of an airport with one or more airlines.

Current Performance

76% of population and 31% of the state are now within 60 minutes of an airport with one or more airlines.

Recommended Action: When out-of-state commercial airports are considered and service areas for multi-carrier airports increased from 60 minutes to 90 minutes, current performance increases to 91% of the state's population, and the percent of area increases to 59%.

• PERCENT OF POPULATION/AREA WITHIN 30 MINUTES OF ANY AIRPORT

Study analysis shows that 98% of the state's population and 88% of its landmass are within 30 minutes of any system airport.

Target Performance

98% of population and 89% of the state should be within 30 minutes of a system airport.

Current Performance

98% of population and 88% of the state are now within 30 minutes of a system airport.

Recommended Action: Target performance for this benchmark is essentially met, no action is needed to increase system performance.

• **PERCENT OF POPULATION/AREA WITHIN 30 MINUTES OF A NPIAS AIRPORT**

Study analysis shows that 93% of the state's population and 69% of its landmass are within 30 minutes of a NPIAS airport.

Target Performance	Current Performance
96% of population and 74% of the state should be within 30 minutes of a NPIAS airport.	93% of population and 69% of the state are now within 30 minutes of a NPIAS airport.

Recommended Action: 79 of the 142 existing system airports are now in the NPIAS. The following existing airports are recommended for NPIAS inclusion: Paul Windle Municipal, Washington County Memorial, Montezuma Municipal, and Gilmore Municipal. New airports at Leavenworth, Northeast Kansas, Sharon Springs, Rooks County, and Mayetta are also recommended for NPIAS inclusion.

• **PERCENT OF POPULATION/AREA WITHIN 30 MINUTES OF AN AIRPORT WITH AN INSTRUMENT APPROACH**

Study analysis shows that 93% of the state's population and 63% of its landmass are now within 30 minutes of an airport with an instrument approach.

Target Performance	Current Performance
98% of population and 89% of the state should be within 30 minutes of an airport with an instrument approach.	93% of population and 63% of the state are now within 30 minutes of an airport with an instrument approach.

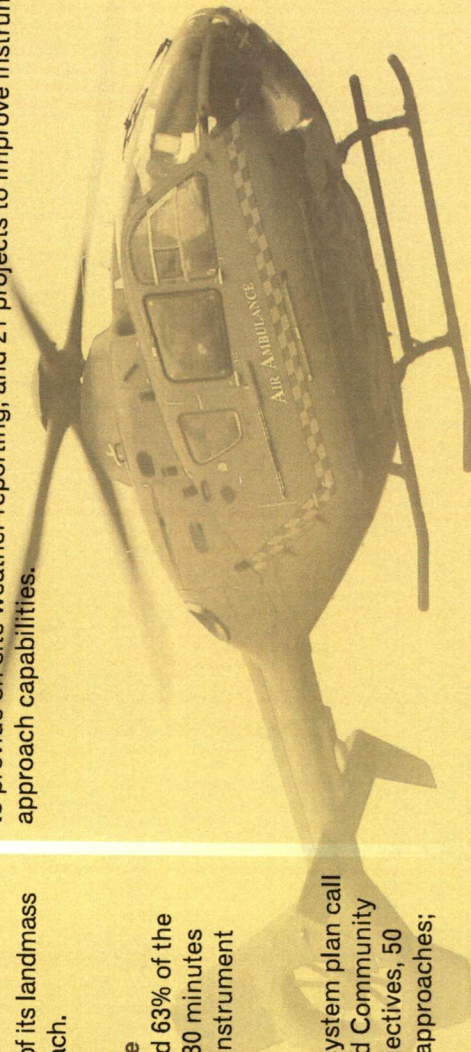
Recommended Action: Facility objectives established in the system plan call for airports in the Commercial Service, Regional, Business, and Community airport roles to have a published approach. To meet facility objectives, 50 existing airports and three proposed airports need instrument approaches; these new approaches would satisfy performance targets.

• **PERCENT OF POPULATION/AREA WITHIN 30 MINUTES OF AN AIRPORT CAPABLE OF SUPPORTING AIR AMBULANCE SERVICE**

Air ambulance care is very important in Kansas. To serve air ambulance flights, ideally, the following should be present: the airport should meet FAA design standards for B-II category aircraft, the airport should have adequate runway length and width, the airport should have an instrument landing system, and the airport should be equipped with an on-site Automated Weather Observation System (AWOS). Study analysis shows that 86% of the state's population and 44% of its landmass are within 30 minutes of an airport capable of supporting aircraft being flown on air ambulance missions.

Target Performance	Current Performance
94% of population and 72% of the state should be within 30 minutes of an airport able to serve air ambulance operators.	86% of population and 44% of the state are now within 30 minutes of an airport able to serve air ambulance operators.

Recommended Action: Improvements needed to meet target performance include a variety of enhancements at airports in the Regional, Business, and Community categories. Among these improvements are 29 projects to increase runway length, 21 projects to increase runway width, 33 projects to provide on-site weather reporting, and 21 projects to improve instrument approach capabilities.



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• **PERCENT OF POPULATION/AREA WITHIN 30 NAUTICAL MILES OF AN AIRPORT WITH ON-SITE WEATHER REPORTING**

Study analysis shows that 98% of the state's population and 93% of its landmass are now within 30 minutes of an airport with on-site weather reporting equipment.

Target Performance
100% of population and 100% of the state should be within 30 NM of an airport with on-site weather reporting.

Current Performance
98% of population and 93% of the state are now within 30 minutes of an airport with on-site weather reporting.

Recommended Action: System plan facility objectives call for all Commercial Service, Regional, Business, and Community airports to have on-site weather reporting. Five new and 62 existing airports need on-site weather reporting to meet the facility objective and established target for this benchmark.

• **PERCENT OF KANSAS COMMUNITIES WITH HOSPITAL/CLINIC AND AN AIRPORT**

Study analysis shows that 100% of the communities with a hospital/clinic also have a system airport.

Target Performance
100% of communities with hospital/clinic should be served by an airport.

Current Performance
100% of communities with hospital/clinic are served by an airport.

Recommended Action: Target met; no additional action needed.

• **PERCENT OF STATE PARKS WITHIN 20 MILES OF AN AIRPORT**

Study analysis shows that 100% of the state's parks are within 20 miles of a system airport.

Target Performance
100% of state parks should be within 20 miles of an airport.

Current Performance
100% of state parks are within 20 miles of an airport.

Recommended Action: Target met; no additional action needed.

• **PERCENT OF POPULATION/AREA WITHIN 30 MINUTES OF AN AIRPORT ABLE TO SERVE PHYSICIAN AIRCRAFT**

Study analysis shows that 92% of the state's population and 64% of its landmass are now within 30 minutes of an airport whose facilities are adequate to serve general aviation aircraft typically flown by physicians.

Target Performance
97% of population and 81% of the state should be within 30 minutes of an airport able to serve physician aircraft.

Current Performance
92% of population and 64% of the state are now within 30 minutes of an airport able to serve physician aircraft.

Recommended Action: Improvement of the system to meet the air ambulance benchmark will result in target performance for this benchmark being satisfied.



GOAL: SUPPORT LOCAL AND STATEWIDE ECONOMIC GROWTH | PERFORMANCE MEASURE: ECONOMIC SUPPORT

Airports are important to business attraction and retention. Companies often consider proximity to a commercial airport and/or a general aviation airport when they select a business location. Specific benchmarks used to measure the system's current performance as it relates to this measure follow:

• PERCENT OF POPULATION/AREA WITHIN 45 MINUTES OF AN AIRPORT WITH A RUNWAY 5,000 FEET LONG OR LONGER

Study analysis shows that 91% of the state's population and 59% of its landmass are now within 45 minutes of an airport with at least one runway that is 5,000 feet long or longer.

Target Performance

95% of population and 69% of the state should be within 45 minutes of an airport with a runway at least 5,000 feet long.

Current Performance

91% of population and 59% of the state are now within 30 minutes of an airport with a runway at least 5,000 feet long.

Recommended Action: Upgrading Allen County Airport to a Regional airport role with corresponding facilities, extending the primary runway at Wellington Municipal, and developing the new Northeast Kansas Airport as a Regional airport will meet the established target for this benchmark.

• PERCENT OF POPULATION WITHIN 45 MINUTES OF AN AIRPORT MEETING THE NEEDS OF BUSINESS USERS

For this study, airports need a 5,000-foot runway, jet fuel, and precision or LPV approach to meet business user needs.

Target Performance

91% of population and 56% of the state should be within 45 minutes of an airport meeting the needs of business users.

Current Performance

84% of population and 42% of the state are now within 45 minutes of an airport meeting the needs of business users.

Recommended Action: To meet the target set for this benchmark the following are needed: Allen County - LPV Approach; Oberlin Municipal - 5,000-foot runway, jet fuel, and LPV approach; Wellington Municipal - 5,000-foot runway and jet fuel; Northeast Kansas - 5,000-foot runway, jet fuel, and LPV approach.

• PERCENT OF AIRPORTS WITH GROUND TRANSPORTATION AVAILABLE

Study analysis shows that 100% of Commercial Service, 93% of Regional, and 73% of Business airports now have some form of ground transportation.

Target Performance

100% of Commercial Service, Regional, and Business airports should have ground transportation.

Current Performance

100% of Commercial Service, 93% of Regional, and 73% of Business airports now have ground transportation.

Recommended Action: Three Regional airports and 10 Business airports need ground transportation to meet the target for this benchmark.

• PERCENT OF POPULATION WITHIN A COMMUNITY THAT HAS DEDICATED ECONOMIC DEVELOPMENT STAFF

It is important for there to be a link between community economic development efforts and the community's airport.

Target Performance

No target set.

Current Performance

Current performance not established.

Recommended Action: Collect and evaluate data when information is available.

GOAL: SUPPORT THE PROMOTION OF AVIATION EDUCATION | PERFORMANCE MEASURE: EDUCATION

KDOT Division of Aviation recognizes the importance of partnering with airports to support aviation related education. The benchmarks noted may be evaluated and tracked in future updates to the system plan. Specific benchmarks to measure the system's performance as it relates to this measure follow:

- **PERCENT OF AIRPORTS THAT SUPPORT FLY-INS**
- **PERCENT OF AIRPORTS THAT HAVE STAFF THAT HAVE ATTENDED AVIATION EDUCATION TRAINING**
- **PERCENT OF AIRPORTS WITH COMMUNITY OUTREACH PROGRAMS**
- **PERCENT OF AIRPORTS SUPPORTING A&P PROGRAMS**

Target Performance
No targets set.

Current Performance
Current performance not established.

Recommended Action: Evaluate the four benchmarks noted above when data is available.

• **PERCENT OF AIRPORTS SUPPORTING FLIGHT TRAINING**

Flight training is important to both the future of commercial and general aviation.

Target Performance
50% of all airports should support flight training.

Current Performance
48% of all system airports now support flight training.

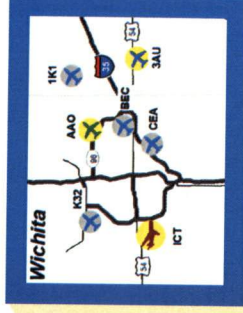
Recommended Action: Flight training is needed at three additional airports to meet the target for this benchmark.

FUTURE ROLES FOR SYSTEM AIRPORTS

In order to address current deficiencies in the Kansas airport system, some changes in airport roles are recommended and the addition of new airports to the system is supported.

EXISTING AIRPORTS	CURRENT ROLE	RECOMMENDED ROLE
Allen County	Business	Regional
Caldwell Municipal	Community	Basic
Fredonia	Basic	Community
Marion Municipal	Basic	Community
Marysville Municipal	Community	Business
ADDITIONAL AIRPORTS	STATUS	RECOMMENDED ROLE
Mayetta	New	Community
Northeast Kansas	New	Regional
Rooks County	Replacement	Community
Sharon Springs	New	Community
Leavenworth	New	Regional

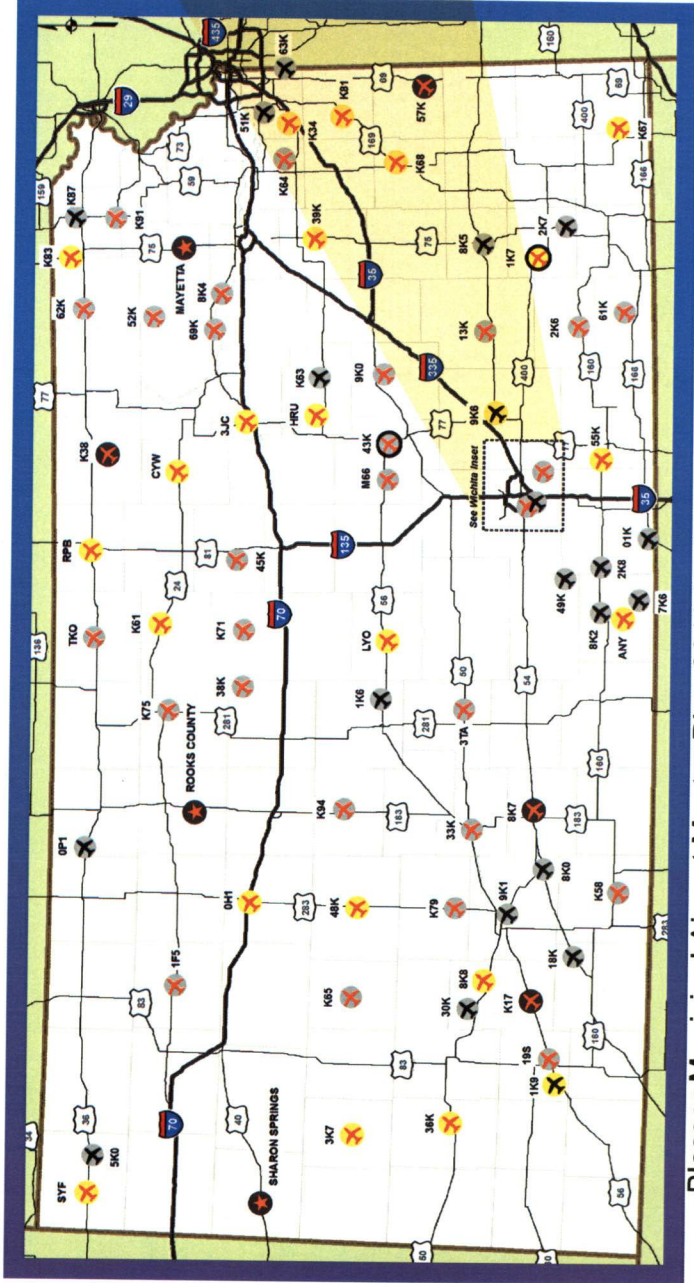
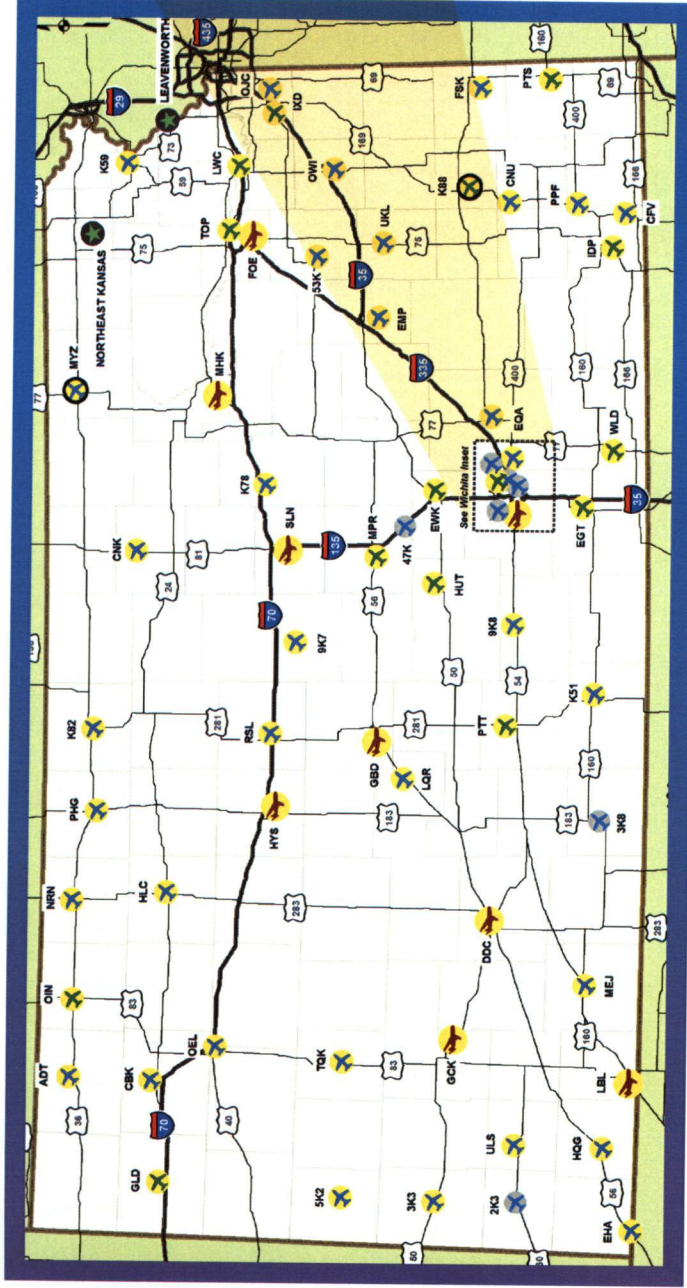
RECOMMENDED ROLES FOR KANSAS AIRPORTS



RECOMMENDED COMMERCIAL, REGIONAL, AND BUSINESS AIRPORTS



RECOMMENDED COMMUNITY AND BASIC AIRPORTS

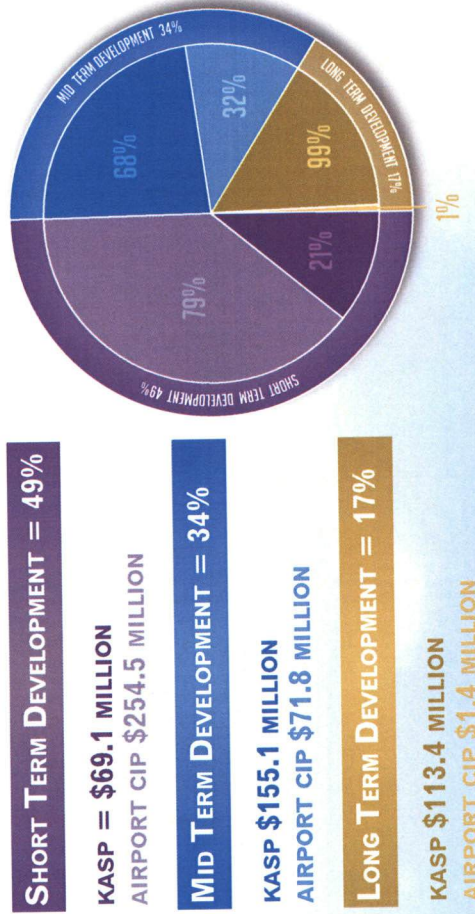


RECOMMENDED DEVELOPMENT COSTS

For airports in the Kansas system to meet the objectives outlined in the system plan, along with meeting development needs contained in their individual airport master plans, considerable investment will be needed. Funding requirements discussed in this section are general planning estimates; specific airport conditions could result in higher implementation costs. Funding requirements are also presented in current dollars. Actual development needs for airports in Kansas will continue to change, resulting in additional funding requirements over the next 20 years.

To meet system plan objectives and individual airport CIP development needs over the next 20 years, a total funding requirement of \$665.3 million has been identified.

It is also important to note that most airports do not prepare CIP plans that extend into the long-term period of this study; percentage values shown in the chart at right for long-term KASP and CIP costs may change over time.



KASP = KANSAS AIRPORT SYSTEM PLAN
CIP = CAPITAL IMPROVEMENT PLAN

ESTIMATED FUNDING REQUIREMENTS BY PROJECT TYPE



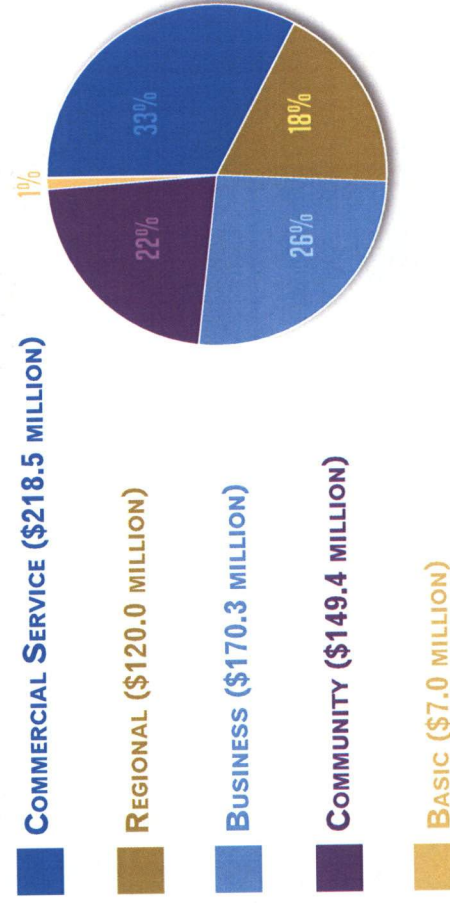
AIRFIELD (\$325.5 MILLION)
Runway length, runway width, taxiway, turnaround, pavement maintenance, runway lighting, taxiway lighting

NAVIGATIONAL AIDS (\$56.5 MILLION)
Approach, approach lighting, PAPI, REILS, rotating beacon, wind sock, weather, GCO

GENERAL AVIATION FACILITIES (\$240.8 MILLION)
Hangar, apron, terminal, FBO, auto parking, fuel, restrooms, pilot lounge, ground transportation link

PLANNING/ENVIRONMENTAL (\$42.5 MILLION)
Security plan, snow removal plan, master plan/ALP, environmental assessment

ESTIMATED FUNDING REQUIREMENTS BY AIRPORT ROLE



ANTICIPATED FUNDING SHORTFALL

Cost estimates to reach targets established in the system plan, as well as to respond to airport specific capital improvement plan (CIP) recommendations, show that at least \$665 million will be needed over the next 20 years. This equates to at least \$33 million per year in 2009 dollars. Historically, state and federal grants for Kansas airports on an annual basis have averaged \$25.9 million. Assuming that similar levels of federal and state funding are available over the 20-year planning period, an estimated \$518 million could be available to apply to identified system plan and CIP needs. This would result in a funding shortfall of \$147 million for the 20-year period.

To provide a more realistic look at gaps in funding that may be encountered, short-term funding requirements were reviewed. CIP requests for system airports beyond five years are undoubtedly understated since airports seldom develop a detailed capital cost program beyond five years. Short-term

system plan and CIP costs are estimated at \$323.6 million. This equates to \$64.7 million in funding requirements in each of the next five years. When this requirement is compared to average annual state and federal grants for airports in Kansas, the funding shortfall for just the next five years is estimated at \$194.1 million. This funding shortfall is considered more representative of the magnitude of the gap in funding that Kansas will experience related to meeting both system plan and airport specific CIP needs.

Clearly, the potential shortfall in funding, both short-term and long-term, is significant. Actions and strategies are needed to help insure that airports in Kansas can be appropriately maintained and improved over time with funds that are available. Addressing potential funding gaps may require changes in either or both current policy or investment strategy.



OPPORTUNITIES FOR TARGETED INVESTMENT

Facility and service objectives have been established for airports assigned to Commercial Service, Regional, Business, and Community airport roles. To meet many of the benchmarks used to evaluate the airport system's current performance, improvements which mirror several of the facility objectives are needed. By investing in improvements that help to satisfy facility objectives, while at the same time helping to improve the system by elevating its performance relative to selected benchmarks, available funding can be maximized.

The benchmarks most closely related to facility objectives are:

- Area/population within 30 minutes of an airport meeting air ambulance needs
- Area/population within 30 minutes of an airport with an instrument approach
- Area/population within 30 minutes of an airport with on-site weather

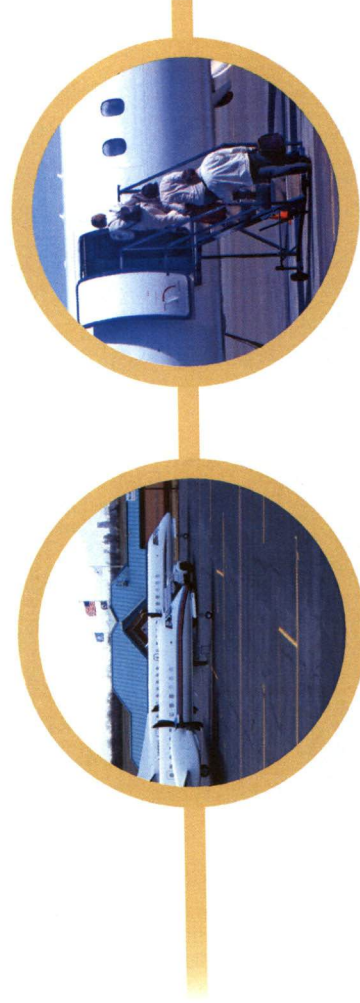
- Area/population within 30 minutes of an airport able to serve physician aircraft
- Area/population within 45 minutes of an airport meeting business user needs

Generally, facilities to meet the needs of air ambulance providers, physicians, and business users are somewhat similar. Facility upgrades needed to satisfy the operating requirements of these groups include:

- FAA B-II Design Standards
- Appropriate runway length and width
- Instrument landing system
- On-site weather reporting equipment
- Jet fuel

These facilities do not apply to all airport roles. Nevertheless, the accompanying graphic shows how, by investing in selected facilities and services, performance of the system can be elevated related to key benchmarks.

BENCHMARKS	FACILITIES/SERVICES					
	RUNWAY LENGTH/WIDTH	APPROACH/ APPROACH LIGHTING	JET FUEL	ON-SITE WEATHER		
AIR AMBULANCE COVERAGE						
INSTRUMENT APPROACH COVERAGE						
ON-SITE WEATHER COVERAGE						
PHYSICIAN AIRCRAFT COVERAGE						
BUSINESS USER COVERAGE						



SUMMARY

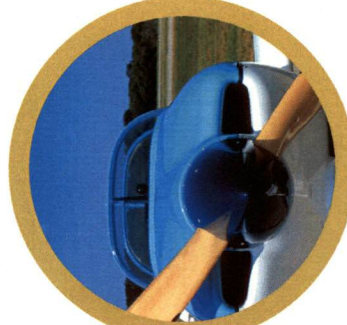
The Kansas Airport System Plan used a strategic approach to determine the state's air transportation needs. The plan provides a decision making tool to direct system development and investment. Appropriate policies and priorities must be in place to efficiently and effectively direct funding to reach system goals.

For aviation-related policy to be sustainable, policy should ideally be linked to the performance of the system. For the Kansas airport system to benefit the public, a balanced airport system is essential. Direction from the Kansas Long Range Transportation Plan indicates that not only should the airport system be developed so that it is balanced, but is should also be developed in a manner that is matched to available financial resources. Facility and service objectives developed for airports assigned to each airport role help to balance development with demand, increasing system sustainability.

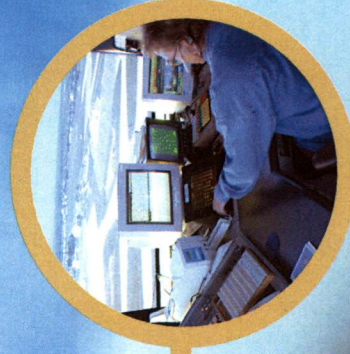
The Kansas Long Range Transportation Plan identified three specific aviation related policies/objectives:

- Develop a statewide aviation system plan
- Increase coverage provided by all-weather access airports
- Increase small airport sustainability

The first of these objectives is met with the completion of this plan. By responding to facility objectives and benchmarks noted previously, all-weather access to the state's airport system can be markedly improved. Small airport sustainability can be improved by allocating funding



The Kansas Airport System Plan has identified the needs for all public-use airports and has provided a blueprint for developing the airport system.



to develop revenue producing facilities and/or by providing technical assistance to reduce operating expenses at small airports.

To implement the recommendations of the Kansas airport system, additional staff for the KDOT Division of Aviation is desirable. Additional staff could help monitor allocation of federal non-primary entitlement funds (NPE), promote aviation related education, and address unfinished projects. Establishing a Bureau of Aviation Initiatives could also facilitate the logical division of state initiatives and federal programs.

Any process that the KDOT Division of Aviation uses to allocate funds to system airports should be based on accountability. By using performance based measures and benchmarks from the system plan to help prioritize the allocation of funding to airports in Kansas, accountability can be enhanced. Future funding should place an elevated priority on projects that help system airports implement their individual facility and service objectives. Priority should also be placed on funding projects that enable the airport system to achieve targets set for each performance measure and benchmark.

Kansas is served by an extensive system of commercial and general aviation airports that supports the state's residents, businesses, and visitors. Airports are an important resource that supports the state's economy and transportation needs. The Kansas Airport System Plan has identified the needs for all public-use airports and has provided the Division of Aviation with a blueprint for developing the airport system. Recommendations outlined in the KASP are important to maintaining and enhancing aviation's role in the state's multi-modal transportation system.

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