

Technical Advisory Committee Meeting

March 22, 2016

Mead
& Hunt



DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

▶ Introductions



DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

Agenda

- **Introductions**
- **What is a master plan?**
 - *Components of a master plan*
- **Roles of the Technical Advisory Committee**
 - *Overview of public outreach*
- **Inventory of existing conditions**
 - *Description and role of airport*
 - *Opportunities and challenges facing Willow Run Airport*
- **Vision and goals of master plan**
- **Forecast of future aviation activity**
- **Facility needs**
- **Next project steps**



▶ What is a Master Plan?

What is a Master Plan?

- **20 year infrastructure development plan**
- **Assess and determine facility needs**
- **Provides development options to address needs**
- **Provides a timeline and financial schedule for implementation**
- **Conducted in combination with Airport Layout Plan (ALP) update**
 - *Graphical depiction of existing and future airport development*
 - *Facilities must be shown on the ALP to be eligible for FAA funding*



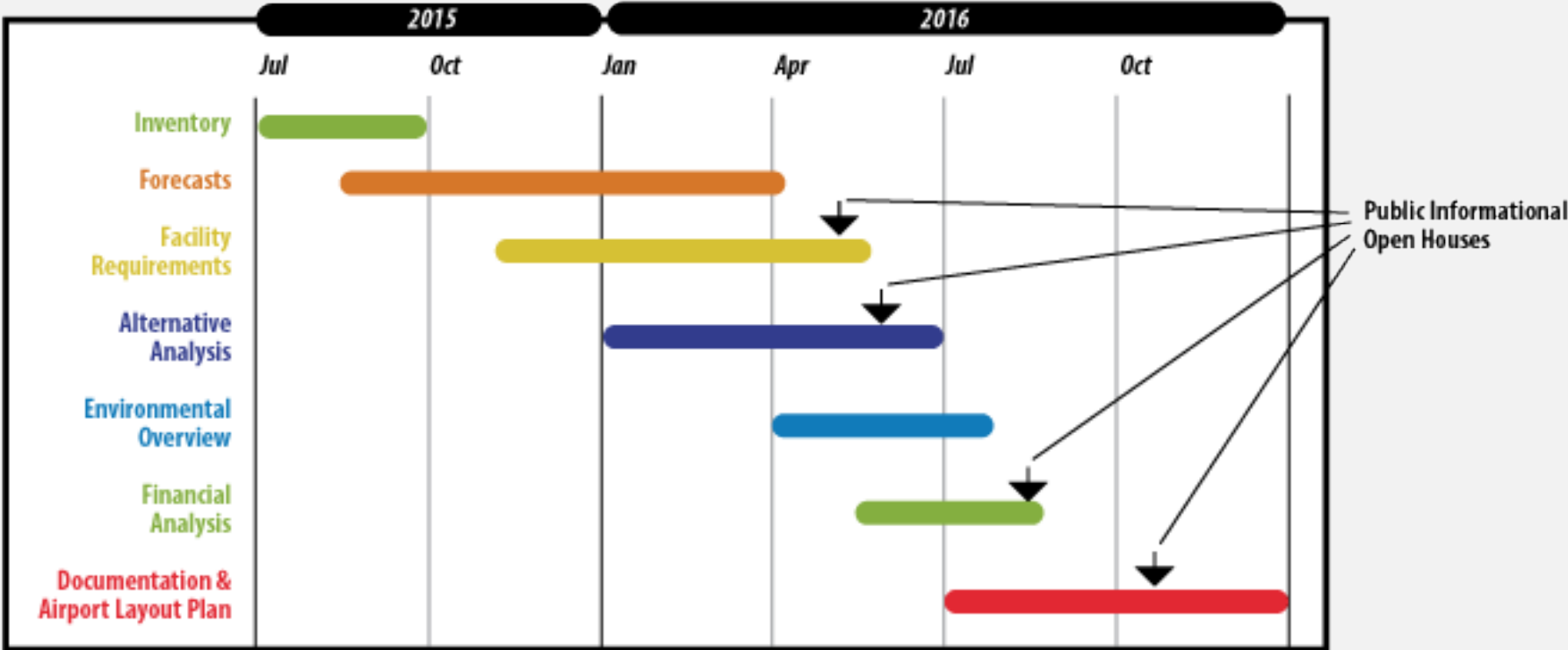
Components of a Master Plan

Components of a Master Plan

- **Public involvement**
- **Data collection / inventory**
- **Forecasts of aviation demand**
- **Facility needs**
- **Alternatives analysis**
- **Environmental overview / land use analysis**
- **Financial analysis / capital improvement plan**
- **Airport layout plan update**



Master Plan Project Schedule



Roles of the Technical Advisory Committee

Roles of the Technical Advisory Committee

- **Provide input to project team**
- **Sounding board for proposed development alternatives**
- **Represent interests of stakeholders**
- **Shares data and other information with stakeholders in a two-way exchange with project team**
- **Reviews and comments on project progress**

Overview of Public Outreach



Overview of Public Outreach Effort

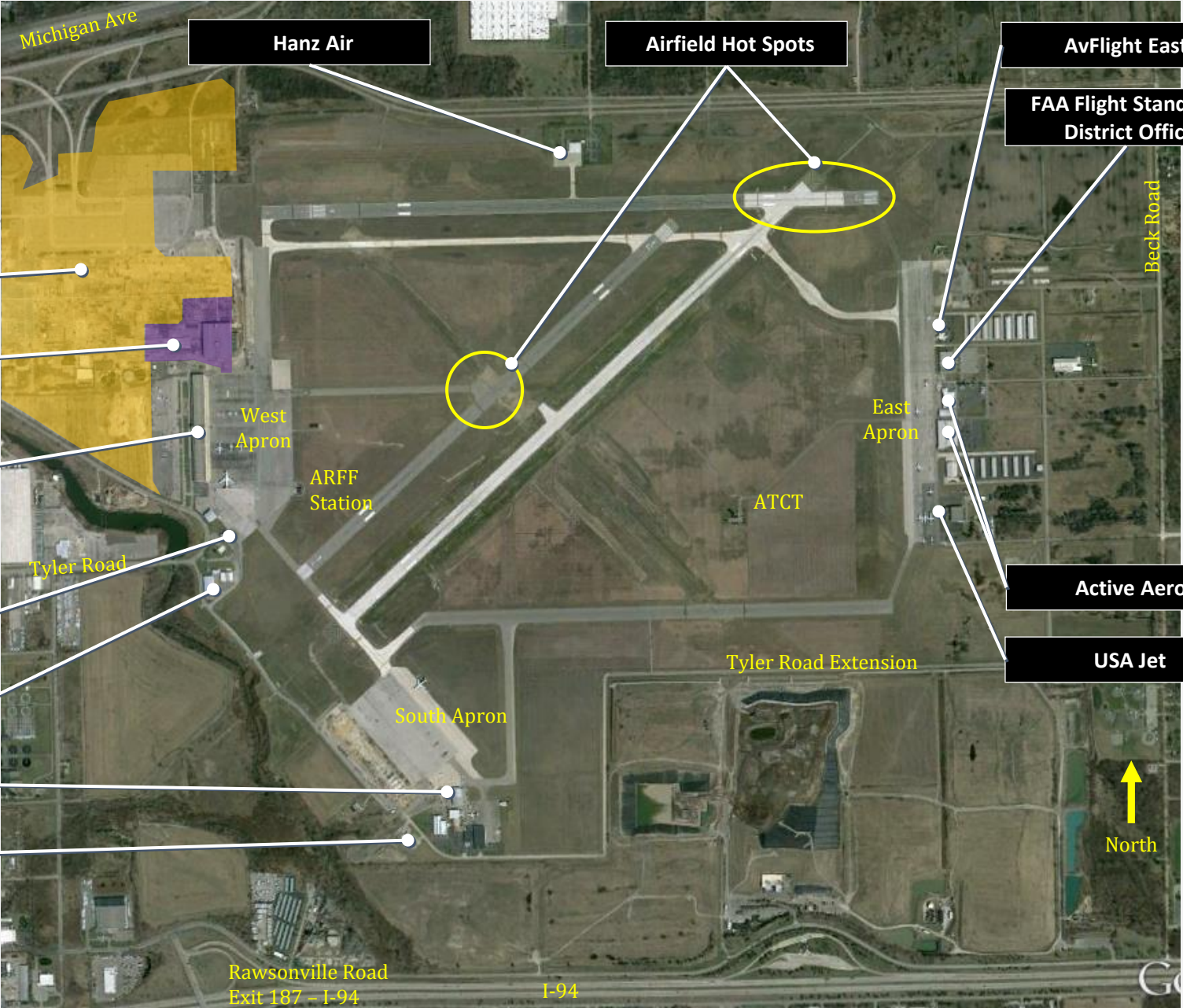
- **Community Advisory Committee meetings (up to 5 meetings)**
 - *1st meeting was held this morning*
- **Technical Advisory Committee meetings (up to 5 meetings)**
 - *1st meeting March 22 1:30pm*
- **Public Information meetings (up to 4 meetings)**
 - *1st meeting April 26*
 - *Open house format*
 - *5 p.m.-7:30 p.m.*
 - *Holiday Inn Express, Belleville*
 - *46194 N. I-94 Service Drive (Belleville Road exit on I-94)*
- **Project website: www.willowrunmasterplan.com**

Inventory of Existing Conditions

Inventory

- Document reviews
- Tenant interviews
- Data compilation

- American Center for Mobility Property
- Yankee Air Museum
- Hangar 1 – Airport Admin, AvFlight West
- Eagle Flight
- Maintenance Facilities
- Kalitta Charters
- Fuel Farm



▶ Role of Willow Run Airport

Role of Willow Run Airport

→ **Primary reliever airport for DTW supporting:**

- *On-demand & heavy lift air cargo operators supporting the region's automotive and other manufacturing industries*
- *Aircraft maintenance service providers that service air carrier and general aviation aircraft*
- *Corporate and recreational general aviation activity*
- *General aviation flight training*

The facilities, workers, and businesses operating at Willow Run are responsible for an annual economic impact of \$123 million and supporting 950 jobs in southeastern Michigan

(University of Michigan-Dearborn, 2014)

Opportunities & Challenges facing the Willow Run Airport

Focus Areas

- **Airfield**
- **Landside / Commercial Development**
- **Other**



Airfield Considerations

Opportunities

- Taxiway improvements to increase efficiency
- Reduce operating costs through right-sized facilities
- Optimized runway configuration for economic growth

Challenges

- Existing runway length not conducive to long-haul operations
- Taxiway efficiency
- Poor condition of pavements and utilities
- Approach minimums and airspace constraints
- Additional financial investment required

Landside/Commercial Development Considerations

Opportunities

- Available land
- Regional demand for air freight; maintenance, repair, overhaul (MRO); corporate
- Location and access to highway infrastructure
- Region's focus on logistics and development

Challenges

- Taxiway configuration limits landside access to developable land
- Infrastructure age
- Brownfield site

Other Considerations

Opportunities

- Demand for commercial pilots / training
- Relieve DTW of activity not compatible with commercial air service
- Major autonomous vehicle testing facility proposed for adjacent property

Challenges

- Available funding sources outside of FAA & WCAA
- Competition for funding resources
- Declining trends in GA (particularly piston aircraft)

Vision & Goals

Vision Statement

Be a premier national reliever airport providing sustainable infrastructure that attracts and supports on-demand cargo, business, and general aviation activity.

Goals

- **Safety**
- **Financial sustainability**
- **Airfield needs**
- **Economic impact**
- **Quality of life**
- **Compliance**
- **Public involvement**

Goals

- **Maintain safety**
 - *Eliminate design standard hot spots and resolve modification of standards*
- **Improve the financial sustainability of the Willow Run Airport**
 - *Reduce operating costs through right-sized facilities and prioritized capital investment*
- **Optimize the airfield to accommodate the needs of existing and future users**
 - *Maximize airfield efficiencies and capacity*
 - *Rehabilitate and improve failing infrastructure*
 - *Accommodate needs of existing and future users with appropriate runway length*

Goals

- **Support the Airport's role and economic impact within the region**
 - *Accommodate and support the local and regional demand for air freight; manufacturing, maintenance, repair, and overhaul (MMRO); corporate aviation; and general aviation*
 - *Support opportunities for job creation and local development*
- **Minimize impacts to quality of life on surrounding community**
- **Assure compliance with master planning requirements and regulations**
- **Engage and collaborate with users and regional stakeholders**

Forecast of Aviation Activity

Forecasts Methods

- **Forecast levels correlated with the short, medium, and long rang planning periods (5, 10, 20 + years)**
- **Three forecast methods were utilized:**
 - *Trend Analysis*
 - *Market Share Analysis*
 - *Regression Analysis*
- **Planning horizon – 20 years**
- **Comparison of method results to understand the range of projected activity**
- **All three methods resulted in similar projections**

Factors Affecting Aviation Demand

→ **The U. S. and Regional Economy**

- *Steady, yet modest growth through the year 2050 (Woods & Poole)*

→ **Socio-Economic Projections**

- *Population*
- *Employment*
- *Per Capita Income*

Factors Affecting Aviation Demand (cont'd)

→ Manufacturing and the Auto Industry

- *Kalitta Charters, USA Jet, and M2 operate just-in-time cargo services for the auto and manufacturing industry nationwide; as production of automobiles increases YIP tenants may see an increase in business opportunities*

→ Other Factors

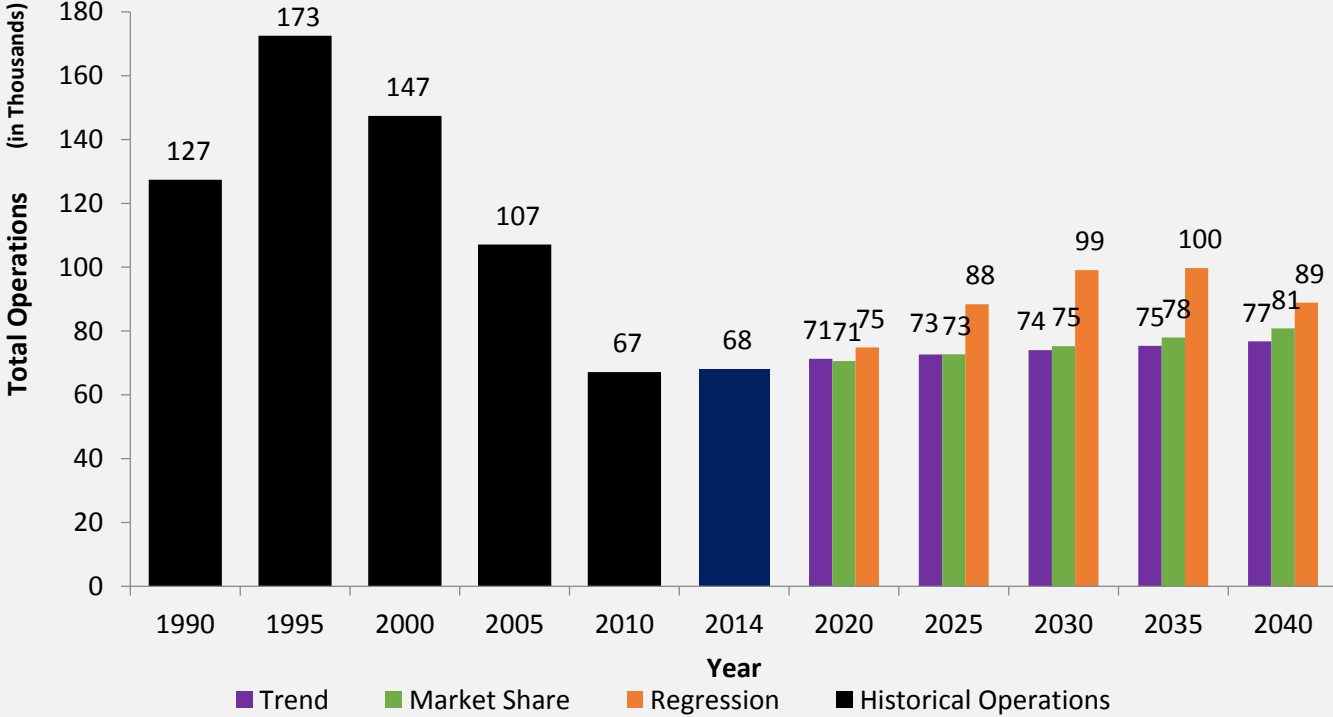
- *GA operations are influenced by Eagle Flight Center which serves as the official flight training school for EMU's Aviation Flight Technology Degree; enrollment levels have experienced a 5% annual increase over the past few years.*
- *Should surrounding airports close, more activity could result at YIP*

Historical Basis for Forecasting Methods

Historical activity at YIP is inconsistent, making forecasting difficult:

- **Building up/reducing use of YIP as a cargo hub for Zantop/Kalitta**
- **September 11, 2001 / most significant economic recession in U.S. history (2007-2009), significant impacts to the automotive industry**
- **By 2010, the automotive industry and the regional economy had both begun a slow recovery and YIP activity has since begun to increase**
- **2010-2014 timeframe represents the most reliable timeframe for projecting future activity**

Forecast Method Comparison



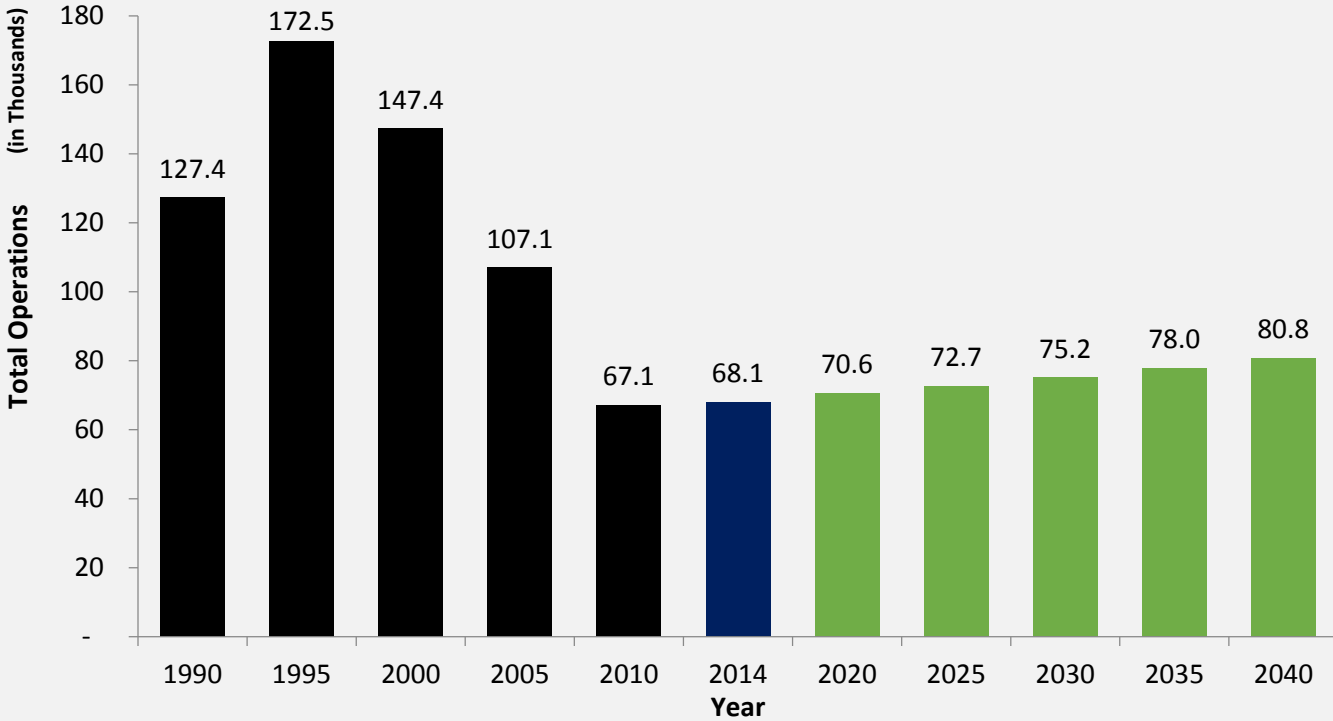
Year	Trend	Market Share	Regression
2014	68,060	68,060	68,060
2020	71,263	70,608	74,851
2025	72,633	72,687	88,397
2030	74,003	75,228	99,062
2035	75,373	77,978	99,743
2040	76,743	80,816	88,873
<hr/>			
CAGR 2015-2020	0.27%	3.03%	4.24%
CAGR 2020-2030	0.77%	0.64%	2.84%
CAGR 2030-2040	0.38%	0.72%	-1.08%
CAGR 2015-2040	0.36%	1.14%	1.53%

CAGR = Compound Annual Growth Rate



Recommended Forecast

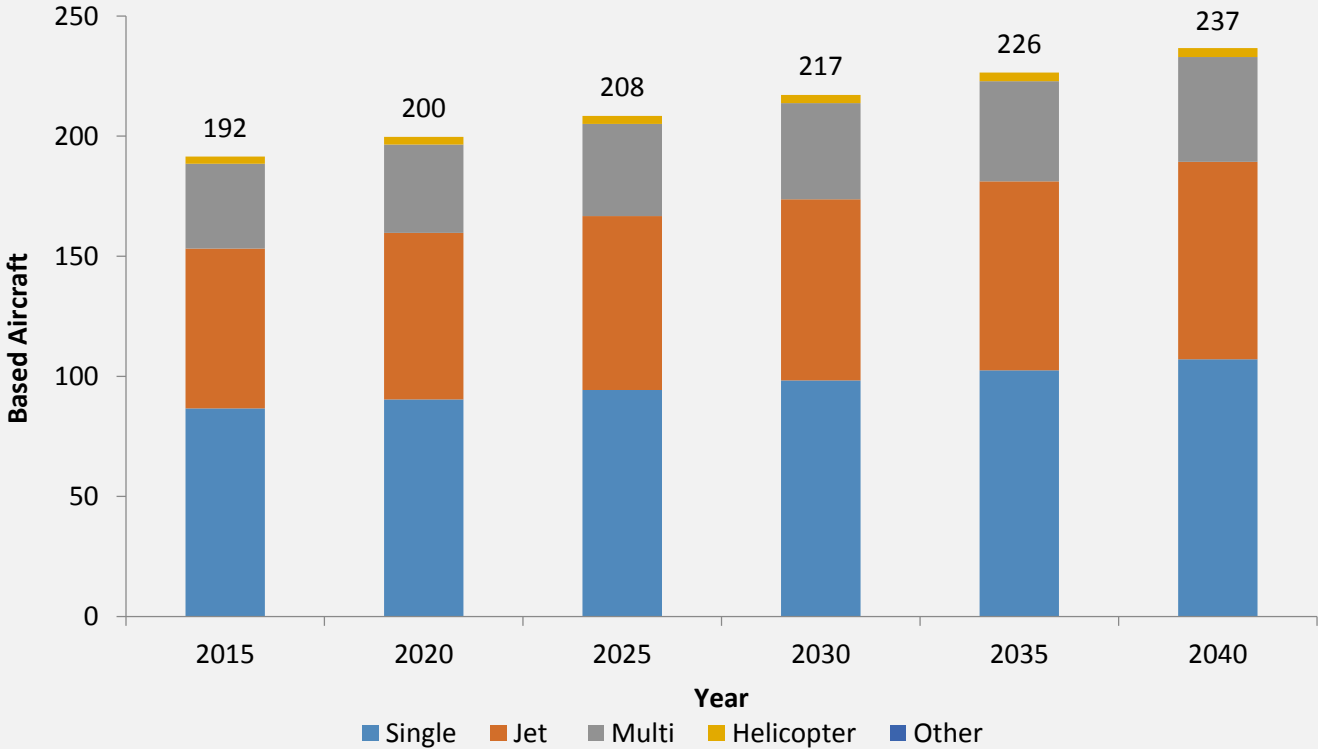
MARKET SHARE ANALYSIS METHOD



- ✈ Based on a reliable larger forecast (FAA TAF)
- ✈ Fairly consistent/reliable recent market share
- ✈ Reflective of the airports role in the region/nation
- ✈ Appropriate level of sophistication
- ✈ Represents middle forecast between the higher (Regression) and the lower (Trend Line)



Based Aircraft Forecast



Year	Single	Jet	Multi	Helicopter	Other	Total
2015	87	67	35	3	0	192
2020	90	69	37	3	0	200
2025	94	72	38	3	0	208
2030	98	75	40	3	0	217
2035	102	79	42	4	0	226
2040	107	82	44	4	0	237
CAGR 2015-2020	0.84%	0.84%	0.84%	0.84%	0.00%	0.84%
CAGR 2020-2030	0.84%	0.84%	0.84%	0.84%	0.00%	0.84%
CAGR 2030-2040	0.86%	0.86%	0.86%	0.86%	0.00%	0.86%
CAGR 2014-2040	0.88%	0.88%	0.88%	0.88%	0.00%	0.88%

CAGR = Compound Annual Growth Rate



DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

Fleet Mix

- ➔ **Current fleet mix is anticipated to continue to operate through the planning period**
- ➔ **Potential replacement/supplemental cargo aircraft**
 - *CRJ, B737, B757, B767*

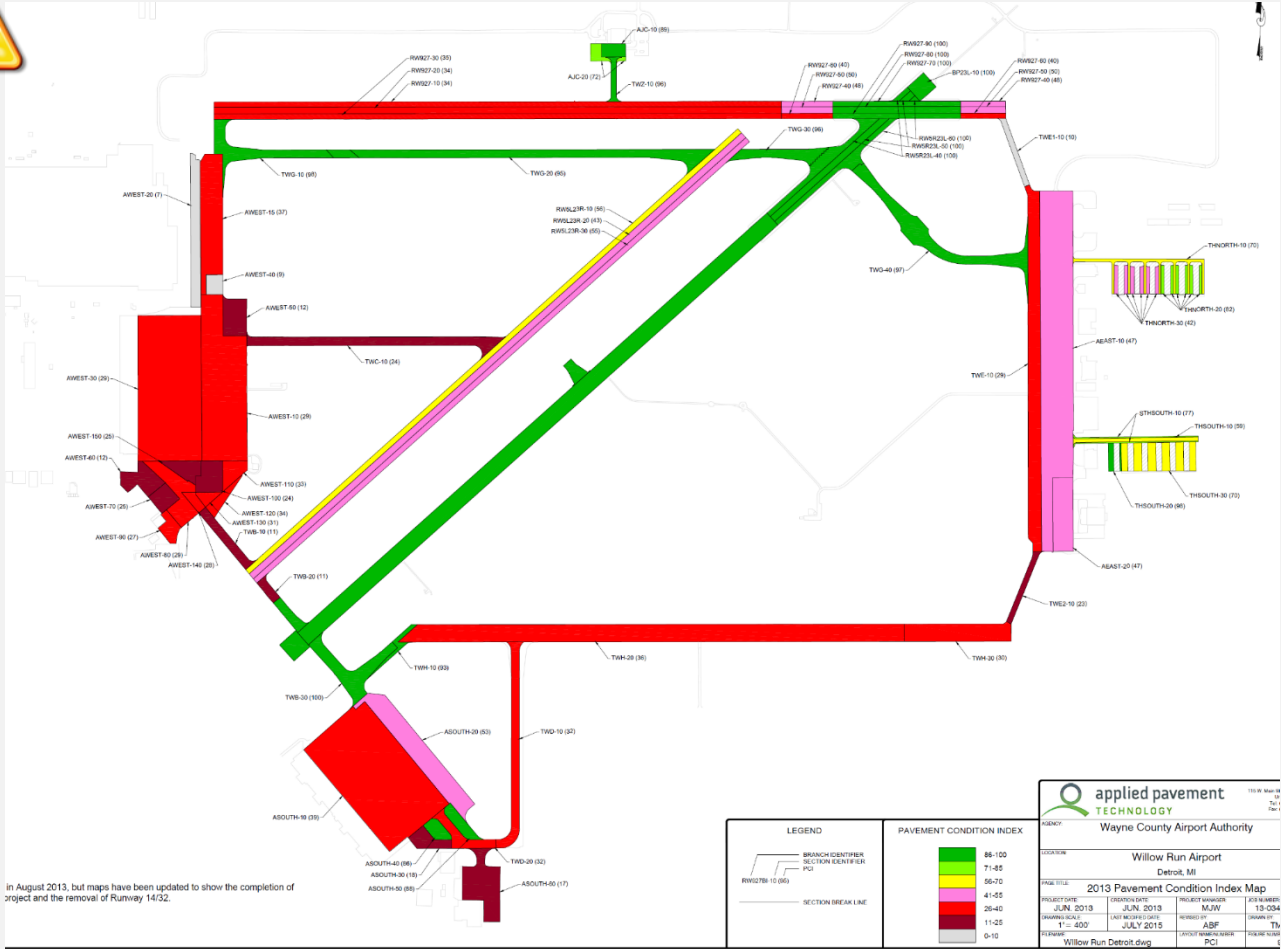


Facility Needs

Facility Needs

✈ Condition of Infrastructure

- Many existing pavements and utilities in poor or failing condition



In August 2013, but maps have been updated to show the completion of project and the removal of Runway 14/32.



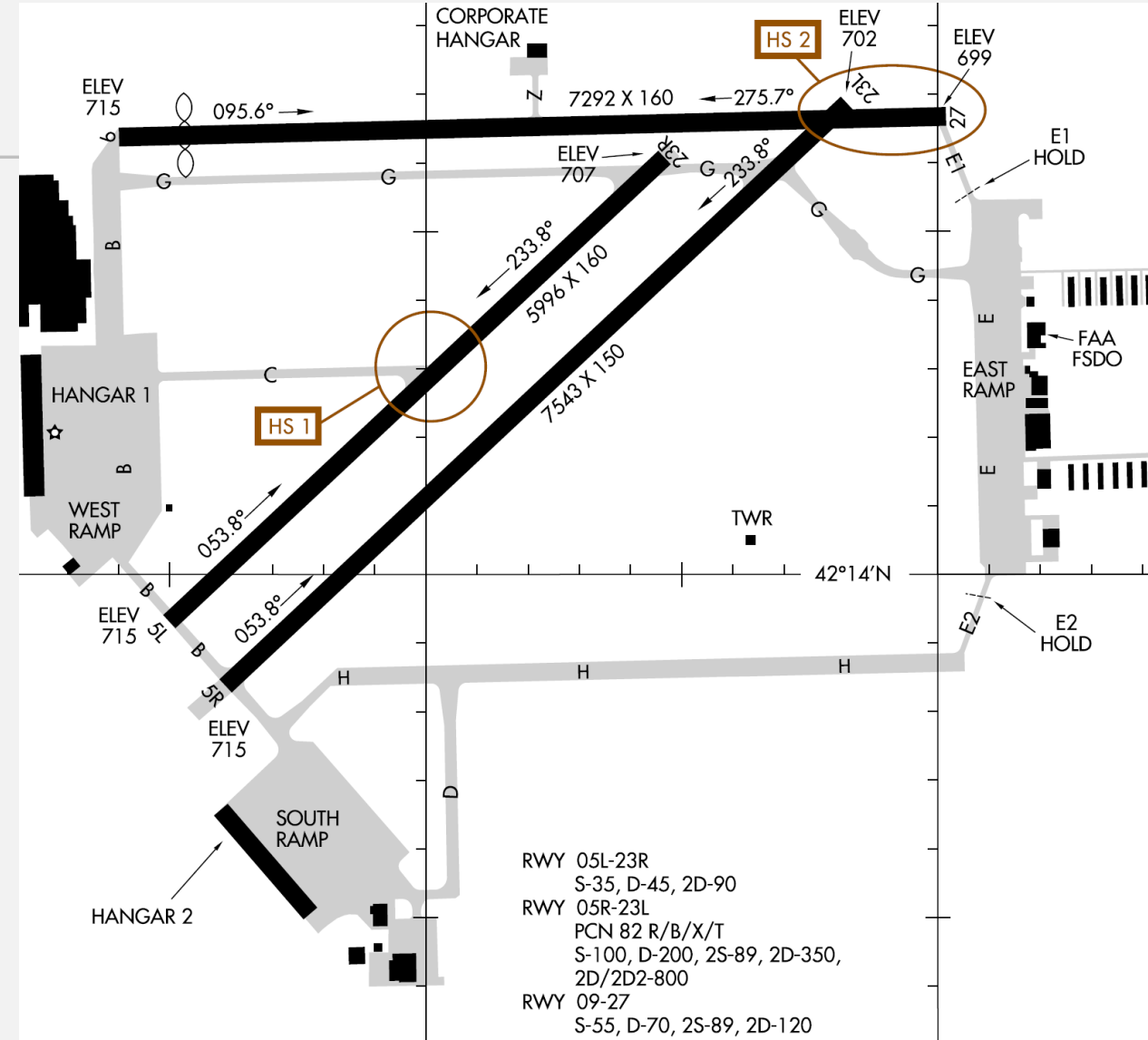
Facility Needs

→ Airfield capacity

- Parallel runway not needed for capacity, but rather to separate small general aviation from commercial air cargo operations
- Parallel runway enhances safety and reduces Air Traffic Control Tower workload
- Parallel runway may not be eligible for FAA funding

→ Airfield geometry issues

- Airfield hot spots need to be rectified



Facility Needs

→ Runway length

- *Additional runway length needed for some aircraft types and haul lengths*



Maximum range available from current runway length

Current runway length (7,543 feet)

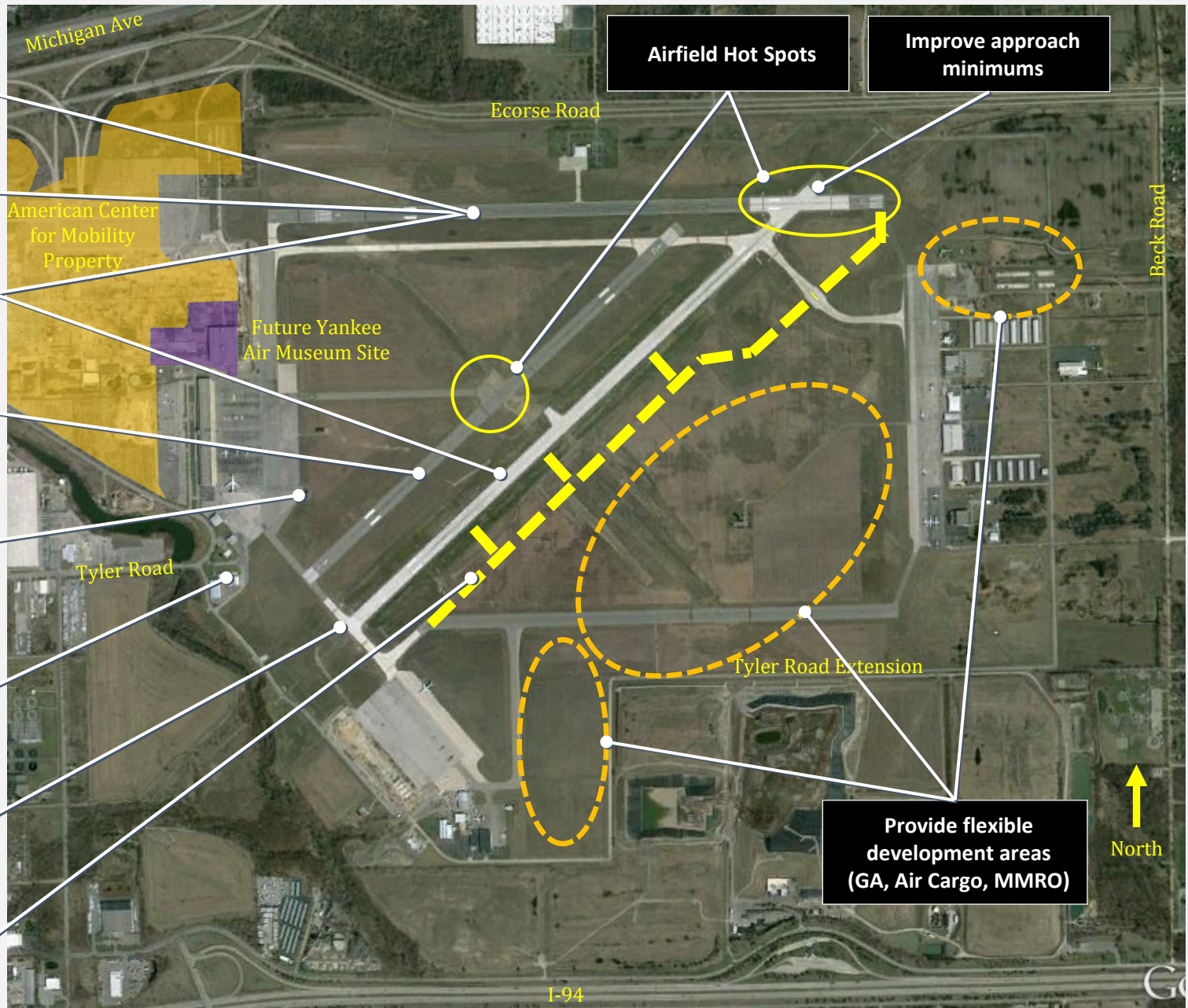
Hot day runway length requirements

Full payload

Red dots identify top 18 destinations over 1,000 nm that were flown non-stop from YIP in 2014

Facility Needs – Preliminary Findings

- Existing infrastructure in poor condition
- Runway to be designated as 10/28
- Crosswind runway recommended for light GA traffic
- Possible plan for add'l runway length on either 5R/23L or 9/27
- Parallel runway not needed for capacity, could be maintained for traffic separation
- ARFF station improvements or replacement recommended
- Improvements to Snow Removal Equipment storage facilities recommended
- Improve approach minimums
- Future parallel runway taxiway to Runway 5R/23L is on the FAA approved ALP



Next Project Steps



Next Project Steps

→ **Public information meeting**

- *Open house format*
- *April 26, 2016*
- *5 p.m. – 7:30 p.m.*
- *Holiday Inn Express @ Belleville Road exit on I-94*

→ **Finalize facility requirements**

→ **Alternative development & analysis**

→ **Project website: www.willowrunmasterplan.com**

Questions?

→ **Wayne County Airport Authority**

- *John Paul Minear*
John.Minear@wcaa.us

→ **Mead & Hunt**

- *Stephanie Ward*
- *Zachary Puchacz*
- *Ron Engel*

→ **Jacobsen | Daniels**

- *Matt Johnson*

www.willowrunmasterplan.com