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Lincoln Multi-Modal Center

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Lincoln Multi-Modal Center

by

Jeffrey Bayer

A Terminal Project

Presented to the Faculty of

The College of Architecture at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Master of Architecture

Major: Architecture

Under the Supervision of Professor Thomas Laging

Lincoln, Nebraska

May, 2006
The problem with many cities today is the lack of transportation options. Our society believes and enforces that the only way to get somewhere is by car. Mass transit is seen as dirty and bad, and we are just too lazy to walk. It is also next to impossible to walk from place to place most of the city; everything is just too far apart. This is the case when cities are made of suburbs and big box developments. The ability to implement an alternative transit system is severely inhibited by this style of development. The urban core, or downtown of these cities are still alive and in many cases showing new signs of life. The real problem lies with how to connect people to this core and how to connect these cores together. There needs to be central node for multiple systems to converge and feed the city. The density of these downtown areas creates a perfect place to locate such a node.

One day Lincoln will need a multi-modal transportation system. The streets and cars cannot support Lincoln or any city forever. The creation of a transit system can help drive transit oriented development. At the center of this system, or systems, will be a center that will allow people to transfer from one system to another. A person could travel from south Lincoln to the multi-modal center and then transfer onto a large system that will take them to another city such as Omaha. This center will help downtown Lincoln grow stronger by providing a destination that connects the urban core of Lincoln to its surroundings. Along with downtown Lincoln growing stops along the new transportation corridors will grow because of these new influences.
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Research/Analysis

Downtown Lincoln
The stream beds, indicated in blue, run through the entire city influencing growth. Green spaces are closely related to the stream beds, most being located next to the waterway. Eastern downtown will be affected greatly by the antelope valley. It will create a strong barrier along with providing new green space. This will hopefully bring life into the eastside. This also shows the major roadways through Lincoln along with the current in use rail right of ways. These paths were influenced by the waterways in many parts of Lincoln. The rail creates a definite boundary for the west side of downtown. The result is the rail takes up a lot of space and creates unpleasant sites.
Research/Analysis

Districts - Campus - Commercial - Haymarket

The downtown of Lincoln is made up of three major districts; UNL campus, the Haymarket, and the commercial district. UNL creates the northern section of downtown providing a large source of people for most of the year. UNL is connected to the commercial district through a row of blocks that are part of each district. Downtown consists of mainly commercial, but also provides some retail, eating and a growing residential market. The office buildings in this district create poor street life because of the dead office street fronts and parking garages that take up most of area. Poor building design and lack of mixed use creates this problem. Separated from the other two districts is the Haymarket. This historical Haymarket district is an attraction in itself. The area provides eating, small retail shops, and some residential. The Haymarket currently has potential growth around it that can create a major influence of the rest of downtown. The growth of the Haymarket district to the west will create major attractions and to the south new residential.
Downtown currently has three major streets running through it. Once the antelope valley project is finished 19th street will become another major two way through street. Even though O Street is a major street it still can have pedestrian life without much change. 9th and 10th streets divide the Haymarket from the rest of downtown, because they are one way and are six lanes wide. If the Haymarket district expands the division that 9th and 10th streets create will have to be overcome. This problem can be solved multiple ways all of which have their pros and cons. There are a number of minor and pedestrian streets. The Haymarket consist of good pedestrian streets that should not be change greatly. However places like the centennial mall and where it has been turned to streets is neither a good street for cars nor pedestrians. P and Q streets are good pedestrian streets because of what is located on it, they might be better served if they became two way streets.
The footprints show how dense downtown is running from the Haymarket to the capital area. This area has slowly filled in the empty space to create a semi dense urban core. The streets are however not always the best places to be. There may be a lot of people in the area but they are kept off of the street do to poor building and street design. Many of the buildings are single use office buildings and are only active during the work day when people are coming and going. The mass of buildings become broken up towards the edges of downtown. The areas here are broken and not pedestrian friendly.
Parking Garages

Parking garages take place of the surface parking in the core downtown. However too many garages are not design well or with a mixed use in mind. A few that have other uses built into them have created and very friendly street front. Others are very cold and have dead street fronts. Parking garages are a good replacement for the surface parking as long as the keep the street front alive and do not take over downtown, if alternate modes of transportation are not provided to downtown garages can take over.
Surface parking does not control the core of downtown, but starts to take over towards the edges. These parking lots divide the blocks up and create very unfriendly pedestrian places. These areas would serve the area much better under a different use. The southern part of the Haymarket, south of O Street has a lot of potential spaces to fill in and create a new part of downtown. Surface parking in the southern part of downtown creates a division between the residential and the commercial areas. The eastern blocks of downtown create the same problem.
Most of the green space in downtown is contained in UNL campus. This is public space but is concentrated in the northern part of downtown. There is very little green space in the rest of downtown. Centennial Mall was great north south connection of green space; because it was not very well designed and it is not considered a good space, it is also slowly being taken away from the city. The mall is just becoming another street. There is a potential with the centennial mall again if it is design well. In the new development of the southern Haymarket there could be good opportunities for new green space.
The two densest areas of people are outside the student union and around 14th and O Street. The Haymarket also has a good amount of people and the potential to attract more. This area is a key part of downtown and will become bigger. The Student Union on UNL campus is very dense area of downtown. This area is the densest during the school year and during mid day. It also provides a good source of people for the rest of downtown to feed on. The commercial area of downtown around 14th and O Street is the densest of downtown. There is about a four block area to the north and west of there that is the center of most pedestrian activity. These three areas create the core of downtown Lincoln pedestrian life and could be stronger with some connectivity.
These circles are created by how far a person could walk in a five to ten minutes time period. Most of downtown can be reached from the three different pedestrian areas. These circles meet showing an approximant central node of downtown pedestrian activity, a central area from which downtown can grow, a place to anchor the three areas together. Something in this central area can feed the rest of downtown.
The main streets that are pedestrian friendly are shown here are contained within the five to ten minutes circles. These streets have the most life on them and have the most potential of growth around them. The streets of campus connect with the streets of downtown but the Haymarket is cut off. To help these areas grow the 9th and 10th street barriers have to be dealt with. All of these pedestrian streets can grow and link downtown together with well design blocks and streets. Good planning can create a walk-able place that can promote a better transit system.
Potential Development
Research/Analysis
Eating and Drinking
Research/Analysis

Potential Development
Pedestrian vs Cars
Research/Analysis

Active Street Fronts
Building Types
Research/Analysis

Possible Alternative Transit
Urban Square
Research/Analysis

Surrounding Elevations
There are many types of transportation systems available. Newer systems will allow cities better options to move people quickly from one place to another. Trains that use technology such as monorail and maglev will allow for faster transportation with better aesthetics than a traditional train and rail system. Updated bus, streetcar, and light rail systems could all be used to provide alternative transportation options.
Sky Web is a new type of Personal Rapid Transit. This system will allow people to choose their destination and bypass others stations. It allows more flexibility than a traditional transportation system.
Research/Analysis

Morgantown, West Virginia

The transportation system that serves the University of West Virginia is one of the only Personal Rapid Transit systems in the country. It allows the users to choose their destination and not rely on a time based transportation system.
Morgantown, West Virginia
Research/Analysis

Miami, Florida: The Metromover
Detroit, Michigan: Downtown People Mover (DPM)
Research/Analysis

Jacksonville, Florida: The Skyway
Irving, Texas: Las Colinas Peoplemover (APT)
Research/Analysis

Existing Transportation

Types of Transit
- Red - Cars
- Green - Pedestrian
- Brown - Buses
Future Transportation

Types of Transit
- Red - Cars
- Green - Pedestrian
- Brown - Buses
- Purple - Train
- Blue - Street Car
- Yellow - Personal Rapid Transit
Research/Analysis

Present and Future

Existing Buildings and Transit  Future Buildings and Transit

Types of Transit
- Red - Cars
- Green - Pedestrian
- Brown - Buses
- Purple - Train
- Blue - Street Car
- Yellow - Personal Rapid Transit
Site Transportation

Types of Transit:
- Red - Cars
- Green - Pedestrian
- Brown - Buses
- Purple - Train
- Blue - Street Car
- Yellow - Personal Rapid Transit
Conceptual Design

Site Movement Diagrams

Study of movement around buildings site and through site.
Spacial Diagrams

Study of space and possible urban connections of site and surroundings.
Conceptual Design

Spacial Diagrams

Early study of building spaces and relationship to site and transportation.
Spacial Diagrams

Early plan concepts and spacial designs.
Design Documentation

Pedestrian Bridge Diagrams

Study of pedestrian bridge concepts and how it will affect pedestrian movement across 9th street.
Main Entrance Sketches

Concepts of main entry to lower levels of building. A space that will allow people to gather in and shops and restaurants to spill out onto.
Design Documentation

Street Front Sketches

Concepts of street front and how the building and transit track affect the pedestrians on the sidewalk.
Trains Station Sketches
Design Documentation

Initial Plans and Elevation

Tower
Second
Third
Ground
Garage
Design Documentation

Early 3D Modal
Final Design Documentation

Site Model
Site Model
Final Design Documentation
Final Design Documentation
Final Design Documentation
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Final Design Documentation
Program

Transit

Train: Raised modern train system (maglev/monorail)
    Serves City to City and airports (Lincoln/Omaha)
Personal Rapid Transit: 3-4 person cars
    Serves City of Lincoln
Bus: City Bus
    Serves City of Lincoln

Retail/Restaurant: 80000 sqft

Office: 130000 sqft

Apartments: 90000 sqft
    47 units, 900 sqft to 2000 sqft

Parking: 350 stalls under ground garage
    Street Meter Parking
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<td>Morgantown, West Virginia</td>
<td>Personal Rapid Transit (PRT)</td>
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