Space Traffic Management
from the ground up

Presented November 5, 2014
Embry-Riddle Aeronautical University Space Traffic Management Conference
Daytona Beach, FL
Space Traffic Management and Surface Transportation: Operating Concepts for Commercial Spaceports

Author: James E. Ball
Pre-launch Hazardous Test Operations

Approximate area of hazard zone for pre-launch tests depicted by shaded area

Falcon 9 Static Firing Test at Cape Canaveral

November 5, 2014
The OEZ associated with example launch trajectories for proposed spaceport at Shiloh, essential to early site planning and identification of surface transportation considerations.
Maritime Traffic

Practical solutions to minimizing conflicts

November 5, 2014
Defining hazard zones for offshore, inland waters
Maritime Traffic

Atlantic Intracoastal Waterway, inland waters

November 5, 2014
Maritime Traffic

Hazard Zone
Area for a 90° trajectory

Defining hazard zones for offshore, inland waters
Railway Traffic

Avoidance, schedule de-confliction

November 5, 2014
Railway Traffic

Operations planning for KSC railroad

November 5, 2014
Highway Traffic

Conflicts with major corridors are a non-starter

November 5, 2014
Foot Traffic

Managing and minimizing potential interference
Solving transportation conflicts

Some examples from surface systems...
Solving transportation conflicts

...and airborne systems that have to avoid surface transportation conflicts
However...

It takes careful planning, and cooperation!
Site planning and operations can minimize surface traffic and access interruptions