Smart Growth and Airport Vicinity Planning

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Presentation Outline

• Airports and Cities – A Need for a More Effective Land Use Planning Model
• Impetus for Airport Smart Growth Demonstration Project
• Elements of Airport Smart Growth
• Airport Smart Growth Planning Framework
• Applying the Smart Growth Framework
• Demonstration of the Smart Growth Framework at Chino Airport
• Lessons Learned
Airports and Cities – A Need for a More Effective Land Use Planning Model

- Airports generate economic activity
- Airports are magnets for growth and development
- But growth and development near the airport can choke airport growth opportunities and even lead to airport closure
- Traditional airport land use compatibility planning, emphasizing large buffer areas and the segregation of uses...
  - Has been of limited effectiveness in high-growth areas
  - Has never been viable at airports in urbanized areas
- Example: Residential Development in Environs of New Airport
French Valley Airport – 1996
New Airport in Exurban Area
French Valley Airport – 2002
Auto-oriented Residential Neighborhoods Developing Quickly
French Valley Airport – 2006
Continuing Residential Development; Commercial-Office-Industrial Development Beginning to Emerge
French Valley Airport – 2011
Residential Development Nearly Surrounds Airport; Commercial-Office-Industrial Development Lagging
Airports and Cities – A Need for a More Effective Land Use Planning Model

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- Needed – a planning model acknowledging that airports are integral to cities and supporting the sustainability of both
  - Provide guidance for appropriate airport vicinity development
  - Integrate airport master plan in city land use plans
Toward a New Planning Model – Aerotropolis

• Geographic/economic concept – major commercial airport as global commerce center

• Aerotropolis planning examples
  – Washington Dulles
  – Indianapolis
  – Detroit Metro

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Toward a New Planning Model – Smart Growth and Airports

- Mineta Transportation Institute Report 06-05, December 2009
  http://transweb.sjsu.edu/index.htm
Smart Growth and Airport Vicinity Planning

Impetus for Smart Growth
Demonstration Project
Airports in the SCAG Region
Largest Regional Aviation Network in the Nation
Southern California Airports – Constraints on Development and Operations

- Most airports in the region are in urban locations and have been in operation for many decades.
- Many are subject to physical or legally-enforceable capacity constraints, and are encroached upon by surrounding urbanization.
- One of the greatest concerns facing airports today is the continued pressure brought about by encroaching, incompatible land uses that threaten and limit airport development and operations.
Other Planning Challenges in SCAG Region

• Surface traffic congestion
• Air quality improvement needs
• Housing availability and affordability
• Jobs-housing imbalances
• Economic development and employment needed in job-poor subregions
SCAG Initiatives to Address Regional Planning Challenges

• Multiple programs implementing federal and state mandates, local initiatives, including
  – Regional Transportation Plan
  – Regional Housing Needs Assessment
  – Southern California Clean Cities Coalition
  – Compass Blueprint Growth Vision
SCAG Compass Blueprint Growth Vision

• Guiding Principles
  – Livability, Mobility, Prosperity and Sustainability

• Objectives
  – Focus growth in existing and emerging centers and along major transportation corridors
  – Create significant areas of mixed-use development and walkable communities
  – Target growth around existing and planned transit stations
  – Preserve existing open space and stable residential areas
The Smart Growth Demonstration Project

- Use Compass Blueprint Growth Vision approach
- Apply Smart Growth Principles to Airport Environs
  - Ensure airport land use compatibility
  - Promote economic development
  - Promote sustainable development pattern
- Develop a model Airport Smart Growth framework for use at other airports in SCAG region
How Will This Be Used?

- Compass Blueprint implementation
- Guide for local officials and planners in Chino Airport area
- Model for other jurisdictions in California and nationally
- Access the final report at [www.scag.ca.gov/aviation](http://www.scag.ca.gov/aviation)
Smart Growth and Airport Vicinity Planning

Elements of Airport Smart Growth
Airport Smart Growth Planning

- Two Dimensions
  - Smart Growth development concepts
  - Airport land use compatibility
- End Goal – Sustainable communities
Smart Growth Principles

1. Housing choices
2. Efficient use of infrastructure
3. Sense of place
4. Compact development
5. Mix of uses
6. Preserve natural resources/open lands
7. Walkable neighborhoods
8. Transportation choices
9. Stakeholder collaboration
10. Predictable development decisions
Airport Smart Growth Framework

- Two Different Areas: Airport and Environs
- Airport Considerations
  - Operational safety, capability, and capacity
  - Aeronautical development
  - Collateral (nonaeronautical) development
- Airport Environs Considerations
  - Noise
  - Safety
  - Airspace Protection
  - Flight Safety
Airport Land Use Compatibility

• Noise Compatibility –
  – Avoid new housing and sensitive institutions in critical noise contours
  – Disclose potential for noise and overflights in real estate transactions

• Safety –
  – Limit housing and development intensity in areas of accident risk
  – Restrict uses serving people with limited mobility
  – Restrict hazardous uses

• Airspace Protection and Flight Safety –
  – Limit heights of structures per FAA criteria
  – Limit hazardous land use characteristics (glare, thermal plumes, wildlife attractants, lights mimicking airfield lighting, etc.)
Airport Smart Growth Planning

Smart Growth Principles

Sustainable Communities and Airports

Airport Compatibility Considerations
Smart Growth and Airport Vicinity Planning

Airport Smart Growth Framework
Airport Smart Growth Framework

Smart Growth / Sustainability Principles

- Economic Resiliency
- Sense of Place
- Development Patterns and Land Uses
- Environmental Stewardship
- Mobility and Transportation
- Community Governance and Engagement

Applicability to Airport

Applicability to Environs

Compatibility Considerations
- Safety
- Noise
- Airspace Protection, Flight Safety

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Airport Smart Growth Framework

**AIRPORT SMART GROWTH FRAMEWORK**

### SMART GROWTH / SUSTAINABLE PLANNING PRINCIPLE

#### ECONOMIC RESILIENCY
- Seek entrepreneurship, innovation, and economic stability.
- Support the development of a wide variety of jobs that provide competitive wages.
- Support the development of a wide variety of jobs that provide competitive wages.

#### SENSE OF PLACE
- Foster distinctive, attractive areas with a strong sense of place.
- Craft vision and set standards for development and construction which respond to community values of architectural beauty and distinctiveness.

#### COMPACT DEVELOPMENT PATTERN AND LAND USES
- Direct development towards existing areas that are already served by infrastructure, seek to utilize resources that existing neighborhoods offer, and conserve open space and natural resources on the urban fringe.
- Take advantage of a compact development pattern and create walkable neighborhoods and areas. Integrate a mix of land uses and provide a variety of employment, retail, and service options in close proximity to neighborhoods.
- Provide a range of high-quality housing options for people of all income levels.

### APPLICATION WITHIN AIRPORT BOUNDARY

- Support existing aviation activities and pursue opportunities to increase aviation-related services and employment.
- Explore opportunities for revenue-related employment and services that can generate revenue at the airport.

### APPLICATION WITHIN AIRPORT ENVIRONMENTS

- Promote a variety of retail and services to meet the needs of area residents and workers.
- Encourage businesses that complement airport services and pathways.

### COMPATIBILITY CONSIDERATIONS

<table>
<thead>
<tr>
<th>Noise</th>
<th>Safety</th>
<th>Airspace Protection and Flight Safety</th>
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<tr>
<td>Avoid runway visual obstructions or other obstructions (e.g., Cineo, E6, D6) from affecting noise.</td>
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<tr>
<td>Avoid high-capacity office, commercial, and industrial land uses near runway approaches.</td>
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<td>Limit structure heights near runway approach areas.</td>
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### SENSE OF PLACE

- Create a distinct image and identity for the airport(s) and entire airport area.
- Enhance wayfinding and signage to improve pedestrian access to the airport.

### COMPACT DEVELOPMENT PATTERN AND LAND USES

- Provide walkable connections from neighborhoods to airport centers, employees, and workers (including airport activities).
- Seek compatibility with and provide transitions to surrounding land uses.

### OTHER CONSIDERATIONS

- Avoid natural areas (e.g., large tracts of wetlands) in high noise (Cineo, E6, D6) areas.
- Avoid natural areas off runway ends and beneath approaches that attract wildlife hazardous to aircraft.
- If located near runway ends, restrict tree species limited in height.

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Applying the Airport Smart Growth Framework

Smart Growth and Airport Vicinity Planning
Applying the Framework to Airports and Airport Environs: a 5-Step Process

1. Review Existing Plans
2. Analyze Alignment with Airport Smart Growth Framework
3. Consider Alternatives
4. Provide Recommendations
5. Implement Plan
1. Review Existing Plans

- Review adopted plans and policies (General Plan, transportation, airport land use compatibility plan, economic development, etc)
- Review existing development patterns
- Areas of focus:
  - Economic Development
  - Urban Design
  - Land Uses and Development Patterns
  - Environmental Practices
  - Mobility and Transportation
  - Administration and Public Participation
  - Airport Compatibility
2. Determine Alignment

• Do existing patterns and plans align with the Airport Smart Growth Principles?
3. Consider Alternatives

- What are the greatest opportunities to address weaknesses and improve the alignment between existing plans and development patterns and the Airport Smart Growth Framework?
- What aspects of existing plans and development patterns could be leveraged to improve alignment?
- What existing constraints/limitations must be acknowledged? Are there alternatives to address or reduce these constraints?
4. Provide Recommendations

Modify existing plans (e.g., revised maps, amended policies)

New plans, policies, or regulations (e.g., new design standards, new airport overlay zone, etc.)

Public improvements (e.g., street enhancements, transit)

Potential partnerships and programs (e.g., development through public/private partnership, local coordination committee)
5. Implementation

Putting the Pieces in Place:

• Physical improvements
• Plan/code revisions
• Administrative procedures

“Vision without execution is hallucination”

*Thomas Alva Edison*
Smart Growth and Airport Vicinity Planning

**Demonstration of the Smart Growth Framework at Chino Airport**
Chino Smart Growth Demonstration Project – Study Area
Generalized Flight Patterns
Airport Smart Growth Evaluation: Draft Master Plan Concept
Lands Reserved for Nonaeronautical Development
Airport Smart Growth Evaluation: Land Use Plans
Airport Compatibility Zones and Planned Future Land Use
Airport Smart Growth Evaluation
Chino Airport and Environs

• How well do existing plans align with the Framework?
  – General Plans
  – Specific Plans
  – SCAG Regional Transportation Plan
  – Draft Chino Airport Master Plan
• Possible Strengths
• Areas for Improvement
Evaluation – Economic Resiliency

**Strengths**

- Emphasis on employment-generating future land uses
- Plans for non-aviation activities on airport

**Areas for Improvement**

- Alignment of City economic development efforts with each other & with airport
- Potential compatibility issues between employment/industrial activities and airport operations
  - Thermal plumes
  - Electronic interference
  - Hazardous materials
Evaluation – Sense of Place

**Strengths**
- Emerging development character
- Strong vision Airport Master Plan
- Existing “historic aviation” emphasis
- Emphasis on community appearance and design
- “Blank slate”

**Areas for Improvement**
- Lack of distinctiveness in current Airport and environs areas
- New development not fully coordinated with vision for future Airport character/improvements
Evaluation – Development Patterns

**Strengths**

- Public uses and agricultural/open lands help define where development will occur
- Intensification of existing areas and corridors (e.g., Euclid Avenue)
- New development focused in compact and mixed-use communities
- Incorporation of non-aviation uses on airport property

**Areas for Improvement**

- Potential conflict between emerging residential in The Preserve and increasing airport activity
- Potential conflict between proposed lower density residential in the New Model Colony and airport activity
Airport Smart Growth Evaluation – Environment

**Strengths**

- Existing plans and policies in place
- Coordinated approach to environmental issues

**Areas for Improvement**

- Establish comprehensive guidance for use of environmental best practices on Airport
Airport Smart Growth Evaluation – Mobility

**Strengths**

- Planned future roadway improvements to enhance local and regional connections
- Future transit improvements
- Planned network of bicycle and pedestrian routes
- New Airport street network with segregation of aircraft and vehicles

**Areas for Improvement**

- North-south connectivity between Euclid and Walker Avenues
- Better connectivity between Airport and roadway system
- Roadways located/proposed in runway protection zones (safety considerations)
Airport Smart Growth Evaluation – Engagement

**Strengths**

- Solid track record of community engagement
- Predictable development processes
- Community and organization collaboration to address various issues

**Areas for Improvement**

- Routine/ systematic coordination on community and airport-related issues
Airport Smart Growth: Recommendations

• Many consistencies between existing plans and Airport Smart Growth Framework
• Some areas for improvement that could enhance alignment
Recommendations – Economic Resiliency

Airport Smart Growth Demonstration Project

- Regional commercial development
- Collector street linking airport core to east-west arterial street.
- Mixed-use activity center
  - Airport gateway/entrance
- Higher intensity mixed use
- Regional commercial development
Recommendations – Sense of Place

- Coordinated theme for airport and environs (streetscapes, entrances, architecture, etc.)
  - Historic aviation
  - Outdoor-oriented casual southern CA lifestyle
  - Spanish/southwestern style
- Visual profile of all airport buildings (signage, architecture, murals/art, etc.)
- Strong edge treatments along airport perimeter
  - Building placement and form
  - Landscaping
  - Fences/walls
- Unique identity for community activity centers, gateways, and neighborhoods
Recommendations – Development Patterns and Land Use

- Use development on revenue-support parcels to form a transitional edge between The Preserve and Airport
  - Stagger buildings, orient east-west
- Mixed use, high intensity development north of airport core
  - Collector street linking airport core to arterial streets north of airport
- Performance standards
  - Aircraft noise: building codes and site planning
  - Aircraft safety areas
  - Flight safety hazards
Recommendations – Development Patterns and Land Uses

Airport Smart Growth Demonstration Project

Mixed-use development

Collector street connecting airport core to arterial streets

Site planning to create transitional edge
Recommendations – Environmental Stewardship

• Follow Airport Environmental Best Management Practices

• Pilot environmental programs or uses on underutilized/excess airport property
  – Solar arrays (follow FAA guidance)
  – Low-profile wind turbines (avoid large turbines)
  – Community gardens/food production
Recommendations – Mobility and Transportation

- Improve north-south connections
  - Route immediately east of airport
- Collector street to connect airport core with arterial streets to the north
- Airport wayfinding from I-15, SR 71, SR 60
- Coordinate BRT stops/operation with airport land use plans and operations
- Coordinate bike/pedestrian plans - north-south routes/connectivity on both sides of Chino Airport
Recommendations – Mobility and Transportation
Airport Smart Growth Demonstration Project

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Recommendations – Governance and Community Engagement

• Routine coordination/communication between communities and Airport

• Update Airport Land Use Compatibility Plan for San Bernardino County portion of environs
Lessons Learned

• Significant opportunities to integrate smart growth and airport planning

• Planners need to work closely with airport operators – they speak a different language, and have different priorities

• Opportunities and constraints are different “inside the fence” than outside

• While most communities have an interest in airports as economic generators, airports are not often well-integrated into their plans

• Need for ongoing community-airport consultation – at the local and national levels to forge linkages and joint cooperation