



**JACOBS
CONSULTANCY**

Airport Management Consulting

Public Hearing

Broward County Board of County Commissioners

FAR Part 150 Noise Compatibility Study Update
Fort Lauderdale-Hollywood International Airport

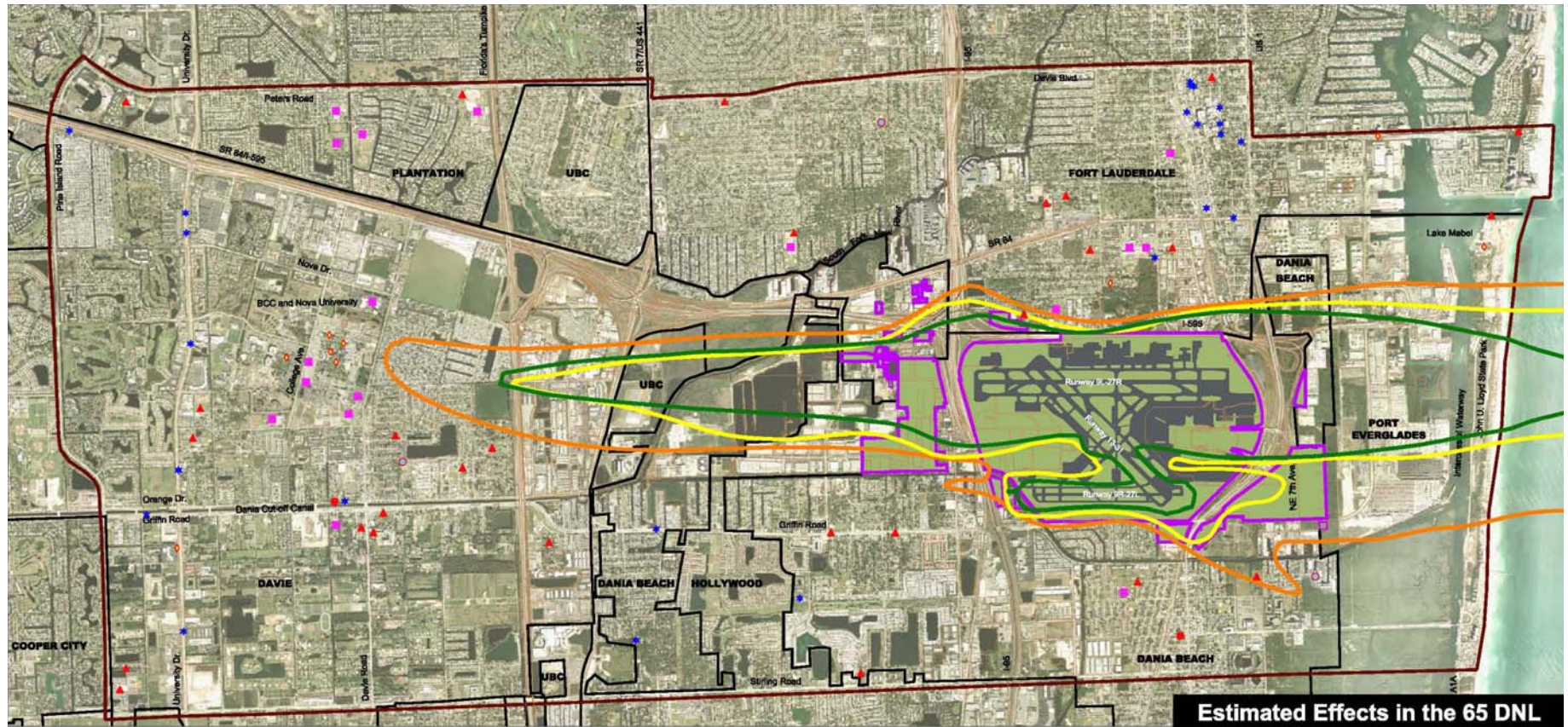
March 14, 2007

Jacobs Consultancy
Fort Lauderdale Jet Center
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Fort Lauderdale, Florida 33315
(954) 359-8445



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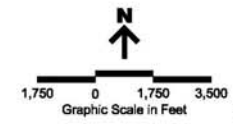
Broward County Has Made Two Previous Part 150 Submissions to FAA



- Legend**
- Study Area Boundary
 - Municipal Boundary
 - Airport Property/Property Line
- Existing Noise Sensitive Facilities**
- ▲ Religious Facility
 - City Hall
 - ◇ University Facility
 - Community Center
 - ★ Medical Facility/ Nursing Facility
 - School
- Affected population reduced 99%
 Affected homes reduced 99%
 Noise exposure area reduced 20%

65 DNL Noise Contour

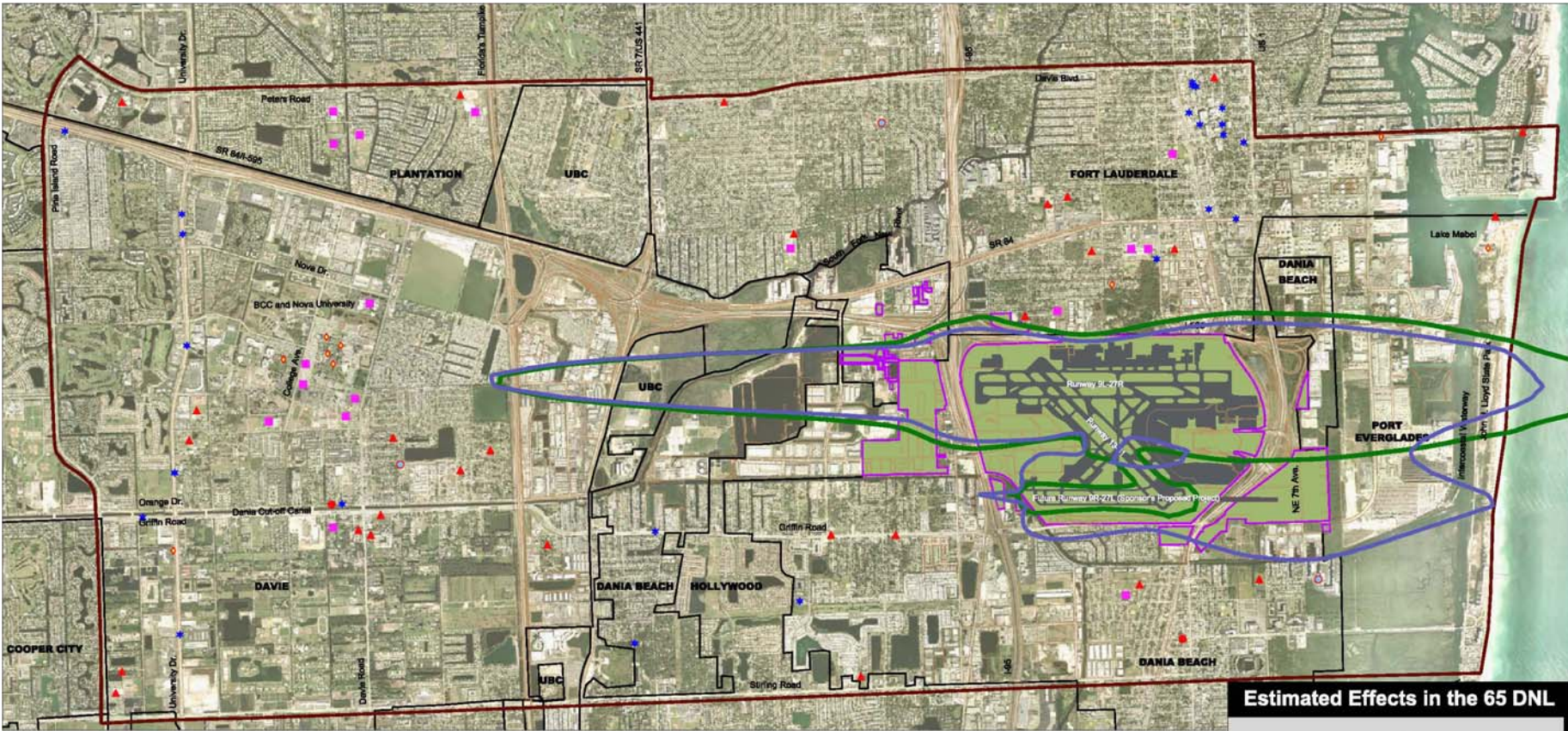
- 1989
- 1992 NCP (5-year Part 150 Update completed in 1994; approved November 1989)
- 1995
- Baseline 2005 (current study)



Estimated Effects in the 65 DNL			
	1985	1992	2005
Population	3,250	350	22
Housing Units	1,320	90	10
Sensitive Facilities	9	6	5
Noise Exposure Area (acres)	3,900	3,600	3,140

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2005 and Future 2012 65 DNL Contours (Sponsor's Proposed Project)

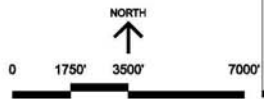


- Legend**
- Study Area Boundary
 - Municipal Boundary
 - Airport Property/Property Line
 - 2005 65 DNL
 - 2012 65 DNL
- Existing Noise Sensitive Facilities**
- ▲ Religious Facility
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Estimated Effects in the 65 DNL

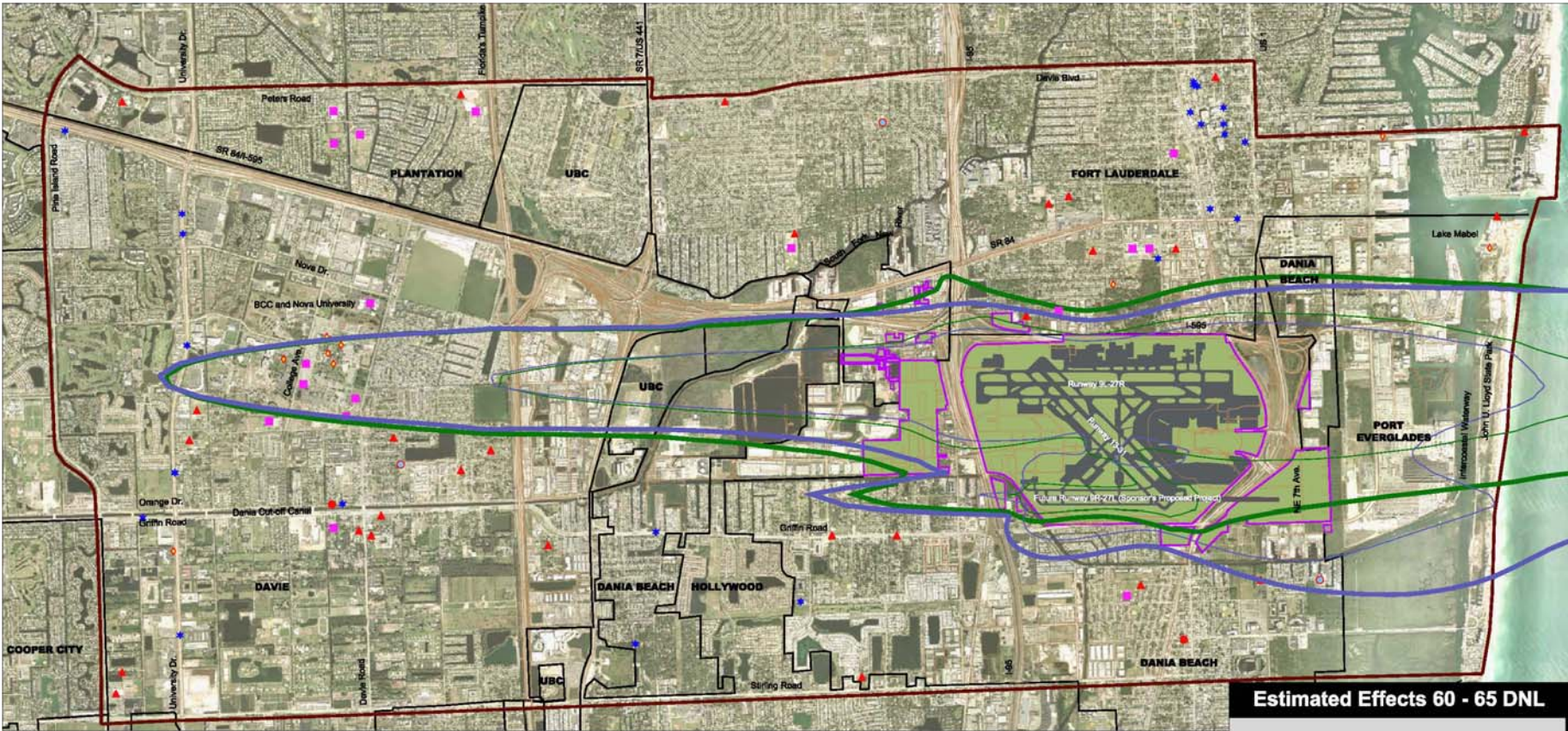
	2005	2012
Population	22	299
Housing Units		
Single-family	4	108
Duplex	0	0
Appt/Condos	6	0
Mobile Homes	0	17
Total	10	125
Sensitive Facilities	5	7

Notes: Noise contours provided by FAA's EIS consultant.
 Future 2012 - EIS Alternative B1c, Sponsor's Proposed Project (8,000-foot South Runway), with interlocal use restrictions.
 DRAFT - FOR DISCUSSION PURPOSES ONLY



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2005 and Future 2012 60 DNL Contours (Sponsor's Proposed Project)



- Legend**
- Study Area Boundary
 - Municipal Boundary
 - Airport Property/Property Line
 - 2005 60 DNL
 - 2012 60 DNL
 - 2005 65 DNL
 - 2012 65 DNL
- Existing Noise Sensitive Facilities**
- ▲ Religious Facility
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Notes: Noise contours provided by FAA's EIS consultant.
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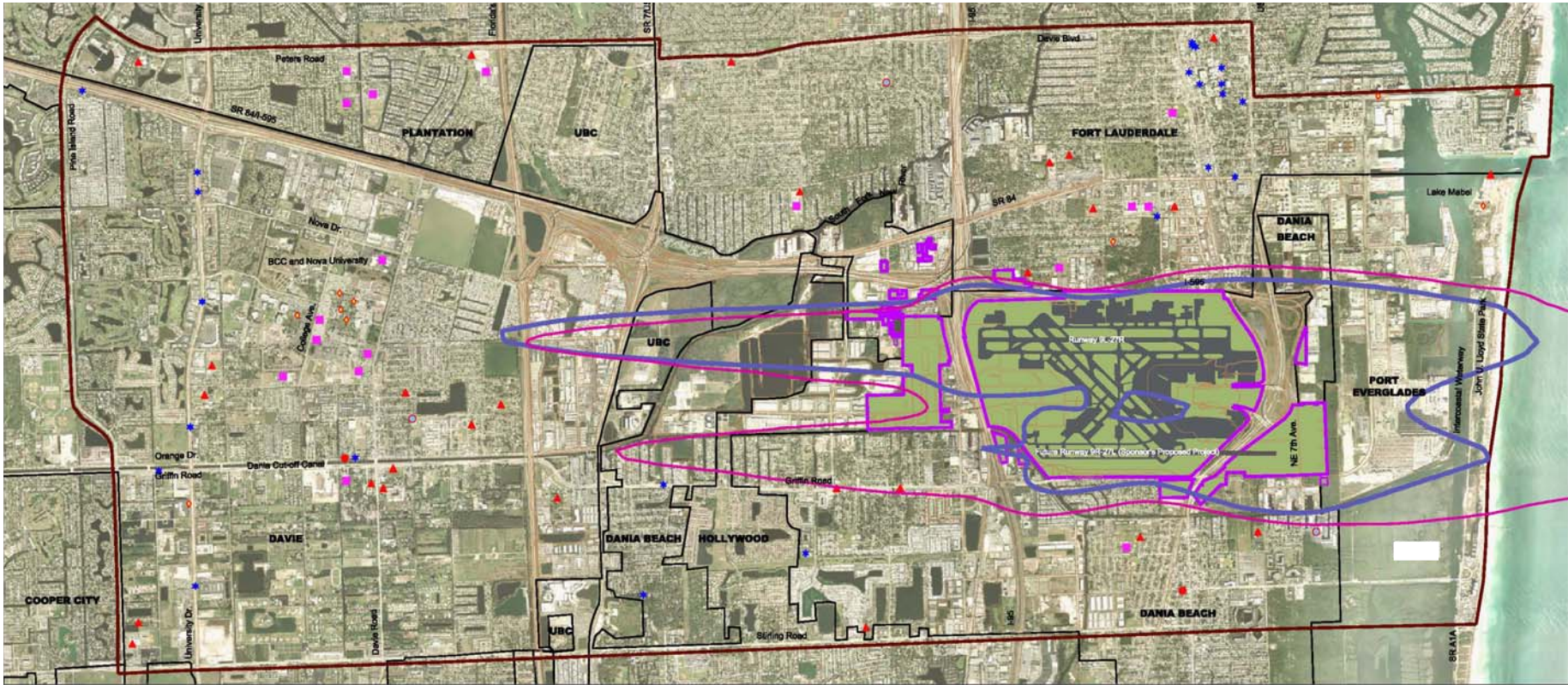


Estimated Effects 60 - 65 DNL		
	2005	2012
Population	6,808	7,617
Housing Units		
Single-family	711	886
Duplex	54	66
Appt/Condos	910	1,026
Mobile Homes	1,557	1,616
Total	3,232	3,594
Sensitive Facilities	16	15

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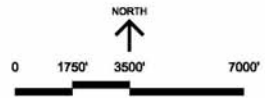
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Projected Future 65 DNL Unconstrained Contour (Estimated 2020)



- LEGEND**
- Study Area Boundary
 - Municipal Boundary
 - Airport Property/Property Line
 - Water
 - Future SR-1 Unconstrained
 - Future 2012 EIS Alternative B1c
- Existing Noise Sensitive Facilities**
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Notes: Future SR-1 Contour - Leigh Fisher Associates, *Assessment of Airfield Development Alternatives*, November 2003.
 Future 2012 - EIS Alternative B1c, Sponsor's Proposed Project (8,000-foot South Runway), with interlocal use restrictions.
 DRAFT - FOR DISCUSSION PURPOSES ONLY



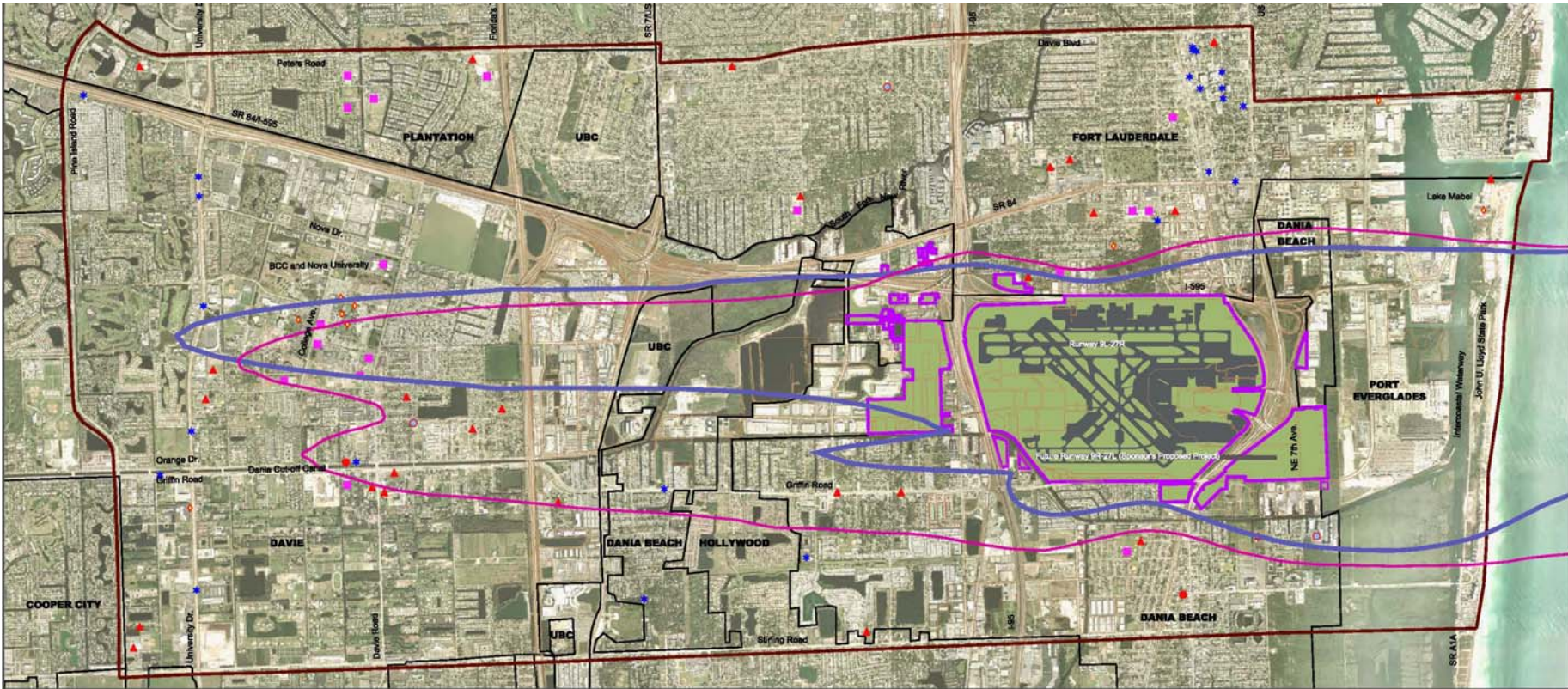
PROJECTED FUTURE 2020 NOISE EXPOSURE
 (UNCONSTRAINED) 65 DNL (AERIAL)
 FAR Part 150 Noise Compatibility Study Update
 Fort Lauderdale International Airport
 Broward County Aviation Department
 February 2007

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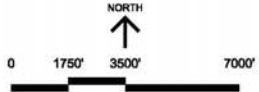
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Projected Future 60 DNL Unconstrained Contour (Estimated 2020)



- LEGEND**
- Study Area Boundary
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PROJECTED FUTURE 2020 NOISE EXPOSURE (UNCONSTRAINED) 60 DNL (AERIAL)
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Notes: Future SR-1 Contour - Leigh Fisher Associates, *Assessment of Airfield Development Alternatives*, November 2003.
 Future 2012 - EIS Alternative B1c, Sponsor's Proposed Project (8,000-foot South Runway), with interlock use restrictions.
 DRAFT - FOR DISCUSSION PURPOSES ONLY

C:\25-8500_FULL_Part_150\Final Drawings\Drawings\B-Projected Future 2020 Noise Exposure (Unconstrained)_60DNL_(Aerial).dwg, 3/1/2007 11

Mitigation Program Options – Overarching Principles

- A. Mitigation programs beyond 65 DNL are voluntary
- B. Voluntary mitigation requires FAA approval if airport funds are to be used (these include grants, PFCs, or enterprise revenues)
- C. The extent to which the Board’s proposed mitigation is supported by the FAA is subjective and negotiable through the EIS and Part 150 processes
- D. The level of complexity regarding negotiated agreements with FAA increases relative to the extent that a County-developed program is in excess of the *minimum federal standards*
- E. While the technical and financial analyses conducted to date assumes implementation of the Sponsor’s Proposed Project, the policies should apply to any runway alternative selected by the Board
- F. Based on policy parameters, a “specific” mitigation program will be provided to the Board for approval and then FAA as formal comments on the DEIS (30 days minimum)
- G. Cost estimates presented herein are: (1) order of magnitude generalizations of program options; and (2) developed using generalized unit costs and assumptions subject to final Board policy

Confirm -- Is there consensus on the following:

1. No forced acquisition / eminent domain
2. Zone-based program preferred over contour-approach
3. Program to be developed based on unconstrained scenario
4. Ability to provide residents with either mitigation program option 2A or 2B

Unresolved Issues

1. Mitigation to the 60 DNL or some other form of “beyond the federal standard”
2. Mitigation for mobile homes
3. Status of property acquired under Option 2B
4. Short term tax abatement versus “Save our Homes” commitment for voluntary relocations

3 Mitigation Program Options

Option 1 Compatibility via Land Use Change	Option 2 Land Use Remains Unchanged	
All Residents Relocated	Option 2A–Mitigation in Place (Residents Elect to Stay)	Option 2B–Relocation Assistance (Residents Prefers to Relocate)
Conventional Housing & Mobile Homes	Conventional Housing	
1. Acquisition / Eminent Domain	1. Sound Insulation	1. Purchase Assurance and Short-term Tax Abatement
2. Relocation Assistance or Provisions for Replacement Housing	2. Easement for Impacts on Outdoor Living	2. Sound Insulation and Easement
3. Clear Land/Redevelop	3. Potential Compensation for Property Devaluation	3. County Leases / Demolishes / or Re-sales Property
	Mobile Homes	
	4. Contribute “In Kind” to County Affordable Housing Fund	4. Buy Owned Lots; and “In Kind” contribution for Rented Lots

Pros	Fully mitigates noise effects Converts to environs-appropriate uses	Best maintains neighborhood stability Mitigates all types of impacts	Increases the range of choice for residents Mitigates all types of impacts
Cons	Highly disruptive to residents Impacts surrounding land areas	Does not facilitate relocation	Extensive relocations may destabilize neighborhoods

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Order of Magnitude Cost Estimate Assumptions

Option 1 Compatibility via Land Use Change	Option 2 Land Use Remains Unchanged	
All Residents Relocated	Option 2A–Mitigation in Place (Residents Elect to Stay)	Option 2B–Relocation Assistance (Residents Prefers to Relocate)
Conventional Housing & Mobile Homes	Conventional Housing	
1 Acquisition costs based on average 2006 sales prices: <ul style="list-style-type: none"> • Single family \$310K • Duplex \$335K • Condo \$250K • Mobile home \$100K 	1. Average sound insulation (per unit), <ul style="list-style-type: none"> • Single family \$65K • Duplex \$35K • Condo \$20K Admin and program costs about 25% of the total.	1. Purchase assurance, insulation, and admin/program costs estimated as a percentage of fair market value: <ul style="list-style-type: none"> • Single family 25% • Duplex 15% • Condo 12%
2 Relocation assistance between \$50k –70K per residence, depending on type.	2. Easement for impacts on outdoor Living calculated at 10% of market value.	2. Easement obtained at no cost to the county.
3. Land redevelopment costs not included.	3. Compensation for property devaluation estimated at 1% of market value for 50% of affected residences.	3. Short-term tax abatement estimated at \$15K per residence.
	Mobile Homes	
	4. “In Kind” contribution to County Affordable Housing Fund equal to average sound insulation for single family residence (\$65K); contribution for affected mobile home units only.	

Note: Cost assumptions presented above are generalizations intended to provide order of magnitude cost estimates for program level comparisons. The level of expenditure for any individual item is an assumption and does not represent a recommendation by the consultant team or a commitment by the Board of County Commissioners.

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Order of Magnitude Mitigation Program Cost Estimates

	Option 1 Compatibility via Land Use Change		Option 2 Land Use Remains Unchanged			
	All Residents Relocated		Option 2A—Mitigation in Place (Residents Elect to Stay)		Option 2B—Relocation Assistance (Residents Prefer to Relocate)	
	2012	Unconstrained	2012	Unconstrained	2012	Unconstrained
Program in the 65 DNL						
Contour- Based	\$30 - 50m	\$620 - 720m	\$8 - 15m	\$140 - 180m	\$8 - 15m	\$120 - 160m
Zone- Based	\$130 - 150m	\$1,400 - 1,700m	\$30 - 50m	\$300 - 360m	\$20 - 40m	\$290 - 330m
Program to the 60 DNL						
Contour- Based	\$890 - 1,100m	\$2,500 - 3,000m	\$230 - 290m	\$600 - 730m	\$230 - 290m	\$560 - 680m

Note: Unconstrained Scenario based on SR-1 contour included in the *Assessment of Airfield Development Alternatives*, November 2003. Actual 2012 unconstrained contours for 65 DNL will be provided in the DEIS.

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Mitigation of Mobile Homes – *Infeasible to Directly Mitigate Noise Effects on Mobile Homes*

Environs-specific Issues

- Severe shortage of affordable housing in Broward County; mobile homes near FLL fill a need for lower income residents
- Mobile home parks in Broward County being converted to other uses
- Displaced residents of closed parks receive little or no relocation assistance
- Existing current County policy to expand supply of affordable housing and minimize further reductions
- Need to avoid policies that could hasten owners to close parks and “cash in” on real estate values

Issues for Noise Mitigation

- Mobile homes cannot be made compatible with high levels of noise (sound attenuated) due to design considerations
- Impracticable to financially compensate/mitigate impacted mobile home residents that rent their property – acquisition of easements or other property interests cannot be applied
- Mobile homes on owned lots can be addressed consistent with policies adopted by the Board



Mitigation of Mobile Homes – *Why Indirect Mitigation (“In Kind Contributions”)*

Indirect mitigation possible if it provides relief for affected residents and costs are commensurate with relative noise levels

Indirect mitigation for noise effects on mobile homes can be achieved by means of an affordable housing fund

Funding derived from Airport Enterprise Fund linked to aircraft noise problem and residences affected by noise

Suggested that funding be contributed to County Affordable Housing Fund per affected mobile home equivalent to sound insulation for single family residence

Does not require forced relocation; compatible with community feedback

Indirect programs assist residents that may inevitably be displaced by park closures

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Projected Mitigation Funding Availability from \$1.50 PFC

