



# CONNECTING THE WORLD TO CHICAGO

*THE Conference*  
University of Illinois

February 24, 2015



Rahm Emanuel  
Mayor



Michael D. Boland  
Acting Commissioner

## TODAY'S PRESENTATION

- ✈ Chicago Department of Aviation Overview, O'Hare and Midway International Airports
- ✈ O'Hare Modernization Program
- ✈ Capital Improvement Program
- ✈ Sustainability

# CHICAGO DEPARTMENT OF AVIATION



**\$1 BILLION  
BUDGET**

**\$45 BILLION**  
IN ANNUAL ECONOMIC ACTIVITY

**1.5 million tons  
of cargo each year**

**90 million  
PASSENGERS**

**540,000  
JOBS**

**1,500**  
CDA EMPLOYEES

**1.1 million  
OPERATIONS**



# O'HARE INTERNATIONAL AIRPORT



## O'HARE AT A GLANCE

- ✈ Nonstop service to 230 cities worldwide
- ✈ 58 passenger carriers operating out of 188 gates
- ✈ 70 million passengers in 2014
- ✈ 882,000 operations in 2014

***BEST AIRPORT IN NORTH AMERICA***  
**15 CONSECUTIVE YEARS**



## INVESTING IN OUR FUTURE

✈ **\$2.8 billion** worth of investments completed or underway since 2013:

- OMP Runway 10C-28C
- O'Hare Northeast Cargo Center
- Multimodal Joint Use Facility and ATS Extension
- OMP Runway 10R-28L and South Air Traffic Control Tower



# MIDWAY INTERNATIONAL AIRPORT



## MIDWAY AT A GLANCE

- ✈ Record-breaking 21 million passengers served in 2014
- ✈ #1 market for Southwest Airlines
- ✈ Over 500 daily flights / Service to 80+ destinations



AVIATION'S  
**BUSIEST**  
SQUARE MILE







# O'HARE MODERNIZATION PROGRAM



Rahm Emanuel  
Mayor



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# O'HARE MODERNIZATION PROGRAM (OMP)

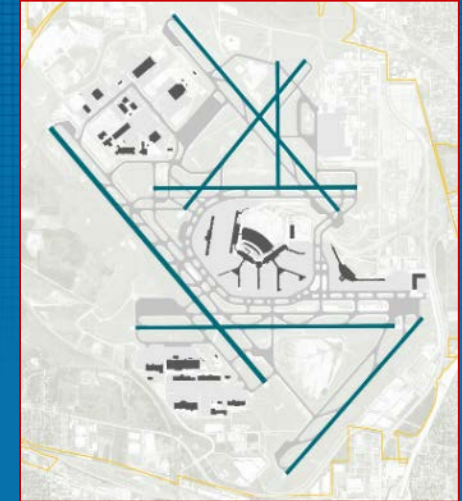
- ✈ Largest Construction Program in the U.S.
- ✈ \$8 Billion Mega Project
- ✈ Reduces Delay and Increases Capacity



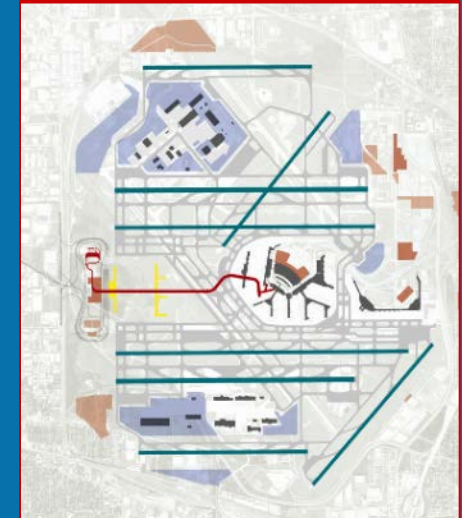
# O'HARE MODERNIZATION PROGRAM

- Purpose
  - Reduce Delays
  - Increase capacity and efficiency
- Scope
  - Reconfigure O'Hare's intersecting runways into modern, parallel layout
  - Six east-west parallel runways and two crosswind runways
- Economic Impact
  - Creates 195,000 jobs and adds \$18 billion in annual economic activity

OLD CONFIGURATION



FUTURE CONFIGURATION



# O'HARE RUNWAY RECONFIGURATION



# PHASE 1 & COMPLETION PHASE



**9L-27R**  
Completed Nov. 2008

**Taxiway Z**  
Completed Oct. 2013

**NATCT**  
Completed Nov. 2008

**CRCF/ATS Extension**  
4<sup>th</sup> Quarter 2017

**9C-27C**  
2020

**9R-27L Extension**  
2021

**Taxiway LL (Part 1)**  
4<sup>th</sup> Quarter 2015

**Taxiway LL (Part 2)**  
2018

**Taxiways K & L**  
4<sup>th</sup> Quarter 2015

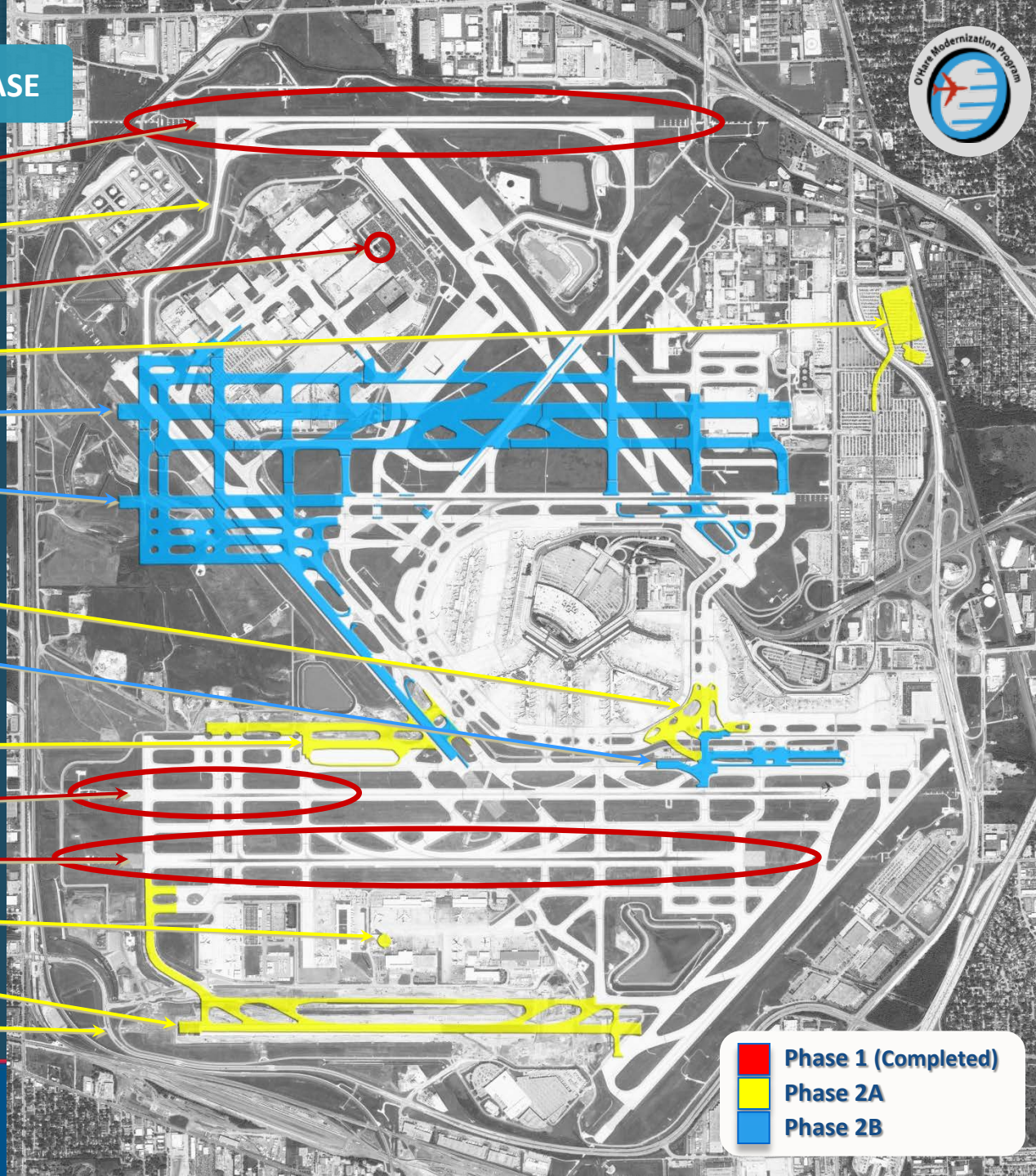
**10L-28R Extension**  
Completed Sept. 2008

**10C-28C**  
Completed Oct. 2013

**SATCT**  
4<sup>th</sup> Quarter 2015

**10R-28L**  
4<sup>th</sup> Quarter 2015

**Irving Park Rd. Relocation**  
Completed Nov. 2012



- Phase 1 (Completed)
- Phase 2A
- Phase 2B

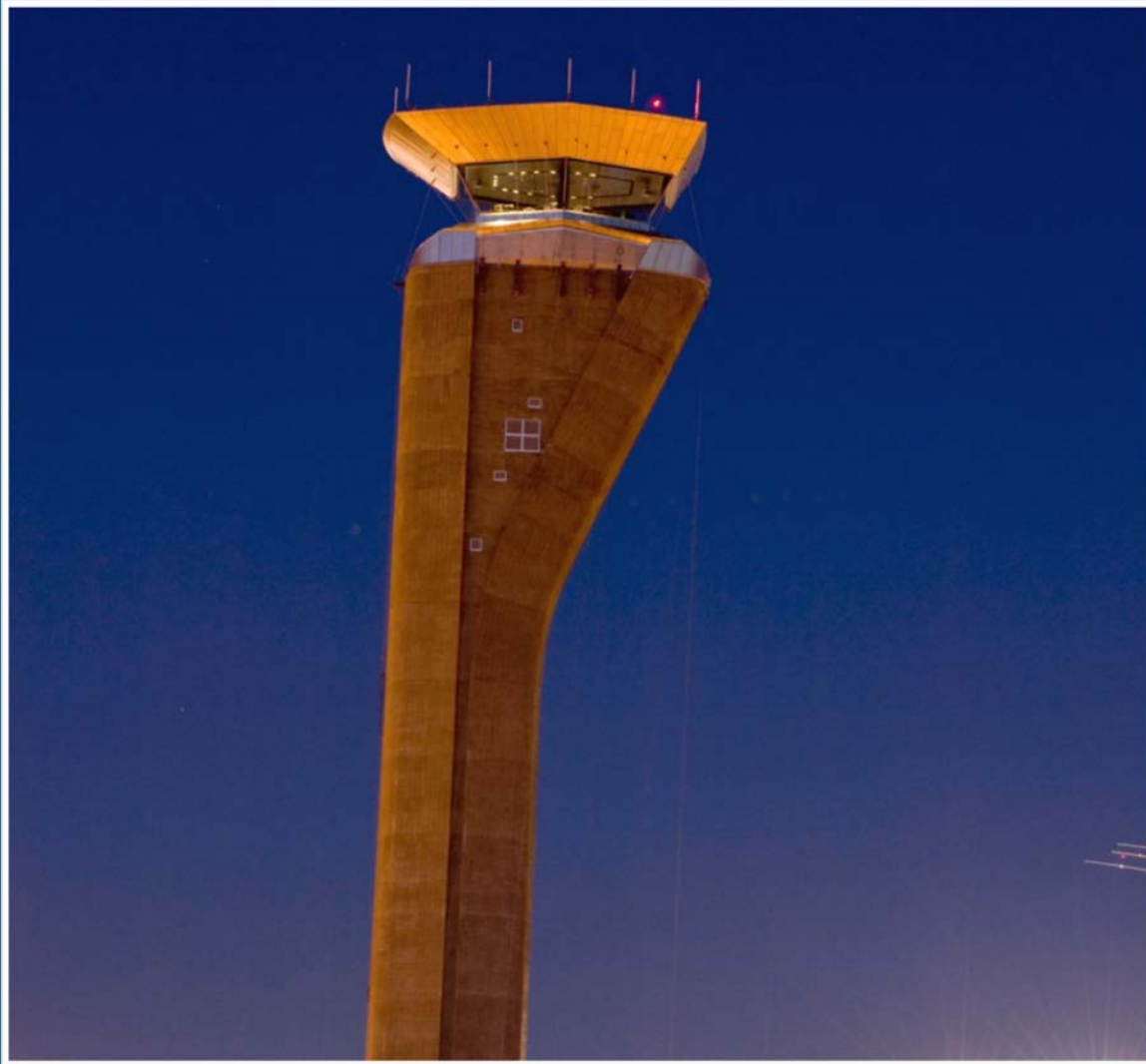
## Runway 9L/27R



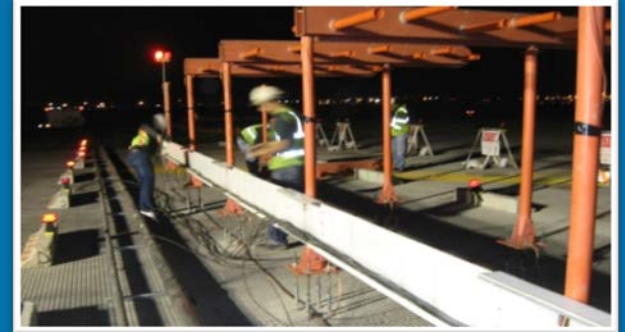
- New 7,500 by 150 feet CAT III Runway
- Increased IMC Arrival Rate from 68 to 84 an hour



# North Airport Traffic Control Tower



# Runway 10L Extension





# FedEx Metroplex Relocation



## OMP RUNWAY 10C-28C

- Commissioned Oct 17, 2013
- Improves arrival and departure rates



# Runway 10C/28C



# AIRFIELD PAVEMENTS

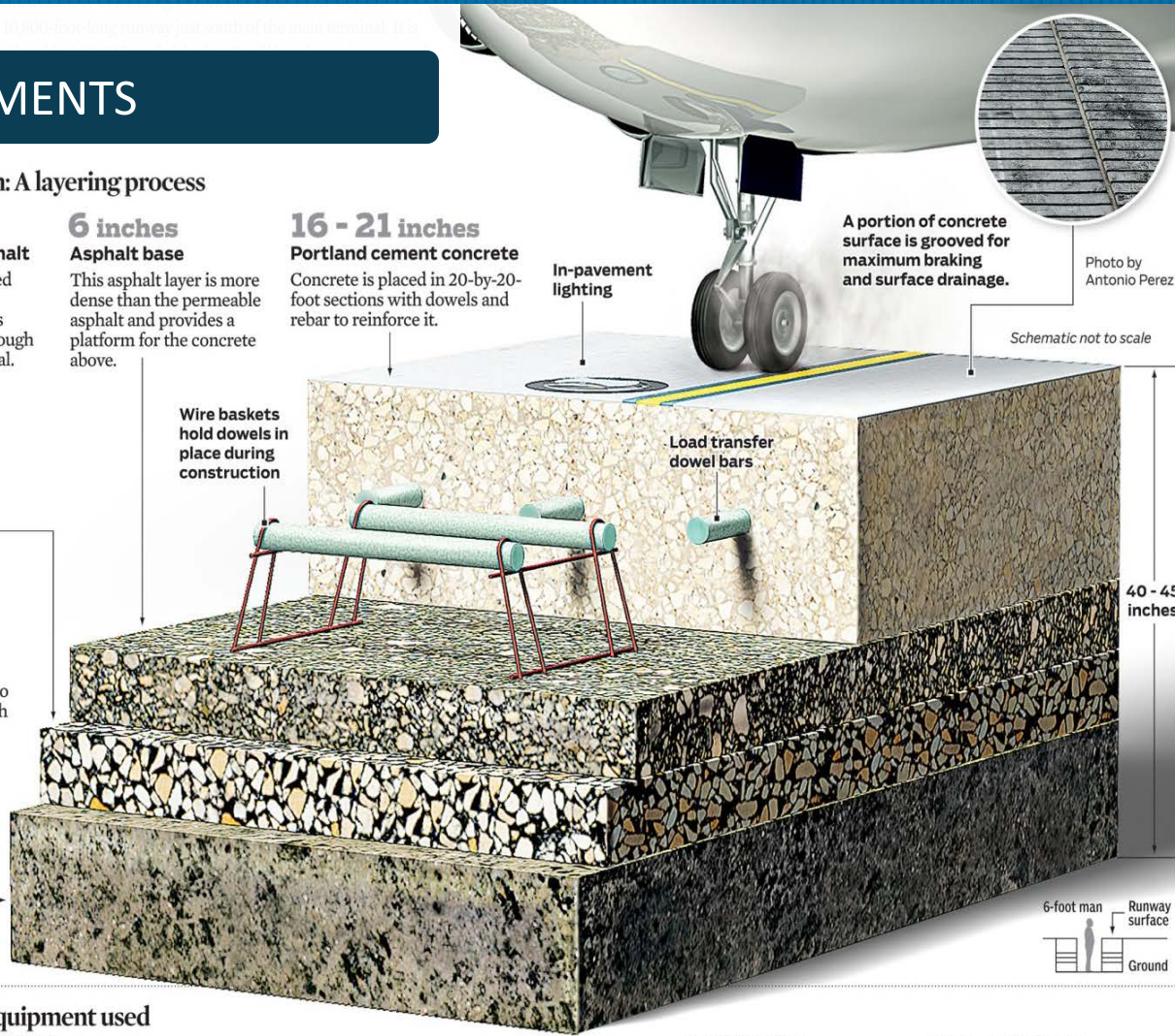
## Construction: A layering process

**6 inches**  
**Permeable asphalt**  
The asphalt-treated permeable base is flexible and allows water to drain through the porous material.

**6 inches**  
**Asphalt base**  
This asphalt layer is more dense than the permeable asphalt and provides a platform for the concrete above.

**16 - 21 inches**  
**Portland cement concrete**  
Concrete is placed in 20-by-20-foot sections with dowels and rebar to reinforce it.

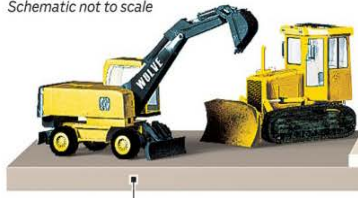
**12 inches**  
**Lime and soil base**  
A lime and water mixture is added to existing soil, which provides frost protection to the pavement above.



## The work: Equipment used

**Excavators and bulldozers**

Schematic not to scale



**Asphalt rollers**



**Paving machine**



**Lighting and signage**



# SOUTH AIRFIELD CONTROL TOWER

Supports operations  
on Runway 10R/28L

219 feet tall

556 sf cab

\$40M project cost

12,000 sf

January 2015 Turnover to FAA

October 2015 Commissioning



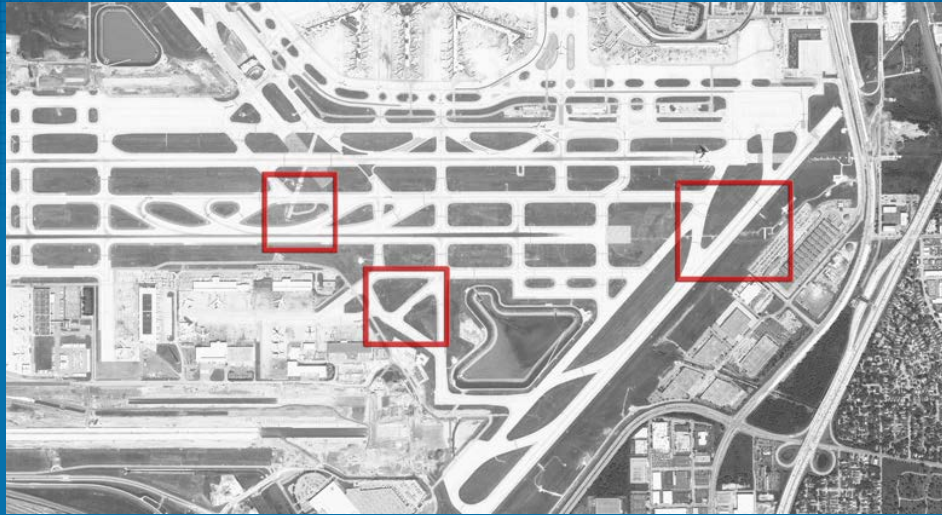
# SOUTH AIRFIELD CONTROL TOWER



# 10C-28C RUNWAY STATUS LIGHTS AND SOUTH AIRFIELD FACILITY IMPROVEMENTS

Location

ORD Airside



## General Description

Runway Status Lights Work: Construction of a new Runway Status Light (RWSL) Substation and associated ductbanks, copper cabling. All associated electrical, lighting, mechanical, plumbing, cabling, and cable equipment. Runway 22L Glide Slope Modifications: Construction of a new Runway 22L Glide Slope Equipment Pad and associated electrical work, new power feed, grading and drainage, and demolition of old. Ductbank tie-ins and new cables. Central Cargo Tunnel Fan Rehabilitation: Removal of two South Cargo Tunnel Fans to be replaced with two 140,000 cfm, in-line axial, fixed pitch fans. All associated electrical, mechanical, plumbing, and control and monitoring systems.

Anticipated Advertisement Date	2 <sup>nd</sup> Quarter 2015
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Estimated Value	\$4,100,000
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### Skilled Trades Required

- Carpenters
- Electricians
- Operators
- Truck Drivers
- Laborers
- Cement Masons / Finisher
- Plumbers

# BENSENVILLE DITCH EAST

Location

ORD Landside



## General Description

In order to meet compliance with the City's 404 permit, this project will eliminate approximately 12 acres of wetland and Re-grade the eastern portion of the Bensenville Ditch. Work elements include; Site clearing and grubbing, unsuitable soil excavation, installation of drainage channel revetment mat and site grading and seeding.

Anticipated Advertisement Date	1 <sup>st</sup> Quarter 2015
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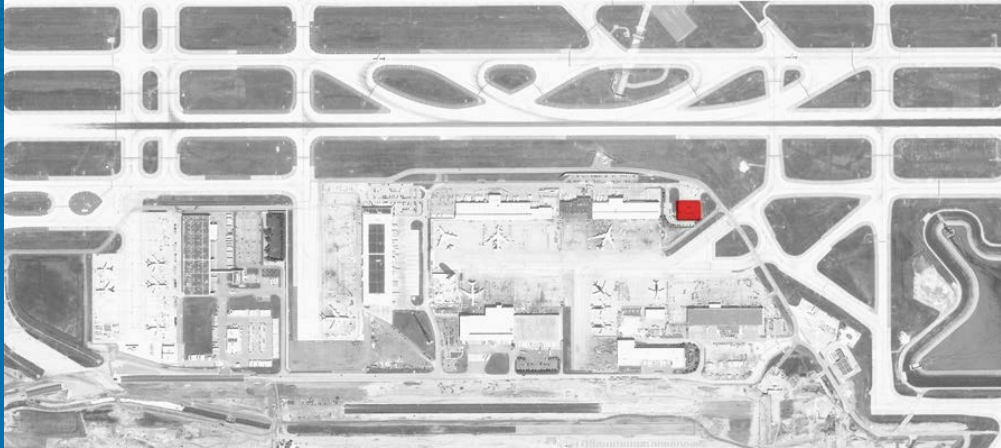
Estimated Value	\$8 – \$12 million
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## Skilled Trades Required

- Operators
- Laborers
- Truck Drivers
- Traffic Safety Workers



# 10R-28L ARFF #1 MODIFICATIONS



## General Description

This project consists of a 10,800 s.f. addition to the existing ARFF #1 Facility. The facility will contain 3 bays for apparatuses and equipment and other functions on the ground floor totaling 7,700 s.f. and 3,100 s.f. on the second story for dormitory space for firefighters in the facility. The addition is required to accommodate additional ARFF equipment that will be required when Runway 10R-28L becomes operational.

Anticipated Advertisement Date	1 <sup>st</sup> Quarter 2015
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Estimated Value	\$7,500,000
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## Skilled Trades Required

- Carpenters
- Electricians
- Operators
- Truck Drivers
- Pipe Fitters
- Iron Workers
- Laborers
- Cement Masons / Finisher
- Plumbers
- Asphalt Workers

# DAYTONA BEACH SANITARY LIFT STATION RELOCATION

Location

ORD Airside



## General Description

The new Daytona Beach Sanitary Lift Station will consist of an approximate 1000 sq. ft. structure with four slicer pumps each delivering 633 gpm at 30 ft. TDH, control monitoring, all electrical and mechanical systems, and approximately 400 lf of 18 inch diameter ductile iron sanitary sewer extension with manholes. Upon completion, the old Daytona Beach Pumping Station will be demolished.

Anticipated Advertisement Date	1 <sup>st</sup> Quarter 2015
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Estimated Value	\$4,500,000
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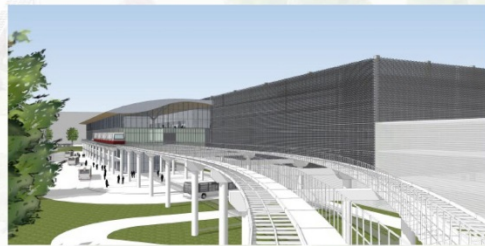
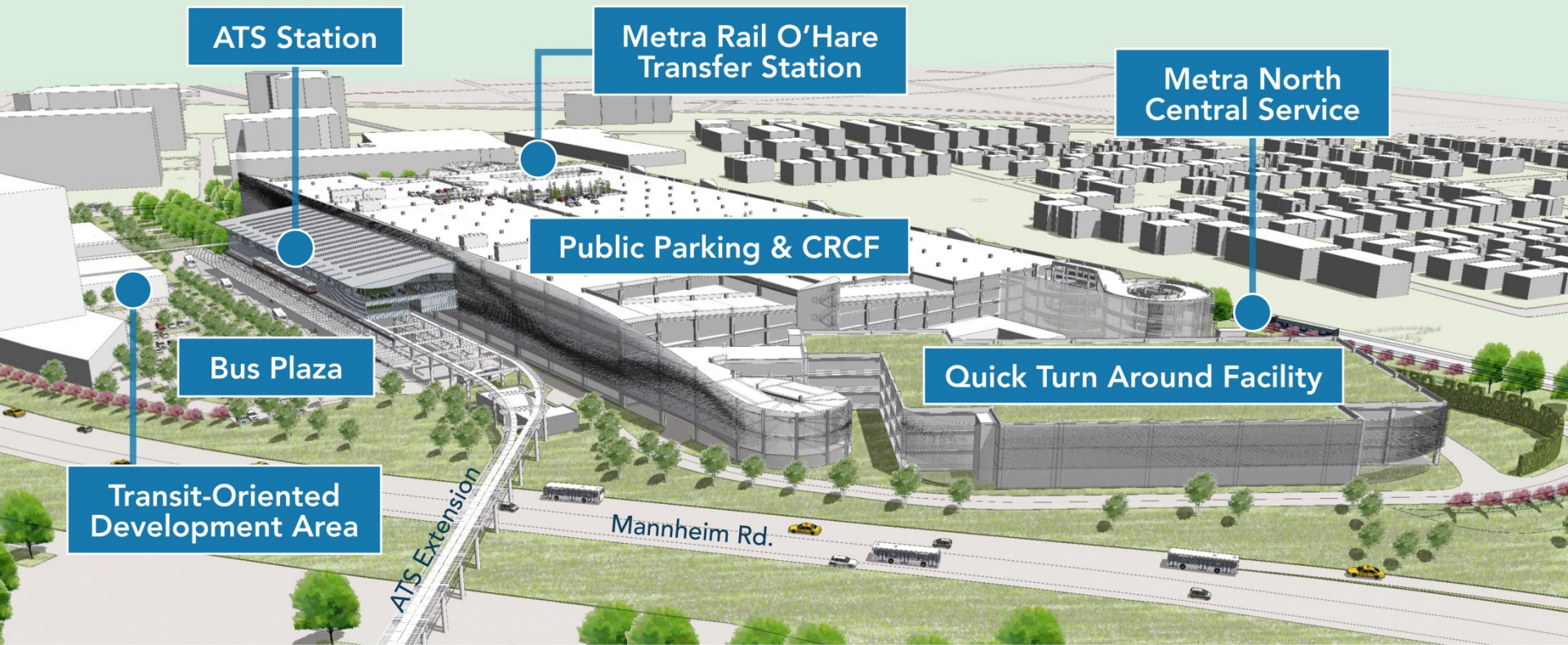
## Skilled Trades Required

- Carpenters
- Electricians
- Operators
- Truck Drivers
- Laborers
- Cement Masons / Finisher
- Plumbers

# O'HARE MULTI-MODAL JOINT USE FACILITY



# O'HARE MULTI-MODAL JOINT USE FACILITY



# JOINT-USE FACILITY

## Joint Use Consolidated Rental Car / Parking Facility and ATS Extension Fixed Facilities



### Alternate Project Delivery

Construction Manager-at-Risk (CMR)

### Trade Procurement

Multiple Trade Packages  
 Prequalification for Trade Contractors  
 Qualifications: Safety Record, Work Experience, and Financial Stability  
 Outreach Meetings

# CMR: SITE AND CIVIL



## General Description

This trade bid package will consist of underground utilities, mass excavation, demolition, foundations and other miscellaneous site preparation work

Anticipated Advertisement Date	4 <sup>th</sup> Quarter 2014
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Estimated Value	\$20 - \$30 million
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### Skilled Trades Required

- Carpenters
- Electricians
- Operators
- Truck Drivers
- Traffic Safety Workers
- Ironworkers
- Laborers
- Cement Finisher
- Plumbers

# CMR: STRUCTURES



## General Description

This trade bid package will consist of the erection of structures, including the maintenance and storage facility, concrete masonry and customer service center.

Anticipated Advertisement Date	4 <sup>th</sup> Quarter 2015
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Estimated Value	\$10 - \$20 million
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### Skilled Trades Required

- Carpenters
- Electricians
- Operators
- Truck Drivers
- Pipefitters
- Painters
- Ironworkers
- Laborers
- Cement Masons/Finisher
- Plumbers
- Sprinkler Fitter

# CMR: BRIDGE/ROAD & GUIDEWAY



## General Description

This trade bid package will consist of the construction of roadway infrastructure, including the roadway system, bridge over Mannheim Road and the guideway extension from Lot E to the Lot F site.

Anticipated Advertisement Date	3 <sup>rd</sup> Quarter 2015
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Estimated Value	\$40 - \$50 million
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## Skilled Trades Required

- Carpenters
- Electricians
- Operators
- Truck Drivers
- Ironworkers
- Laborers
- Cement
- Masons/Finisher



# CMR: MEP/CONVEYING SYSTEMS



## General Description

The trade bid package consists of the installation of mechanical, electrical and plumbing systems including vertical circulation equipment and other building systems.

Anticipated Advertisement Date	4 <sup>th</sup> Quarter 2015
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Estimated Value	\$250 – \$275 million
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### Skilled Trades Required

- Carpenters
- Electricians
- Operators
- Truck Drivers
- Pipefitters
- Sheet Metal Workers
- Elevator Mechanics
- Ironworkers
- Laborers
- Cement Masons/Finisher
- Plumbers
- Sprinkler Fitter
- Glaziers

# CMR: ENCLOSURE



## General Description

This trade bid package consists of the construction of concrete enclosures for the main structure, customer service center and Quick-Turn-Around. Also includes roofing.

Anticipated Advertisement Date	1 <sup>st</sup> Quarter 2015
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Estimated Value	\$10 - \$20 million
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### Skilled Trades Required

- Carpenters
- Electricians
- Operators
- Truck Drivers
- Pipefitters
- Sheet Metal Workers
- Elevator Mechanics
- Ironworkers
- Laborers
- Cement
- Masons/Finisher
- Plumbers
- Sprinkler Fitter
- Painters

# CMR: INTERIORS AND FINISHES



## General Description

This trade bid package consists of the finishing of the facilities. The ATS Station and Customer Services lobby finishes will be constructed. In addition, the project signage will throughout the project.

Anticipated Advertisement Date	2 <sup>nd</sup> Quarter 2016
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Estimated Value	\$10 - \$20 million
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## Skilled Trades Required

- Carpenters
- Electricians
- Sheet Metal Workers
- Elevator Mechanics
- Terrazzo Setters
- Tile Finishers
- Ironworkers
- Laborers
- Plumbers
- Sprinkler Fitter
- Painters
- Plasterers

# CMR: RESTORATION / LANDSCAPING



## General Description

This trade bid package consists of the fine grading and landscaping associated with the project.

Anticipated Advertisement Date	3 <sup>rd</sup> Quarter 2016
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Estimated Value	\$8 - \$10 million
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### Skilled Trades Required

- Carpenters
- Electricians
- Operators
- Truck Drivers
- Laborers
- Cement Masons / Finisher
- Plumbers



# CAPITAL IMPROVEMENT PROGRAM



Rahm Emanuel  
Mayor



Michael D. Boland  
Acting Commissioner

# CHICAGO DEPARTMENT OF AVIATION CAPITAL IMPROVEMENT PROGRAM

- Comprised of projects and tasks that are aimed at preserving and maintaining the capacity and functionality of existing facilities and infrastructure at both O'Hare and Midway International Airports.
- Includes projects and tasks associated with the safety and security of the Airports and environmental efforts.
- Representative CIP projects have included runway and taxiway rehabilitations, upgrade and renovations of existing terminal facilities and support facilities, rehabilitation to airport roadways, rehabilitation to public parking, utility projects and security enhancements.



# A/E CONTRACT INFORMATION DESIGN AND CONSTRUCTION

## ONGOING CONTRACTS ARCHITECTURAL

### FOR NON-FEDERALLY FUNDED PROJECTS

Epstein

Muller & Muller

Reynolds Smith & Hills (RS&H)

Ross Barney Architects

Solomon Cordwell & Buenz (SCB)

### FOR FEDERALLY FUNDED PROJECTS

Muller & Muller

Reynolds Smith & Hill (RS&H)

## ONGOING CONTRACTS ENGINEERING

### FOR NON-FEDERALLY FUNDED PROJECTS

Epstein

EXP

Jacobs Engineering

Kimley-Horn & Associates

Patrick Engineering

Rubinos & Mesia

### FOR FEDERALLY FUNDED PROJECTS

EXP

Jacobs Engineering

Patrick Engineering

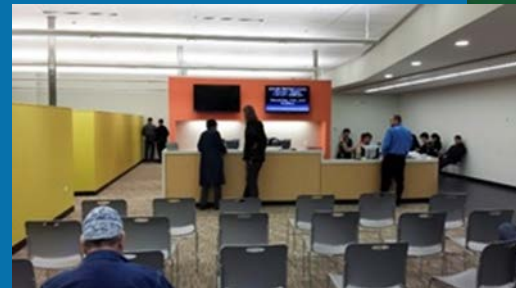
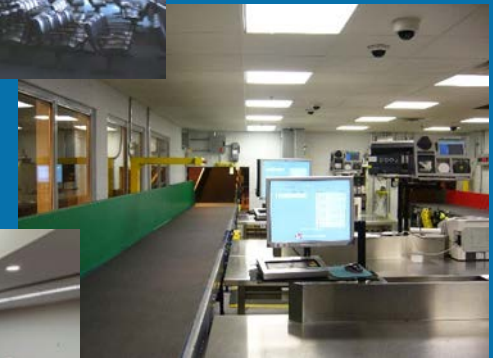
Rubinos & Mesia

# THE CARE PLUS TEAM'S ROLE WITH THE CHICAGO DEPARTMENT OF AVIATION



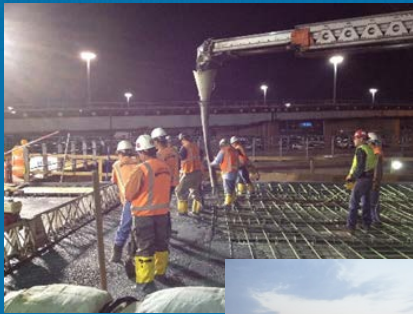
In support of the efforts of the Chicago Department of Aviation (CDA), CARE Plus, LLC has been retained as their Owner's Representative. The Chicago Airports Resources Enterprise (CARE Plus, LLC) is a joint venture composed of the following companies:

- R.M. Chin & Associates, Inc.
- HNTB, Inc.
- Ghafari Associates, L.L.C.
- Heery International, Inc.
- d'Escoto, Inc.
- Bradshaw Construction Management, Inc.
- Autumn Construction Services, Inc.





# THE CARE PLUS TEAM'S ROLE WITH THE CHICAGO DEPARTMENT OF AVIATION



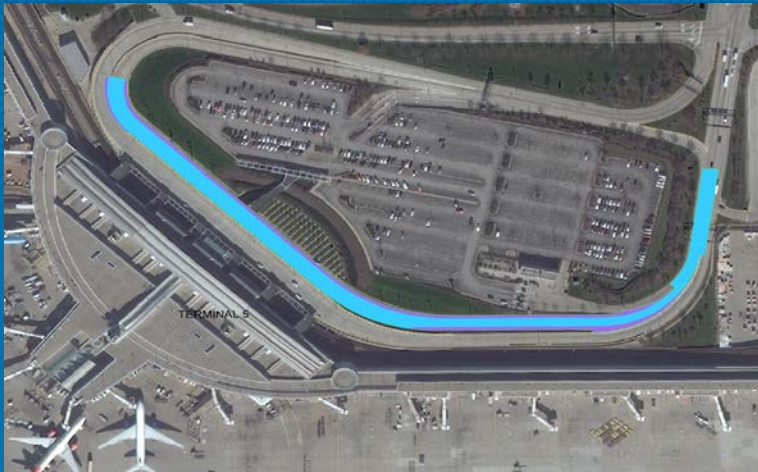
Working as a partner with the CDA, CARE Plus is an extension of the CDA staff to define and deliver projects in the planning, conceptual, design and construction phases. As the Owner's Representative, we are comprised of seasoned aviation professionals who bring intimate knowledge of the Capital Improvement Program, innovations, best practices and unique perspectives to ensure the Capital Improvement Program and the Chicago Department of Aviation succeed with their goals for O'Hare and Midway International Airports.

Our success in delivering professional services to the CDA includes the approach to continue to maximize the talent of our staff, providing the CDA with time and cost saving ideas to keep the CIP on track. Additionally, we continue to apply best practices and lessons learned gained from the team's overall national experience as well as our local experience with the Chicago airport system.

# LANDSIDE TERMINAL 5 PCC PAVEMENT RECONSTRUCTION

Location

ORD Landside



## General Description

The scope will involve removal and replacement of existing PCC pavement, stone base, bituminous shoulder, sidewalk, curb and gutter, storm inlets and catch basins, and pavement marking at the lower level road of Terminal 5. Phasing of lane closures will be coordinated to allow for access during construction.

Anticipated Advertisement Date	1st Quarter 2015
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Estimated Value	\$2 - \$3 million
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### Major Work Items and Estimated Quantities

- |                     |           |
|---------------------|-----------|
| ▪ Concrete Pavement | 10,000 SY |
| ▪ Concrete Shoulder | 1,400 SY  |
| ▪ Curb & Gutter     | 2,500 LF  |
| ▪ 8" CA-6           | 2,600 CY  |

### Skilled Trades Required

- |                 |              |
|-----------------|--------------|
| ▪ Cement Masons | ▪ Teamsters  |
| ▪ Laborers      | ▪ Carpenters |

# BAGGAGE SERVICE ALLEY RETAINING WALL REPAIRS

Location

ORD Airside



## General Description

Scope of work includes the use of helical piles adjacent to the toe of the footing and anchoring the helical pile system to the concrete toe. Structural and cosmetic concrete repairs will be utilized in areas where the concrete has delaminated or where the wall has large cracks. Weep holes will be provided to allow trapped water to release onto the roadway instead of contributing to the deterioration of the wall. A new concrete cap will replace the existing one and a new coat of elastomeric paint will cover the entire wall.

Anticipated Advertisement Date

2<sup>nd</sup> Quarter 2015

Estimated Value

\$3 - \$6 million

### Major Work Items and Estimated Quantities

- |                              |          |
|------------------------------|----------|
| ▪ Sidewalk Rem. & Repl.      | 7,000 SF |
| ▪ Curb and Gutter            | 1,500 LF |
| ▪ Formed Structural Concrete | 1,000 CY |
| ▪ Underdrains                | 2,200 LF |
| ▪ Conduit                    | 7,300 LF |
| ▪ Roadway Light Poles        | 81 EA    |

### Skilled Trades Required

- |                |                       |
|----------------|-----------------------|
| ▪ Carpenters   | ▪ Teamsters           |
| ▪ Electricians | ▪ Traffic Control     |
| ▪ Plumbers     | ▪ Operating Engineers |
| ▪ Laborers     | ▪ Painters            |

# RUNWAY 9R COMPREHENSIVE MAINTENANCE

Location

ORD Airside



## General Description

This project, currently in planning, includes the milling and bituminous overlay of the portion of the runway that has asphalt surface as well as the adjacent taxiways up to the mandatory hold bar. The in-pavement runway lights and bases including runway centerline, runway touchdown zone, LAHSO, runway edge, and taxiway centerline will be removed and replaced. New conduit connecting these lights will also be replaced along with the lighting cable for each circuit – including a new home run to the North Lighting Control Vault.

Anticipated Advertisement Date	2 <sup>nd</sup> Quarter 2015
--------------------------------	------------------------------

Estimated Value	\$18 - \$20 Million
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### Major Work Items and Estimated Quantities

- |                  |             |
|------------------|-------------|
| Asphalt Pavement | 52,000 Tons |
| 5KV Power Cable  | 100,000 LF  |
| Ductbank         | 30,000 LF   |
| Pavement Marking | 250,000 SF  |

### Skilled Trades Required

- |                     |           |
|---------------------|-----------|
| Electricians        | Laborers  |
| Operating Engineers | Teamsters |
| Cement Masons       |           |

# AIRSIDE AND LANDSIDE ASPHALT TERM CONTRACT

*Location*

**ORD & MDW Airside  
& Landside**



## **General Description**

In order to maintain both airside and landside infrastructure, the CDA requires the flexibility to use on-call fixed price term contracts. This contract is for patching, milling, and bituminous concrete at Midway and O'Hare for both landside and airside pavements. This includes runways, taxiways, aprons, roadways, and parking lots.

Anticipated Advertisement Date

1st Quarter 2015

Contract Length

5 years with 2 – 1 year options

## **Major Work Items**

- Bituminous Concrete - Superpave
- Bituminous Concrete N70, N50
- Bituminous and PCC Cold Milling
- Bituminous and PCC Grinding
- Cold Patch Supply
- Epoxy Polymer Concrete Mortar

## **Skilled Trades Required**

- Operating Engineers
- Teamsters
- Laborers

# AIRSIDE APRON PAVING TERM CONTRACT

Location

ORD & MDW Airside



## General Description

In order to maintain both airside and landside infrastructure, the CDA requires the flexibility to use on-call fixed price term contracts. This contract is for removal and replacement of Portland Cement Concrete and concrete structures at Midway and O'Hare within the terminal aprons. Aircraft parking gates within the concourse aprons are closed for limited durations to allow for the replacement of failed slabs.

Anticipated Advertisement Date

1st Quarter 2015

Contract Length

5 years with 2 – 1 year options

## Major Work Items

- PCC Pavement - Remove and Replace
- Excavation and Embankment
- Stone Base
- Drainage Structure Adjust/Replace
- Fuel Infrastructure Removal and Replacement

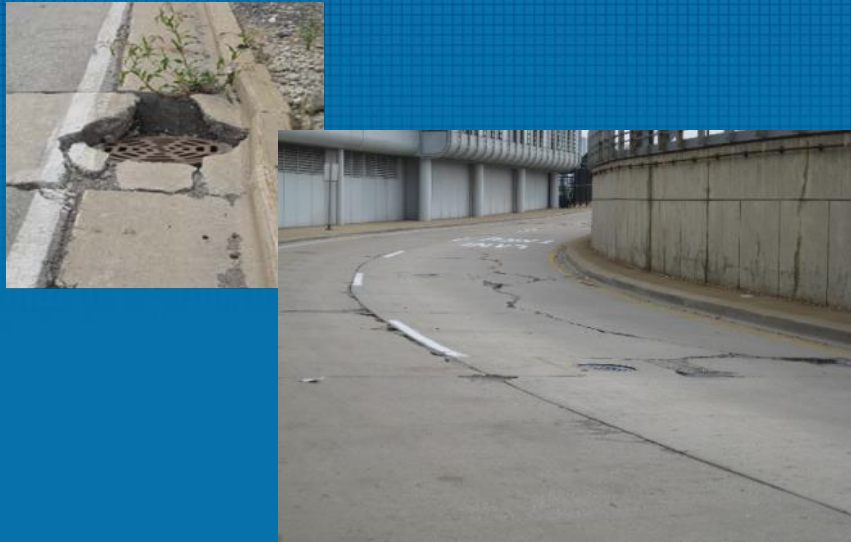
## Skilled Trades Required

- Operating Engineers
- Cement Masons
- Teamsters
- Carpenters
- Laborers

# LANDSIDE CONCRETE TERM CONTRACT

Location

ORD & MDW  
Landside



## General Description

In order to maintain both airside and landside infrastructure, the CDA requires the flexibility to use on-call fixed price term contracts. This contract is for patching, repair, and replacement of Portland Cement Concrete and concrete structures at Midway and O'Hare outside the Airport Operations Area (Landside). This includes airport access roadways, parking lots, curb and gutter, and sidewalks.

Anticipated Advertisement Date

1st Quarter 2015

Contract Length

5 years with 2 – 1 year options

## Major Work Items

- PCC Pavement - Remove and Replace
- Excavation and Embankment
- Stone Base
- Sidewalks
- Curb and Gutter
- Utility Structures

## Skilled Trades Required

- Operating Engineers
- Cement Masons
- Teamsters
- Carpenters
- Laborers

# STRUCTURAL BRIDGE REPAIR AT ORD AND MDW

*Location*

**ORD & MDW  
Landside**



## ***General Description***

In order to maintain both airside and landside infrastructure, the CDA requires the flexibility to use on-call fixed price term contracts. This contract is for repair and maintenance of the bridges at O'Hare and Midway. Biennial inspections yield reports which recommend the repairs necessary to maintain the condition of the twenty-two structures that are registered with IDOT.

Anticipated Advertisement Date

1st Quarter 2015

Contract Length

5 years with 2 – 1 year options

## ***Major Work Items***

- Structural Concrete Repairs
- Deck Repairs
- Epoxy Crack Injection
- Joint Cleaning and Repair/Replacement
- Cleaning/Painting of Structural Steel and Concrete
- Parapet and Handrail Repair/Replacement
- Drainage Replacement

## ***Skilled Trades Required***

- Operating Engineers
- Cement Masons
- Teamsters
- Carpenters
- Laborers
- Painters



# LANDSIDE PARKING LOT IMPROVEMENTS

Location

MDW Landside



## General Description

Rehabilitation of various Landside Parking Lots. Scope of work will vary at each location, ranging from seal coating, patching and overlays, to full reconstruction and reconfiguration of existing lots. Work will include new lighting, drainage, and flat work.

Advertisement Date

11/26/2014

Estimated Value

\$7 - \$8 million

### Major Work Items and Estimated Quantities

- Bituminous Concrete Pavement 10,000 Ton
- Joint Sealing 15,000 LF
- Seal Coating 152,000 SY

### Skilled Trades Required

- Carpenters
- Electricians
- Teamsters
- Operating Engineers
- Cement Masons
- Laborers

# 55TH AND 63RD STREET SECURITY GUARD BOOTH

Location

MDW Airside



## General Description

Project will include the reconfiguration of the 55<sup>th</sup> and Laramie Gate and the replacement of the 63<sup>rd</sup> and Laramie Guard Booth. Scope will include guard booth replacements, new emergency generators, new concrete and asphalt pavements, lighting improvements, curb and gutter replacement, and drainage improvements. Also included will be landscaping improvements and sanitary sewer upgrades.

Advertisement Date

**Out to Bid 1/08/15**  
(Bid opening date: 3/2/2015)

### Major Work Items and Estimated Quantities

- |                         |           |
|-------------------------|-----------|
| ▪ Asphalt Pavement      | 2000 Tons |
| ▪ Concrete Pavement     | 450 SY    |
| ▪ Pre-Fabricated Booths | 2 EA      |
| ▪ Ductbank              | 1000 LF   |
| ▪ Sidewalk              | 5700 SY   |

Estimated Value

\$1 - \$2 million

### Skilled Trades Required

- |                       |                 |
|-----------------------|-----------------|
| ▪ Carpenters          | ▪ Cement Masons |
| ▪ Electricians        | ▪ Teamsters     |
| ▪ Plumbers            | ▪ Laborers      |
| ▪ Operating Engineers |                 |

# RUNWAY 4L-22R REHABILITATION AND TAXIWAY 'P' RECONFIGURATION

Location

MDW Airside



## General Description

The project will include the Rehabilitation of Runway 4L-22R . The scope will include a mill and overlay of the existing runway, widening of shoulders, installation of new edge lights and infrastructure as well as new concrete pavement for aircraft run-ups. Also associated with this project is the reconfiguration of Taxiway P where it intersects the runway.

Anticipated Advertisement Date

1<sup>st</sup> Quarter 2015

Estimated Value

\$10 - \$15 million

## Major Work Items and Estimated Quantities

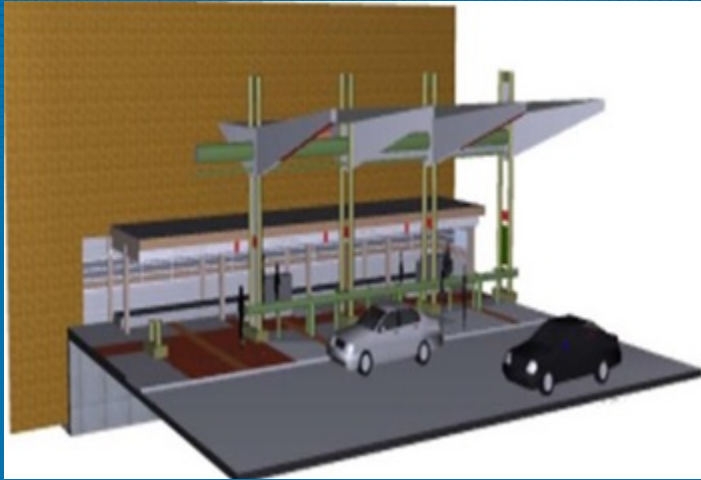
- |                            |             |
|----------------------------|-------------|
| ▪ Excavation               | 10,800 CY   |
| ▪ Asphalt Pavement         | 45,000 Tons |
| ▪ Concrete Pavement        | 8,400 SY    |
| ▪ Electrical Ductbank      | 11,000 LF   |
| ▪ Light Bases and Fixtures | 110 EA      |

## Skilled Trades Required

- |                       |             |
|-----------------------|-------------|
| ▪ Electricians        | ▪ Laborers  |
| ▪ Operating Engineers | ▪ Teamsters |
| ▪ Cement Masons       |             |

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# CURBSIDE ENHANCEMENTS



## General Description

The work scope includes extending the curb front 6 feet adding sidewalk and creating more space for the traveling public. With this extension the pavement removal would be required along with curb and gutter removal/replacement. This work will also include painting the canopy, modifying the existing bollards, improving passenger queuing, cleaning the existing signage and installing new energy efficient lighting.

Anticipated Advertisement Date	1 <sup>st</sup> Quarter 2015
--------------------------------	------------------------------

Estimated Value	\$3 - \$4 million
-----------------	-------------------

### Major Work Items and Estimated Quantities

- |                               |            |
|-------------------------------|------------|
| ▪ Concrete Sidewalk Extension | 3,500 SF   |
| ▪ Bollard Replacement         | 125 EA     |
| ▪ Canopy Painting             | 1 LUMP SUM |
| ▪ Light Fixtures              | 100 EA     |

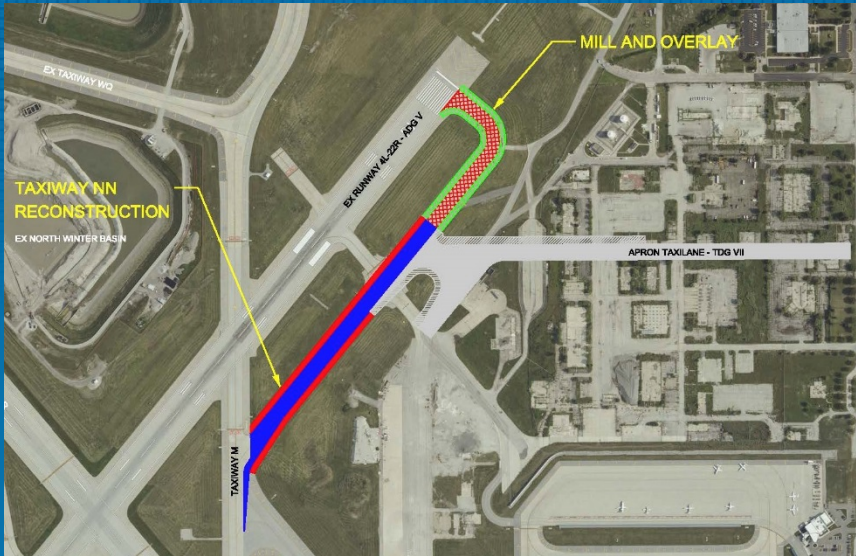
### Skilled Trades Required

- |                       |              |
|-----------------------|--------------|
| ▪ Electricians        | ▪ Laborers   |
| ▪ Operating Engineers | ▪ Carpenters |
| ▪ Cement Masons       | ▪ Painters   |
| ▪ Teamsters           |              |

# TAXIWAY NN RECONSTRUCTION

Location

ORD Airside



## General Description

Full reconstruction of Taxiway NN between Taxiway M and the proposed NE Cargo Apron Taxilane. This includes approximately 1500 lf of Portland Cement Concrete (PCC) taxiway 75 foot wide with 30 foot bituminous shoulders. The taxiway is designed to accommodate aircraft as large as the Boeing 747-8 and will be designed to FAA Taxiway Design Group (TDG) 6 standards. The portion of taxiway north of the Apron Taxilane will only receive a 3" mill and bituminous overlay on the existing pavement.

Anticipated Advertisement Date	3 <sup>rd</sup> Quarter 2015
--------------------------------	------------------------------

Estimated Value	\$5 - \$7 Million
-----------------	-------------------

### Major Work Items and Estimated Quantities

Concrete Pavement	13,500 SY
Asphalt Pavement	12,000 Tons
8" PVC Under Drain	2,500 LF
Power Cable	4,000 LF

### Skilled Trades Required

- Cement Masons
- Laborers
- Electricians
- Teamsters
- Carpenters

# NORTHEAST CARGO FACILITY

Location

ORD Airside

## General Description

Airside Cargo Facility, Taxilane Improvements, Airside Service Road, Landside Access Road, Utility and Infrastructure Improvements.



Substantial Completion

2<sup>nd</sup> Quarter 2016

Estimated Value

\$40 Million

### Major Work Items and Estimated Quantities

- |                              |               |
|------------------------------|---------------|
| ▪ Phase 1 Building Footprint | 476,000 SF    |
| ▪ Phase 1 Apron PCC          | 98,250 SY     |
| ▪ Phase 1 Taxilane PCC       | 30,150 SY     |
| ▪ Phase 2 Building Footprint | 198,000 SF    |
| ▪ Phase 2 Apron PCC          | 52,200 SY PCC |

### Skilled Trades Required

- |                |                 |
|----------------|-----------------|
| ▪ Carpenters   | ▪ Cement Masons |
| ▪ Electricians | ▪ Laborers      |
| ▪ Plumbers     | ▪ Painters      |
| ▪ Pipe Fitters | ▪ Glaziers      |
| ▪ Teamsters    |                 |



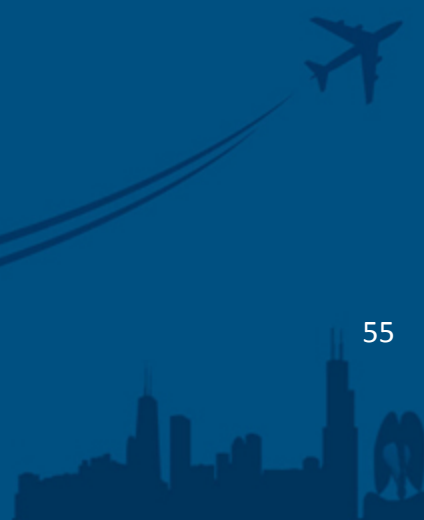
# SUSTAINABLE INITIATIVES



Rahm Emanuel  
Mayor



Michael D. Boland  
Acting Commissioner





# LEADERSHIP



World's 1<sup>st</sup> airport aeroponic garden

1<sup>st</sup> LEED NC airport rental-car branch



1<sup>st</sup> airport Green Concessions Policy



1<sup>st</sup> U.S. airport to use recycled asphalt shingles in runways & taxiways



1<sup>st</sup> airport development sustainability manual & rating system



Largest U.S. airport green roof



**FIRST**  
LEED-CERTIFIED  
FAA AIR TRAFFIC  
CONTROL TOWER



1<sup>st</sup> U.S. automated passport control program



1<sup>st</sup> major on-airport bee farm in the U.S. and largest at any airport in the world



1<sup>st</sup> green roof on an FAA airport facility





## 2015 SUSTAINABILITY TARGETS

### ✈ CDA's *A Sustainable Path* 2015 targets (2010 baseline):



Reduce energy use by **15%**



Reduce potable water use by **10%**



Divert **50%** of waste from landfills



Maintain a fleet of at least **20%** green vehicles



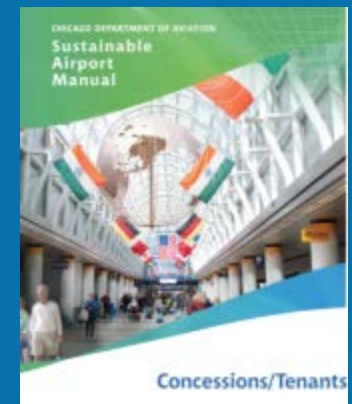
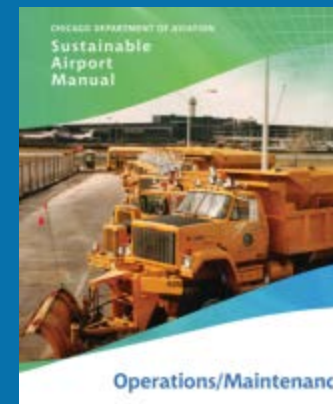
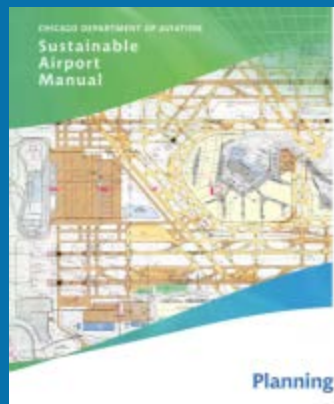
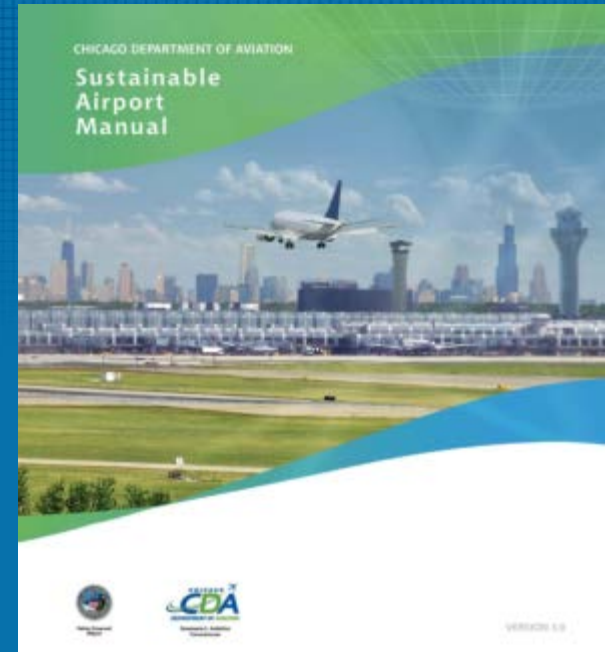
Reach the Airport Service Quality (ASQ) program's **Top Ten** ranking for passenger experience

✈ Supports City of Chicago sustainability guidance



# SUSTAINABLE AIRPORT MANUAL (SAM)

- ✈ Contractual requirements to incorporate sustainability in all CDA and tenant projects
- ✈ Standards and specifications, checklists, a rating program, and award recognition
- ✈ Developed with input from 200+ stakeholders
- ✈ Press from nearly every airport magazine
- ✈ Covers all airport functions:





# SAM CONTRACTUAL REQUIREMENTS

- ✈ SAM compliance is required in all airport contracts
  - Compliance is tied to payment
- ✈ Part of Standard Operating Procedure:
  - Introduced in the Request for Proposals (RFP) process
  - Included in project kick-off meetings
  - Every design team must have a LEED Accredited Professional
  - Designers must submit a SAM checklist at key design milestones for review (30%, 60%, 90%, 100%)



**TABLE 2 –SAM Green Airplane Rating System (Construction)**

Green Airplanes	Prerequisites	Civil-Airside	Civil-Landside	Occupied Buildings	Unoccupied Buildings	Reference LEED 2009 Rating System:
		8	8	13	12	
		2-22	2-23	2-46	2-37	
		23-28	24-29	47-58	38-46	Certified
		29-33	30-35	59-69	47-56	Silver
		34-45	36-47	70-93	57-75	Gold
		46-63	48-66	94-129	76-104	Platinum
<b>MAXIMUM</b>		<b>63</b>	<b>66</b>	<b>129</b>	<b>104</b>	



# SAM GREEN AIRPLANE RATING SYSTEM

- ✈ Green Airplane Certifications recognize those who meet or exceed sustainability requirements
- ✈ 150+ projects reviewed & rated
- ✈ 200+ project total expected in 2015

CHICAGO DEPARTMENT OF AVIATION  
SUSTAINABLE AIRPORT MANUAL  
GREEN AIRPLANE CERTIFICATION



## SIGNATURE FLIGHT SUPPORT CONSTRUCTION AWARD



CONTRACTOR:  
Madison Construction

- Alternative Transportation: Low Emitting and Fuel Efficient Vehicles**
  - 5% of parking spaces are dedicated fuel efficient vehicles
- Water Use Reduction**
  - Efficient plumbing fixtures are projected to reduce water use by 31% or 5,200 gallons annually
- Optimize Energy Performance**
  - Use of demand ventilation with high efficiency HVAC equipment is projected to reduce energy use by 25% or 254 million Btu in electrical and natural gas usage
- Construction Waste Management**
  - 94% of 7.4 tons of C&D waste was diverted from landfill, including primarily concrete, stone, and wood
- Recycled Content**
  - 26% of materials by cost contain recycled content including concrete, structural steel, metal roofing, asphalt, masonry, and rebarwork
- Local/Regional Materials**
  - 40% of materials by cost obtained within 250 miles of the project site including primarily asphalt, concrete, structural steel, and millwork
- Low Emitting Materials**
  - Specified low VOC adhesives, sealants, paints, carpet, flooring, and composite wood products
- Alternative Transportation During Construction**
  - At least 50% of contractor vehicles met EPA Green Vehicle Guide standards for air pollution and greenhouse gas emissions
- LEED Certified Project**
  - Project is pursuing LEED Silver Certification



# GREEN CONSTRUCTION PREREQUISITES

- ✈ Specifications tied to payment of all contracts
  - 01111: *Construction Air Quality – Diesel Vehicle Emission Controls*
  - 01524: *Construction Waste Management*
  - 01355: *Local/Regional Materials*
  - 01356: *Recycled Content*
  - 01360: *Sustainable Temporary Construction Materials*
  - 02905: *Sustainable Airport Landscaping*





# SAM ACCOMPLISHMENTS

- ✈ Helped the CDA and other airports:
  - Minimized costs
  - Reduced emissions
  - Minimized waste & off-airport hauling
  - Increased recycling
  - Conserved water and energy
  - Increased demand for renewable resources and alternative energy sources
  - Over \$175 million in materials & financial activity supporting the Midwest economy
  - Facilitated National Environmental Policy Act (NEPA) approval



**100% GREEN AIRPLANE CERTIFICATION**

CHICAGO DEPARTMENT OF AVIATION  
SUSTAINABLE AIRPORT MANUAL  
GREEN AIRPLANE CERTIFICATION

**CONSOLIDATED RENTAL CAR FACILITY  
CONSTRUCTION AWARD**



**Green Roof**

- 14,079 sq. ft. installed green roof covering 100% of CRF building

**On-Site Renewable Energy**

- Two solar photovoltaic panels and 8 horizontal sun pipe turbines generating up to 27.5 MWh of electricity or 4% of the facility's energy needs

**Stormwater Runoff and Water Use Reduction**

- 1 million gallon cistern and submersible collection system for landscaping and vehicle washing
- Low-Flow Toilets reducing potable water use by over 30%

**Optimize Energy**

- Achieved a 27% reduction in overall energy usage
- 100% motor and vehicle LED lighting installed
- Building Automation System for ongoing energy management and reporting

**Innovation and Menu Items**

- Installation of a New-Style vehicle service bay

**LEED Certification**

- Pending LEED Silver Certification

CONTRACTOR:  
Walsh Construction

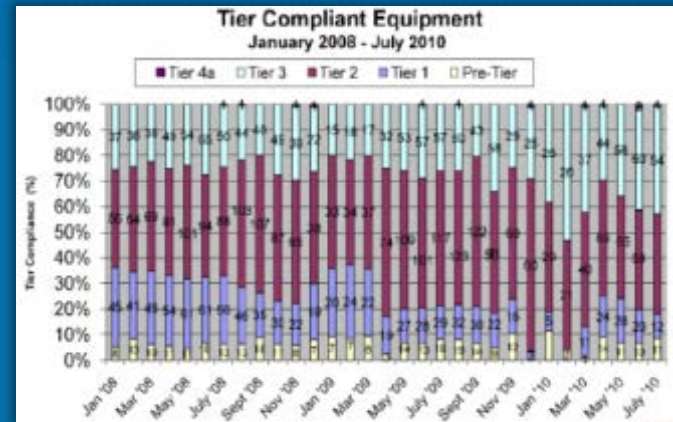
**M I D W A Y**






# SAM ACCOMPLISHMENTS

- ✈ 98% of all construction & demo materials reused
- ✈ Reclaimed > 575,000 tons of asphalt & concrete
- ✈ Ultra-Low Sulfur Diesel fuel required 5 years before federal mandate
- ✈ Diesel oxidation catalysts and particulate traps on equipment for cleaner emissions
- ✈ Idling restrictions (5 min/hour)
- ✈ Regional Materials
  - 86% of materials obtained within 500 miles
- ✈ Recycled Content
  - 13% of materials contained recycled content (> \$22 million worth)



 SAM ACCOMPLISHMENTS

Balanced Earthwork Plan



12+ Willis Towers Worth of Soil Moved



<u>Quantities</u>	<u>Description</u>
> 28 Million	Cubic Yards of Soil Moved
> 7 Million	Cubic Yards of Soil Kept On-Site
> 720,000	Haul Trips Saved
> \$150 Million	Dollars Saved
> 8.1 Million	Gallons of Diesel Fuel Saved
> 82,000	Tons of CO <sub>2</sub> Saved










# GREEN CONCESSIONS POLICY






- ✈ Adopted March 2013
- ✈ Requires all concessionaires to:
  - Eliminate Styrofoam
  - Ban plastic bags, containers and utensils
  - Separate all solid waste into recyclables, compost, and refuse
  - Use only green cleaning and hygiene products
  - Buy sustainable foods
  - Procure 100% recycled content paper
  - Donate surplus food
  - Incorporate SAM guidance and achieve a 'Green Airplane Rating'

Adopted March 2013

GREEN CONCESSIONS POLICY

CHICAGO  
O'HARE & MIDWAY  
INTERNATIONAL AIRPORTS



# PARTNERSHIPS

- ✈ Metropolitan Water Reclamation District of Greater Chicago (MWRD)
  - Waste to Energy Opportunities
- ✈ Prairie Research Institute/University of Illinois Sustainable Technology Center
- ✈ Mayor’s Office
- ✈ Midwest Aviation Sustainable Biofuels Initiative (MASBI)
- ✈ Columbia College Chicago
- ✈ Airports Going Green
  - Input from 200+ stakeholders
  - 400 attendees
- ✈ Airlines, concessions, and many more



Map of SAM Contributors



VISIT OUR WEBSITE: FLYCHICAGO.COM



O'HARE MIDWAY BUSINESS WITH CDA CHOOSE CHICAGO

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Connecting You Everywhere

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INTERNATIONAL  
AIRPORT



MIDWAY  
INTERNATIONAL  
AIRPORT



Rahm Emanuel, Mayor  
Rosemarie S. Andolino, Commissioner  
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AWARENESS &  
ASSISTANCE



AIRPORTS  
GOING GREEN



SIGN UP FOR  
WEB ALERTS



Chicago 2014  
World Route Development Forum  
RoutesChicago2014.com



CONNECTING THE WORLD  
TO CHICAGO