

Minnesota
A Collaborative Vision
for Transportation



State Aviation System Plan

SASP Phase I – Final Meeting 4/18/19

St. Paul Downtown Airport – Earhart Room

Agenda

- Introductions
- Overview of Phase I
 - Phase I Products
 - Trends
 - White Papers
 - How to comment
- Phase II Update – What's next?

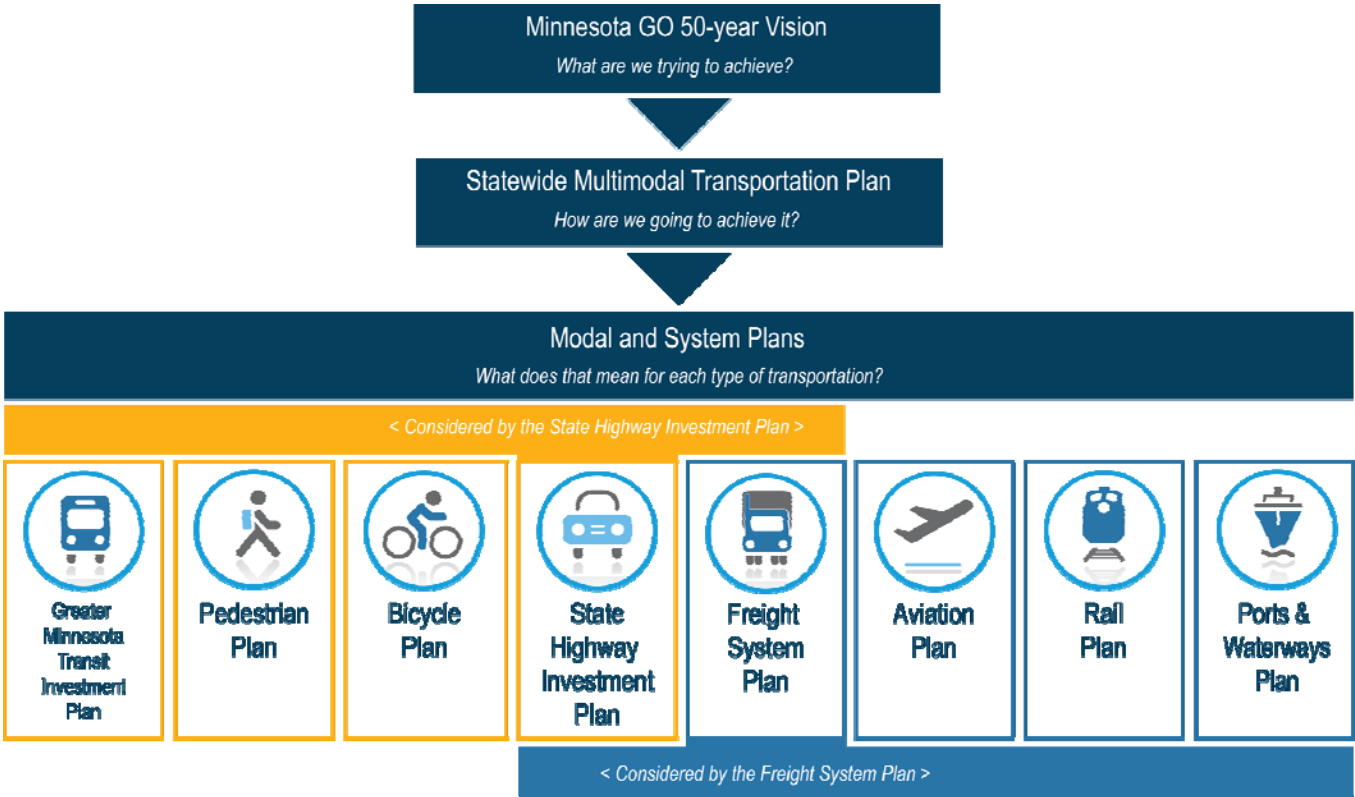


Introductions

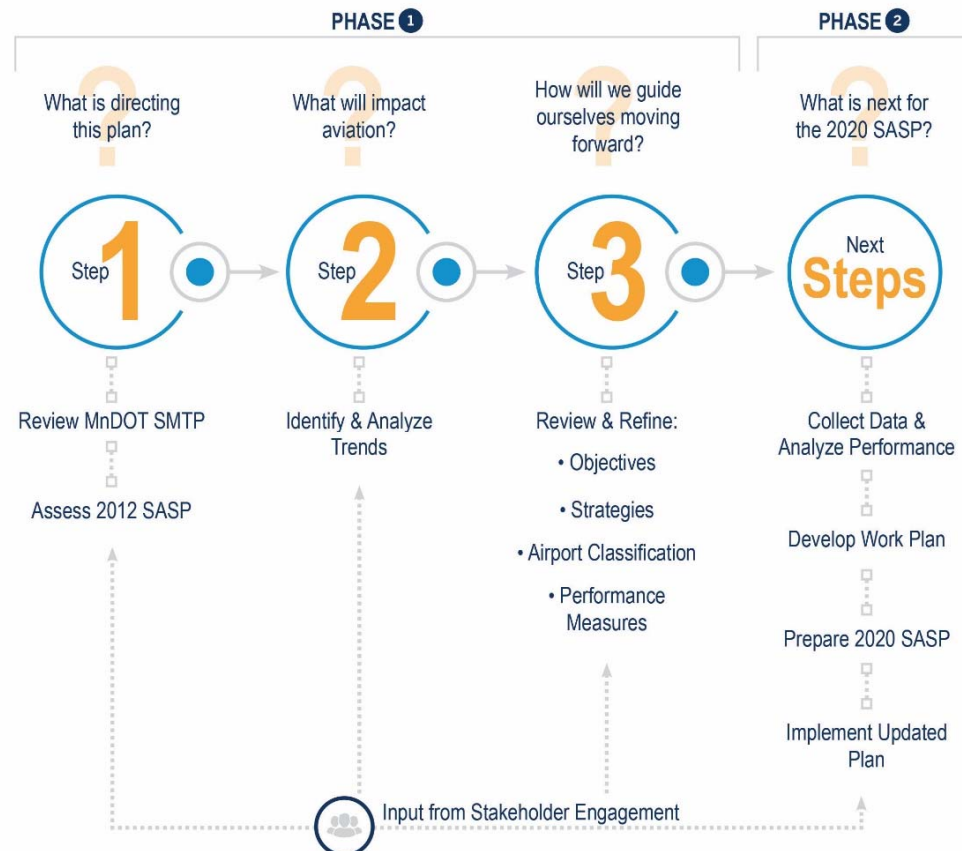


Phase I Overview

State Aviation System Plan



2020 SASP Process



Outreach Methods

- Written, online and in-person



More relevant to
more people more
of the time.

April 12-14, 2017

Minnesota Airports Conference

Mankato

April 29-30, 2017

Great Minnesota Aviation Gathering

Blaine

June 3-4, 2017

Duluth Airshow

Duluth

July 15-16, 2017

Flying Cloud Air Expo

Eden Prairie

July 23-30, 2017



SASP Phase I Products

Phase I Products

Trend Papers

- Alternative Fuels and Electrification
- Commercial Service
- Fleet Changes
- Navigation Technologies
- Pilot and Workforce
- Project Funding
- Transportation Behavior
- Unmanned Aircraft Systems

White Papers

- Assessment of Prior Efforts
- Objectives and Strategies
- Classification
- System Metrics
- Airport Metrics

Phase II Parking Lot

Comment Period

- April 11 – May 10, 2019



Trend Papers

Audience:
General Public

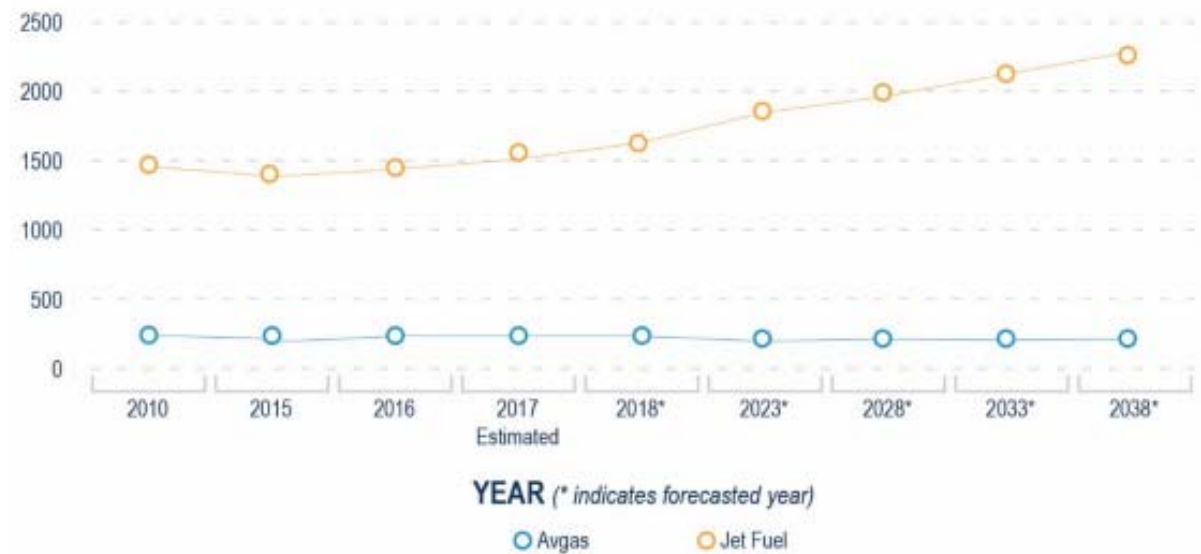
Length:
Short

- Alternative Fuels and Electrification
- Commercial Service
- Fleet Changes
- Navigation Technologies
- Pilot and Aviation Workforce
- Project Funding
- Transportation Behavior
- Unmanned Aircraft Systems

Alternative Fuels and Electrification

- Avgas fuel replacement
- Jet Fuel Alternatives
- Hybrid Electric Aircraft

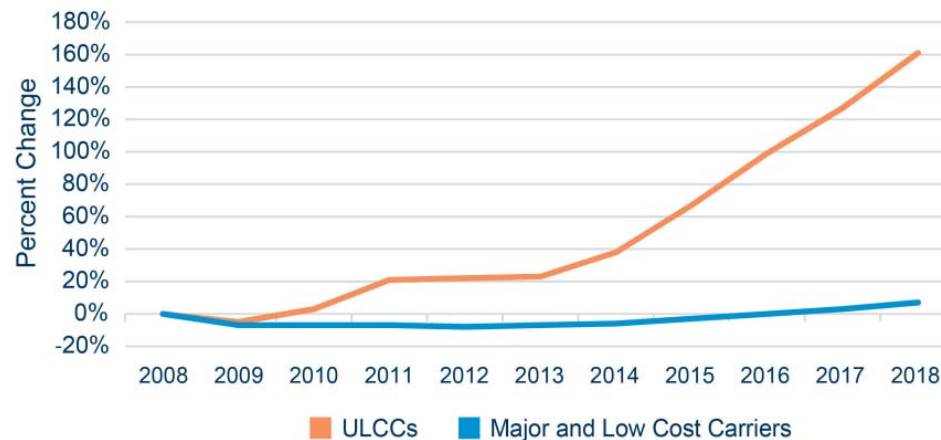
Figure 1: General Aviation Aircraft Fuel Consumption



Commercial Service

- Evolution of Air Service at MSP and impacts systemwide
- Changes for Essential Air Service (EAS) at MN airports
- Impacts of Ultra Low-cost Carriers (ULCC)

Figure 1 – Airline Industry Growth



Fleet Changes

- General Aviation Fleet
- Commercial Aircraft Fleet
- UAS

Figure 1 Commercial UAS Uses

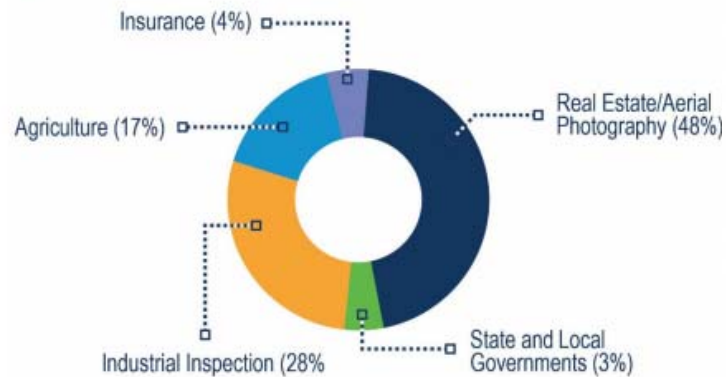
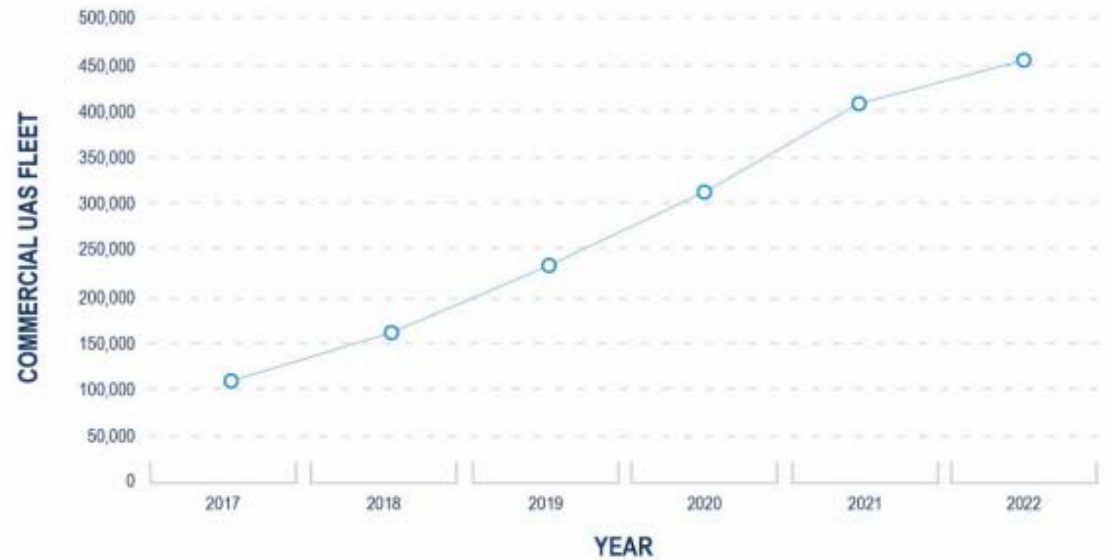


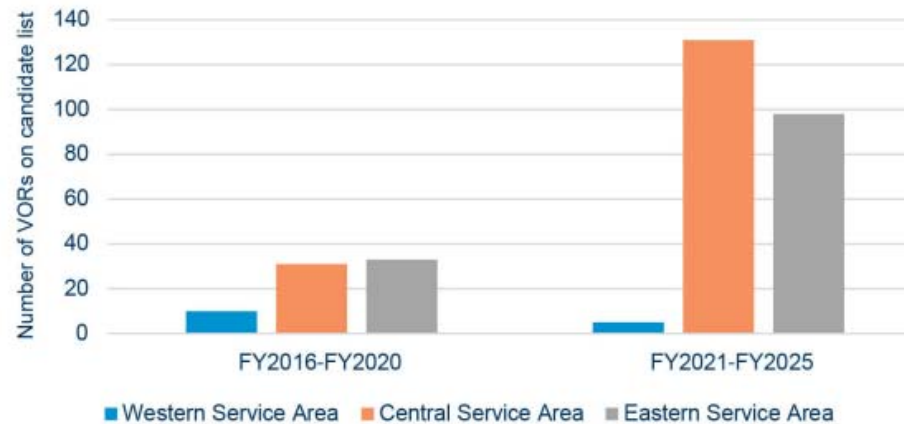
Figure 3 Commercial UAS Fleet Forecasted Growth



Navigation Technologies

- Overview of Ground based vs. Satellite based
- Shift to Satellites

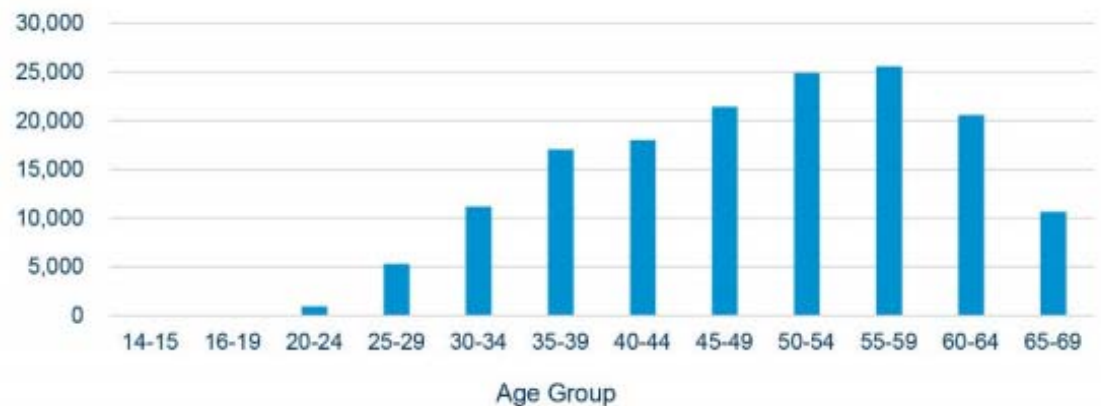
Figure 1: VOR Discontinuance Candidate List



Pilot and Aviation Workforce

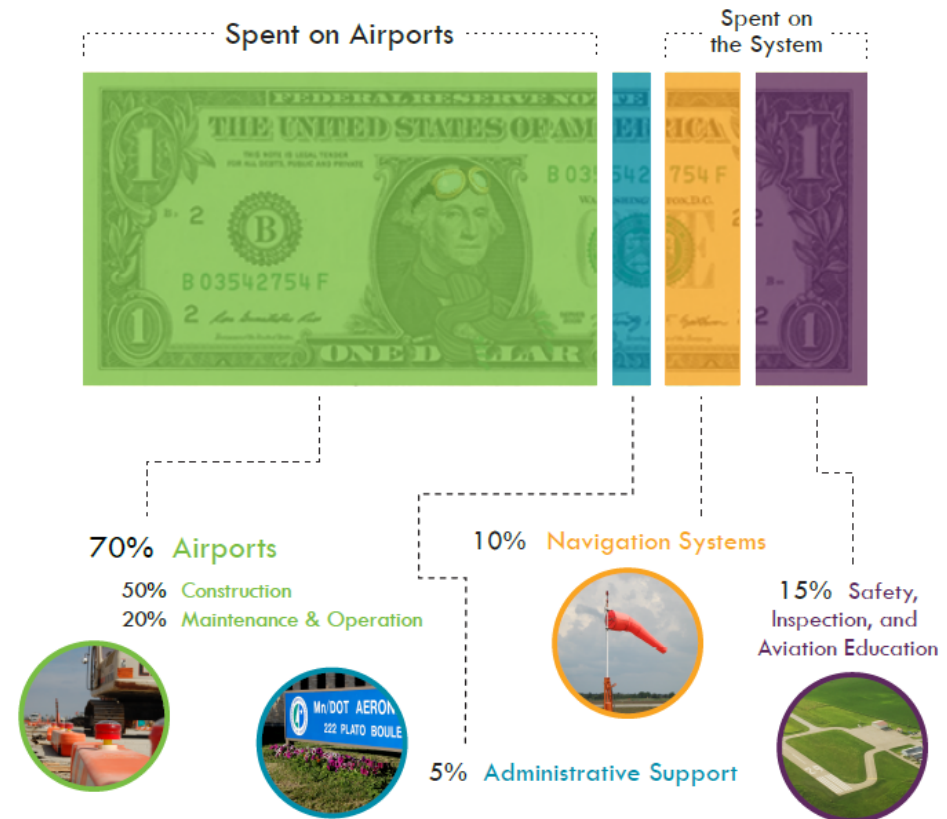
- Pilot Workforce Overview
- Space
- General Aviation
- Women in Aviation
- Commercial Pilot Shortage Factors
- Aviation Mechanics

Figure 8: Estimated Active ATP Certificate Holders by Age Group



Project Funding

- FAA
 - AIP
 - PFC
 - Special Appropriation
- MnDOT Funding



Transportation Behavior

- Air Travel Trends

Figure 1: Total boardings (enplanements) at MSP International Airport from 2010 to 2016 ⁴

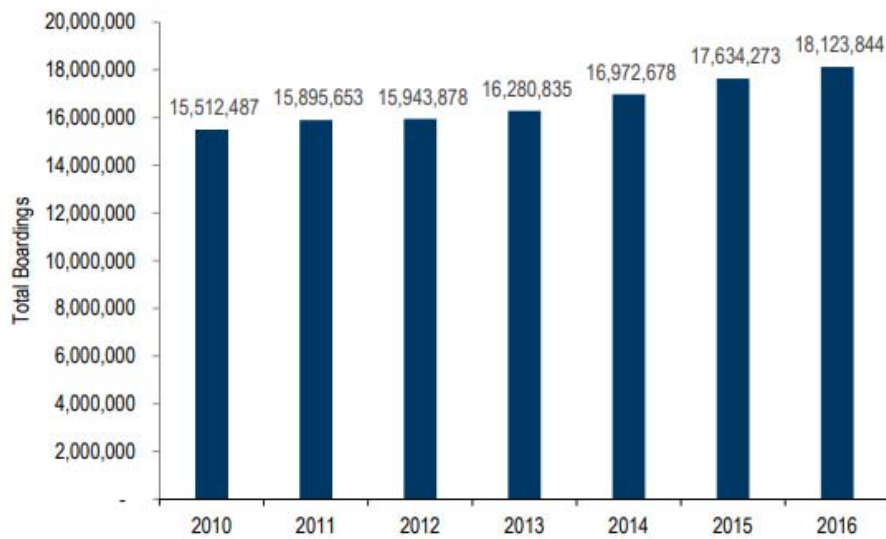
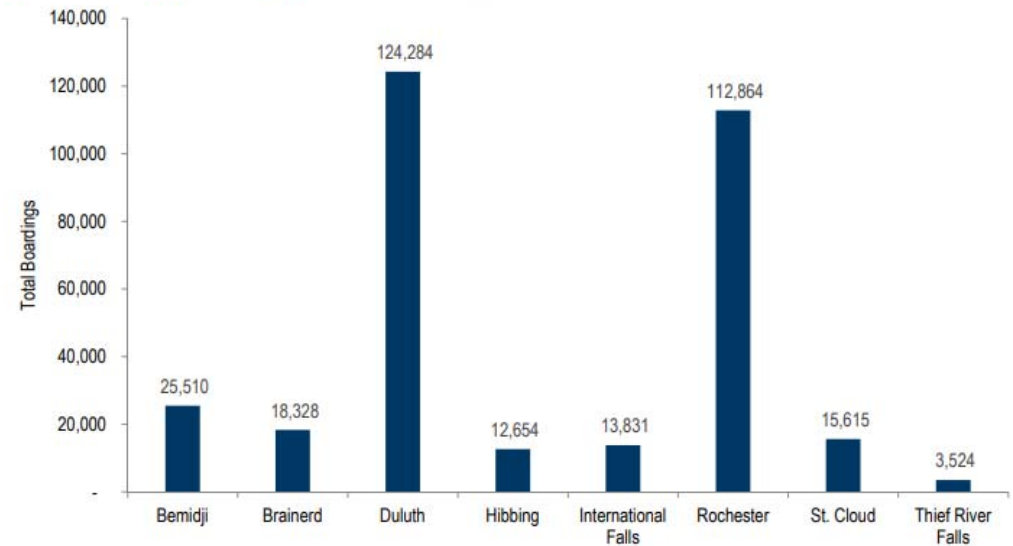


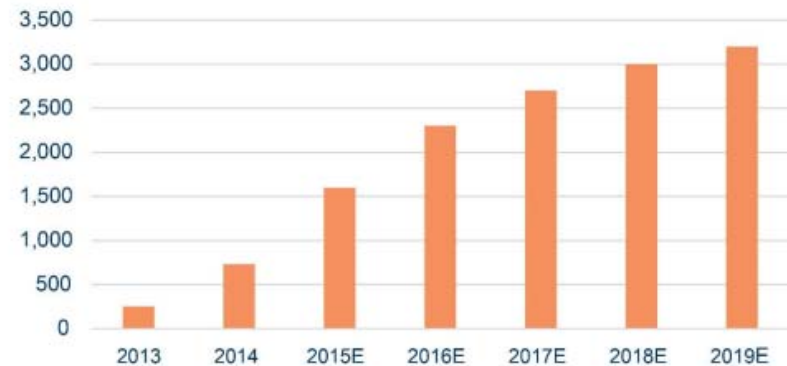
Figure 3: Total boardings (enplanements) at airports in Greater Minnesota, 2016 ⁵⁰



Unmanned Aircraft Systems

- Rapid Evolution
- Business Applications and Economic Impact
- Issues and Concerns
- Education

Figure 4: Global Sales (in Millions of USD) Retail and Consumer Drone Market





Break



White Papers

White Papers

- White papers document thought process and will be used to write the SASP report in Phase II.
 - Assessment of Prior Efforts
 - Objectives and Strategies
 - Classification
 - System Metrics
 - Airport Metrics

Audience:
Stakeholders

Length:
Long



Assessment of Prior Efforts White Paper

Assessment of Prior Efforts White Paper

What it's about:



- What worked well in the 2012 SASP?
- What could use improvement in the 2020 SASP?

Educate the public
Better web access
NextGen impacts
Comparison tools
Required vs. Recommended

More visual, easy to read
Data up-to-date
Prioritize Funding
Comparison tools
Drones

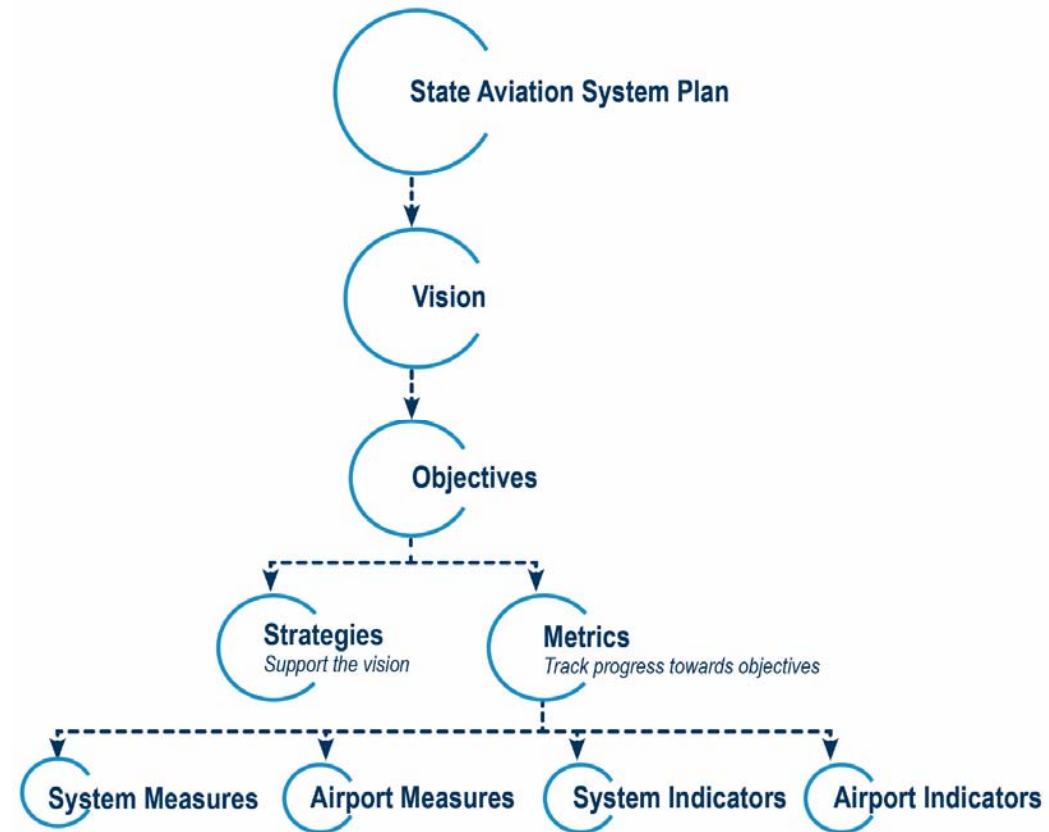


Objectives and Strategies White Paper

Objectives and Strategies White Paper

What it's about:

- 2012 SASP
 - Goals
 - Strategies – What did MnDOT do?
- 2020 SASP
 - Objectives – What each is about
 - Strategies



Objectives and Strategies White Paper

2012 SASP Goals

- Safety
- Mobility
- Financial Opportunity & Responsibility
- Operations
- Asset Management

SMTP Objectives

- Open Decision Making
- Transportation Safety
- Critical Connections
- System Stewardship
- Healthy Communities



Adopted
for 2020
SASP

Objectives and Strategies White Paper

Strategies – What we heard:

- There are too many strategies
 - Too many strategies dilutes the focus on accomplishing anything
- Some strategies too specific
 - Move to a higher level
 - Allows a work plan to complete the strategy in a flexible and efficient way

Strategies – What we did:

- 2012 – 31 Strategies
- 2020 – 17 Strategies



Classification White Paper

Classification White Paper

What it's about:

- Minnesota aviation system
- State Aviation System
- Existing classification system
- Proposed changes to classification system

Classification White Paper

- Aviation system in Minnesota



State Aviation System



Overview of Current Classifications

Key



Intermediate



Landing Strip



Classification – What we heard

- **Consider splitting out Commercial Service from Key airports**
- **Intermediate classification is too broad**
- Need a roadmap for classification change
- Have classifications better communicate role to community
- **Classification system does not currently allow for inclusion of seaplane bases**

Classification – What we heard

- There are other potential ways MnDOT could utilize classification in the future.
- The FAA ASSET classification system classifies airports differently, but may not be applicable to the SASP classification system.
- The classification names should provide a clear hierarchy.
- **There may be benefits in classifying airports based on more than just runway length.**

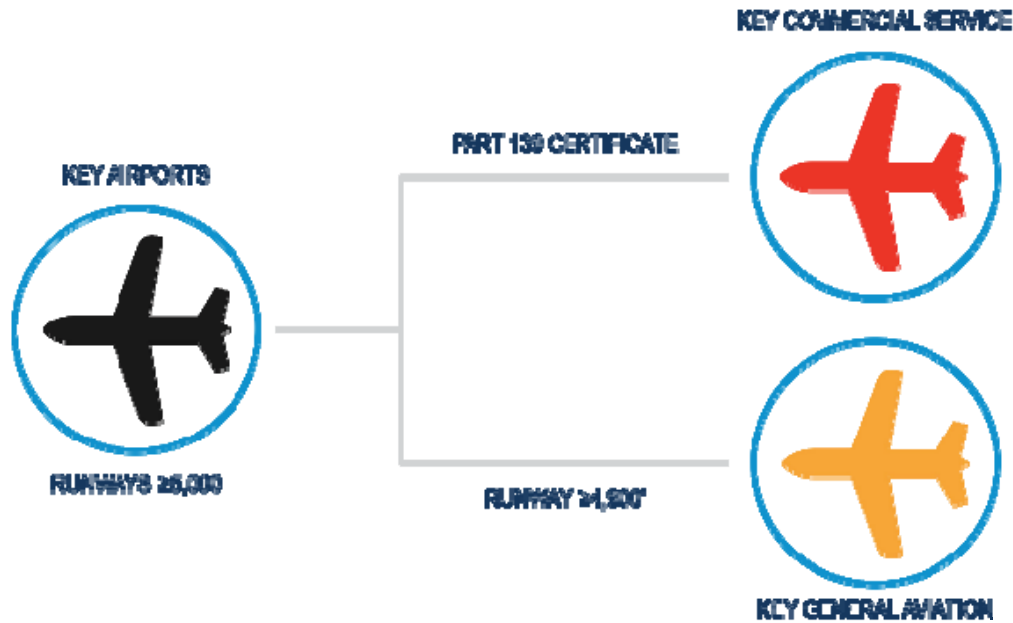
Proposed Changes – Key Airports

- Revise Key Airport definition to include airports with runway lengths of 4,900 feet or more.
 - Length corresponds to requirement in Minnesota Rules for runways of 4,900 feet or more to be “Other Than Utility.” There may be benefits to align the two requirements.
 - The longest existing Intermediate airport runway is 4,794 feet.
- Divide Key Airports into:
 - General Aviation
 - Commercial Service (Part 139 Certificate)

Proposed Changes – Key Airports

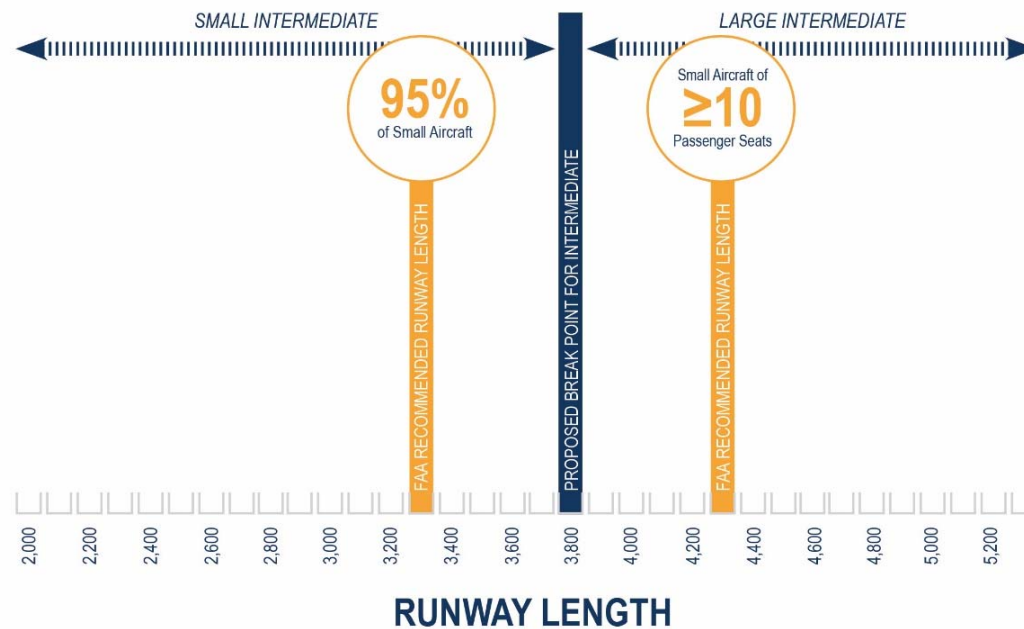
2012 SASP AIRPORT CLASSIFICATION

PROPOSED SASP CLASSIFICATION



Proposed Changes – Intermediate Airports

- Divide Intermediate Airports into two groupings based on runway length.



Proposed Changes – Intermediate Airports

- Divide Intermediate Airports into two groupings based on runway length.



Proposed Changes – Intermediate Airports

EXISTING CLASSIFICATION

INTERMEDIATE AIRPORTS



PAVED RUNWAYS < 4,000

PROPOSED CLASSIFICATION

INTERMEDIATE LARGE



PAVED RUNWAY ≥ 3,800' UP
TO BUT NOT INCLUDING 4,900'



INTERMEDIATE SMALL

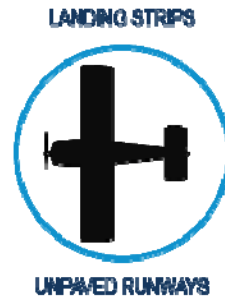
PAVED RUNWAY < 3,800

Proposed Changes – Landing Strip Airports

- Revised to include seaplane bases (those without a corresponding hard surface runway)
 - None currently exist; however, one is in the Planning Phase in the System Order

Proposed Changes – Landing Strip Airports

EXISTING CLASSIFICATION

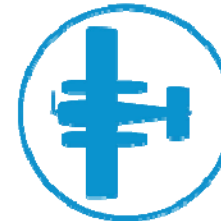


PROPOSED CLASSIFICATION

LANDING STRIP TURF



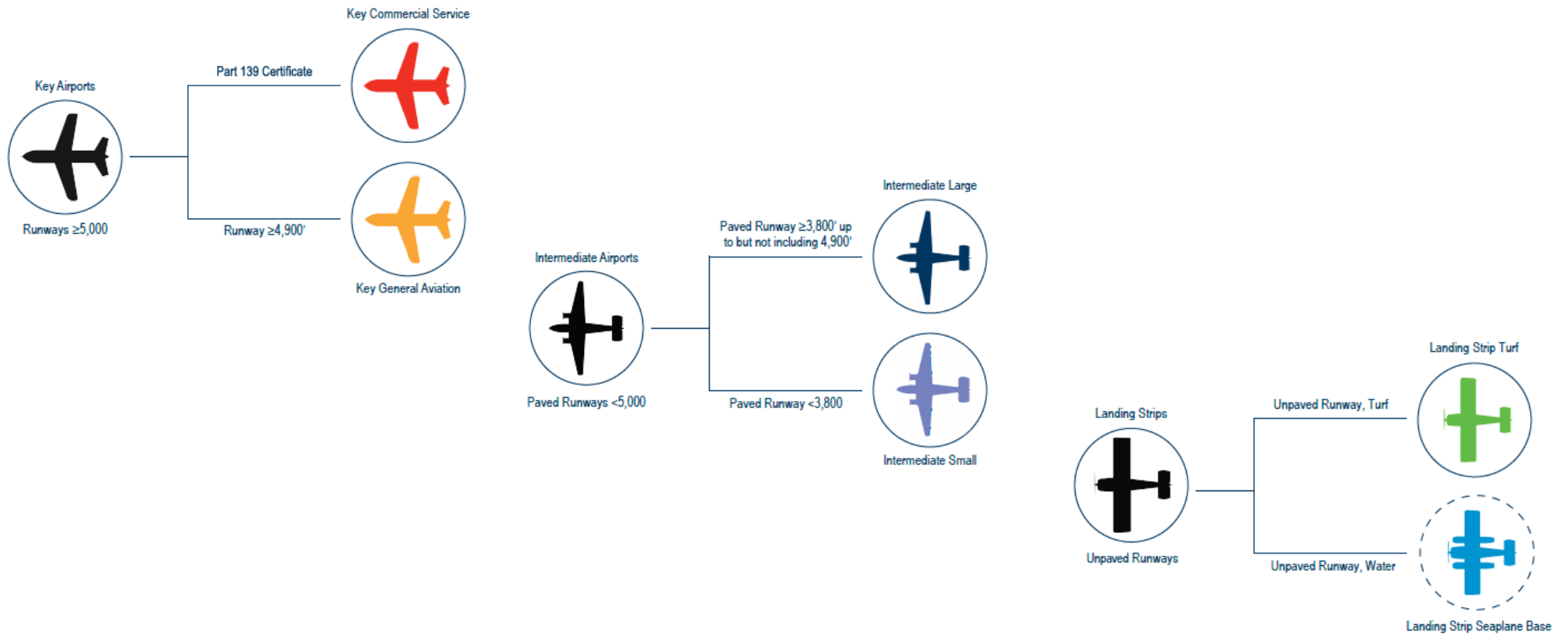
UNPAVED RUNWAY, TURF



UNPAVED RUNWAY, WATER

LANDING STRIP SEAPLANE BASE

Proposed 2020 SASP Classification



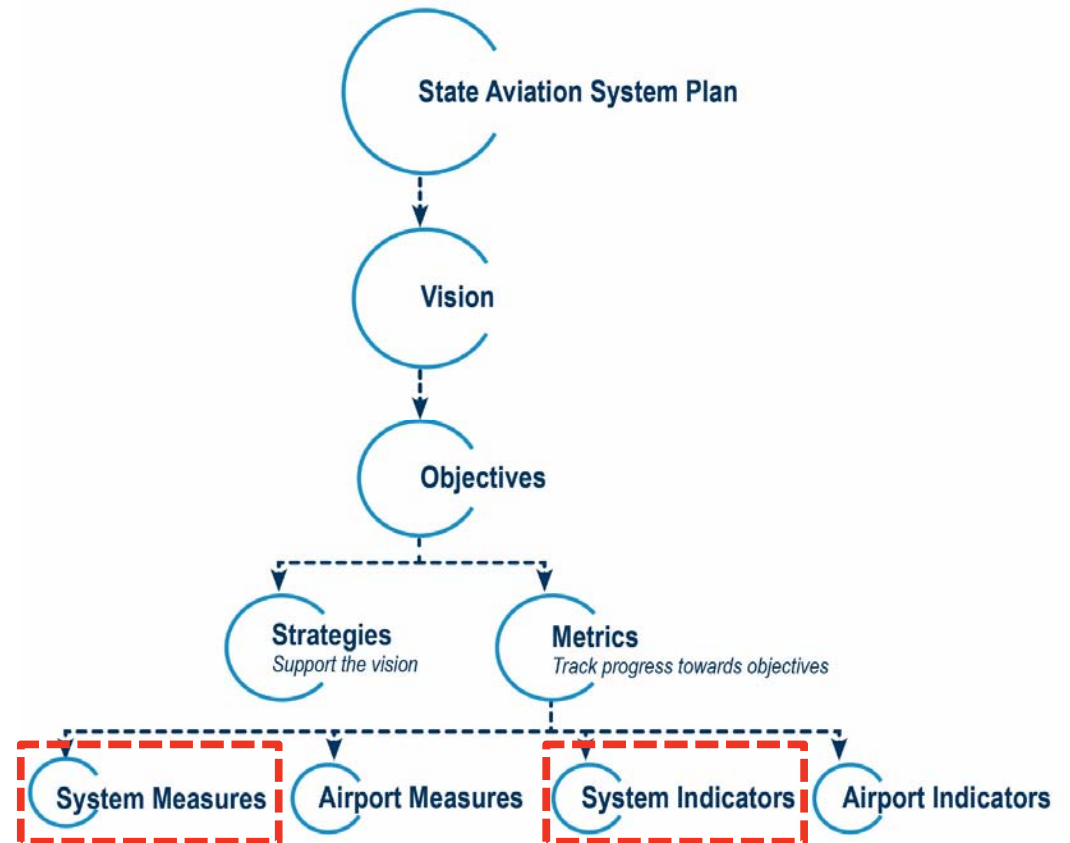


System Metrics White Paper

System Metrics White Paper

What it's about:

- System measures
 - What's changed, what's new
- System indicators
 - What's changed, what's new

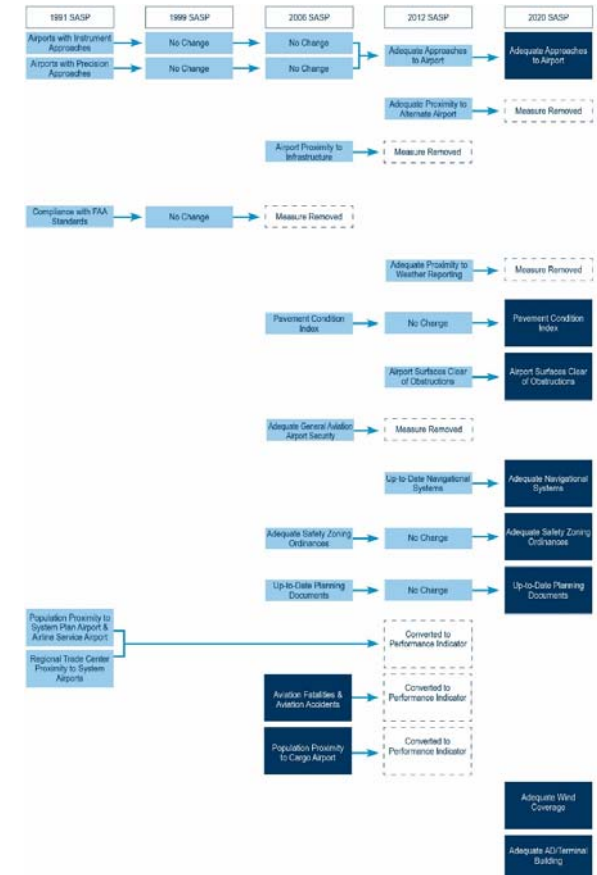


Measure vs. Indicator

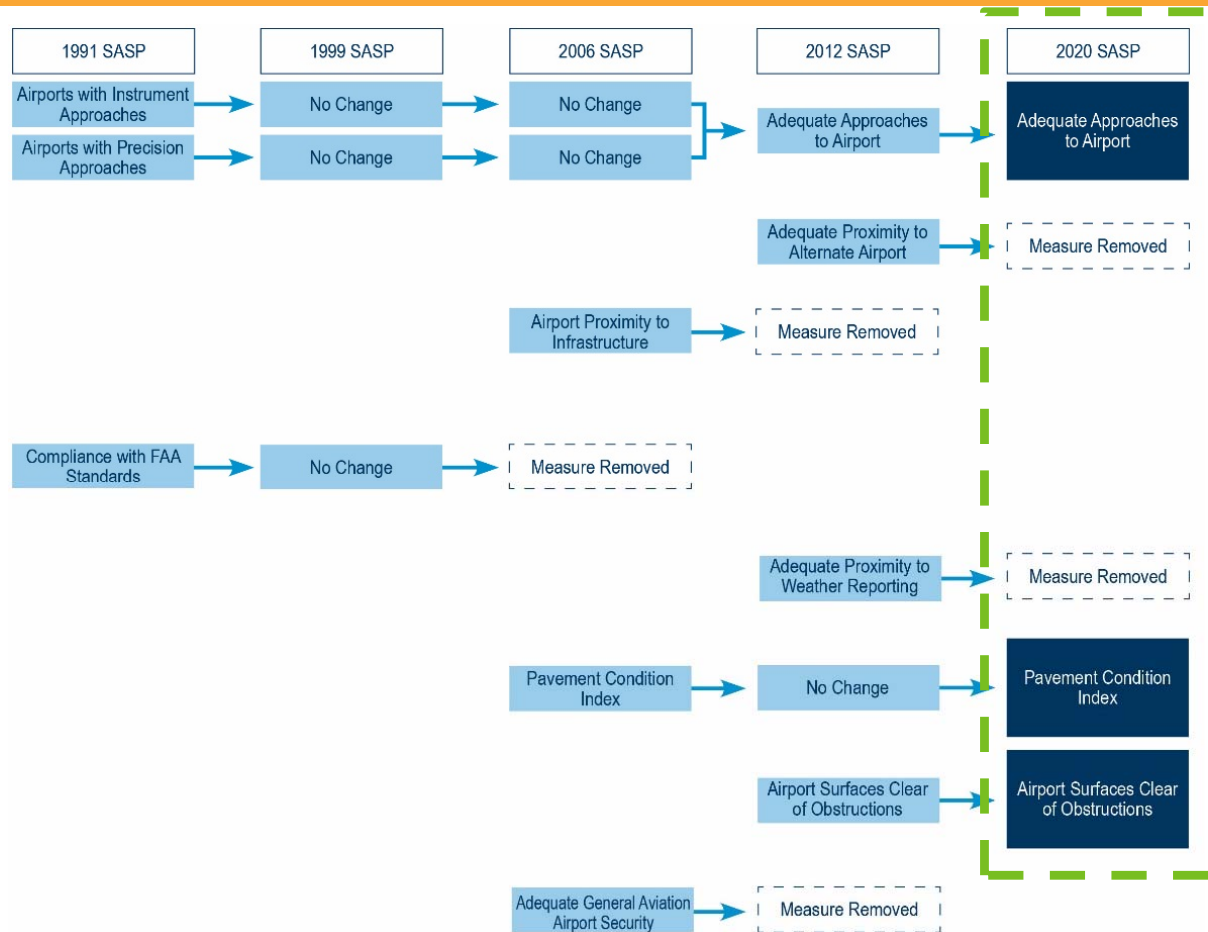
- Measure
 - Areas where MnDOT has the ability, through investment or other means, to directly impact system performance
- Indicator
 - Areas where MnDOT has little or no ability to influence the outcome but the expectations for transparency and information sharing still exist

2020 System Measures

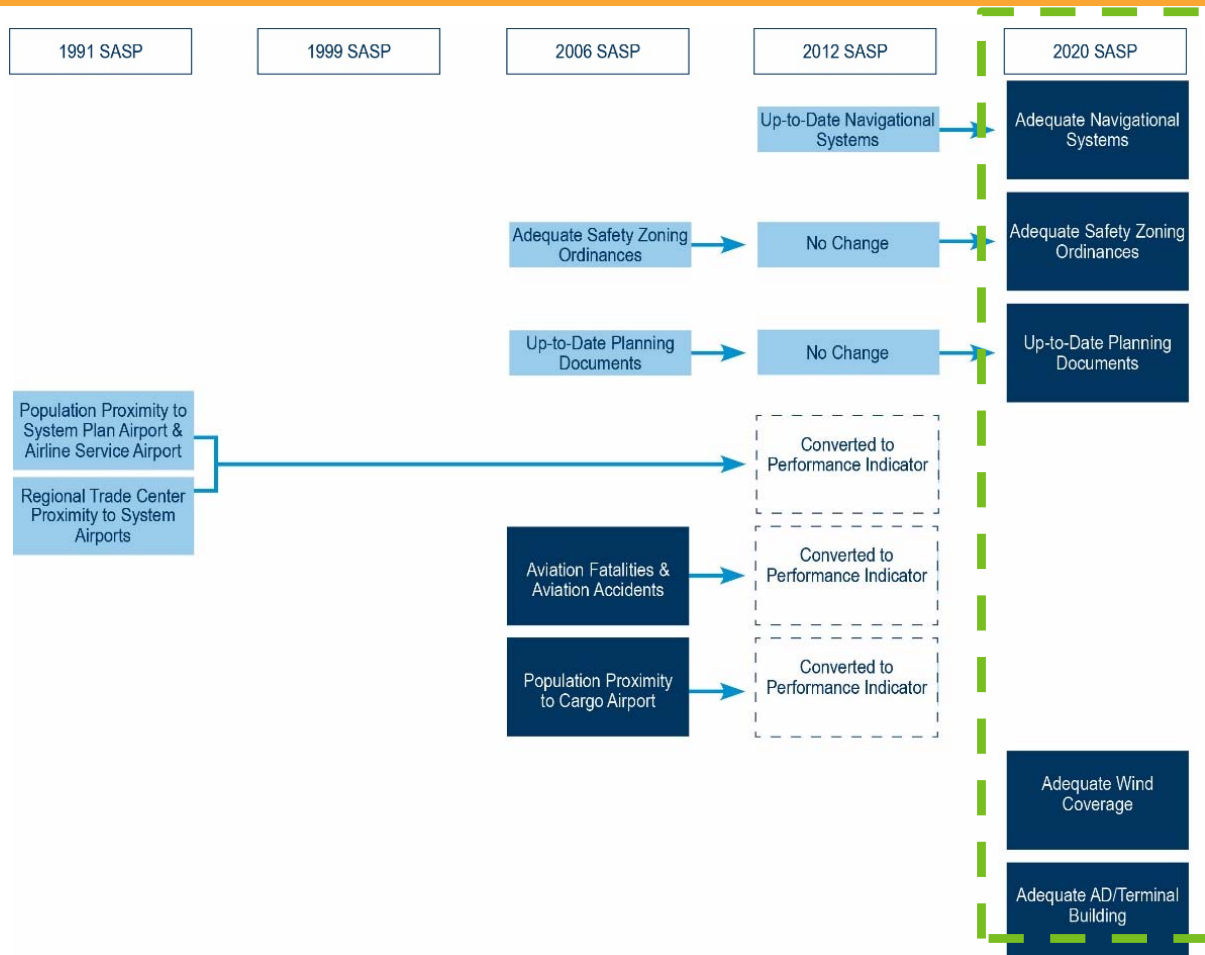
- Evolution of system measures
- Measure Summary Info
 - Measure
 - Relevance
 - Target
 - Technical description
 - Data sources



2020 System Measures

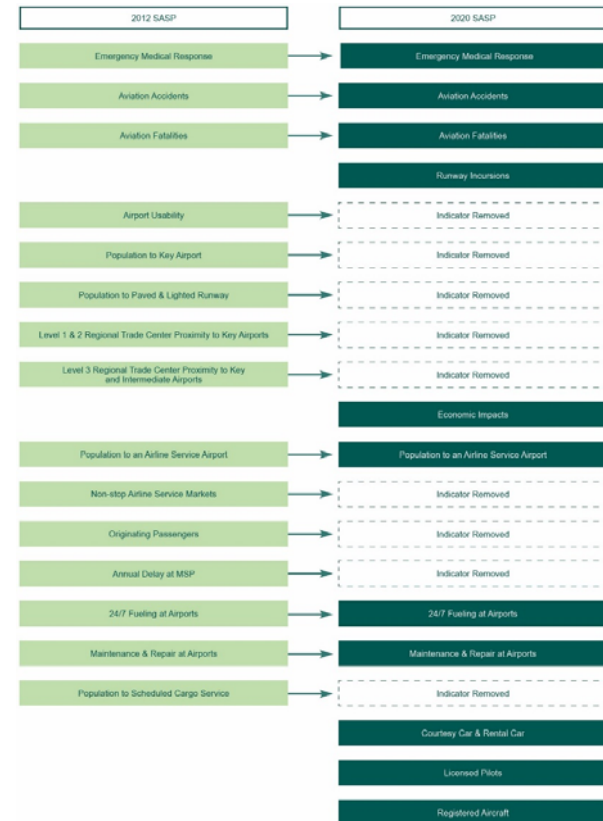


2020 System Measures

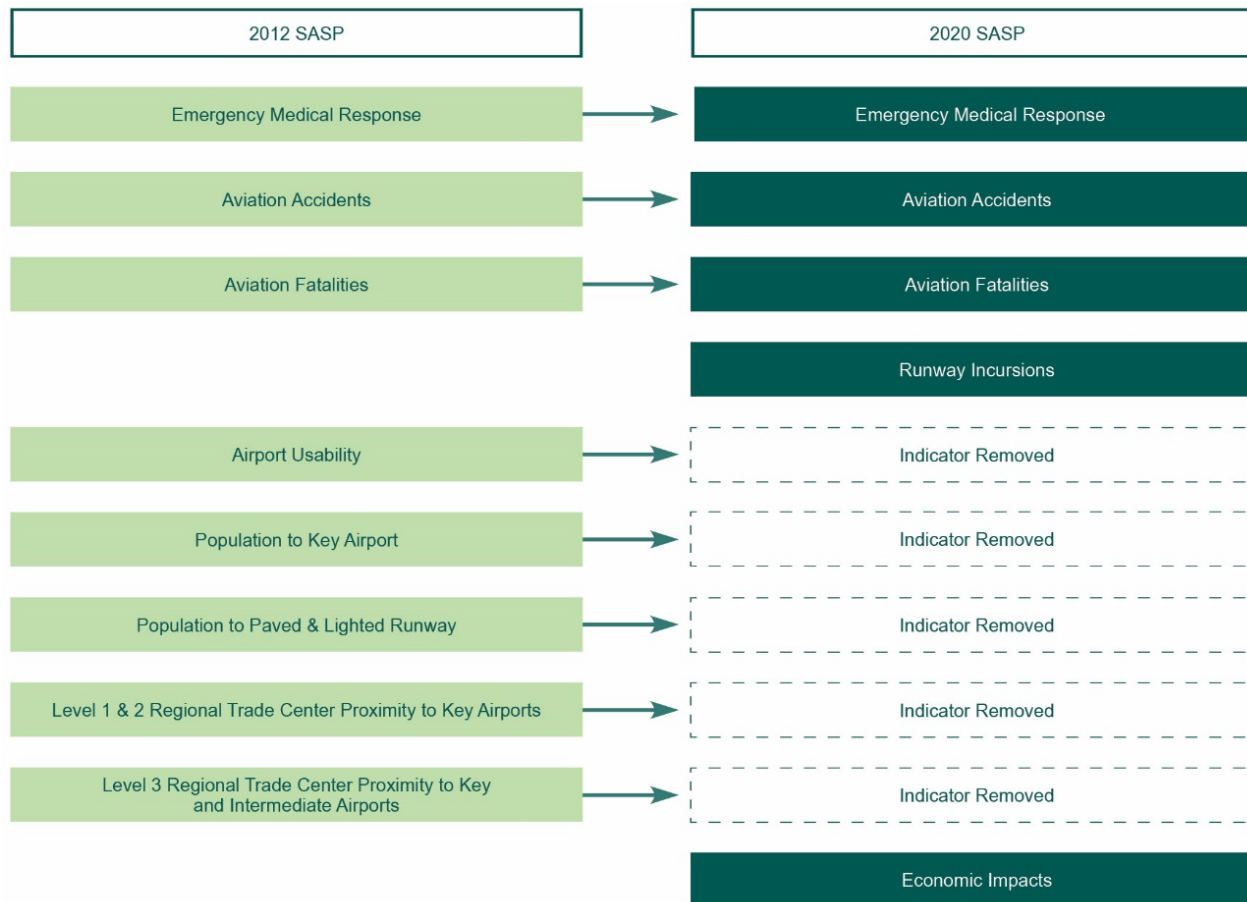


2020 System Indicators

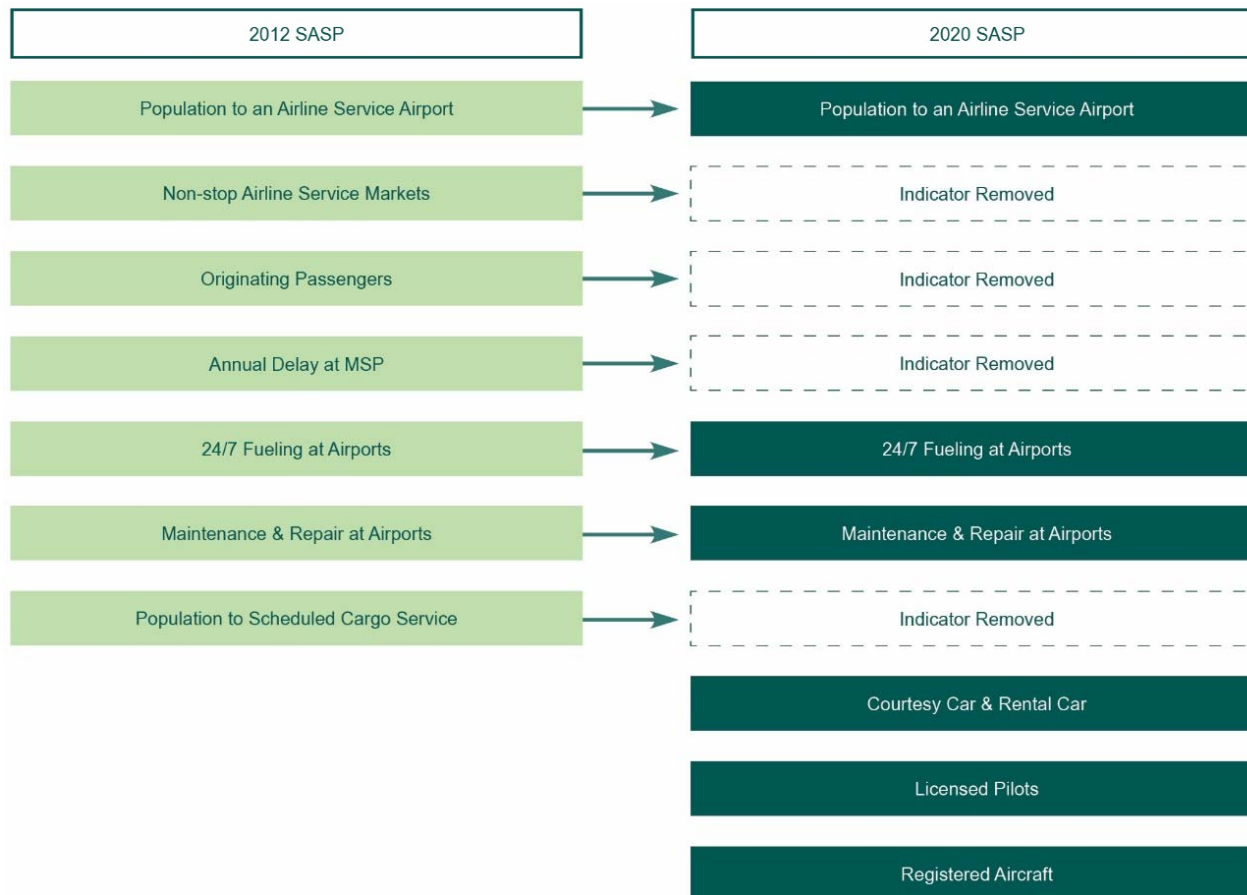
- Feedback:
 - Too many indicators
 - Better to focus on fewer, more meaningful indicators
 - Indicators should be easy to understand
- Indicator Summary Info:
 - Relevance
 - Source



2020 System Indicators



2020 System Indicators



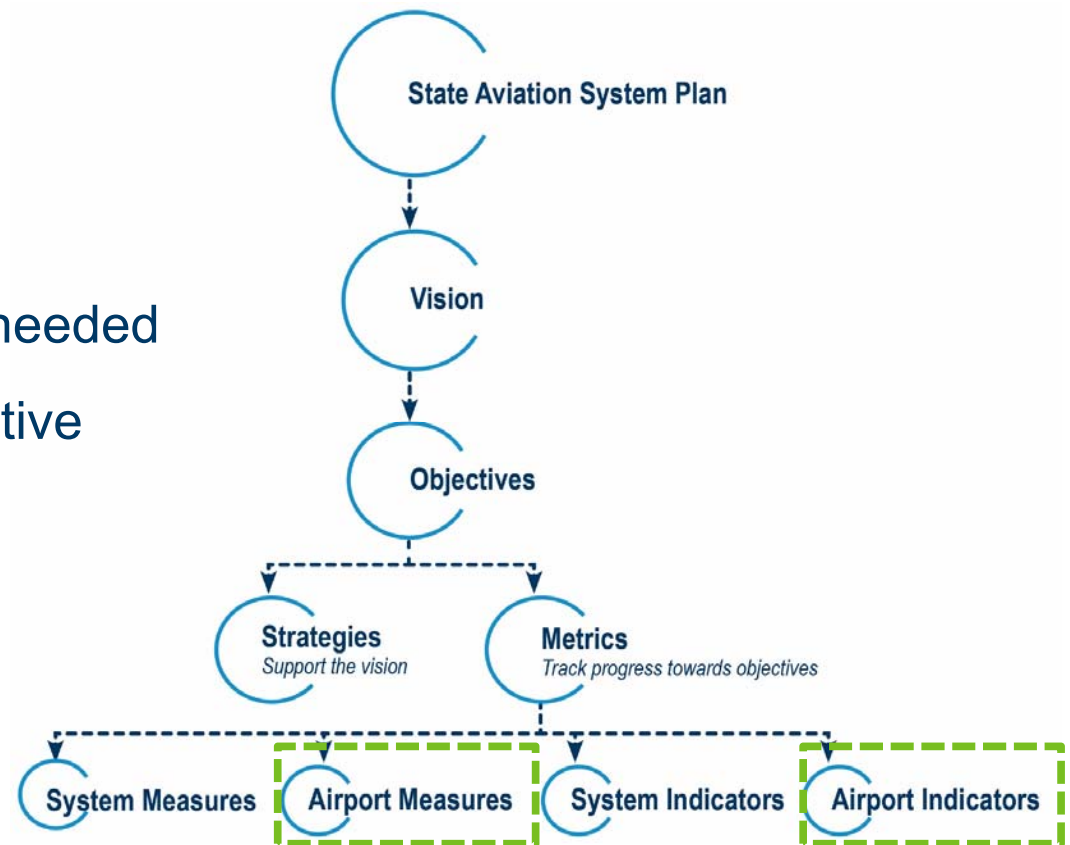


Airport Metrics White Paper

Airport Metrics White Paper

What it's about:

- Airport Measures
 - Required, recommended, as-needed
 - Facilities, services, administrative
- Airport Indicators



Airport Measures

- Airport Measures - each measure is described as:
 - Required - MnDOT expects that item to be at each airport. Items that are required by Minnesota rule or statute or other FAA requirement or guidance for that airport size or expected critical aircraft.
 - Recommended - MnDOT determined item is typically expected and adds value; airports should evaluate the item and determine if it is needed at the local level.
 - As needed - MnDOT determined that the item may sometimes be needed in certain circumstances or add value, but the need should be determined at the local level.

Airport Measures

- Summary reference table

		Key Commercial Service	Key General Aviation	Intermediate Large	Intermediate Small	Landing Strip Turf	Landing Strip Seaplane Base
Facilities	Primary Runway Width	100 feet	100 feet	60 feet	60 feet	75 feet	Sufficient for safe operation
		150 feet		75 feet	75 feet		
	Primary Runway Lighting	HIRL	MIRL	MIRL	MIRL	LIRL	n/a
			HIRL			Edge Markers - if no LIRL	
	Primary Runway Approaches	Precision Visibility ½ mile	Precision Visibility ≤3/4 mile	Non-Precision Visibility ≤1 mile	Non-Precision Visibility ≤1 mile and Vertical Guidance	Visual	Visual
			Precision Visibility ½ mile	Vertical Guidance			
	Parallel Taxiway	Full	Full	Full required - if vis < 1 mile	Full	Connectors	n/a
				Partial required - if vis ≥1 mile			
	Taxiway Width	35 feet	35 feet	25 feet	25 feet	25 feet	25 feet
		50 feet		35 feet			
	Navigation Systems	Approach lights REIL VGSi Beacon Wind cone	Approach lights REIL VGSi Beacon Wind cone	REIL	VGSi	VGSi	Wind cone
				VGSi Beacon Wind cone	Beacon Wind cone	Beacon (if lit) Wind cone	
	Weather Reporting	AWOS	AWOS	AWOS	AWOS	AWOS	AWOS
	Aircraft Parking	Tiedowns for 3 more aircraft than regularly utilize the airport	Tiedowns for 3 more aircraft than regularly utilize the airport	Tiedowns for 3 more aircraft than regularly utilize the airport	Tiedowns for 3 more aircraft than regularly utilize the airport	Tiedowns for 3 more aircraft than regularly utilize the airport	Adequate tie-downs
	Terminal/GA/Admin Building	Terminal building with phone and restroom	Terminal building with phone and restroom	Terminal building with phone and restroom	Terminal building with phone and restroom	Terminal building Phone and restroom	Phone and restroom
	Automobile Parking	Adequate parking	Adequate parking	Adequate parking	Adequate parking	Adequate parking	Adequate parking
Fencing	Perimeter fencing	Controlled vehicle access	Controlled vehicle access	Controlled vehicle access and perimeter fencing	Controlled vehicle access and perimeter fencing	Controlled vehicle access	
		Perimeter fencing	Perimeter fencing				
Airport Surfaces	Clear of obstructions	Clear of obstructions	Clear of obstructions	Clear of obstructions	Clear of obstructions	Clear of obstructions - if marked	
Services	Fuel	100LL Jet A	100LL	100LL	100LL	100LL	
			Jet A	Jet A			
	Courtesy or Rental Car	Courtesy car Rental car	Courtesy car Rental car	Courtesy car	Courtesy car	Courtesy car	Courtesy car
Transient Aircraft Storage	Heated storage	Heated storage	Storage	Storage	Storage	Storage	
Administrative	Airport Layout Plan/ Master Plan	ALP and Master Plan (Update or revisit every 10 years)	ALP and Master Plan (Update or revisit every 10 years)	ALP and Master Plan (Update or revisit every 15 years)	ALP and Master Plan (Update or revisit every 15 years)	ALP (Update as needed)	ALP (Update as needed)
	Airport Zoning	Adequate zoning	Adequate zoning	Adequate zoning	Adequate zoning	Adequate zoning	Adequate zoning
	Clear Zone Ownership	Controlled in fee	Controlled in fee	Controlled in fee	Controlled in fee	Controlled in fee	Controlled in fee
	Minimum Standards	Minimum standards	Minimum standards	Minimum standards	Minimum standards	Minimum standards	Minimum standards

= Required
 = Recommended
 = As Needed

Airport Indicators

- Based aircraft
- Airport operations
- Available services
- Pilots within 30 miles of an airport



2020 SASP Phase I – Comment Period

Phase I Products Summary

Trend Papers

- Alternative Fuels and Electrification
- Commercial Service
- Fleet Changes
- Navigation Technologies
- Pilot and Aviation Workforce
- Project Funding
- Transportation Behavior
- Unmanned Aircraft Systems

White Papers

- Assessment of Prior Efforts
- Objectives and Strategies
- Classification
- System Metrics
- Airport Metrics

How to Comment?

- Review products online

- <http://www.dot.state.mn.us/aero/planning/sasp/publiccomment.html>

- Send an email: aviationplanning.dot@state.mn.us

- Send a postcard/letter

- Attn: Planning – SASP
MnDOT Aeronautics
222 E Plato Blvd
St. Paul, MN 55107

- Comment Period

- April 11 – May 10, 2019



2020 SASP Phase II

Phase II – What's next?

- Phase II parking lot
 - On comment website
 - Will be used to scope Phase II
- Draft RFQ
- Procure over summer
- Kick-off in fall

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