

# *Clarus* Business Models Review

Rick Schuman

PBS&J

November 15, 2005

# Outline

- Study Purpose and Approach
- Business Models: A Working Definition
- Stakeholder Input
- Research Summary
- Business Models Issues and Considerations
- Conclusions and Recommendations
- Questions/Discussion

# Study Purpose

- Requested by USDOT/FHWA, managed by ITS America
- Develop White Paper to examine business model and implementation issues
- NOT define, select or recommend detailed models

# Study Approach

- Study timeframe: August – October 2005
- Guided by *Clarus* Management Team
- Three Primary Tasks:
  - Stakeholder Input
  - Background Research
  - White Paper
- Products
  - White Paper
  - This Presentation

# Business Models: A Working Definition

- “Business Models” can mean many things to many people
- Typical definition too simple/narrow:
  - “How revenue will be generated”
- Found a consensus definition in several Internet locations better suited to our situation:
  - <http://www.masterliness.com/a/Business.model.htm>

# Business Models and *Clarus*

- Not just...
  - Costs, revenues, fees
- But also...
  - Organization and governance
  - Marketing and promotion
  - Intellectual property and data usage rights/terms
  - Liability

# Stakeholder Input

- *Clarus* Management Team helped identify stakeholders
- Criteria:
  - Broad and Representative
  - Subject matter experts
  - Willing to be interviewed
  - Enough to get good sample; few enough to accomplish in 30-45 days
- Target was 20 interviews – got 21
  - Thank you!

# Interview Questions

1. When you think of the *Clarus* “system,” how would you describe it and what it does?
2. What factors do you think are key to establishing and sustaining *Clarus*?
3. Are there any particular issues or concerns you have regarding *Clarus*?
4. Do you have any ideas related to specific business models that you would suggest for *Clarus*? Any business models that you would suggest against?
5. What organization do you think would be best suited to operate *Clarus* and why?
6. Anything else?

# Organizations Interviewed

- DOTs
  - Alaska DOT
  - Indiana DOT
  - Iowa DOT/AASHTO
  - Minnesota DOT
  - Nevada DOT
  - Tennessee DOT
- Academia
  - National Center for Atmospheric Research
  - Oklahoma Climatological Survey
  - University of Utah
- Industry
  - AccuWeather
  - Meridian Environmental Technology
  - DTN - Meteorlogix
  - SSI, Inc.
  - Vaisala
  - WeatherBug/AWS
  - The Weather Channel
  - Weather Solutions Group
- Others
  - NOAA
  - NOAA Earth System Research Laboratory
  - Environment Canada
  - Cambridge Systematics

# Stakeholder Input Common Themes

- Strong agreement on the definition of the *Clarus* “System”
- Agreement on latency as an issue
  - General agreement on latency requirements
- Recognition of Stakeholder Self-interest
- Continued shared oversight desired as *Clarus* moves from concept to reality
- NOAA/NWS most often mentioned as *Clarus* System operator
  - General agreement: whoever is operator has long-term commitment

# Research Summary

- Analogous Systems/Concepts
- Weather Industry Business and Political Landscape

# Analogous Systems/Concepts

- Eight systems/concepts:
  - MADIS
  - NWS Observation Products
  - National Lightning Detection Network
  - WeatherBug
  - Canadian Road Weather Information Network
  - Various Mesonets (e.g., MesoWest, Oklahoma Mesonet)
  - Open Geospatial Consortium
  - Aurora Program Project 2000-01
  - ACARS
- Focused on business, policy, economic issues common to *Clarus*
  - Details found in White Paper

# Weather Industry Business and Political Landscape

- “Fair Weather” book effectively summarizes history and status of “weather enterprise”
  - 2003 National Academy of Science Report
  - Recommended reading for transportation policy-makers
- Two key points:
  - Weather enterprise likely to influence *Clarus* more than surface transportation enterprise
  - Relationship between sectors of weather enterprise is somewhat fragile

# Business Model Issues and Considerations

- Themes
  - Implementation Approach
  - Funding
  - Operations
  - Governance
  - Marketing
  - Other Issues

# Implementation Approach

- Roll-out strategy
- Incentives vs. requirements
- Policy and funding emphasis
- Evolution and expansion

# Funding

- How will the *Clarus* System (not ESS) get funded
- Some Options:
  - Users get free and unfettered access; taxes or other funds support
  - Users pay for access, fully or partially
  - Users have choice of tiers of service, lower tiers cheaper (or free)
- Combinations are possible
- Research and stakeholder input lean toward at least some level of free access

# Operations

- Who operates the System?
- Logical alternatives
  - Governmental organization
  - Academic organization
  - Private firm under contract or franchise
- Issue to consider: quality checks
  - Operator will need access to other data to conduct quality checks
- Operator would serve on behalf of *Clarus* stakeholders

# Governance

- Management and Leadership
- Guiding Principles
- Data Sharing Agreements
- Data Use Agreements

# Marketing

- To ESS operators to obtain their data
- To users to make use of the data and develop meaningful services
- To general industry, Congress and public to maintain support
- Marketing + creative implementation
  - Needed to overcome chicken and egg issue
  - Note: Evolved MADIS could overcome

# Other Issues

- Harnessing self interest: WI<sup>2</sup>FM
- System Latency and its relevance to business models
- Consistency

# Conclusions and Recommendations

- Strongly believe workable business model is possible
- Time is right to develop guiding principles for *Clarus System*
- Recommend development of one or more specific business model scenarios
  - Bring issues clearly into focus
  - Issue interdependence and importance will vary based on model
  - Can occur in parallel with guiding principle development

# Questions/Discussion