



Memorandum

Date: May 21, 2008

To: Pamela Townsend

From: Ken Brody and Corbett Smith

Subject: 'Form Based' SmartCode District and ALUC Implications

Mead & Hunt was tasked with analyzing compatibility between the proposed 'Form Based' SmartCode District and the Ukiah Municipal Airport. Attached is our initial research and findings for further discussion with you.

The purpose of this memo is to provide a baseline for comparing the proposed form based zoning and Airport Land Use Compatibility (ALUC) measures. This memo and the attached information are being sent as background information to our meeting on Tuesday, May 27, 2008.

The purpose of the meeting will be to:

- Discuss compatibility issues between the Form Based zoning in its current form and the existing and generic ALUC zones
- Better our understanding of the densities and intensities expected from implementing the Form Based plan.
- Understand and agree upon how to proceed.

After our meeting we will attempt to develop a plan which allows for future orderly growth of downtown Ukiah while remaining compatible with the Ukiah Municipal Airport.

The enclosed graphic shows the relationship between the form based zoning and Airport Land Use Compatibility Plan (ALUCP) zones. Two versions of ALUCP zones are depicted: the zones as adopted by the Airport Land Use Commission; and the generic safety zones as presented in the California Airport Land Use Compatibility Planning Handbook. Although aviation noise is not likely to be a determining factor for the Downtown Form Based zoning, it is important to note that the generic safety zones from The Handbook do not take noise into consideration.

This graphic also incorporates key aeronautical information. The blue gradient area represents the areas typically overflown by aircraft on arrival and departure. The aircraft operations of primary concern to the project area are the straight in arrivals to Runway 15. The Middle Marker is shown on the graphic as well. A Middle Marker is an instrument to aid pilots on approach to the airport while utilizing the instrument approach procedure during low visibility conditions. The missed approach point is the point at which a pilot must discontinue the instrument approach and gain altitude if the runway is not in sight.

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We created a matrix comparing the types of land uses proposed to be permitted within the form based planning area with the adopted Airport Land Use Compatibility Plan (ALUCP) land use restrictions. Green represents uses that would be compatible with the adopted ALUCP, yellow represents uses which could be compatible if certain conditions are met, and red represents uses which would not be compatible. A majority of the land uses are either not compatible with the adopted ALUCP or would be subject to restrictions on residential density and nonresidential intensity.

We have attached a comparison of land use densities and intensities as proposed in the Form Based Code and as permitted in the ALUCP section of the 1996 Airport Master Plan.

Notes from conversations and a site visit with Paul Richie, the Airport Manager, are recorded in the attached memo.

COMPARISON OF DENSITIES AND INTENSITIES

Planning area is 103.5 acres.

In Zone C = 25 acres

In Zone B-2 = 78.5 acres

Zone B-2 Residential density permitted = 1 unit/ 2 acres

$78.5 \text{ acres} / 2 = 39.25$ units total in Zone B-2

Zone C Residential density permitted = 15 units/acre

$25 \text{ acres} \times 15 \text{ units} = 375$ units total in Zone C

Zone B-2 non residential people per acre permitted = 60 ppl/acre

$60 \times 78.5 = 4,710$ people total in Zone B-2

Zone C non residential people per acre permitted = 150 ppl/ac

$150 \times 25 = 3,750$ people total in Zone C

The 'Form Based' SmartCode (SC) District Project includes the following:

- General Urban (GU): Residential MINIMUM 10 units/gross acre, MAXIMUM 20 units/gross acre
- Urban Center (UC): Residential MINIMUM 15 units/gross acre, MAXIMUM 30 units/gross acre
- Downtown Core (DC): Residential MINIMUM 25 units/gross acre, MAXIMUM 50 units/gross acre

All three of these zones (GU, UC and DC) are present in both B-2 and C. Because of the density requirements, none of the residential zones are compatible with ALUCP Zone B-2. GU and UC could be compatible with Zone C so long as the density does not surpass 15 units per acre.

Due to the residential minimum of 25 units per acre, the Downtown Core (DC) zone is not compatible with either Zones B-2 or C, as specified in the adopted ALUCP.

LAND USE GUIDANCE FROM CALIFORNIA AIRPORT LAND USE PLANNING HANDBOOK

See map for locations

Safety Zone 1:

- Airport ownership of property encouraged.
- Prohibit all new structures
- Prohibit residential land uses
- Avoid nonresidential uses except if very low intensity in character and confined to the sides and outer end of the area.

Safety Zone 2:

- Prohibit residential uses except on large, agricultural parcels
- Limit nonresidential uses to activated which attract few people (uses such as shopping centers, most eating establishments, theaters, meeting halls, multi-story office buildings, and labor-intensive manufacturing plants unacceptable)
- Prohibit children's schools, day care centers, hospitals, nursing homes
- Prohibit hazardous uses (e.g. aboveground bulk fuel storage)

Safety Zone 3:

- Limit residential uses to very low densities (if not deemed unacceptable because of noise)
- Avoid nonresidential uses having moderate or higher usage intensities (e.g., major shopping centers, fast food restaurants, theaters, meeting halls, buildings with more than three aboveground habitable floors are generally unacceptable)
- Prohibit children's schools, day care centers, hospitals, nursing homes
- Prohibit hazardous uses (e.g. aboveground bulk fuel storage)

Safety Zone 4:

- In undeveloped areas, limit residential uses to very low densities (if not deemed unacceptable because of noise); if alternative uses are impractical, allow higher densities as infill in urban areas
- Limit nonresidential uses as in Zone 3
- Prohibit children's schools, day care centers, hospitals, nursing homes

Safety Zone 5:

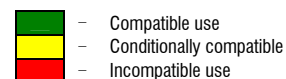
- Avoid residential uses unless airport related (noise usually also a factor)
- Allow all common aviation-related activities provided that height-limit criteria are met
- Limit other nonresidential uses similarly to Zone 3, but with slightly higher usage intensities
- Prohibit children's schools, day care centers, hospitals, nursing homes

Safety Zone 5:

- Allow residential uses
- Allow most nonresidential uses; prohibit outdoor stadiums and similar uses with very high intensities
- Avoid children's schools, day care centers, hospitals, nursing homes

Land Use Comparison

USE CATEGORIES AND USE TYPES <i>Source: Downtown Ukiah and Perkins Street Corridor ‘Form Based’ SmartCode (SC) District Project</i>	ZONES*			ALUC ZONES		ALUC CONDITIONS
	GU	UC	DC	B2	C	
RESIDENTIAL CATEGORY						
Detached single-family house	A	A				Max density 1 unit/2 acres
Duplex, second unit or multiple-family units (apartments or condominiums)	A	A	A			Max density 15 units/ac
Mobile home parks	UP	UP				Max density 15 units/ac
Mixed-Use combining 3 or more residential units with any category of use, except Heavy Commercial or Industrial	A	A	A			Max density 15 units/ac
LODGING CATEGORY						
Any use under this category that exceeds 5,000 sf gross floor area on the ground floor or with 100 lineal feet or more of ground floor (street level) frontage, when used on a Required or Recommended Storefront Frontage on the Regulating Plan.	UP	UP	UP			
Bed and Breakfast or inn – (up to 12 rooms)	A	A	A			
Bed and Breakfast, inn or motel – (more than 12 rooms)	A	A	UP			Max intensity 150 ppl/ac
Hotels	UP	A	A			Max intensity 150 ppl/ac
Dormitory accessory to school	A	A	A			Max intensity 150 ppl/ac OR Max density 15 units/ac
OFFICE CATEGORY						
Any use under this category that exceeds 5,000 sf gross floor area on the ground floor or with 100 lineal feet or more of ground floor (street level) frontage, when used on a Required or Recommended Storefront Frontage on the Regulating Plan.	UP	UP	UP			
Offices, professional, medical or financial services	A	A	A			Max intensity 60 ppl/ac
Business services	UP	A	A			Max intensity 60 ppl/ac
Veterinarian		A				Max intensity 60 ppl/ac
RETAIL						
Any use under this category that exceeds 15,000 sf gross floor area	UP	UP	UP			
Retail stores	A	A	A			Max intensity 60 ppl/ac
Grocery stores, mini-marts, restaurants, cafes, delicatessens, sandwich shops, fast food restaurants, bakeries, food kiosk: Excludes drive-through/drive-up service or windows	A	A	A			Max intensity 60 ppl/ac or 150ppl/ac
Outdoor dining on public right-of-way accessory to restaurants, cafes or other food establishments (subject to an encroachment permit)	A	A	A			Max intensity 60 ppl/ac or 150ppl/ac
Wine and liquor stores		A	A			
Outdoor sales establishments (see Section 9184)	UP	UP	UP			
Bars, dance halls, nightclubs or live entertainment establishments		UP	UP			Max intensity 60 ppl/ac or 150ppl/ac
Billiard parlors, amusement arcades, bowling alleys		UP	UP			Max intensity 60 ppl/ac or 150ppl/ac
Second hand or thrift shops, pawn shops	UP	UP	UP			Max intensity 60 ppl/ac
Adult entertainment businesses (see Section 9176)		UP	UP			Max intensity 60 ppl/ac
Personal service establishments	A	A	A			
Laundry service, laundromat		A				Max intensity 60 ppl/ac
Push cart		UP	UP			
Kiosk		UP	UP			
OTHER: AUTOMOTIVE OR AUTO-ORIENTED CATEGORY						
Any use under this category that exceeds 5,000 sf gross floor area on the ground floor or with 100 lineal feet or more of ground floor (street level) frontage, when used on a Required or Recommended Storefront Frontage on the Regulating Plan.	UP	UP	UP			
Drive through/drive-up service or windows accompanying any use		UP				Max intensity 60 ppl/ac or 150ppl/ac
Business services	UP	A	UP			Max intensity 60 ppl/ac
Shopping centers or malls		UP				Max intensity 150 ppl/ac
Wholesale stores		UP				Max intensity 60 ppl/ac or 150ppl/ac
Automotive services, gas station		UP				Max intensity 150 ppl/ac



USE CATEGORIES AND USE TYPES	ZONES			ALUC ZONES		CONDITIONS
	GU	UC	DC	B2	C	
OTHER: HEAVY COMMERCIAL OR INDUSTRIAL CATEGORY						
Construction sales and service		UP				Max intensity 60 ppl/ac
Equipment repair, woodworking or machine shops		UP				Max intensity 60 ppl/ac
Custom manufacturing, light manufacturing/industrial uses		UP				Max intensity 60 ppl/ac
Warehousing and distribution (limited)		UP				Max intensity 60 ppl/ac
CIVIC						
Any use under this category that exceeds 5,000 sf gross floor area on the ground floor or with 100 lineal feet or more of ground floor (street level) frontage, when used on a Required or Recommended Storefront Frontage on the Regulating Plan.	UP	UP	UP			
Elementary schools	A	A	A			
High school, college, business or trade school	UP	UP	UP			
Personal improvement services	A	A	A			Max intensity 60 ppl/ac or 150ppl/ac
Churches, chapels, religious assembly and instruction	UP	UP	UP			Max intensity 150 ppl/ac
Small and large family child daycare homes; small community care facility with maximum of 6 clients	A	A	A			Max intensity 150 ppl/ac
Community care facility – 7 to 12 clients	UP	A				Max intensity 60 ppl/ac
Small homeless facilities – 7 to 12 (see Section 9171)	UP	A				Max intensity 60 ppl/ac
Large homeless facilities – more than 12 (see Section 9171)	UP	UP				Max intensity 60 ppl/ac
Rest homes, convalescent services, residential medical facilities, day care home facility	UP	UP				
Conference center, outdoor auditorium or exhibition enter		UP	UP			
Theater (live or movies)		A	A			
Social halls and lodges		A	A			Max intensity 60 ppl/ac or 150ppl/ac
Visitor center		A	A			Max intensity 60 ppl/ac or 150ppl/ac
Historical sites and monuments		A	A			
Community gardens, playgrounds, plazas or squares, fountains, public art	A	A	A			Max intensity 60 ppl/ac
Neighborhood parks	UP					
Library	A	A	A			Max intensity 150 ppl/ac
Museum	UP	UP	A			Max intensity 60 ppl/ac or 150ppl/ac
Parking lots	UP	UP	UP			
Parking structure on site designated on Regulating Plan or on Primary Thoroughfare		A	A			
Parking structure not on site designated on Regulating Plan or on Primary Thoroughfare		UP	UP			
Bus stop shelter	A	A	A			
Public transportation facilities		UP				
Transportation services, passenger terminal		UP	UP			Max intensity 60 ppl/ac or 150ppl/ac
OTHER: CIVIL SUPPORT CATEGORY						
Safety services, police and fire station	A	A	A			Max intensity 60 ppl/ac or 150ppl/ac
Medical clinics	UP	A	A			Max intensity 60 ppl/ac
Hospitals		UP	UP			
Funeral homes, mortuary		A	A			Max intensity 60 ppl/ac
OTHER: ACCESSORY OR TEMPORARY						
Temporary uses meeting purpose and intent of district, not to exceed 6 months (Section 9176)	UP	UP	UP			Max intensity 60 ppl/ac or 150ppl/ac
Accessory uses and buildings	A	A	A			Max intensity 60 ppl/ac or 150ppl/ac
Home occupations	A	A	A			Max intensity 60 ppl/ac & Max density 1 unit/2 acres

* (A – Allowed Use; UP – Permitted Use subject to a Use Permit)



Date: April 28, 2008

Project name: Ukiah Compatibility Zone Refinement

Attendees: Corbett Smith and Dave Heal

Subject: Airport Operations Interview with Paul Richie, Airport Manager

The attached report represents this writer's interpretation of items discussed during the meeting. Any corrections or additional information should be brought to our attention for clarification.

General Airport Operations

- Runway 15 is the designated calm wind runway – departures to the south, arrivals over the city(north)
- Almost every summer (June – September) afternoon from approx. 2:00PM until dark the winds necessitate using Runway 33.
- Apt Mgr estimates annual runway use distribution to be approx. 60/40 with 60% of ops on Runway 15.
- Calm winds, night ops, lights, VASI and localizer all help with keeping ops on Runway 15
- Approximately 700 ops per year straight in instrument approach to Runway 15.
- Due to the relatively high missed approach point for the localizer approach to Runway 15, if aircraft are unable to descend to the runway in time, they can circle-to-land east of the airport at an altitude of 1,106 AGL.
- No VASI or PAPI on 33
- Airport is relatively quiet at night.
- City has a resolution stating no jet activity between 2200-0700.
- The B-99, made by Beechcraft, is a common freight hauler and is the largest regular user at UKI.
- The Airport requests that during good VFR conditions that aircraft remain east of the Runway center line. Most of the time aircraft operators follow this guidance
- There is one on airport flight school. Just one instructor with one C-152
- Complaints overall for the airport have dropped. The airport has done a lot of work on education and communicating with the public
- Summertime brings a fair amount of T&G training traffic. JAL training school stops by.
- Mountains to the west can exacerbate noise problems by creating echo effects
- See marked up map for locations where the missed approach point is. Apt Mgr picked out the specific building/block where aircraft will turn off for the missed approach.
- Map also shows where the middle marker is in relation to the city
- Apt Mgr marked where the typical flight pattern/envelope is. He is very confident in this pattern as most pilots use very specific landmarks to initiate turns.

Freight Operations

- Contract freight operators use (1) Beech 99, (3) Cessna Caravans, (2) Piper Navajos, (1) Cessna 402. From September to Christmas there is a constant increase in cargo ops. Drops off after Christmas.
 - Freight flights time: Daytime peak 7:45AM – 8:30AM Night peak 5:00PM – 7:30PM
 - No freight flights in middle of the night

Helicopters

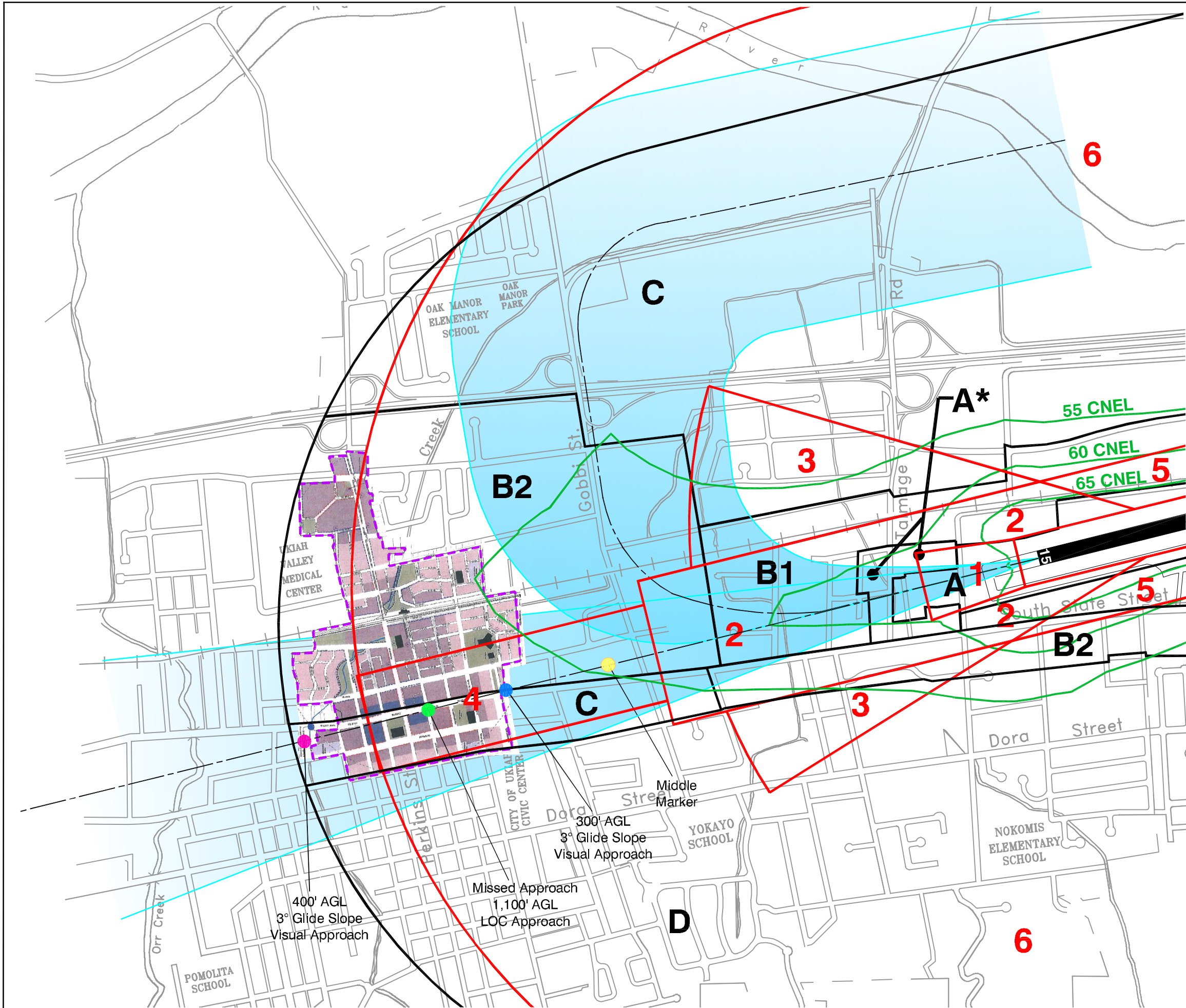
- Helicopters operations generate the most noise complaints. Most helicopter operators are aware of the town and try to depart/arrive from the east over the freeway. Most helicopters will follow the freeway for the majority of their flight. They will enter the airport mid field and land on the apron. We witnessed one such operation during our visit.
- A medivac (CalStar) helicopter is based at the airport. They know to, and usually do, avoid overflying the town. Paul Lichens is the CalStar chief pilot.
- Other helicopter operations are very hard to control, they basically do whatever they want
- Bell Jet Ranger - Operators
 - Red Bluff
 - Redding Aero
 - P.J.s
- R-22 and R-44 - Helicopter training flights to occasionally visit the airport
- National Guard, Feds, and DEA use the airport occasionally. DEA will sometime use Blackhawk helicopters, loud and large.

Jet and Tanker Operations

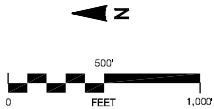
- Edge Wireless brings in a Citation about 5 times a year.
- Net Jets operates Beech Jets, Lear and Citations on occasional basis
- The airport typically sees a turboprop or jet (other than freight) once a week
- CDF Operations
 - Airport does see significant CDF ops during the fire season. Primarily with S2-Ts and OV-10s.
 - Airport mgr told a story of a CDF pilot departing to the north, lost an engine on take off, barely made it over the town before he dumped his load and made the turn around to land.

Ukiah Municipal Airport Annual Operations Forecast			
Aircraft Mix	2008	% growth	2028
Single Engine Piston	28,130	6.6%	30,000
Twin Engine Piston	1,600	6.3%	1,700
Turboprop	1,700	5.9%	1,800
Cal Fire S-2T	370	0.0%	370
Jet	200	65.0%	330
Helicopter	1,500	20.0%	1,800
TOTAL	33,500	7.5%	36,000

*This is a preliminary forecast and has not yet been approved by airport management or the FAA



DRAWING LEGEND	
NOISE CONTOURS	
PLANNING AREA	
LAND USE COMPATIBILITY ZONES (Modified Example 2 from the California Airport Land Use Planning Handbook, 2002)	
LAND USE COMPATIBILITY ZONES (As depicted in 1996 Airport Master Plan)	
TYPICAL AIRCRAFT FLIGHT ENVELOPE	



DRAFT
Work in Progress

UKIAH MUNICIPAL AIRPORT UKIAH, CALIFORNIA			
DOWNTOWN COMPATIBILITY ANALYSIS MAP			
		133 Aviation Boulevard, Suite 100 Santa Rosa, California 95403 (707) 526-5010 Fax (707) 526-9721 www.meadhunt.com	
DESIGN:	CS	DRAWN:	HH
DATE:	May 2008	SHEET	1 OF 1
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