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Reactivate

Kelly Hiskey
University of Nebraska-Lincoln, hiskey.kelly@gmail.com

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How can communities be incorporated onto the site of a closed military base?

The Government owns billions of square feet of unused property across the United States. In fact, the United States Government owns over 50% of the land in the Western half of the country. Military facilities occupy the largest area of federal land, aside from parks and forests. Many of these military sites are being left to their own demise. In fact, 27% of the nation’s military installations have been closed by the Department of Defense, via the Base Realignment and Closure (BRAC) initiative, leaving millions of square feet of land and structures to crumble.

Vacant property, while unoccupied, is still owned by some entity. When the federal government leaves a piece of property vacant, taxpayers continue to pay for its existence. Military facilities consume the largest costs and area of federal land, and are closing at an exponential rate. The closure of military bases can cause a shift in the population and the economy of an area. If a base is left to its own demise it will remain an unnecessary burden on the community. If there is a void in the economy surrounding a military base it can become impossible for the community to develop the site.

Conceptually, designers need to understand the relationship between the closure of military bases and the regional economy so that their designs will reactivate the surrounding community, rather than create a financial hardship. It is the goal of this thesis to show that through a thorough understanding and appropriate selection of program, communities can continue to experience economic growth even after a base has shut down.

I chose former Marine Corps Air Station Tustin, located in Tustin, California (40 miles south of Los Angeles) as the canvas for my exploration. Situated on a 1,000 acre site are two massive blimp hangars, each one has 300,000 square foot base and 17-storey height. I chose this site for its prominent void (physical, economic, and social) within a highly developed and growing community. It is not the intent of this project to produce a zoning plan for this site, but rather, provide a physical connection onto and through the site.
This project developed from a broad interest in the potential embedded within unused government property. I wanted to explore a sector of government property which was costing us, taxpayers, the largest amount of money. After sifting through various news articles, books, journals etc., my focus began to narrow. It quickly became apparent that Military land was not only costing the most, it was also taking up some of the largest areas of land.

Over 75% of the states in the Western half of the United States is owned by the federal government. Of that military land, the Air Force, Army, and Navy occupy the largest areas.
PERCENTAGE OF MILITARY BASE CLOSURES
SOURCE: DEPARTMENT OF DEFENSE BRAC
My initial readings focused on "the problem", being why military land becomes unused. Three points—politics, economics, and distinctions—began to emerge from my research. Furthermore, it was the way in which these ideas began to weave together in my mind that sparked my need to make a relationship between these void spaces and the communities that surround, but never experience, them.

I found that military base closures are deeply enmeshed in political and economic debates. Military bases, no matter to what degree they are used, provide federal funding to the communities in which they are located. This funding often goes to the support and development of infrastructure, education, etc. Therefore, communities tend to hold on tightly to the bases within their jurisdictions.

Military bases provide communities with more than just federal funding; they also bring people and jobs to the area. Once a base is closed and those jobs are cut, a certain portion of the community is displaced, and that sum of money is no longer going into that particular community. Again, communities fear the potential economic hardship that military base closure may cause, so they keep a tight grasp on their base.

Distinctions refer to the physical and symbolic boundary between military and civilian life surrounding military bases. Physically, military bases can only be accessed by military personnel, and once on base, every aspect of one’s daily life is carried out within the gated property. This boundary goes beyond the chain link fence. In general, military personnel hold themselves to a different moral level. They are trained to conduct themselves with a high degree of integrity, often times thought to be a higher level than civilians. It is these distinctions that reduce the degree to which military and civilian life are able to weave within a community.
“The problem lies in the clash between national interest and local interest.”

- David Sorenson (Shutting Down the Cold War: The Politics of Military Base Closure)
“Bases become more than just supporting facilities for military missions. They generated millions of dollars in jobs and spending money for the communities.”

- David Sorenson (Shutting Down the Cold War: The Politics of Military Base Closure)
“MILITARY TRADITION HOLDS THAT WHAT THE MILITARY DOES IS SO SPECIALIZED THAT ONLY THE MILITARY CAN DO IT.”

- David Sorenson (Shutting Down the Cold War: The Politics of Military Base Closures)
After reading various books and articles about the politics, economics, and distinctions related to military bases and their closure, it became important for me to address the affects of these issues on the surrounding communities. In order to address the concerns of communities related to military base closure, I set up a series of points that one (designer) should analyze when approaching base reuse. The four points I set up for analysis include site, people, context, and economics. It is essential that an in-depth understanding of these points is established at the onset of a project such as this.
I made a trip to Tustin, California during the Fall 2010 semester. It was instantly apparent that the former Marine Corps Air Station Tustin was an icon within the community. No matter where I was in the city, I could see at least a portion of one of the massive blimp hangars. While I always had a visual connection to the base, the site was clearly a void within the community. Major roads, fences, a ditch, and several “no trespassing” signs made it clear that civilian access was not allowed.
THE PEOPLE OF TUSTIN...

ARE BETWEEN THE AGES OF 18 AND 44

ARE ETHNICALLY, RACIALLY, AND LINGUISTICALLY DIVERSE

OWN THEIR OWN HOME (35% OF THEIR INCOME GOES TO MORTGAGE PAYMENT)

ARE WELL EDUCATED WITH AN INTEREST IN TECHNOLOGY

MAKE BETWEEN $500,000 AND $999,999 YEARLY

CARS/TRANSPORTATION ARE AN ESSENTIAL PART OF THEIR DAILY LIVES
The second thing I noticed about the city of Tustin is the community is highly dependent on personal transportation (cars, trucks, vans, motorcycles, etc.). Even some of the seemingly minor streets were at least five lanes wide. The speed limit on nearly every street was at least 45 mph. Furthermore, the community seems to not only be dependent on cars, but they seem to have a passion/interest in cars. The city has a large automobile retail district, a car museum, and an abundance of vehicle repair and customization shops.
SITE

PEOPLE

CONTEXT

ECONOMICS
Major roadway connections:

Public transportation:
- Los Angeles Bus
- Metrolink [Train]

Green space / open space:
- Private
- Public

Downtown Irvine
Downtown Tustin
Downtown Santa Ana

Commercial + Residential
ADAPTION POTENTIAL
CRITERIA
HISTORICAL SIGNIFICANCE
STRUCTURAL INTEGRITY
ARCHITECTURAL MERIT
It was difficult for me to grasp the scale of these structures until I was there, standing next to a 17-storey blimp hangar. Each of the hangars is approximately three football fields long and one football field wide. The ground floor has an area of approximately 300,000 square feet. What’s even more spectacular is the fact that the trusses are wood (Oregon Douglas Fir). These are two of the largest wooden structures, and two of the largest unobstructed spaces in the world. Being able to go inside one of the hangars was a breathtaking experience. They are absolutely amazing structures.

Materials:
- 2,719,000 board feet of lumber
- 79 tons of bolts and washers
- 30 tons of ring connectors
- 33 tons of structural steel (traditional construction would have used 4,000 tons)
- 1,600 poured concrete piles (65-feet deep)
natural resources, construction and utilities
manufacturing
trade
transportation and warehousing
information
financial activities
professional and business services
education, health and social services
leisure and hospitality
government and advocacy

-50%              -25%              0%           25%          50%         75%   100%

software publishers
scientific research and development
computer systems design
management, scientific and technical consulting
social assistance

UNITED STATES PROJECTED JOB GROWTH
(2010-2018)

natural resources, construction and utilities
financial activities
leisure and hospitality
professional and business services
government and advocacy

-50%              -25%              0%           25%          50%         75%   100%

united states projected job growth

ORANGE COUNTY JOB GROWTH
(1990-2010)
natural resources, construction and utilities
manufacturing
trade
transportation and warehousing
information
financial activities
professional and business services
education, health and social services
leisure and hospitality
government and advocacy

-50%              -25%              0%           25%          50%         75%   100%

scientific research and development
computer systems design
management, scientific and technical consulting

health care + educational services + social assistance

securities, commodities, and other investments

auto dealers + grocery stores + wholesale trade + retail trade

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Discussions with community members, the Better Business Bureau, and the Mayor while on my site visit revealed that a large portion of the population in the city has an interest in the development of technology. In fact, a technology school, Advanced Technology and Education Park, established itself along the perimeter of former Marine Corps Air Station Tustin just three years ago. In that time, the school’s enrollment has more than tripled in size. Based on these observations, an expansion of the school could be a successful program for a portion of the former base.
After reading various books and articles about the politics, economics, and distinctions related to military bases and their closure, it became important for me to address the affects of these issues on the surrounding communities. In order to address the concerns of communities related to military base closure, I set up a series of points that urban designers should analyze when approaching similar issues. This four points outlined for analysis include site, people, context, and economics. It is essential that an in-depth understanding of these points is established at the onset of a project such as this. These four points formulated my program.
After thorough analysis of the site, people, context, and economics, I chose to expand the nearby technology school onto a portion of the former military base. This expansion will focus on the design and fabrication of future transportation technology. More specifically, I see the school focusing on the development of future flying machines. This would weave together the community's interest in transportation and the history of the site.

Spaces include: learning (typical classrooms, lecture halls, auditorium, studios, gallery, crit space, small scale fabrication, library, computer labs, research labs, and testing facilities (on campus)); book store, restaurants, administration offices, faculty offices; community (recreation fields, gardens, bike trails, commercial space, and retail space).
palimpsest (ˈpælɪmpˌsɛst) — n
1. a manuscript on which two or more successive texts have been written, each one being erased to make room for the next.


While the definition of palimpsest refers specifically to the layering of texts, I have applied the same concept as a way of developing an architectural design.

[why]
I explored this design process for several reasons. Perhaps most literally, the layering of information refers to the layers of history present on my site, former Marine Corps Air Station Tustin, located in Tustin, California. Even more so, I am utilizing this method because with each layer that I add I am forced to make a decision based on the previous layer. What portion of the previous layer is worth keeping and redrawing on the present layer, and which portions should be forgotten? Furthermore, the “permanent” nature of the manual process requires a great deal of thought early on as I was constantly trying to think several steps ahead.

[how]
I began the semester with 4 2’x4’ MDF boards. Timelines were printed and glued to each board to not only create a graphic base, but a key foundation of information. After that, each board is composed of a layer of drawing, either pen or graphite, and a layer of gesso. A lot of experimentation went into figuring out how to utilize various techniques and mediums. In fact, I used a scrap piece of MDF as a testing board.

[design]
This initial phase focused on the XXL scale. I looked at bringing the surrounding street grid through the site in a way to not only break down the scale of the former base, but also as a way to weave the community onto the site.
While the definition of palimpsest refers specifically to the layering of texts, I have applied the same concept as a way of developing an architectural design. I explored this design process for several reasons. Perhaps most literally, the layering of information refers to the design process where timelines were printed and glued to each board to not only create a graphic representation but also to utilize various techniques and mediums. In fact, I used a scrap piece of MDF as a testing board [image to the right].
Making connections through the use of existing historic paths on the site.

criticism: not enough focus on the hangar

Making connections based on axis created through the hangar.

criticism: what about the rest of the site? Are these connections strong enough?
Phase 02 focused on the large scale. After looking at the XXL scale, I knew that I needed to start zooming in. However, once I started zooming into this scale it became difficult for me to maintain the connections to the surrounding community.

In terms of design, my idea, at this point, was to create a second structural system, separate from that which is already existing on the site. The point of this was to allow the program to adapt for future use. Also, this second structure was set up in such a way as to break down the scale of the existing space both physically and visually. However, the architecture could become pieces that exist in multiple spaces. Pieces could slide, shift, and transform for various uses, taking on the idea of movement in an architectural and tectonic sense.

Criticism: Why not make better use of the existing structure? Pieces could be suspended in various ways from what is already available on the site.

Now what happens to the rest of my site? What about the rest of the military base? The connections are focused too much on what is within and directly adjacent to the hangar.
Phase 03 focused on the XL and Large scales. At this point, I needed to take a step back and remember that the goal of my project was to make connections to the community through this former military base. I started determining a conceptual site plan based on the context of the surrounding community. The design intent for the hangar was to keep any new additions very clean, simple, and linear so as to maintain an appreciation of the historical structure.

Criticism: Again, scale was an issue. I did not maintain my XXL scale connections as well as I should have. Some of the historic paths that I was proposing to maintain on the site weren’t making strong enough connections beyond the boundary of my site.

In terms of architecture, the design did not allow enough of an experience. While it was not distracting from the existing structure, it also did not give inhabitants the opportunity to appreciate the expanse and beauty of this structure.
Site plan with general programming

Criticism: stronger connection should be made between the two hangars. Should create a moment when one can see both hangars.

View across site, looking at hangar

Criticism: ignoring the axis of the hangar.
connection through grid [streets]
connection through program
connection through movement
commercial cores; proposing a connection through my site

residential areas; proposing a connection through my site

existing school; proposing a connection to my site
The connection between paths.
The walls which support vertical circulation provide framed views which visually break down the expanse of the hangar.
Looking at the studio spaces. Garage type doors would allow a variation in view, light, and spatial quality.
Path which goes by, rather than through the trusses. This spatial condition draws attention to the form and expanse of the existing structure.
studio space cantilevered off of the existing structure.
Final Review:
Lindsey Ellsworth-Bate, Sarah Thomas, Janghwan Cheon, David Karle, Tim Hemsath, Peter Stachurski, Brian Kelly, and guest juror John McMorrough.

Criticism:
Was the choice of a military base located within a community too easy? Could it have been more challenging to figure out how to reuse a site in which a community is not nearby?

While I agree that a less urban choice could have been interesting, I developed a very strong interest in the relationship between these bases and their community from the readings that I did early on.

Are you addressing the vastness of the site and the hangar enough? Visually the space within the hangar is beginning to be broken down, but is it enough?

I will admit that I struggled with this scale throughout this project, not because I didn't grasp the vastness, but because I was trying to find a delicate balance between occupying enough space and not overpowering the space. Furthermore, I was constantly shifting between scales and asking myself if my design was supporting my goal. I appreciate this comment, and given more time would have been more detailed about the scale contained in more depth. Potentially providing a unique landscape opportunity on the site. I would propose a portion of the site be used as a tree farm, something that the city is known for historically.

This may be two separate projects, either architecture (the hangar) or urban design (my site).

The connection between my site and the hangar could have been stronger, but I feel that my project would have been weaker if I had tried to strengthen it to the other. If I would have narrowed my focus more, I would have been able to get into the finer details, however, I think that I would have lost focus of the overall goal of my project.


General Services Administration. "FRPP Summary Report Library." http://www.gsa.gov/portal/content/102880


