The Midway Study was a collaboration with CannonDesign and the University of Utah to serve Chicago and the local community. There are a number of challenges the city faces around MDW in terms of vacant lots, deteriorating building stock, vacant retail, and crime. In addition, the Mayor’s Office is looking into various ways to enhance the identity and vibrancy of the area, as it is a major international gateway that lacks definition within its local context. The following studies and ideas were generated in a 5-week intensive workshop during the summer of 2014.
ChicagoLAB is an intensive summer program with the University of Utah’s College of Architecture + Planning. It consists of an interdisciplinary team of undergraduate and graduate students in architecture and urban planning. ChicagoLAB embraces Chicago as a local laboratory and tests ideas to enhance the quality of life, and advance the city’s future culture.

The program is an active collaboration of students, practitioners, politicians, real estate developers and community organizations. In 2013, the ChicagoLAB developed Chinatown’s Masterplan with Skidmore, Owings & Merrill, and designed a net-positive Neighborhood of the Future model in collaboration with CannonDesign.

The 2014 project is focused on the physical conditions surrounding Midway Airport, which is located on the city’s southwest side, eight miles from the Loop. The goal of the project is to explore physical and nonphysical solutions to improve and integrate the surrounding communities with MDW and to create a sense of arrival to Chicago. Studies also question the role of zoning, the creation of affordable housing and employment opportunities to attract and retain for residents to the area.
Three blind mice.
See how they run. See how they
run. They all ran after the farmer’s
wife, Who cut off their tails with
a carving knife, Did you ever see
such a sight in your life, As three
blind mice?
Imagine a high speed train system running through Chicago that connects Midway, O’Hare and Navy Pier. This “Chicago Triangle” will create three main nodes within the city that all activity will then radiate from. Along this new system, a complex network of public transit can develop along existing streets within nodes. This vast web of public transit will strongly reduce automobile dependence. Which in turn, allows for the blurring of the boundaries between the city and airports creating unique public spaces.

This ease of transportation lets you take the current structure of “live, work, play” communities and flip them inside out. No longer does each node need all the amenities of everyday life. The current themes of each node can be amplified, transforming O’Hare into an aerotropolis business center and converting Midway into an attractive leisure destination with a strong Chicago Identity.
DISRUPTION

Outside the highly dense areas are those that are made for comfort. Typical urban and suburban residential developments rarely allow for the ideal density of population, holding back potential growth for the area.

By disrupting typological regions we can create areas that blend together, allowing for many more opportunities.

OUTSIDE

SUBURBAN 1,000 - 3,000 people per square mile

A dense population spread out over a vast amount of land. Giving way to wasted resources and islands of developments that become their own constraining blocks.

INSIDE

URBAN 3,000 + people per square mile

A dense population focused on economical use of land and space. The integration of dense residential and long corridors of commercial and/or mixed use development allows healthy communities and a sense of place to develop.
Increased quality of life, ease of transportation, density, jobs and more economical means of transportation.
INTERVENE
An intervention of transportation can increase the quality of life in the Chicago area. Using High speed train as well as dedicated bus and bike lanes we can better encourage the use of other means of transportation.

INSIDE THE LOOP
UNDERSTANDING THE REACH OF THE MAJOR LOOP

POPULATION WITHIN THE LOOP: 2,041,075
BICYCLE TRIPS PER DAY: 125,000
PUBLIC TRANSPORT TRIPS PER DAY: 1.7 MILLION

CITY / REGIONAL LOOP
Learning from the success of the inner city loop we can establish a “major” loop, harnessing the bigger Chicagoland area and increasing the ease of more economical transportation options. The grid already being established a new geometric shape adds place, location, designation, unfamiliarity in the terms of diversity, etc. Understanding the transportation in Chicago instantly reveals a changing demographic in culture. There has been an exponential growth in commute by the means of bicycle. In order to nurture this cultural shift we must take the necessary steps now to ensure a healthy future.
A combined structure of high speed transportation and personal transportation is mixed into this three tier program. High Speed rail used to transport long distance as well as Bus and Bike lanes to encourage the use of more economical and environmentally friendly methods of transportation.
Imagine a high speed rail system running along Chicago’s current infrastructure connecting Midway, O’Hare and Navy Pier. This “Chicago Triangle”, formed by the H-Line, will create three main nodes within the city that all activity will then radiate from. Along this new system, a complex network of public transit can develop along existing streets within the nodes. This vast web of public transit will strongly reduce automobile dependence. Which in turn, allows for the blurring of the boundaries between city and airport, creating unique public spaces.

Due to this ease of transportation the current structure of “live, work, play” communities to be flipped inside out. No longer does each node need all the amenities of everyday life. Current nodal themes can be amplified, transforming O’Hare into an aerotropolis business center and converting Midway into an attractive leisure destination with a strong Chicago Identity.
With current aviation technology in 2046, airplanes no longer require the length of current runways. This advancement in aviation technology coupled with enhanced airport security allows for the airports of today to be completely reimagined. Airports can be minimized and the line between airport and city can be blurred. The runways can bleed out into the city fabric and create unique spaces out of previously underutilized areas.
AMPLIFICATION

The implementation of the H-Line has allowed for certain nodes to be created throughout the city. Accelerated mass transit enables people to live further away from their daily activities. The current themes of each point of the triangle can be amplified. Midway can now become a vibrant cultural hub, while O’Hare can expand into a business driven “aerotropolis”.

The H-Line, accompanied by a complex network of varied transit lines, will bring a large number of passengers into the MDW area. The steady increase of pedestrian activity will intensify current commercial corridors and lay the framework for future growth.
Currently, the MDW area is blocked out in large residential sections with business and industrial scattered within. Implementing a new commercial core, radiating from the H-Line stop at MDW, will allow for the region to be redefined. Unique walkable zones with pedestrian streets and large open public spaces can now be formed. The abundance of foot traffic can be utilized to create a high energy mixed use sector that will wake up the area. This transformation will change MDW from its current “Bedroom Community” state into an active, lively community throughout the day.
IMPLEMENTATION

The H-Line will severely revolutionize airports and their surrounding fringe conditions. The runways can now be molded into a “conveyor belt” like system where passengers are efficiently transferred from plane to public transit. The fringe conditions extending out of the runways can be morphed into active public spaces that can be utilized by residents and travelers alike. The land that has been carved away from the airport can be converted into unique mixed use corridors and plazas that will energize the area. In conclusion, the implementation of the H-Line and “Chicago Triangle” has the potential to greatly enhance the current conditions of MDW and its surrounding area.
Innovation: the action or process of innovating. Innovation is apart of the world we live in. As we have grown as a society, innovation has become a more integral part of life. We rely technology to better our lives. Yet what is the next step in innovation? According to Airbus it is aviation. They have designed a 2050 plan that would drastically change the way we fly. Their main goal is to make the experience much more enjoyable for the user. Taking the stress factor out, and focusing on exactly what the customer needs and wants for a enjoyable flight.
5,500 ft. runway
Midway has always been constrained by the inability to expand. This is shown in the size of its five runways, which are very short compared to the majority of other international airports. Midways lack of size has always been a issue for it to compete with the larger airfields, yet could it be a asset with the prospective aviation technology

Commercial aviation is the majority of Midways business, taking up over 70% of the airports business. The two largest runways are used for just that. The next two larger runways are used for mostly general aviation, the smallest of the five is used for light aircraft aviation.
Due to the constraints that Midway is presented with it has never been able to expand the way that most airports do. Midway is surrounded by mostly neighborhoods, and four main corridors of Cicero Ave, Central Ave, 55th, and 63rd St.

In 2050 aviation has changed, planes are more efficient, quieter, and can take off and land in one third the length that they used to. Midway now has the capability to take advantage of this and quadruple the amount of runways they have. Not only does this make midway a much larger airport, but could it make the area around it a thriving area?
The proposed hyper-transit, or H-Line, will provide an efficient method of transporting people between O'Hare International and Midway International Airports as well as serve the city of Chicago. Our focus of study within the proposed system is the connection between the two airports and how the high-speed transit will allow the airports to establish “the single entity”. The H-Line will create opportunities for further expansion and development within the airports, as well as the surrounding local communities. The idea of “the single entity” is considered as a necessary framework for the two airports to share the assets, creating the positive outcomes both economically and culturally. There are few cases around the world that connects a larger international airport to smaller municipal airport, that services domestic travel as well as better access to the core of the city. By studying the cases of the connections, specifically using high-speed rail, or maglev, we attempt to understand the windows of opportunities that could be drawn. Furthermore, it is an effort to seek out opportunities using the assets of an enhanced transportation network and airport operations together as a “single entity”.
ATLANTA CASE STUDY: 1900 TO 2012

Hartsfield-Jackson International Airport is the busiest airports in the world, and the leading revenue-generating (2013) in passenger traffic and revenue generating. Atlanta International Airport is a successful case of utilizing the effect of enhanced transportation network that created opportunities for further expansion and development. “The Plane Train”, an underground rail system that moves people from gates to gates, is the main driver within the airport as well as to transit connection options to the city. It provided the solution for moving people efficiently, allowing the airport to become the busiest airport of today, as well as continual expansion to the airport and city.
The Plane Train is an underground rail system in the secured area of Hartsfield-Jackson Atlanta International Airport. As the plan for the massive expansion that includes seven airside concourses, it was a brilliant solution for moving passengers that allowed the airport to become the busiest airports in the world, and the leading revenue-generating airport in the United States.

2.8 Miles
Average 30 MPH
8 minutes
In 2004, the first high-speed magnetic levitation line in the world was completed in Shanghai, China, improving connections between the city and Pudong International Airport. Recording speeds as high as 311 MPH it is the fastest commercial train of its kind, serving one of the worlds most rapidly growing city and it’s airport. The train allows for high levels of efficiency and sustainability both for the airport and city. Currently, it moves people from Pudong international airport to other transportation connection hubs such as Longyang station the station. Along with the enhanced network of transportation options, Longyang district hosted numbers of large scaled events such as The Shanghai International Expo in 2010, creating a foundation for development opportunities. Within 10 years, what was a vast rice field and scattered single-unit houses became one of the highest valued residential districts in Shanghai.
The diagrams above show the infrastructure before and after the construction of the Longyang Maglev station. Illustrated is the rapid densification in surrounding areas of Longyang station as a result of the enhancement of the transportation network. The proposed plan of extending the line to Hongqiao International Airport, located in the center of the city that mainly operates domestic flights, resembles the context of Midway-O’Hare connection and what impacts it could have.
ORDWAY CASE STUDY

The Ordway study was focused on the transportation network that creates opportunities for multi-scale growth and development and a vision of creating an urban core through the same enhanced network of transportation. The implementation of a high speed train, similar to Shanghai, would allow much further distanced to be traveled. The high-speed Maglev would decrease the travel time of 19 miles, this distance from Midway to O’Hare to 5 minutes or less. With this connection the two airports virtually becomes one that establishes a network of sharing resources, creating opportunities for improved operations. Current travel times would be cut by nearly 90%, making the airports become a single entity.
Furthermore, it leads to opportunities for developments along the H-Line. Communities and neighborhoods would see an increase in housing density, as well as property value. The Ordway study shows how the H-Line would benefit both airports and community surrounding them.
One of the major infrastructures that governs the capability of an airport is runways. More runways allow for higher capacity of operations, as longer runways allow for larger aircrafts which could lead to higher capacity of passengers. Observing the available runways and their lengths for commercial use at eight air hubs in the United States, varying in scale, it was possible to emphasize the capacity, and capability of the Ordway airport that features more runways options, comparatively. Through the merge of two airports, Midway can take advantage of having a longer runway that provides more flight options internationally, while O’Hare can take advantage of diverting smaller aircrafts to shorter runways of Midway for improved performance.

<table>
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<th>Available Runways and Lengths</th>
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<td>3,000 ft.</td>
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The number of flights is a common determinant of the performance of an airport. The diagram focuses on projecting the improved performance of the merged airport, that could lead the Ordway to become the busiest and the largest airport, the title that once both Midway and O’Hare had.

The opportunity of increased employment and economic growth created by the H-Line connection would be exponential. Through the connection of the airports, “Ordway” would combine to create a model of economic revenue and passenger traffic greater the Atlanta, currently the busiest airport in the world. The H-Line also creates more operations employment for the train as well as the new pre-security checkpoints would create service jobs. Numerous growth opportunities can be derived from the H-Line connection,
The Diagram below shows the destinations of both Midway and O’Hare international Airport and the effect of how travel destinations would be effected by combining both airports into a single entity. O’Hare would add more flights outside the US, while Midway contributes as more of a domestic partner to O’Hare’s international travel.
The Current Conditions of O’Hare are not much of a place to welcome visitors to Chicago. Most of the Surrounding infrastructure is designed to move high volumes of the active community directly to downtown or to the nearby commercial business areas. With the H-Line, the area will see the vast amounts of vacant land surrounding the area begin to fill with large commercial corridors and mixed use housing. The new infrastructure sustains the need for commercial space as well being to mix the dense residential building type see around the Midway Airport.
Cicero Avenue currently is an eight lane avenue that acts a freeway for commuters to and from the airport. Currently the area is not pedestrian friendly, and littered with vacant lots along is perimeter. The eight lane road acts as a barrier to all the surrounding neighborhoods creating a disconnect from the residential and the business corridor. Using Urban design principles like streetscape, BRT, and buffers used for storm-water management and visual friction pared with mixed used architectural elements Cicero Avenue can become a thriving “Broadway Street” of the Midway Area.
POTENTIAL

Right Outside the fringe of the Midway Airport the heavy rain line beings to have a very large impact cutting directly through neighborhood districts. The current conditions of the area are deserted businesses and brown fields. The areas are not well maintained and pose vast opportunity for development. The H-Line running through these districts would bring new life by creating a residential density boom and conversion of brown field into open public spaces. The results of the H-Line would be similar to the effect the “L” had in downtown Chicago and surrounding neighborhoods such as Wicker Park and Pilsen.
The fringe conditions of Midway are one of the major issues that the businesses and neighborhoods face surrounding Midway. The airport is walled in to prevent any injuries, as a result of the 2005 plane accident, creating a visual barrier to all surrounding roads. The large streets have created a barrier which has essentially eradicated the active community creating businesses to fail and vacant lots. Open space has been created, however the lack of community causes them to become remote. The H-Line would cause the area to become a highly valued area, allowing for higher density mixed use buildings, as well as habitable public spaces.