



Rahm Emanuel
Mayor



Best Airport in North America
Chicago O'Hare
International Airport
Ninth Consecutive Year
2012



O'HARE MODERNIZATION PROGRAM

Air Traffic Management Research and Development Seminar

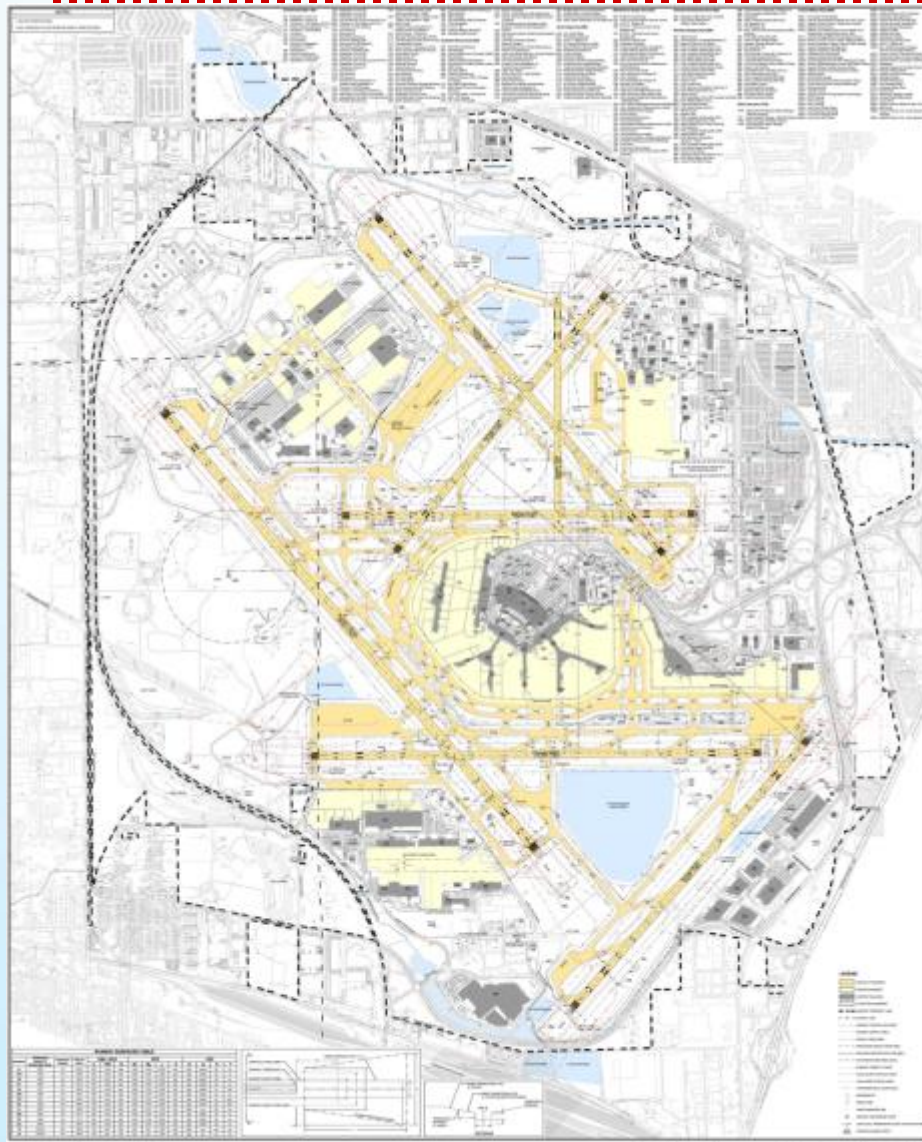
Jim Chilton, OMP Program Manager
Kevin Markwell, FAA ATCT

June 13, 2013



CHICAGO DEPARTMENT OF AVIATION

2004 AIRPORT LAYOUT PLAN



EXISTING AIRPORT LAYOUT PLAN

FUTURE AIRPORT LAYOUT PLAN



FUTURE AIRPORT LAYOUT PLAN

PHASE 1 & COMPLETION PHASE

9L-27R
Completed Nov. 2008

NATCT
Completed Nov. 2008

9C-27C
2020

9R-27L Extension
2020

Taxiway LL
2018

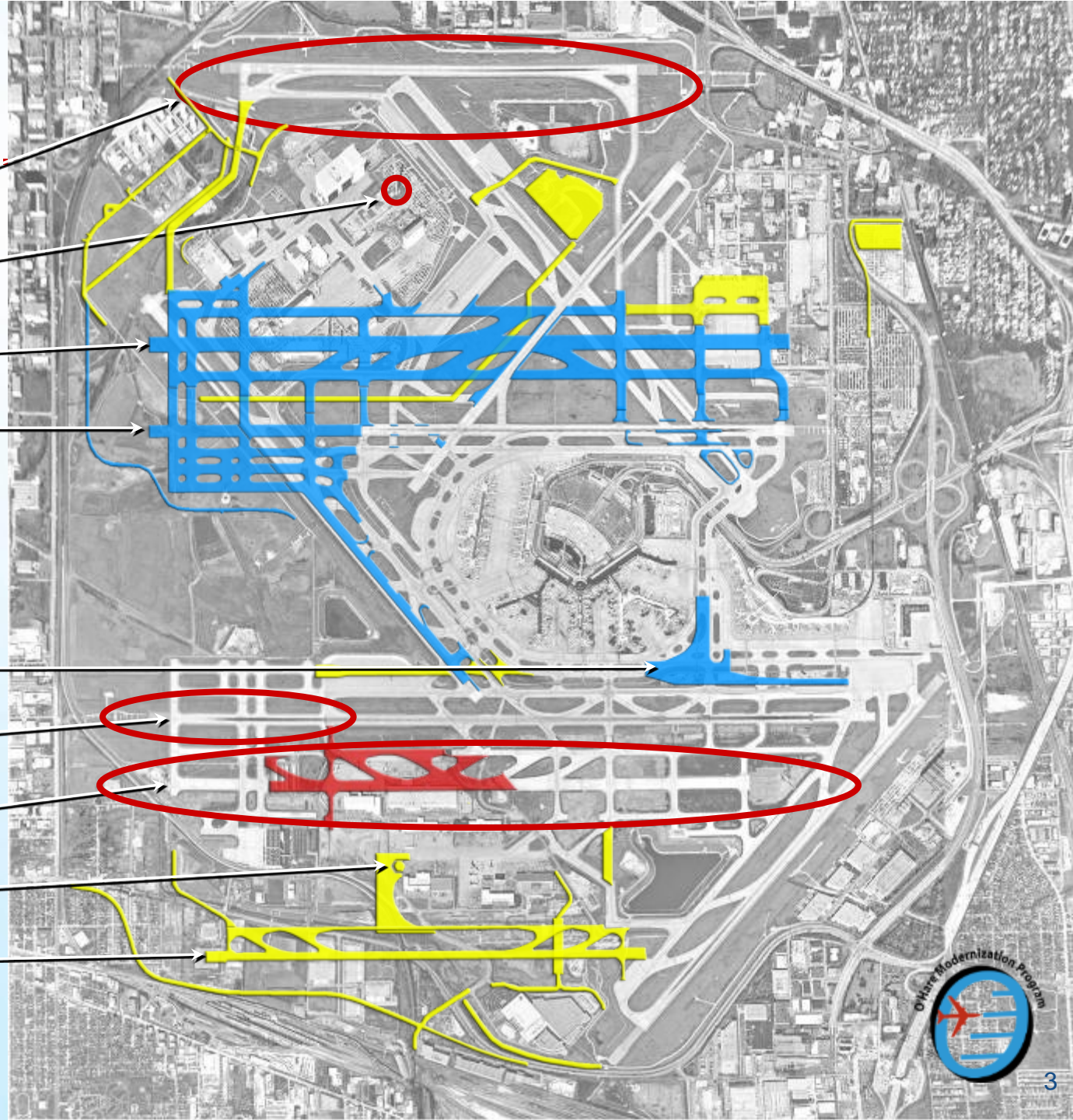
10L-28R Extension
Completed Sept. 2008

10C-28C
4th Quarter 2013

SATCT
4th Quarter 2015

10R-28L
4th Quarter 2015

 Phase 1
 Phase 2A
 Phase 2B



OMP MILESTONES

- **September 2008: Opened 3,000 ft. extension on Runway 10/28.**



OMP MILESTONES

- **November 2008: *Opened 7,500 ft. Runway 9L/27R and New Air Traffic Control Tower.***



OMP MILESTONES

- **Property Acquisition: 2004-2010**



OMP MILESTONES

- *Relocated FedEx, United Cargo, St. Johannes Cemetery, Union Pacific Railroad, and Irving Park Road: 2011-2012*



CONNECT 

UPCOMING MILESTONES

- **Runway 10C/28C: New 10,800 ft. Runway scheduled to open October 2013**



FUTURE MILESTONES

- **Runway 10R/28L: New 7,500 ft. Runway and South Air Traffic Control Tower. Scheduled to open October 2015.**



FUTURE MILESTONES

- **Consolidated Rental, Car Facility and ATS Extension: New facility scheduled to open 4th Quarter 2016.**

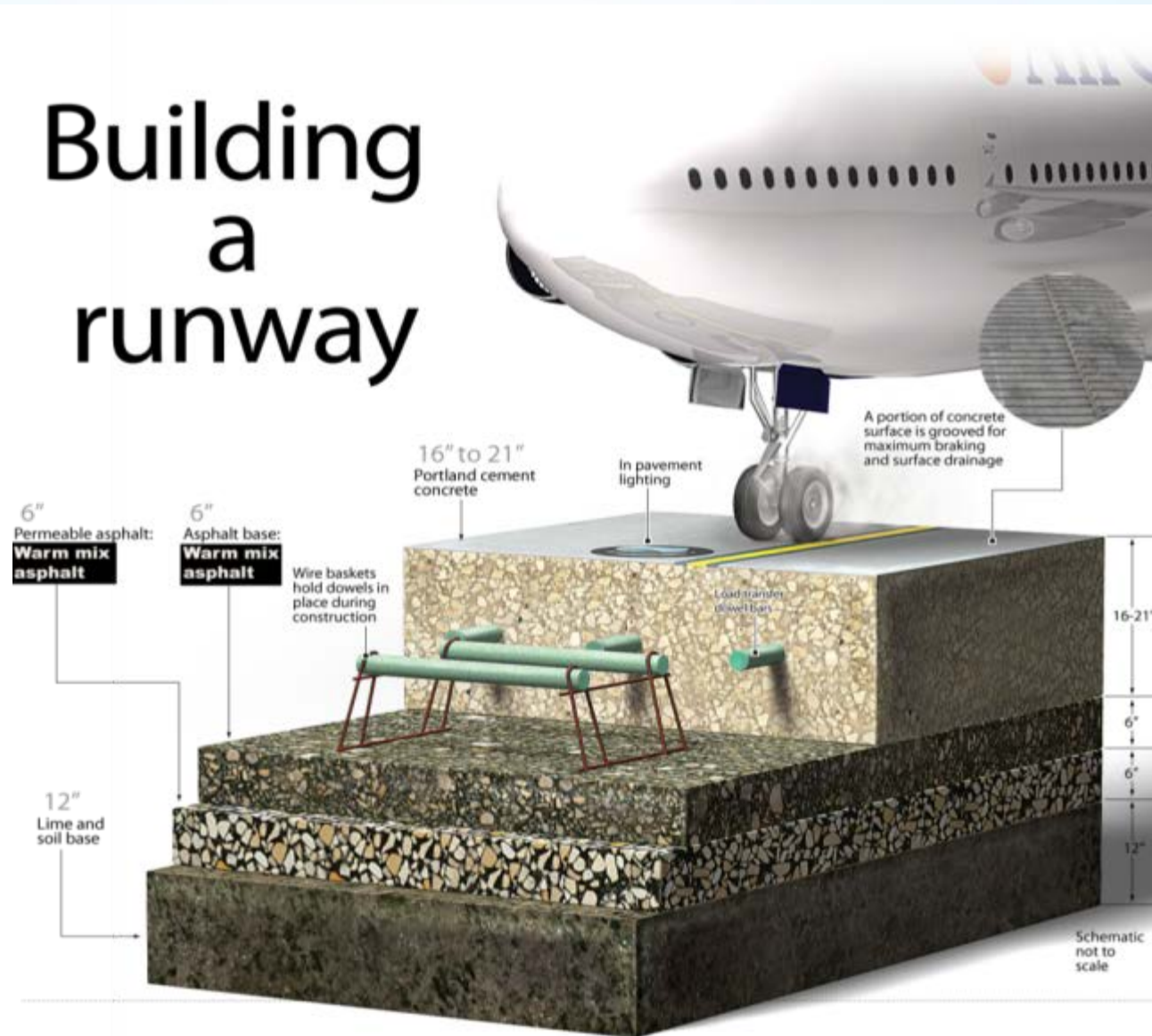


O'HARE INTL AIRPORT AERIAL – APRIL 2013



BUILDING A RUNWAY - TRIBUNE ARTICLE

Building a runway



Source: Graphic provided by Chicago Tribune



NORTH AIRFIELD AIR TRAFFIC CONTROL TOWER



SOUTH AIRPORT TRAFFIC CONTROL TOWER



- Substantial Completion Date: December 4, 2014



OMP JOB CREATION SUMMARY

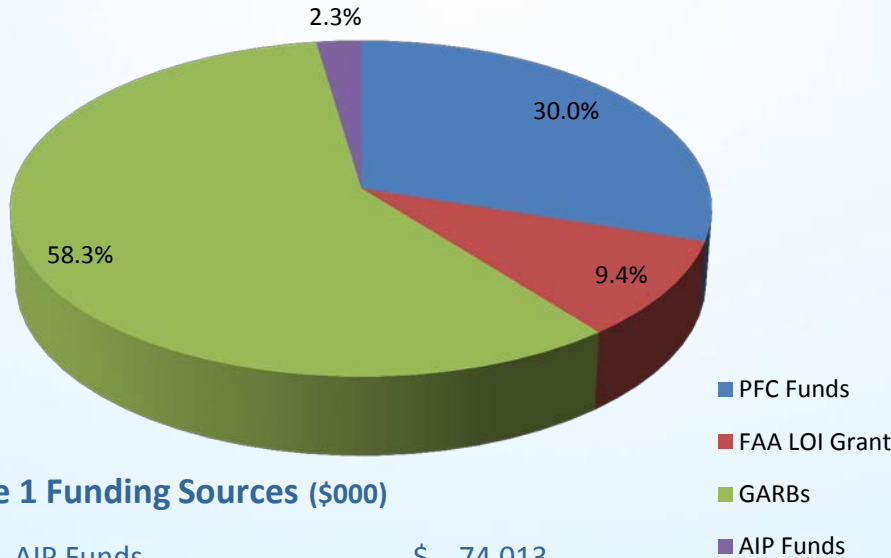
Total Job Year Equivalents

	<u>Total Construction Jobs</u>	<u>Total Professional Service Jobs</u>
Work Completed to Date	6,026	3,449
Remaining Funded Work to Complete	3,874	1,090
ATS and Garage Projects	2,240	732
Remaining Unfunded Work	<u>7,440</u>	<u>1,428</u>
TOTALS	<u>19,580</u>	<u>6,699</u>
GRAND TOTAL		26,279



FUNDED OMP PROJECTS

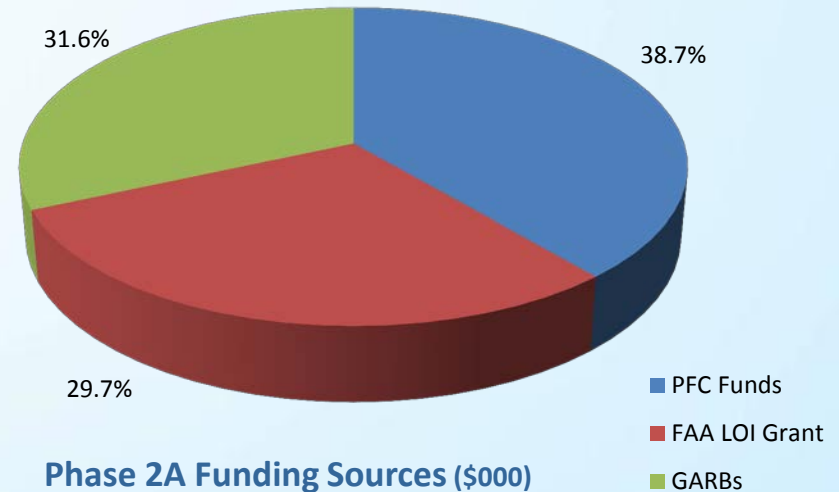
OMP Phase 1¹



Phase 1 Funding Sources (\$000)

AIP Funds	\$ 74,013
FAA LOI Grant	\$ 300,255
PFC Funds	\$ 957,754
GARBs	\$1,860,619
TOTAL	\$3,192,641

OMP Phase 2A¹



Phase 2A Funding Sources (\$000)

FAA LOI Grant	\$ 280,000
PFC Funds	\$ 365,000
GARBs	\$ 298,300
TOTAL	\$ 943,300

Funding Sources

AIP Funds: FAA AIP entitlement and discretionary grants; NATCT payments

FAA LOI Grant: Multi-year FAA Letter of Intent Grant; awarded for Phase 1 and Completion Phase (2A and 2B)

PFC Funds: Passenger Facility Charge revenues (\$4.50 level); stand-alone bonds, PAYGO, and PFC-backed GARBs

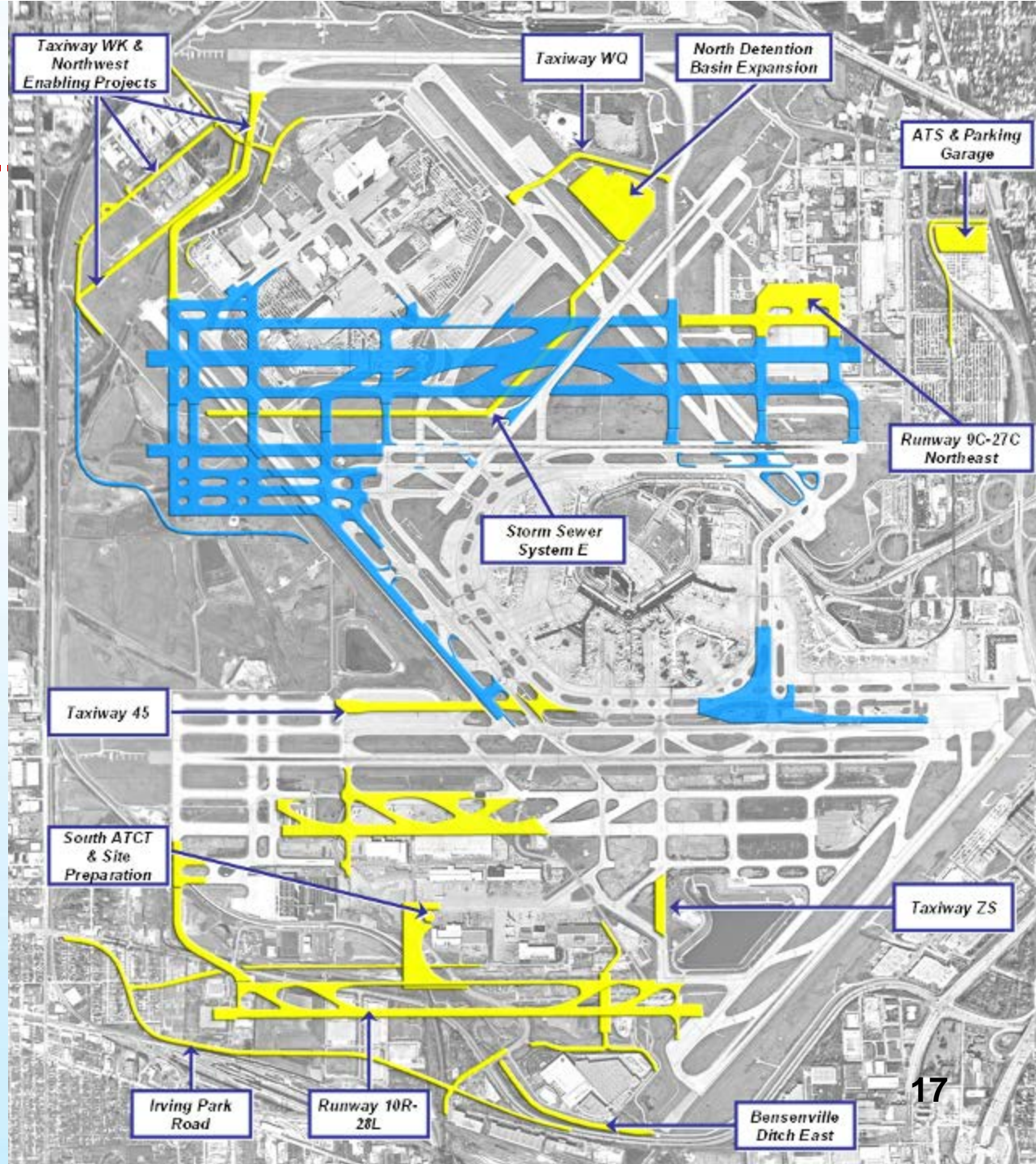
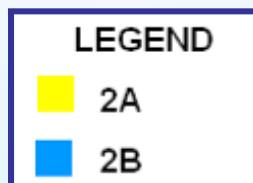
GARBs: Airport Revenue Bonds; debt service paid with Airline Revenues

Notes: ¹OMP Phase 2A excludes remaining Phase 1 work included in the Phase 2A funding agreement.



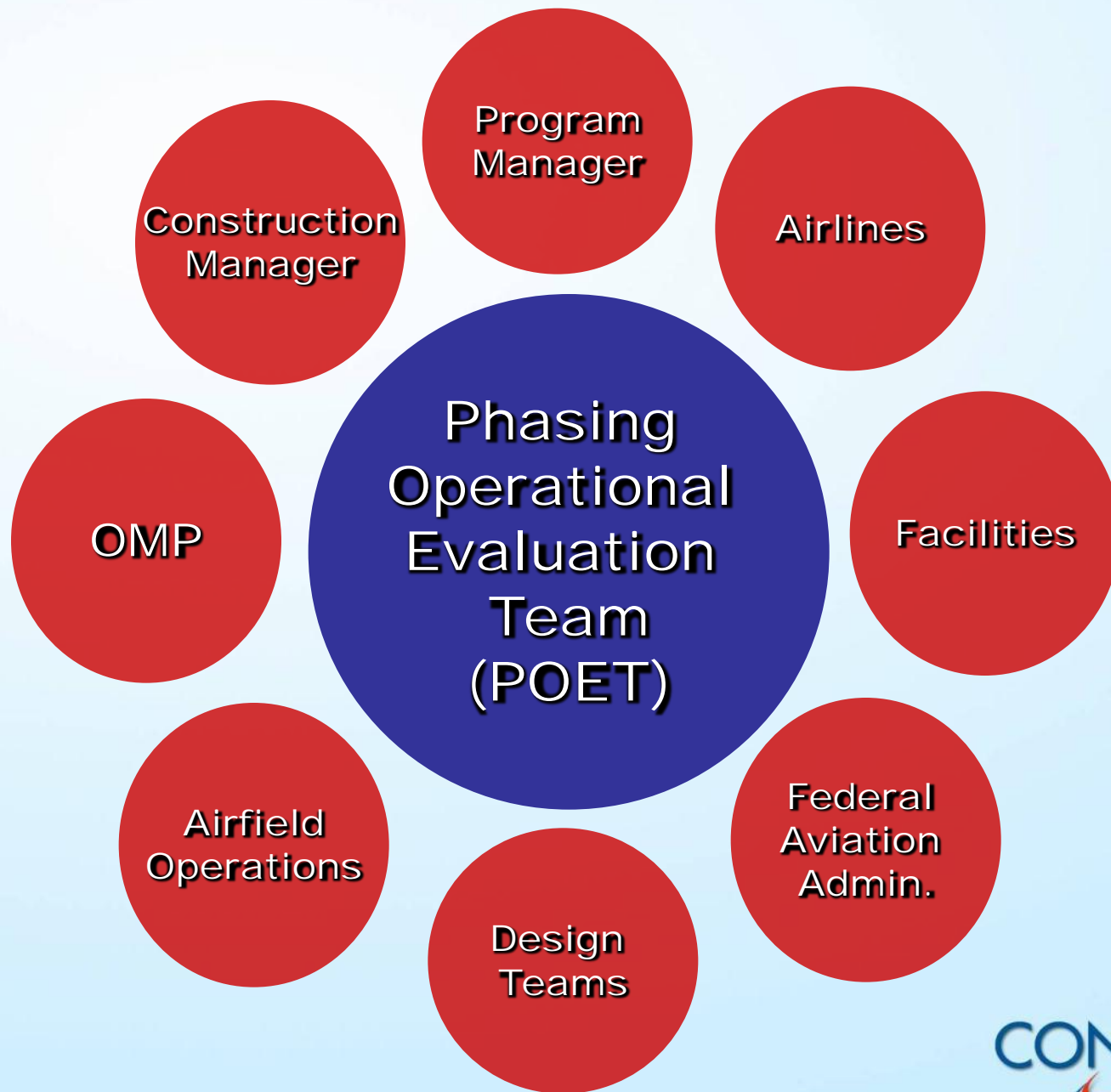
COMPLETION PHASE 2A AND 2B

DOT-City-Airlines
Agreement 2011



SOUTH BASIN CONSTRUCTION





Air Traffic Impacts of O'Hare Modernization Program

Presented to: ATM Seminar

By: Kevin Markwell, Support Manager, ORD ATCT

Date: June 13, 2013



Federal Aviation
Administration

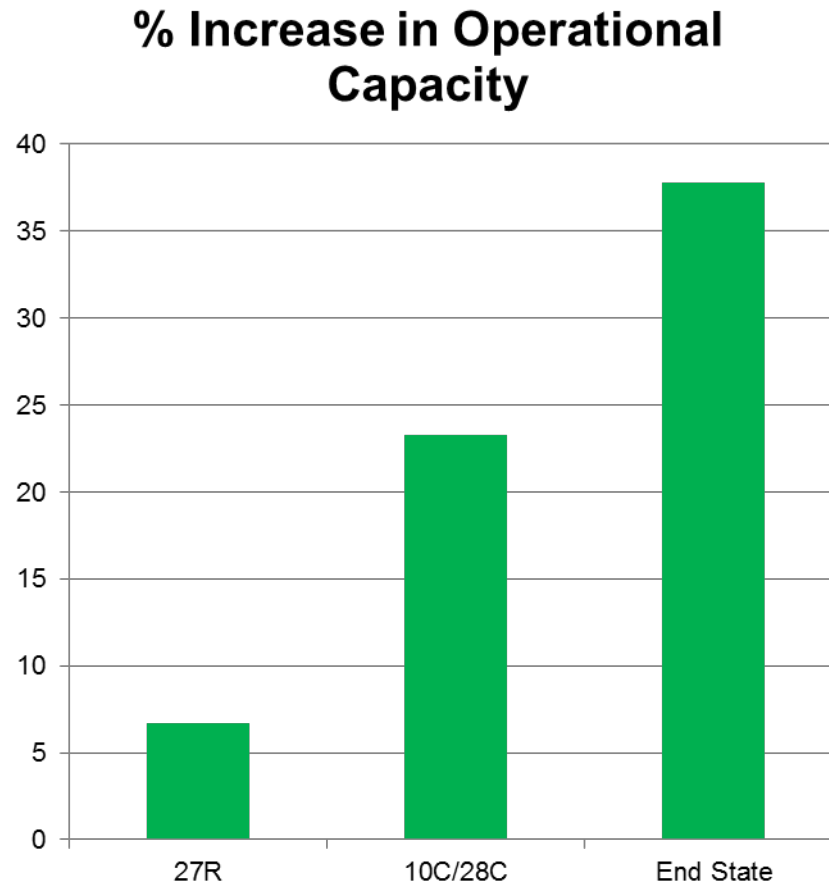


Operational Impacts (the numbers)

- **Arrival and Departure Capacity**
- **Delays**
- **Taxi Length**
- **Larger disparity between ‘normal’ and ‘abnormal’ operations**

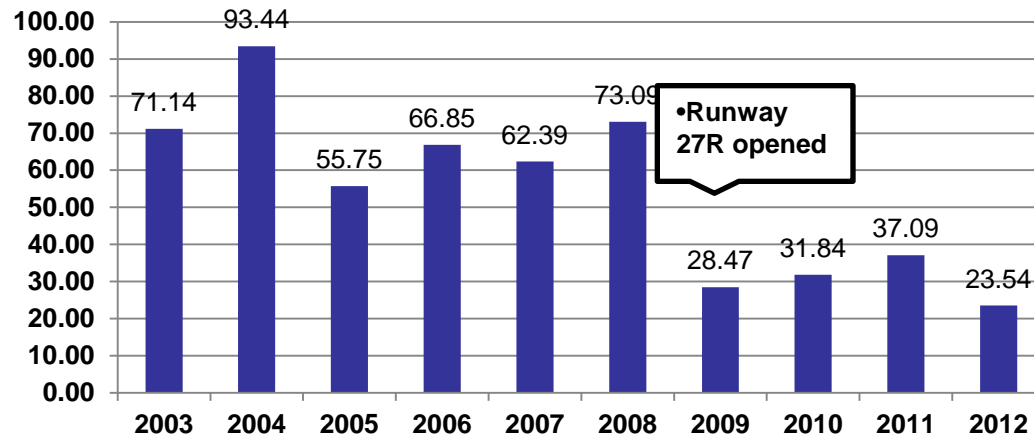


Arrival and Departure Capacity through OMP

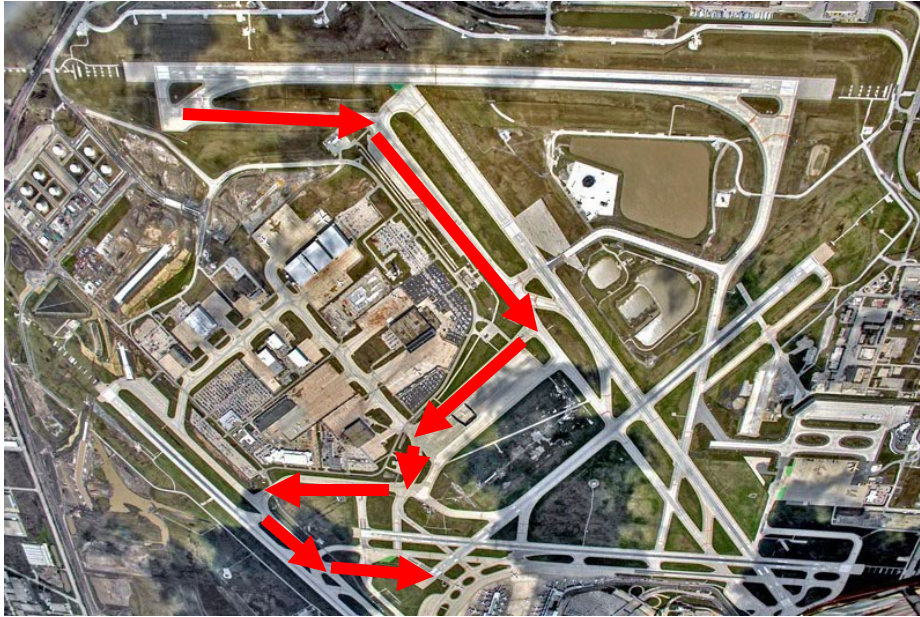


Yearly Delays (2003-2012)

Minutes of Delay per 10,000 Operations

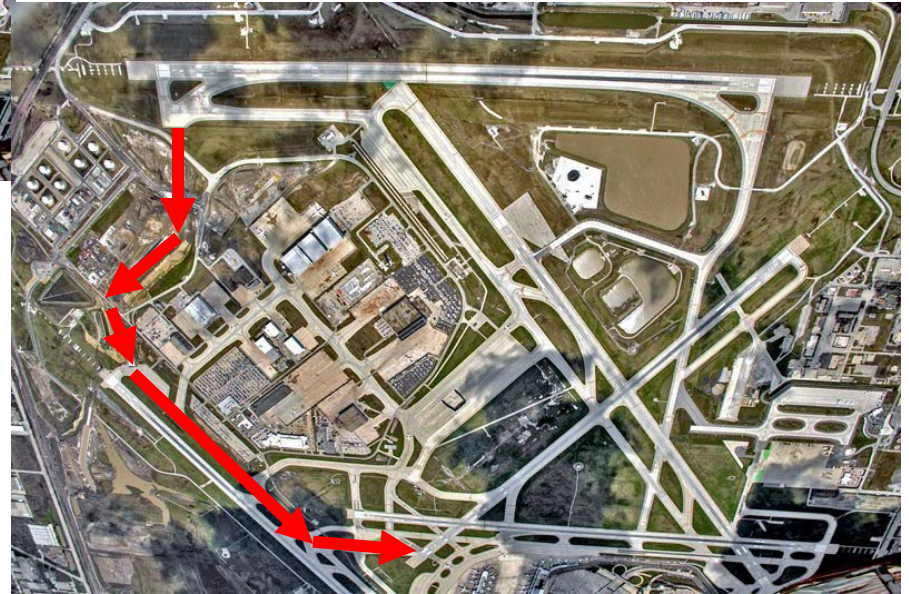


Taxi Route Length



Taxi route from 27R to 4L/B- 3 miles

Taxi route from 27R to 4L/B – 2 miles



Disparity between 'normal' and 'impacted' operations



- **Prior to 2009. Annualized AAR 96**
 - Land 9L and 10
 - 6 mile space on 9R to allow 32L departures
 - 56 AAR
- **9L Opens. Annualized AAR 108**
 - Land 9L and 10
 - 6 mile space on 9R to allow 32L departures
 - 56 AAR
- **10C Opens. Annualized AAR 112**
 - Land 9L, 9R and 10
 - 15 Mile space on 9R to allow 9R departures
 - 84AAR



Personnel Impacts (the people)

- **Configuration Use (controllers)**
- **Configuration complexity (controllers/pilots)**
 - Plan W (22R/27L)
 - Plan X (9R/32L)
- **New Rules (controllers)**
- **Breaking old habits (controllers and pilots)**



Configuration Use

- **2008 Configurations**

- Available

- Configurations:

- West Flow IFR/VFR
 - Plan X (MVFR)
 - Plan R
 - Plan B
 - Plan D
 - 9's
 - 14's
 - 4's
 - 22's

- **2014 Configurations**

- Available

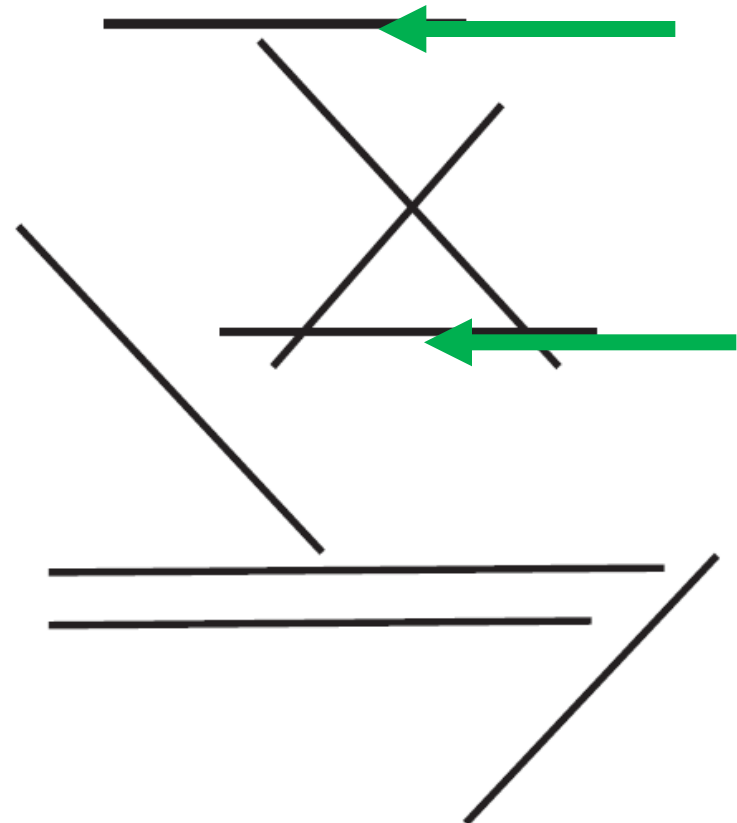
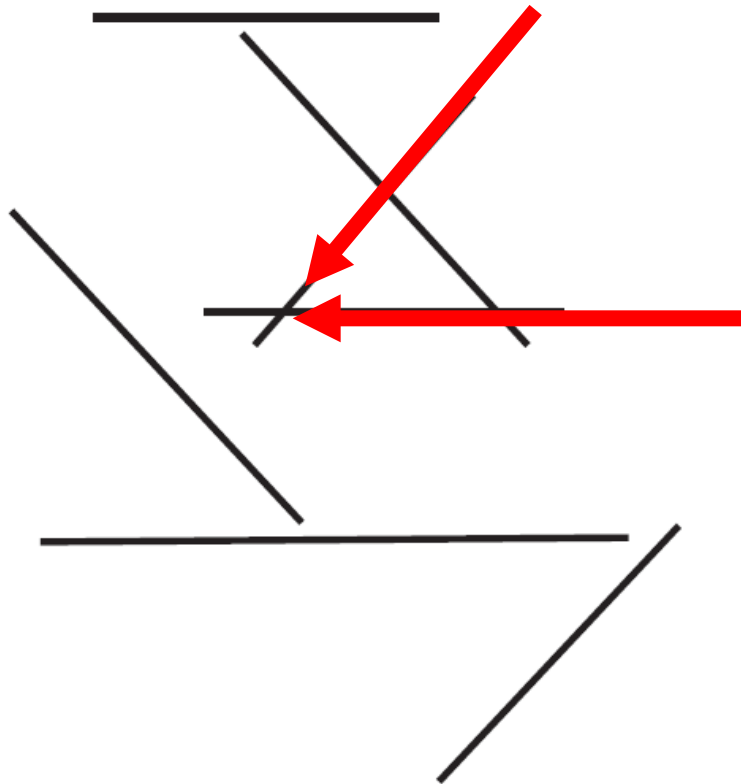
- Configurations:

- West Flow IFR/VFR
 - East Flow IFR/VFR
 - 4's
 - 22's

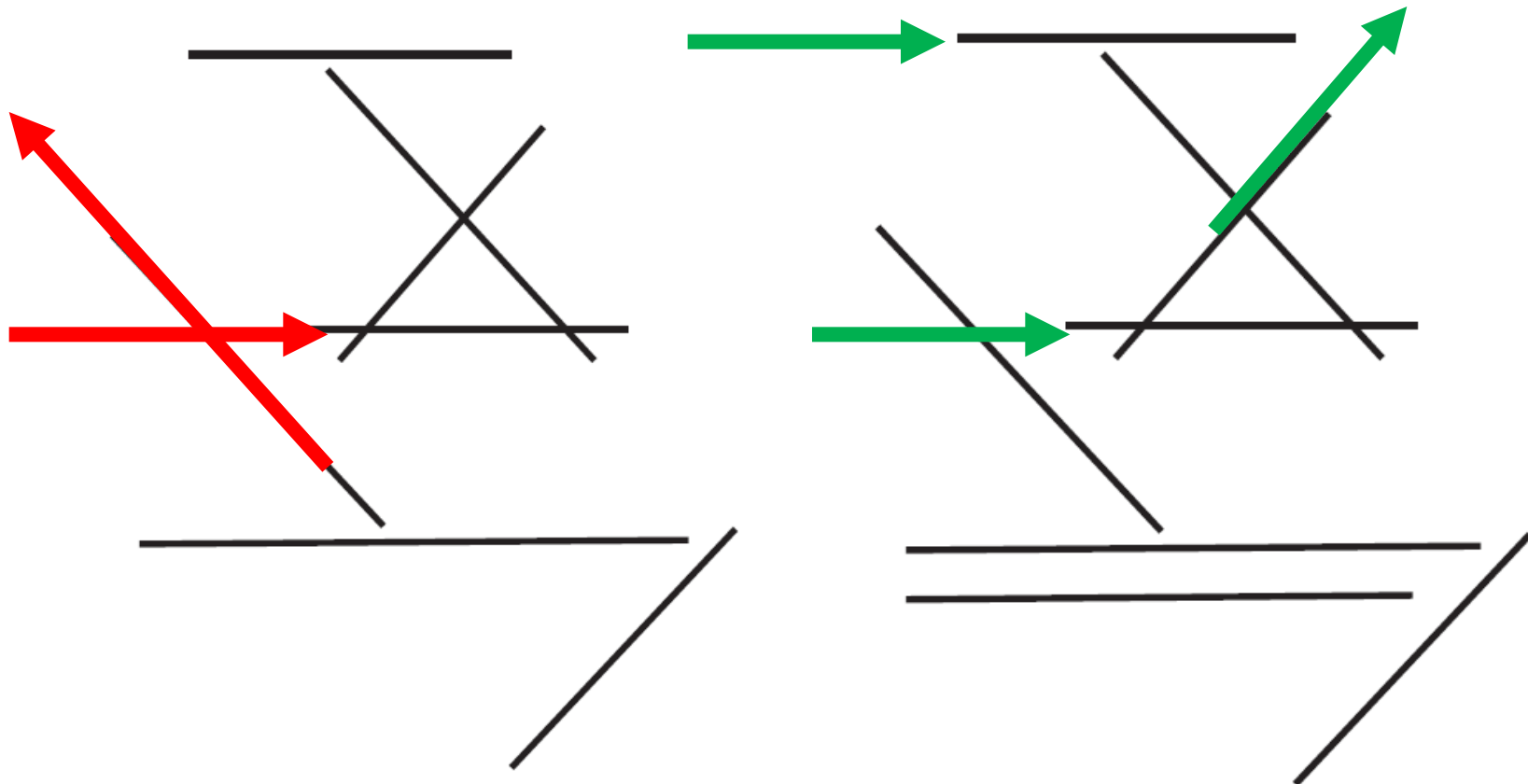


Federal Aviation
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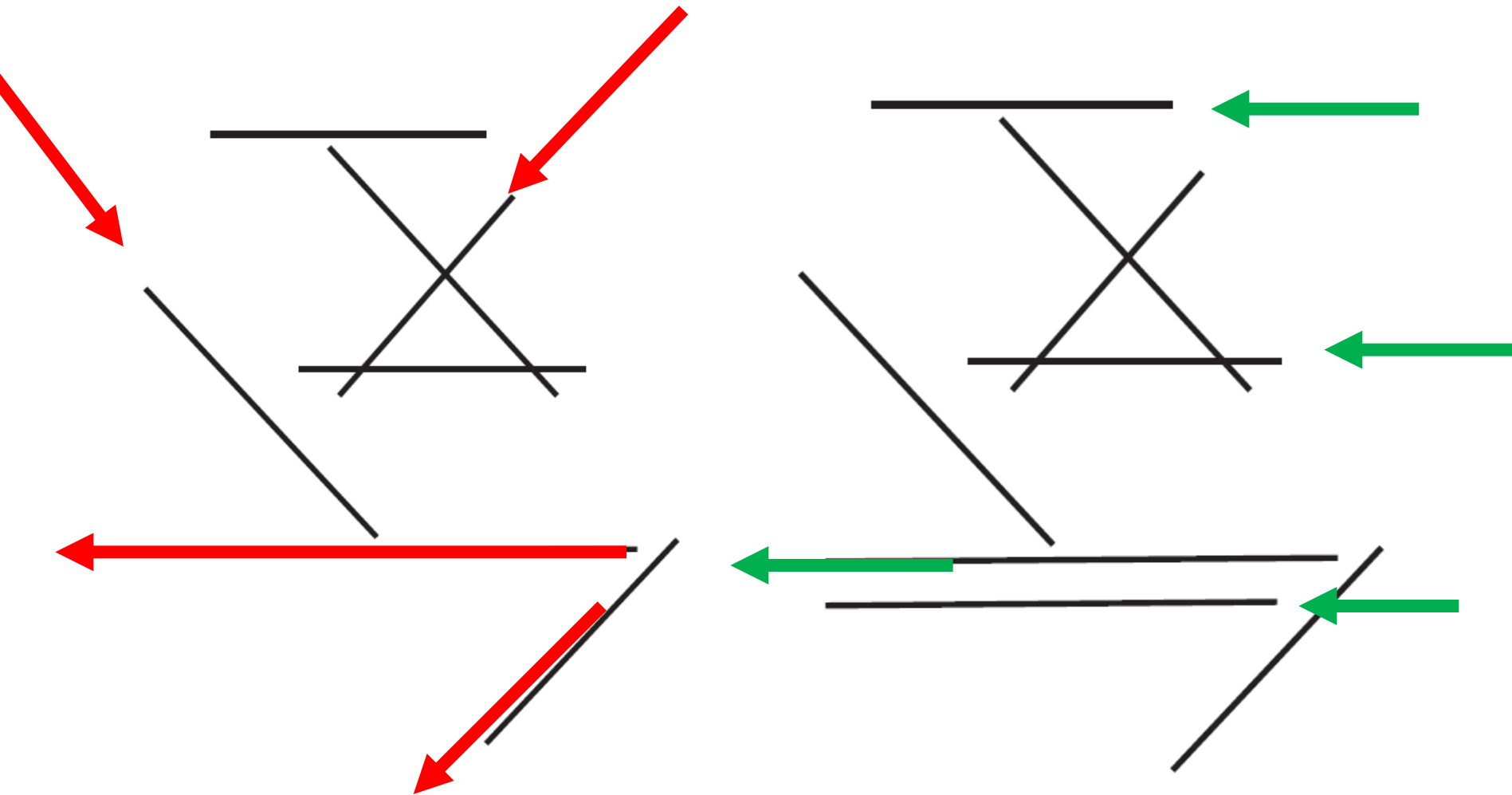
Complex Operations 22R/27L



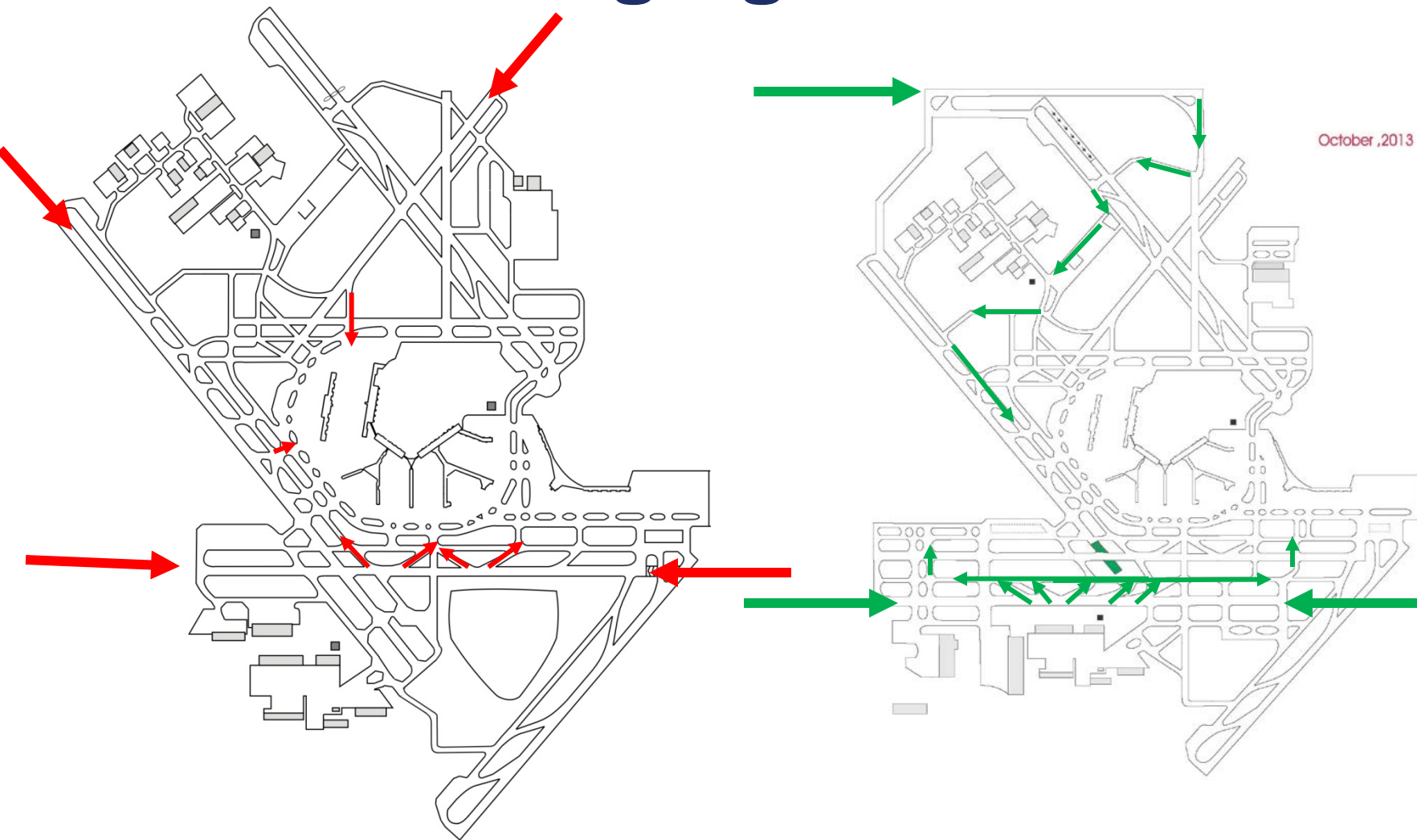
Complex Operations 9R/32L



New Rules (Controllers)



Changing the norm



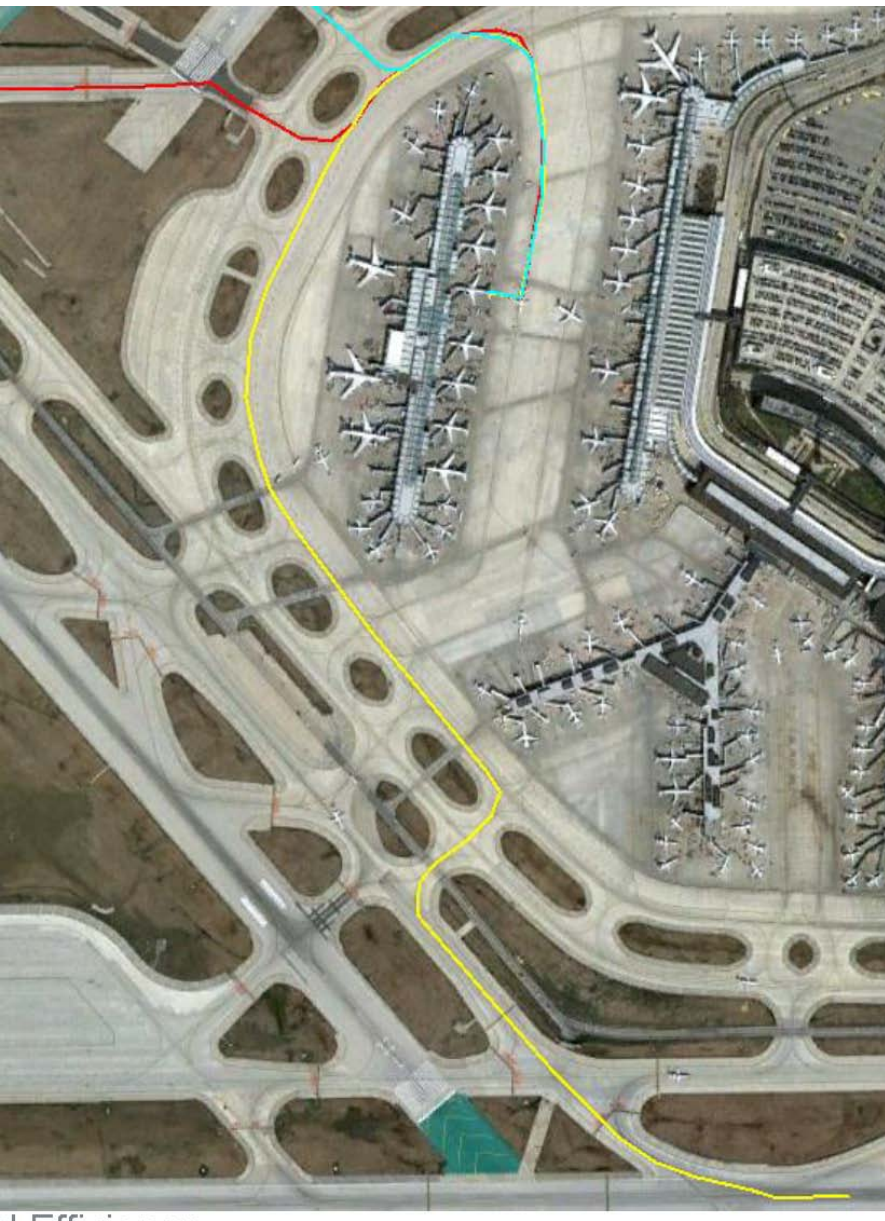
What Constitutes a Good Job???





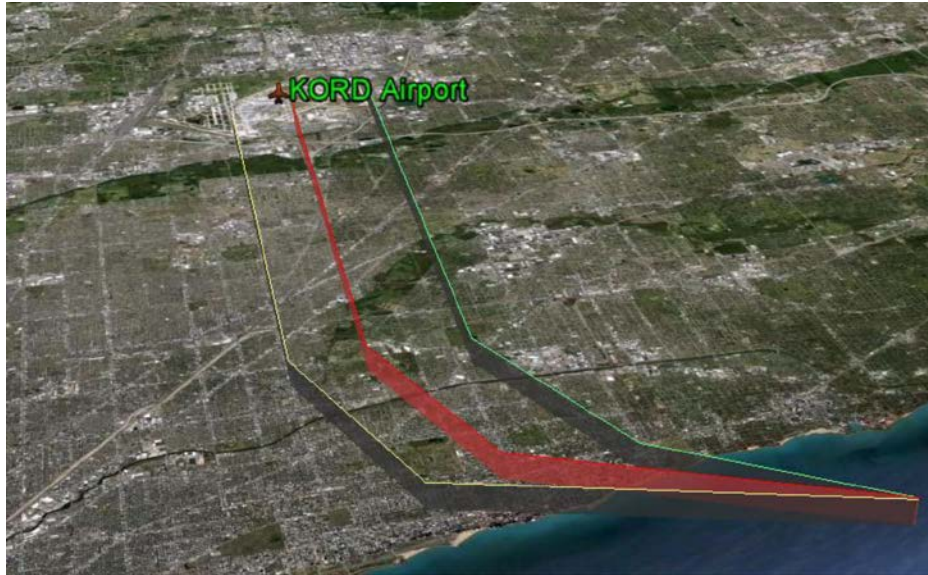
- **Landing Runway 27L**
- **Distance from rwy to gate
.53 nm**
- **Unimpeded time from rwy
to gate= 2.1 min (@15kts)**
- **Approximate fuel
burned=53 lbs (25lbs/min)**





- **Landing Runway 28**
- **Distance from rwy to gate 1.33 nm**
- **Unimpeded time from rwy to gate= 5.3 min (@15kts)**
- **Approximate fuel burned=133 lbs (25lbs/min)**





- **Flight time/burn comparison to Rwy end from common point (13ENE of ORD)**
 - 27R=13nm, 4.9 minutes/539 lbs
 - 27L=13.6nm, 5.1 minutes/561 lbs
 - 28=14.2nm, 5.4 minutes/594 lbs



Fuel Consumption Results

- Fuel burn break even point for fuel for 27L vs 27R would be 2.4 min of additional airborne vectoring (6.4 NM@ 160kts)





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QUESTIONS / COMMENTS

