ACRP Problem Statement No. 14-04-06

Guidebook for Implementing and Operating a Ramp Control Facility

ACRP Staff Comments: The proposed research appears to overlap with Problem Statement 14-04-08. Recommend reducing the funding level to between $350,000 and $400,000.

TRB Aviation Group Committees Comments: AIRCRAFT/AIRPORT COMPATIBILITY: Ramp towers are generally sponsored by tenants rather than airports. The work process is not completely defined. High cost for two consultants working 12 months.

Review Panel Comments: Not recommended.—The proposed research overlaps with ACRP Report 62: Airport Apron Management and Control Programs, and is also covered by ACRP Project 10-20, Guidance for Planning, Design and Operations of Airport Communications.
Outline For Airport Cooperative Research Program Problem Statements

Problem Title:
Guidebook for Implementing and Operating a Ramp Control Facility

Problem Statement: As airports continue to redevelop terminal facilities to increase capacity and gates, new and existing facilities may require a ramp control operation to provide continuous positive control of aircraft movements in increasingly congested non-movement areas. In principle, FAA Air Traffic Control does not control non-movement areas; however, some airports have a memorandum of understanding with their Air Traffic Control Tower to provide pushback advisories where direct line of sight is established but with no ramp control facility. As conditions and funding changes evolve over time, the FAA may revert pushback responsibility to the airport. Airports seeking to implement a ramp control operation have three primary methods for operating a ramp control facility: airline operated, airport operated, and private party operated. The process to implement a ramp control facility varies from one airport to the next. The Research Team will develop a best-practices guidebook to assist airports with establishing and running a ramp control facility. The successful Research Team should have experience establishing and/or operating ramp control facilities. Research in this field will help promote airfield safety and operational efficiency.

Objectives:

The proposed research will result in the production of a best-practices guidebook to assist Airports with establishing and running ramp control operations. Products include:

- Where and when to establish a ramp control facility
- Educating airports on the many different types of ramp control facilities
- Define policies and procedures that must be established
- Establish training recommendations
- Developing an RFP for services
- Using a camera system for ramp control
- Matrix/flowchart for commissioning and operating a ramp control facility
- Infrastructure Cost Estimate Examples
- Operational Cost Estimate Examples

Research Proposed:

The research proposed would follow the objectives listed above. The research would include interviews with FAA (Headquarters and Regional offices), Airport Sponsors, and Consultants. Potential tasks for the objectives include:

- When and where to establish a ramp control facility – The Research Team will lead a discussion on what triggers the need to establish a ramp control facility and what the
range of options are to site a facility. This includes an approximate timeline of how long it takes to implement ramp control.

- Educating airports on the many variations of ramp control – The Research Team will discuss the pros and cons of all of the available options for implementing a ramp control, including, but not limited to, a ramp control tower, remote video surveillance, line of sight from a window, apron managed, etc...
- Define policies and procedures that must be established – This part of the study will focus on what policies and procedures will be needed in order to successfully operate a ramp control facility. This includes Memorandums of Understanding with the FAA, airport, airlines, etc… This also discusses recommended coordination efforts for obtaining appropriate frequencies, equipment, etc…
- Establish training recommendations – Each airport operating a ramp control facility has unique training requirements for their facility. This section will help identify minimum recommendations for training for employees prior to beginning work in the facility and regular training intervals throughout employment. The Research Team will consult with the FAA on any potential future standardization of Ramp Control training.
- Using a camera system for ramp control – Many airports operate a ramp control facility without direct human line of sight, instead opting for remote operation using a camera system. The Research Team will recommend viewing angles and general camera locations for the latter type of operation.
- Matrix/flowchart for commissioning a ramp control facility – This section will summarize all of the requirements and steps needed to open and operate a ramp control facility.
- Infrastructure Cost Estimates – The Research Team will gather and document the infrastructure costs for various types of ramp control facilities at a multitude of airports across the country.
- Operational Cost Estimates – The Research Team will gather and document ramp control operational costs for various types of ramp control facilities at a multitude of airports across the country.

In addition, the Research Team will include a lessons learned section in the Appendix of the report that highlights time saving lessons that airports have encountered. The Research Team will include an Appendix for the case study of small, medium, and large hub airports that have commissioned a ramp control facility.

Estimate of the Problem Funding and Research Period:

The project will require 2.0 full time equivalent (FTE) staff at an hourly rate of approximately $125. Estimated cost would be:

2.0 FTE x 2080 hours/year x $125/hour = $520,000

The duration of the proposed research is 12 months. This includes approximately 3 months for review and development of the draft-final report.

Urgency and Payoff Potential:

The aviation community urgently needs this proposed guidebook. As more and more airports focus their capital on terminal redevelopment and expansion, there needs to be an identified path forward for implementing ramp control. The process is not well understood airports, and this
research program will help airports continue to operate safely and efficiently in increasingly congested non-movement areas.

Related Research:
To date, research has not been conducted on this topic. Related ACRP studies include:

- ACRP 62: Airport Apron Management and Control Programs
- ACRP 36: Airport/Airline Agreements—Practices and Characteristics
- ACRP Synthesis 31: Airline and Airline—Airport Consortiums to Manage Terminals and Equipment

Person(s) Developing the Problem:
Bo Zou
Assistant Professor
University of Illinois at Chicago
842 West Taylor Street
Chicago, IL 60607
(T) 312-996-3404
(F) 312-996-2426
bzou@uic.edu

Justin Bychek Aviation Planner HNTB Corporation
6151 West Century Boulevard
Suite 1200
Los Angeles, CA 90045
(T) 310-846-1812
(F) 310-417-5369
jbychek@hntb.com

Process Used to Develop Problem Statement:
This problem statement is the product of the lack of guidance on establishing ramp control.

Date and Submitted By:
Date: 3/12/2013
Submitted By: Bo Zou, University of Chicago at Illinois