



NORTHEASTERN STATE UNIVERSITY CAMPUS PLAN

MAY, 2008

Acknowledgements

The Urban Design Studio would like to thank the following:

Northeastern State University
Joe Spence, NSU, Director of the Physical Plant
Kim Cherry, NSU, Interim President
Tim Foutch, NSU, Assistant Vice President of Student Affairs
Julie Shannon, City of Tahlequah, Director of Planning
Todd Enlow, Cherokee Nation, Group Leader
Victoria Sheffler, C.A., NSU, Archivist

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NSU Campus Plan

Project Overview and Goals:

Under the direction of Northeastern State University Interim President Kim Cherry, the University of Oklahoma Urban Design Studio was contacted by Joe Spence in the summer of 2007 regarding the creation of a campus master plan. The project began in the fall semester of 2007 as Northeastern State University's first master plan update since 1978. Creation of the master plan was to be guided by a steering committee of faculty, staff, and students at NSU, as well as several key civic leaders, including the Planning Director at the City of Tahlequah, Julie Shannon. Northeastern State University provided a \$3,300 grant to the studio to cover project expenses (travel, physical model, printing, etc.) and also opened up locations on the campus over the weekends to create a space for several planning sessions. The process was a collaborative effort bringing the ideas and goals of the campus into a design package to shape the university.

Goals:

- Enhance the identity of Northeastern State University by working with the existing features of both the built and the natural environments on the campus to create a stronger sense of community, a stronger connection to the City of Tahlequah, and an improved setting for academic study.
- Establish a pattern for future growth and development by studying the campus needs and potential locations for expansion.
- Improve the campus circulation to create a space that is an appealing and a safe environment for automobile and pedestrian traffic.
- Create a direction for the campus landscaping that works with, and improves the campus theme and identity.



Representational model of Northeastern State University Campus and surrounding area

Executive Summary

Current Conditions

The Urban Design Studio of the University of Oklahoma-Tulsa was asked by Northeastern State University (NSU) to prepare a comprehensive master plan for the main campus in Tahlequah, OK. Below is a summary of the work that was completed during the fall, 2007 and spring, 2008 terms.

Campus Profile

NSU Tahlequah is the main campus of the NSU system. The campus is composed of three distinct areas.

The most scenic is the historic core of the campus anchored by Seminary Hall built in 1889. In the core, the major academic buildings are arranged in a half circle to the north of Seminary Hall. To the south of Seminary Hall is Beta Field and Beta Pond, two recreational areas that are underutilized hidden gems from the rest of the campus.

East of the historic core is an area that was developed largely from the 1950s through 1980. This portion of campus contains most of the campus housing, much of which is dated and deteriorated. The Student Center is located at the entry to the east part of the campus.

North of the historic core, separated by a large parking lot is the third part of the campus. This area contains Seminary Suites, the newest campus housing, the College of Optometry and on the far north the football stadium and related facilities.

The campus has been known as the “Campus of Trees” because legend says it once had a tree of every species native to Oklahoma. Even today, the campus is heavily wooded and the campus community is very concerned about the preservation of tree cover.



Aerial view of Northeastern State University campus, Tahlequah, Oklahoma. October 1, 2007.

Executive Summary

Methodology and Design Process

The first part of the master plan development consisted of background research. Information was gathered on Tahlequah issues that relate to the campus, precedents that had been done in campus design, comparisons of NSU to other peer institutions and the situation of the campus itself through data and a photo survey. Part of this process involved meeting with interested faculty, staff and students at NSU that were invited to be on the steering committee. Dialogue with the steering committee about campus issues was created through a scale model of the existing campus and surrounding neighborhoods with building pieces that could be moved. Three workshops were conducted in which the model was featured.

In the second part of the plan development, studio work continued on addressing the most significant issues identified. A formal presentation of our proposed planning concepts was made to the steering committee and interested students in the middle of the spring term. Feedback was given through surveys that participants filled out to address key preferences that had not already been resolved.

Recommendations

Below is the list of proposed specific recommendations that constitute the heart of the proposed campus plan. They are grouped by subject and based on the future master site map.

External circulation:

- Create the new Sequoyah Parkway to the south and west of campus along the Town Branch Creek allowing a bypass of traffic from Grand Avenue and the heart of the campus.
- Initiate traffic calming actions on Grand Avenue to reduce the likelihood of pedestrian-vehicular accidents by slowing down traffic.
- Connect Crafton west through the existing parking lots north of the Library to the west side of the campus.



Existing site plan of Northeastern State University and its environs.

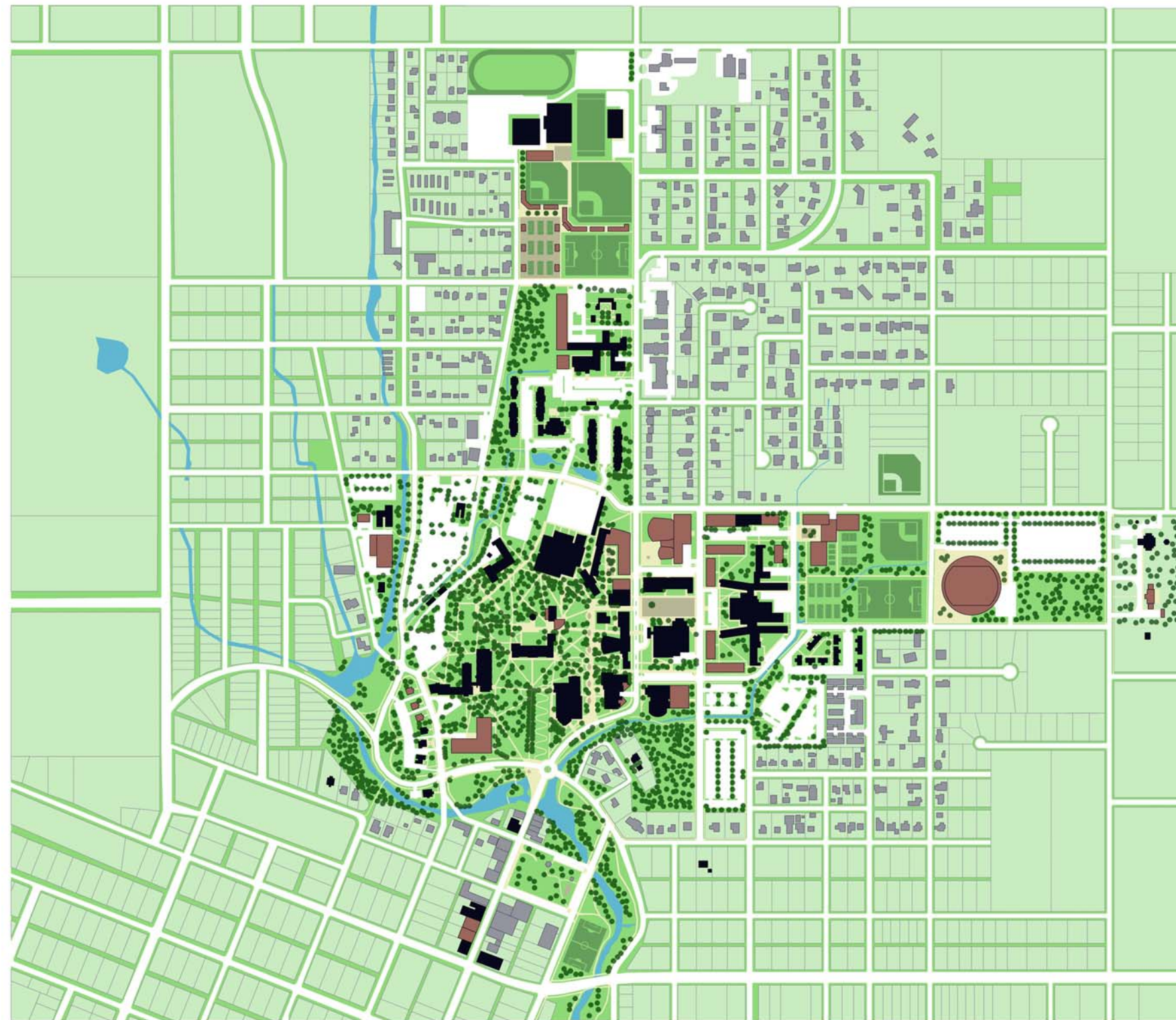
Executive Summary

Internal circulation:

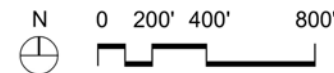
- Redesign the existing plaza to the north of the University Center allowing for easier pedestrian traffic through the campus.
- Create a curved “Arboretum Trail” that will extend from the southern to northern end of the campus on the west side.
- Develop a system of bicycle pathways and racks allowing for increased bicycle use.
- Improve the walkway from parking on the west side of campus into the core.
- Improve pedestrian and vehicular access east and west across the campus.
- Relocate existing parking lots from the center of campus to the periphery, maintaining only the spaces necessary for disabled parking and emergency purposes.

Landscaping:

- Improve the system for drainage using bioswales.
- Focus intensive landscaping on specific areas of campus that will make the greatest impact.
- Plant new trees using the campus as an arboretum to represent the different varieties in Oklahoma.
- Maintain the current informal, natural feel of the campus rather than proceeding with formal landscaping.
- Restore the Garrison Fountain to some working order as the centerpiece of “Fountain Plaza” north of the Student Center.
- Create a roundabout marker and location for the new Sequoyah statue at the south end of campus.
- Create new campus gateways on the south where Muskogee turns into Valley and Grand and on the southwest corner of Grand and Crafton, using the existing ruins of the old football stadium.
- Conduct a lighting study to determine where new lights are needed to increase safety at night on campus.



Proposed site plan showing the convocation center located on the east side of campus.



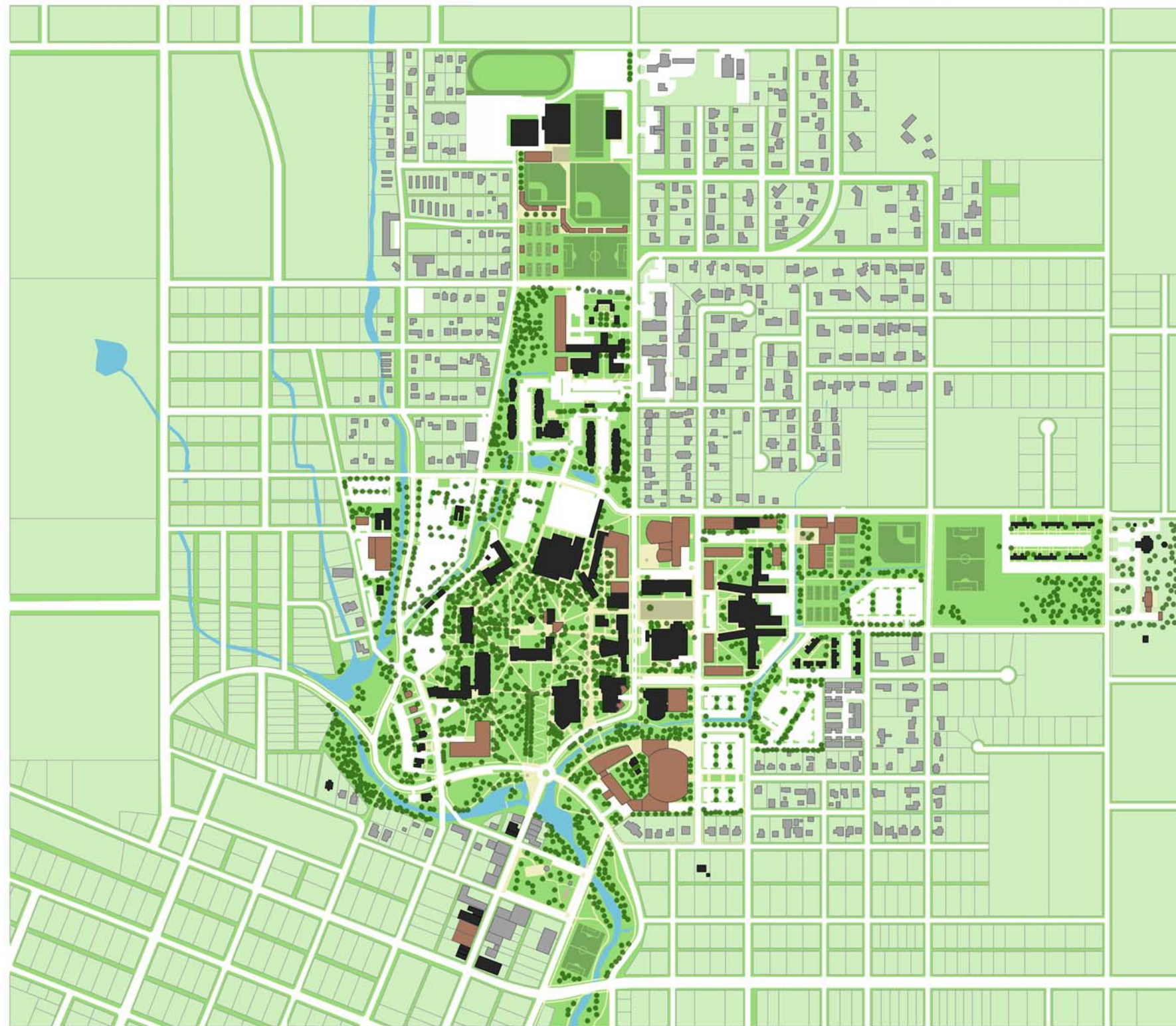
Executive Summary

Convocation Center:

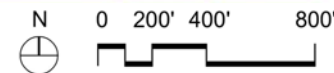
- Locate the proposed Convocation Center on the east site as originally proposed by NSU. This will allow access to residential facilities, plenty of parking and easy access to the bypass around Tahlequah.
- As an alternative, locate the proposed Convocation Center on the existing Recreation Center site. This will provide for greater connection between downtown Tahlequah and the campus, create a significant gateway structure from the south to the campus, have a presence on the proposed parkway and be close to the heart of campus and residential facilities. This location would not affect the nearby Leoser Cabin which is listed on the National Register of Historic Places.

Land Acquisition:

- Purchase land where the existing blighted trailer park sits just to the southwest of campus and clear for open space.
- Purchase remaining land not currently owned south of the existing Stadium and north of the Optometry School for expansion of athletic facilities or other uses.
- Purchase the land and existing neighborhood west and south of the Leoser Cabin and clear for a NSU owned-park or a new Hospitality School, Hotel and Conference Center. The Leoser Cabin would remain in its existing location.
- Purchase the Baptist Student Center and adjacent sites.
- Assist with the purchasing of land for the Parkway that would likely be owned by the City of Tahlequah.



Proposed site plan showing the convocation center located on the south side of campus.



Executive Summary

Campus Building Program:

- Convert the soon to be vacated historic Bath House into a campus gathering spot with a coffee house, wifi and internet café.
- Build a new President's House on the east end of campus by the Alumni Center to replace the existing President's House.
- Consider the establishment of a Hospitality School and a Hotel and Conference Center that could serve the needs of training hospitality and gaming staff for the Cherokee Nation's gaming, entertainment and hotel facilities. This could be located next to the Convocation Center if the alternative south location was chosen.
- Build a new Performing Arts Center and related facilities at the southeast corner of Grand and Crafton to replace the current deteriorated facilities.
- Remove the existing wings of the Performing Arts Building and renovate the existing auditorium or convert it into a large lecture hall. This will open up pedestrian access and visual corridors to the heart of campus from the east.
- Demolish the existing Recreation Center and replace it with a new facility located northeast of Leoser adjacent to the existing outdoor intramural facilities.
- Consolidate all the NCAA athletic facilities at the north end of campus by the current Stadium.
- Construct a new building to house NCAA athletics and training facilities by the new outdoor athletic facilities.
- Reserve land to the east of the Net Building for future expansions if warranted.
- Consider improvements to visually enhance the east side façade of the Administration Building.



Seminary Hall

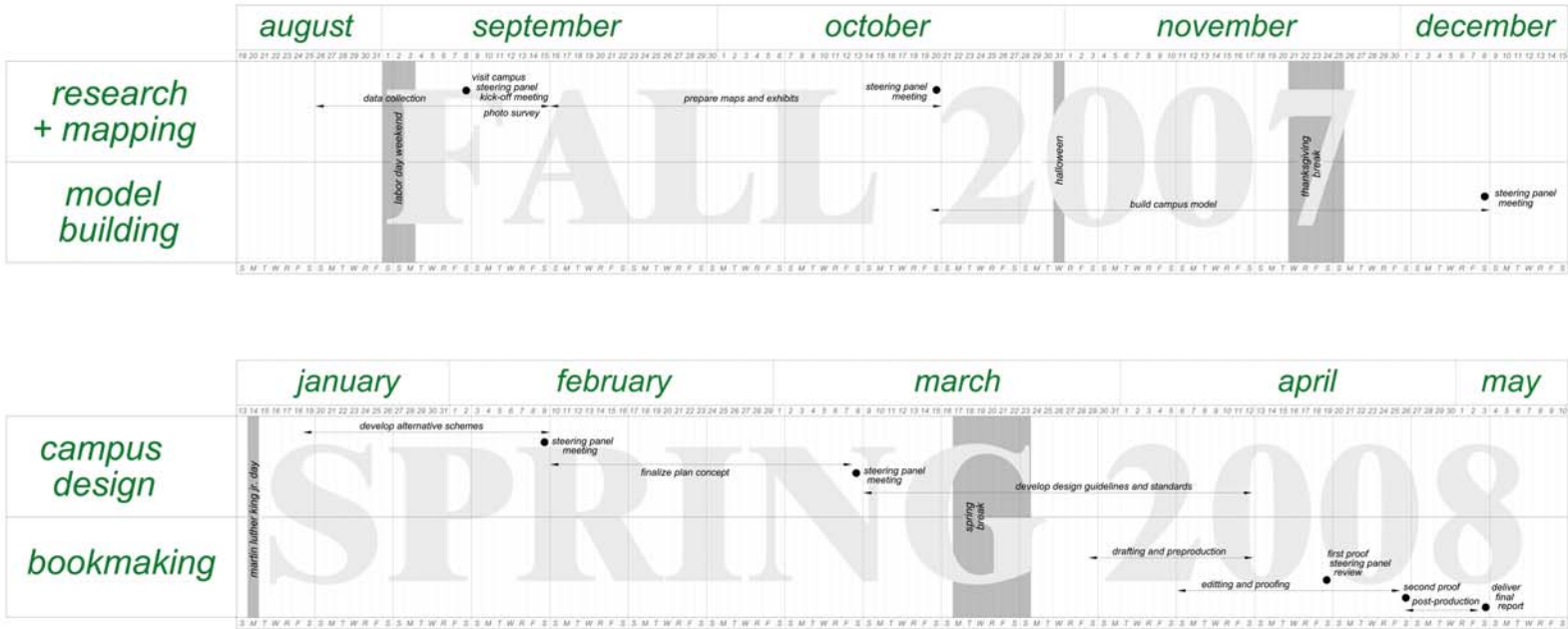
- Plan for any needed expansion of academic facilities to the east of Haskell Hall for faculty support and additional office space, creating a faculty quad.
- Plan for any expansion to the Optometry School on the west side of the existing buildings.
- Proceed with the planned demolition of the existing Physical Plant and its relocation to the west side of campus, adjacent to a new Police Station.
- Plan for the replacement of student housing by adding new residential buildings around the perimeter of the Leoser Center creating three residential quads.
- Plan for the expansion of Wyly Residence Hall by adding east and west wings.
- Demolish the existing deteriorated Ross, Hastings and Logan Residence Halls and replace them with parking.
- Renovate Wilson Hall as campus honors housing.
- Relocate the existing Student Health Center to a new building just northeast of Leoser Center.
- Consider creating a "Greek Row" of houses located on the west side of Seminary Street east of the Parkway.
- Consider constructing infill buildings on land NSU owns on the west side of Muskogee just north of Downing in downtown Tahlequah. A possible tenant could be the speech pathology clinic.

It is hoped that this executive summary clearly indicates the process and recommendations that were undertaken for the NSU comprehensive master plan. More detailed information is available in the remainder of the plan.

Project Schedule

Research and Design

nsu campus plan



The University of Oklahoma • Urban Design Studio

Research and Mapping

- August 25-September 15: *Data Collection*
- September 8: *First Steering Panel Meeting, Campus Tour**
- September 15-October 20: *Prepare Maps*
- October 20: *Steering Panel Meeting**

Model Building

- October 21- December 9: *Build Campus Model*
- December 8: *Steering Panel Meeting**

Campus Design

- January 19- February 9: *Develop Alternative Schemes*
- February 9: *Steering Panel Meeting**
- February 10- March 8: *Finalize Plan Concept*
- March 8: *Steering Panel Meeting**
- March 9- April 12: *Develop Design Guidelines*

Bookmaking

- March 29- April 12: *Drafting and Preproduction*
- April 5-April 26: *Editing and Proofing*
- April 19: *First Proof Steering Panel Review*
- April 26: *Second Proof*
- April 26- May 3: *Post-Production*
- May 3: *Final Report**

* Meetings held on the NSU campus in Tahlequah.



S.W.O.T. Analysis

Committee Meeting One

During the first steering committee meeting at NSU, there were fifteen participants, including staff, faculty, students, and the City of Tahlequah Planning Director. In order to acquire a better understanding of how the individuals from the university and surrounding area view the campus, the Studio conducted a SWOT Analysis. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats. Participants were asked to create lists of aspects falling under each of these categories. The following members of the committee took part in this exercise, the results of which are listed on the left:

Julie Shannon, Planning Director
 Kim Cherry, Interim President/V.P. Administration
 Mia Revels, Associate Professor of Biology
 Steve Heinzig, Student
 Monica Macklin, Instructor of Biology
 Glen Evans, Student
 Rommel Abad, Assistant Dean of Student Affairs
 Joe Spence, Director of the Physical Plant
 Dunn Faires, Assistant Dean, Professor of Business & Technology
 Tim Foutch, Assistant V.P Administration
 John Wichser, Director of Auxiliary Services
 Todd Hefner, Director of Housing
 Chris Garland, Instructor of Social Work
 Kristal Porrit, Student
 Julie Johnson, Student
 Jennifer McDaniels, Student

Strengths

- History and tradition
- Natural beauty, terrain, trees
- Strong commitment to increase funding
- Unique qualities such as the leaf imprints on the sidewalks
- Student Center (especially the addition of the chairs)
- Activities created by the campus housing staff
- Intramural sports
- Good relationship between NSU, the City of Tahlequah and the Cherokee Nation
- Beta Pond and Beta Field

Weaknesses

- Lighting at night
- Years of neglect
- Lack of master plan
- Campus accessibility
- Centralized services
- Signage
- No outdoor gathering spaces
- Lacking entertainment (especially on the weekends)
- Poor information distribution, “flier blindness”
- Parking
- Wayfinding
- No bicycle racks
- Heavy traffic flow on Grand Avenue
- Sidewalk conditions
- Fitness Center
- Basketball Field House
- Bradford pear trees
- Condition of the residence halls

Opportunities

- Intramurals/Sports clubs
- Commencement arena/Fitness center
- Centennial entrance
- East entrance
- Landscape and trees
- Tahlequah History Trail- Greenway connecting campus and Tahlequah, which uses the floodplain
- Developing a quad, gathering space, program space, outdoor meeting space
- Signage in English and Cherokee

Threats

- Maintaining grounds
- Loss of trees
- Mobile home park, which effects the safety at the trailhead
- Residence halls, maintaining historical aspects



Nate conducting the SWOT analysis with the committee



Members of the steering committee, including Joe Spence, Tim Foutch, Dunn Faires, and Chris Garland work with the model at a design workshop.



City of Tahlequah, Planning Director Julie Shannon works with Monica Macklin, and Rod on the proposed Sequoyah Parkway.



The model of the NSU campus.



Presentations of the research findings.

Design Workshops

Visioning the Future

At the second meeting, the committee was presented with the results from the SWOT analysis. Additionally, there was a presentation of the research findings, consisting of data from a number of categories including: the history of NSU, the city and the Cherokee Nation, Tahlequah, campus demographics, peer institutions, and precedent studies. The committee was able to look at various maps and data to discuss the issues most affecting the campus.

During the third and fourth meetings at NSU, individuals were asked to take part in design workshops. Participants used the model to experiment with different design ideas. Each version of the campus design was recorded in detail. Listed below are examples of the design issues given to participants to address during these workshops:

- Use of the Bath House once it is vacated
- Locate the Sequoyah statue; other public art
- Proposed site for the Convocation Center
- Recommend improvements to existing fountain and plaza by University Center
- Renovate or construct a new Recreation Center
- Propose sites for new classroom buildings
- Add or renovate future student housing at NSU
- Add or remove other campus structures
- Locate possible gathering places on campus
- Reassess recreation fields
- Improve campus landscaping
- Enhance entrances to campus
- Design the new Centennial entrance
- Recommend parking changes
- Address circulation of people and vehicles around the campus
- Address other campus planning issues



Participants taking survey on issues such as circulation, the Convocation Center, and student housing.



David demonstrates the phasing plan of the Parkway.



Students taking part in the design workshop.



Members of the steering committee, including President Cherry and Dr. Dunn Faïres take part in the spring design workshop.



Design workshop participants using the model to discuss some new planning ideas.

Design Workshops

Steering Committee Meetings

The fifth and sixth meeting of the committee were held during the Spring term.

Meeting five was a very effective time for generating input from the students, faculty and staff. It was at this meeting that the student body had the greatest input. This was the first opportunity to show the design solutions that were being contemplated in the plan. To stimulate dialogue, various boards illustrating the aspects of the plan were hung around the room.

The sixth meeting included a Powerpoint presentation of the recommendations as well as an animation of the proposed campus plan. A survey was given to participants to help resolve issues upon which there appeared not to be a consensus. These issues included:

- Grand Avenue traffic calming or closure
- Removing parking from the core of campus
- Convocation Center preferred location
- Future plans for student housing
- Priorities for property acquisition
- Preferred phasing of proposed Sequoyah Parkway
- Highest plan priority
- Least feasible plan possibility

Survey results were tabulated and discussion occurred regarding the results. The input gathered is reflected in the final plan.



**Northeastern State College
Tahlequah, Oklahoma
ca. 1955**

from Northeastern State University Archives



Aerial Photograph of NSU campus today

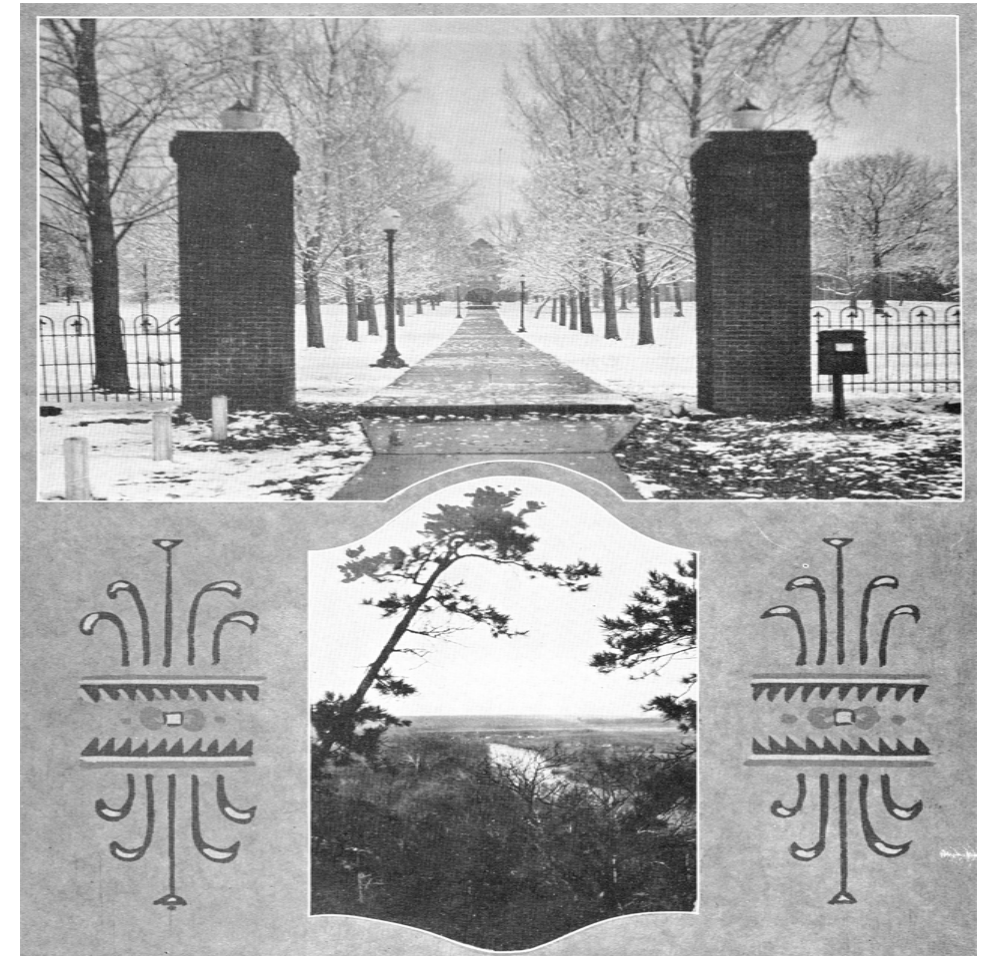
History

- 1821** Sequoyah's syllabary
- 1839** Tahlequah became the capital of the Cherokee Nation
- 1846** Act establishing Cherokee National Female from Laws of the Cherokee Nation passed at the Annual Session of the National Council
- 1851-1887** Cherokee Female Seminary, Park Hill Building burns on April 10, 1887 and is rebuilt in Tahlequah in 1889
- 1851-1910** Cherokee Male Seminary, Tahlequah Building
Cherokee National Male/Female Seminary 1909-1910
Burned March 20, 1910—seminaries closed
- 1870** New National Capitol Building finished in Tahlequah
- 1880** Almon Bacone opens the Indian University
- 1880s** Tahlequah experienced a boom as it became a a main distribution point for the Cherokees
- 1889** Due to the *Jerome Commission*, Cherokees were forced to sell their Outlet
- 1889-1909** Cherokee National Female Seminary, Tahlequah Building
- 1902** Rail service finally arrived bringing numerous visitors seeking outdoor adventure
- 1909** Northeastern Normal established at Tahlequah, from State of Oklahoma Session Laws
- 1913** On Arbor Day, each class plants an elm tree along the walk leading up to the main entrance
- 1915** Wilson Monument- erected by students of the 1914 summer school in memory of the National Female Seminary in connection with Florence Wilson, principal teacher for 26 years
- 1919** Northeastern State Normal School becomes Northeastern State Teachers College
- 1930-1960** Increased enrollment through the post-war era
- 1939** The campus became Northeastern State College
- 1952** Enrollment at Northeastern outgrew the Laboratory School, then called Bagley
- 1974** The campus takes the name Northeastern Oklahoma State University
- 1985** Designated Northeastern State University (Faulk, Jones. 1984)



History

Photo Survey

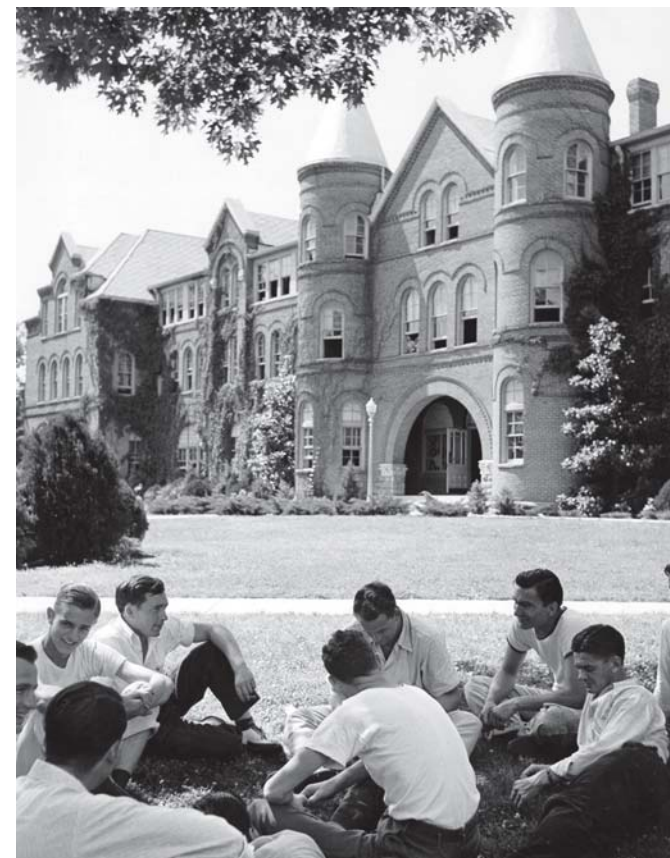


*An image of the walkway to Seminary Hall from the 1928 Tsa-La-Gi
Courtesy of the NSU Archives and Victoria Sheffler, C.A.*



*(Clockwise from top left) Students enjoy gathering at Wilson Hall;
Garrison Hall Memorial Fountain; Students on a summer day in front
of Seminary Hall; John Vaughn Library.*

Courtesy of the NSU Archives and Victoria Sheffler, C.A.

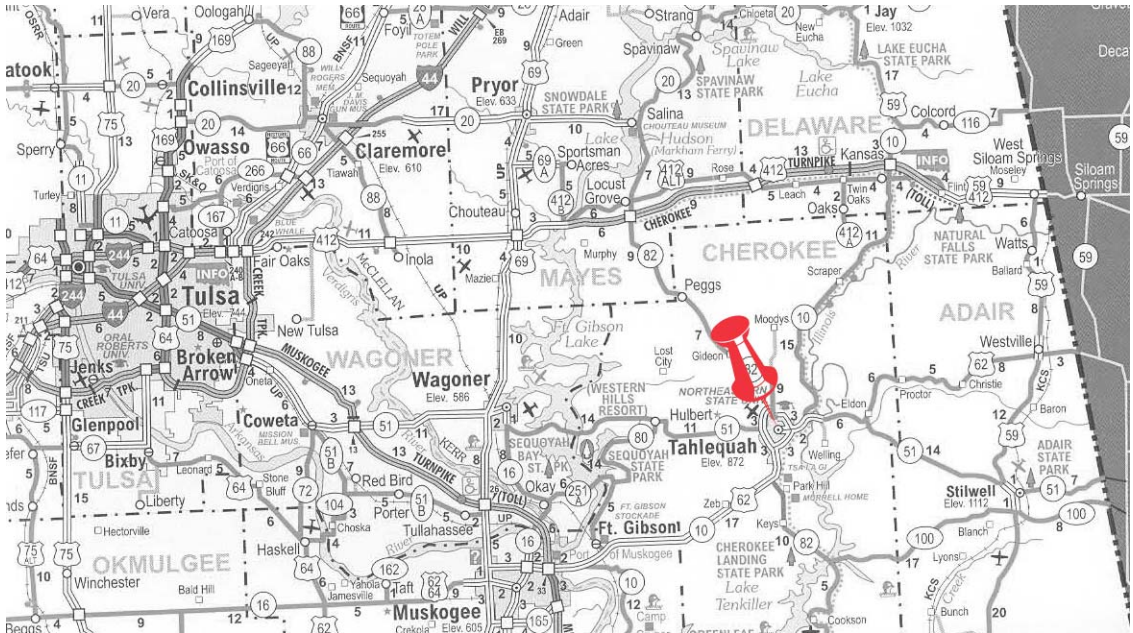


Demographics

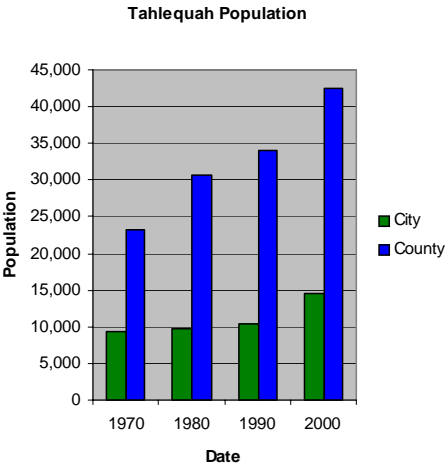
Regional Map

Tahlequah

- Tahlequah to Tulsa 73 miles
- Tahlequah to Oklahoma City 170 miles
- Tahlequah to St. Louis, MO 400 miles
- Tahlequah to Kansas City, MO 280 miles
- Tahlequah to Fayetteville, AR 57.2 miles
- Tahlequah to Tenkiller Lake 16.6 miles
- Tahlequah to Sequoyah State Park 18.6 miles
- Tahlequah to Illinois River 5.5 miles



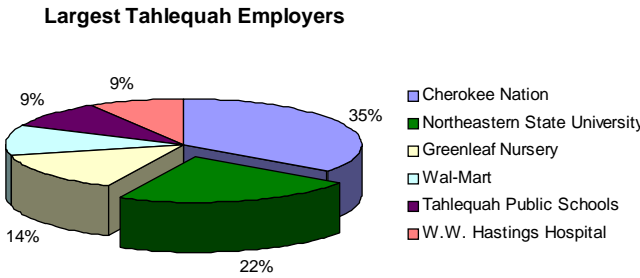
Data provided by Oklahoma Department of Transportation



Data provided by City of Tahlequah

Tahlequah and Cherokee county have been ranked among the fastest growing in the state of Oklahoma, with the City of Tahlequah ranking 9th in Oklahoma.

Northeastern State University is the second largest employer in Tahlequah.



Data provided by City of Tahlequah

City of Tahlequah

- Population (2000) 16,237
- Housing Units 5,000
- Average household size 2.3 people
- Median household income (2005) \$26,000
- Median resident age 26.4 years
- Land area 12 square miles
- Population density 1330 people per square mile

Data provided by U.S. Census Bureau

Education for people 25 and over:

- High school or higher 80.6%
- Bachelor's degree or higher 32.0%
- Graduate or professional degree 14.7%

Races in Tahlequah:

- White Non-Hispanic 57.0%
- American Indian 32.8%
- Black 2.5%
- Hispanic 7.3%
- Two or more races 6.9%
- Other race 4.1%

Increase in number of permits issued for new house construction

- 2001: 31 buildings, average cost: \$104,500
- 2006: 65 buildings, average cost: \$157,400

Data provided by citydata.com



Zoning




NSU and Surrounding Areas

The City of Tahlequah zoning is grouped among three classifications residential, commercial, and industrial. Each classification is divided within itself to form individual zoning ordinances.




Residential is zoned as:

R-1	Single family district	Light Yellow	
R-2	Two family district	Yellow	
R-3	Multiple-family district	Orange	

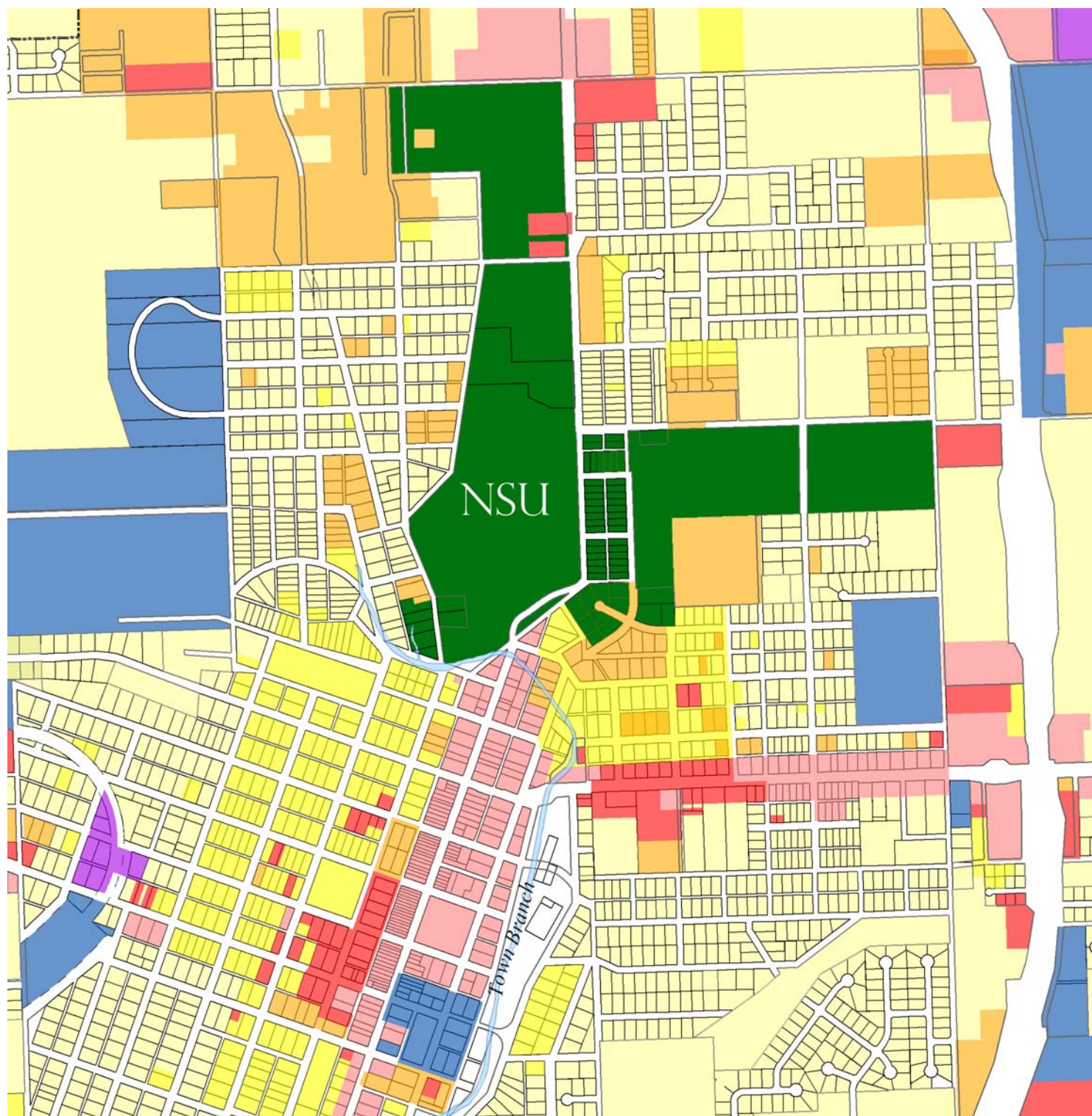
Commercial is zoned as:

C-1	Neighborhood commercial district	Red	
C-2	General commercial district	Pink	
C-3	Open display commercial district	Blue	

Industrial is zoned as:

I-1	Restricted light industrial district	Light Purple	
I-2	Light industrial district	Purple	
I-3	Heavy industrial district	Dark Purple	

The majority of the zoning around NSU is residential. The downtown area south of campus is zoned commercial with residential zoning toward the west of downtown. This is mostly a two family district depicted by yellow. North of campus has a few areas zoned as multiple family districts.



Data provided by City of Tahlequah

History Trail

Original Trail Location



Data provided by Julie Shannon, City Planner of Tahlequah, OK

Legend

History Trail - - - - -

Proposed Trail Location



Rendering of the suggested changes to the History Trail

Phases 1-4 Description

The Tahlequah History Trail is a project for creation of a walking and biking path open to the public. The path, in its final stages will include markers depicting Tahlequah's rich history and identifiers for specific trees and other biological specimens unique to the area. The History Trail is currently in the construction process with phase one being recently completed. The trail head starts east of NSU's campus on Smith Street. The trail is planned to parallel the Tahlequah Town Branch Creek connecting the campus to Sequoyah Park, downtown Tahlequah, Ross City Park, Felts Park, and the Illinois River in the History Trail's final phase.

Proposed changes to the History Trail would establish a connection to the historic Leoser Cabin. The trail would also run the entire length of the proposed Sequoyah Parkway.

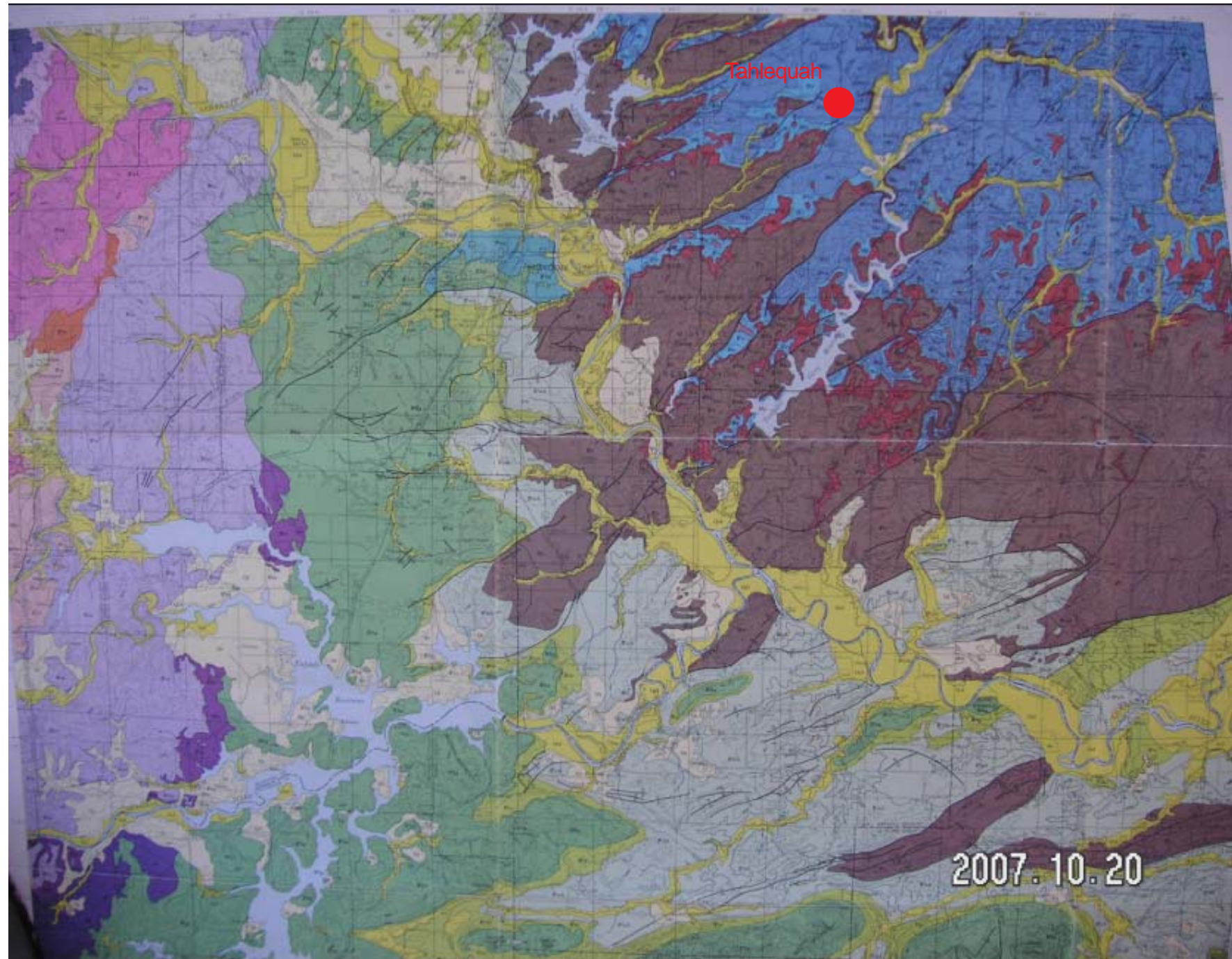
Mapping Inventory

Geology and Soils

Cherokee County lies along the western fringe of the Ozark Uplift in an area known as the Ozark Highland (116A on MLRA map). Geologically, the Ozarks are comprised of a series of Paleozoic sedimentary rocks capped, in eastern Oklahoma, by the Mississippian Keokuk Formation (dark blue color on Geologic map). The Keokuk is predominantly a white to buff, iron stained, massive, often fractured limestone and chert. It varies in thickness from about 100 to 300 feet in the area. It forms an excellent stable bedrock for foundations, generally makes for shallow soils and sometimes difficult excavation for construction. It serves as a reasonably good aquifer supplying water for local wells and a few natural springs. Soils are generally gravelly, silty loams.



Typical limestone specimen from the NSU campus.



Geologic Map from the "Reconnaissance of the Water Resources of the Fort Smith Quadrangle, East-Central Oklahoma." Melvin V. Marcher. Oklahoma Geological Survey, Hydrological Atlas 1: 1969.

Mapping Inventory

Topography and Drainage

NSU and Tahlequah lie at the western edge of the Ozark Plateau, a deeply dissected plateau formed from Mississippian limestone and chert. The region is part of the Illinois River watershed and the Keokuk and Reed Spring aquifer formations.¹

The academic core of the campus sits on a hill north of downtown rising to an elevation of 843 feet, overlooking Town Creek a tributary to the Illinois River. Several smaller branches of Town Creek drain the campus to a low point of 780 feet at the southern extremity of campus where Town Creek has been dammed to create Beta Pond. Much of these branches have been channelized or actually piped and buried. Town Creek has a 100 year floodplain defined by the Federal Emergency Management Agency (FEMA) as shown on the map. Campus officials also indicate that the smaller branches are prone to flooding which is exacerbated by the many surface parking lots and paved areas of the campus. The terrain rises to the north with the football stadium being the highest point on campus at an elevation of 870 feet.

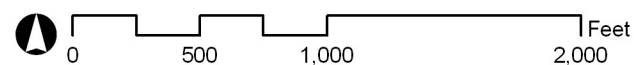
Note 1 - Summarized from pages 2 and 3 of the Historical Atlas of Oklahoma, Fourth Edition, Charles Robert Goins and Danney Goble, University of Oklahoma Press: Norman, 2006.

Legend

- 100 year floodplain
- 1 meter contours
- spot elevations



Channelized creek near the Physical Plant.

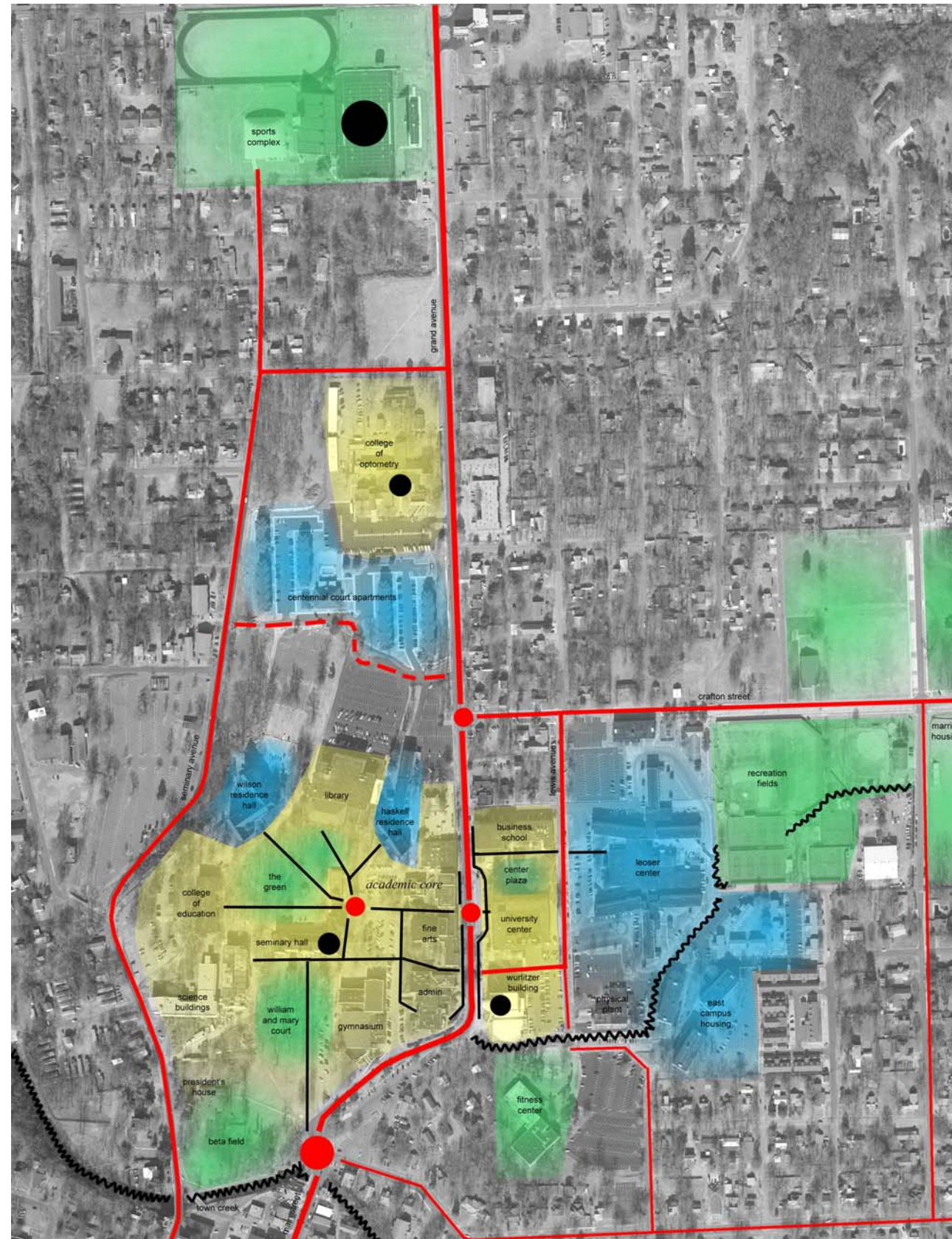


*Map Projection: Lambert Conformal Conic,
1983 North American Datum State Plane,
Oklahoma North FIPS-3501.*

Mapping Inventory

Legibility Analysis

This map adapts MIT Urban Planning Professor Kevin Lynch's methods of categorizing the legibility of towns and districts into paths, nodes, edges, landmarks, and districts. The Northeastern State University campus sits on a hill with the key landmark of Seminary Hall overlooking downtown Tahlequah. A three-sided court formed by Seminary Hall, Science Hall and the Gymnasium faces south. Town Branch Creek forms an edge to the south and to a lesser extent to the west. The historic academic core of the campus forms a polygonal space with many trees on the north side of Seminary Hall. The east and west sides of the academic core lack connections except an amorphous parking lot, which also separates it from the Centennial Apartments and the College of Optometry. The campus sports complex containing the running track and football stadium is isolated even farther north and far from the fitness center and intramural fields. The campus is bisected by Grand Avenue with the historic academic core on the west side and much of the residential campus on the east side. The east side of campus is primarily south of Crafton Street with an undefined boundary to the east.



Legend

Seminary Hall	●	Landmarks
	●	Nodes
Grand Avenue	—	Paths
	—	Edges
<i>Hills</i>		Districts

Pedestrian Network



Parking System



Street Grid



Mass-Void Analysis



Green Coverage



Campus Composite



Mapping Inventory

Physical Systems

This series of maps isolates several of the campus physical systems to obtain a better understanding of each and the campus as a whole:

The intricate lattice of sidewalks forms a dense network in the campus core with linear extensions to outlying facilities. A large plaza is formed between the University Center and the Business and Technology Hall.

The parking system has a haphazard and unplanned appearance, covering approximately 50 acres of campus land.

The surrounding street grid is actually a collection of intersecting grids consisting of the original townsite to the south, the orthogonal surveyor's grid aligned with the cardinal directions and the organic streets to the west influenced by the creek and surrounding landforms.

The mass - void analysis shows the contrast of scale between the large campus structures and the surrounding houses and small commercial buildings. The texture of the surrounding buildings is coarser to the east than the west side of campus. Several defined open spaces are apparent on the campus including Beta field, the horseshoe shaped main quad and the plaza north of the University Center.

The extensive campus tree canopy is evident in the green coverage map, as well as the concentration of recreation fields on the east side of campus.

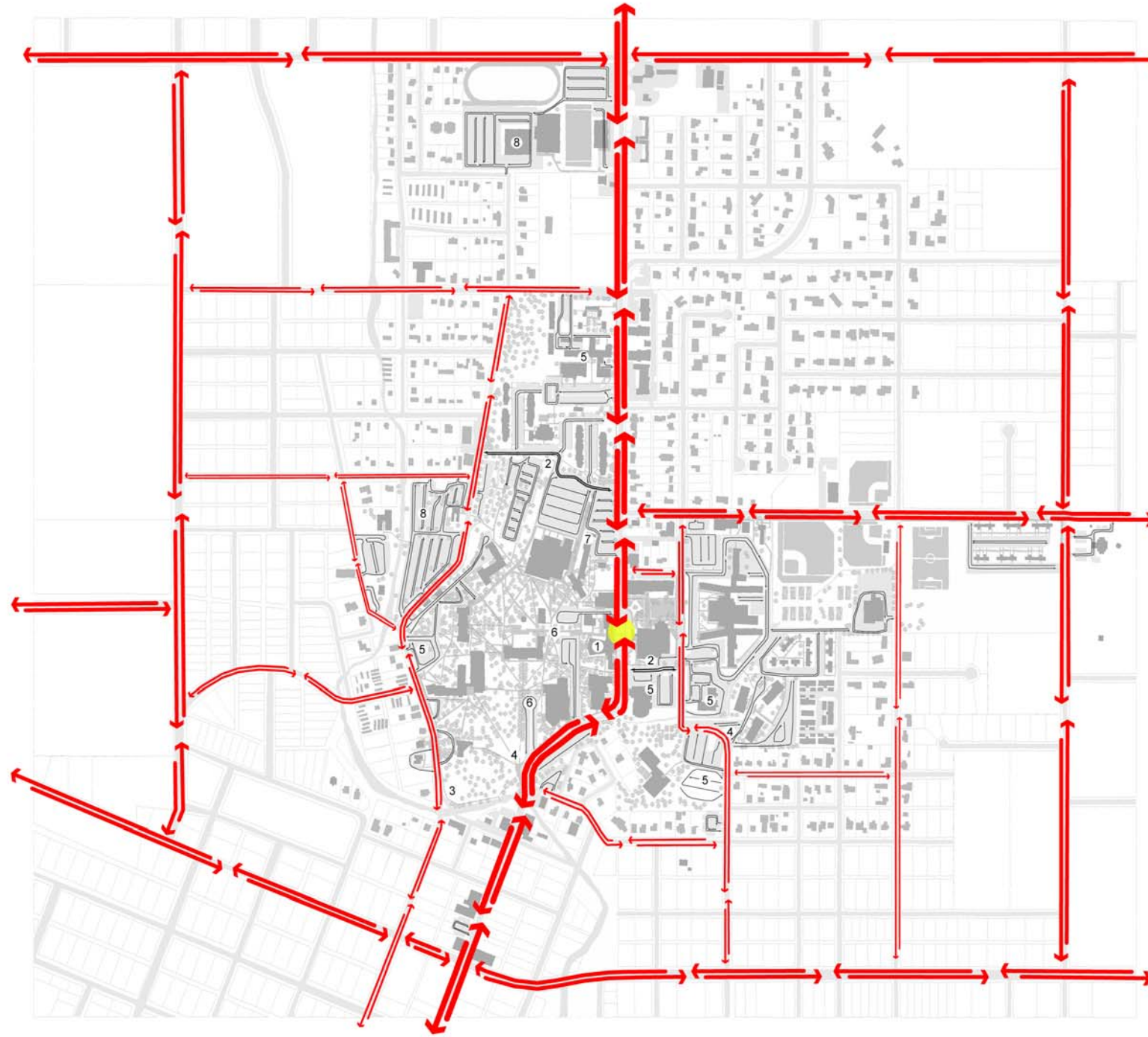
The campus composite map shows the overall campus shape with the compact, historic campus core on the west side, the sprawling, unbounded east campus and the isolated athletic facilities to the north.

Mapping Inventory

Vehicular Circulation

This map shows the basic street patterns and flow of traffic in and around campus. The red arrows are public streets and the black arrows are paths within parking lots. Vehicular circulation on and around the NSU campus consists of both municipal streets, campus drives and parking lots. The main route bisecting campus from north to south is Grand Avenue, also known as Old Highway 10, which makes a jog to connect to the rotated grid of the original townsite which turns into Muskogee Avenue. Several lots on campus serve as throughways primarily the library parking lot connecting Seminary Avenue and Grand Avenue. Other lots are pathways within campus. The lot at University Center connects Grand Avenue to several campus buildings including the Recreation Center and multiple campus housing facilities. Several traffic issues are identified by number on the diagram:

1. A conflict between vehicular and pedestrian traffic at the University Center.
2. Through traffic is routed through a parking area.
3. There are no streets connecting the east and west sides of campus.
4. Several intersections are poorly defined with many entrances and flows.
5. Parking lots with confusing circulation paths.
6. Several parking areas intrude into the campus core.
7. Parking areas with dead-end aisles.
8. Large parking lots remotely located and underutilized.



Map Projection: Lambert Conformal Conic,
1983 North American Datum State Plane,
Oklahoma North FIPS-3501.



Parking in center of campus.



Pedestrians crossing at Grand Avenue.








Parking

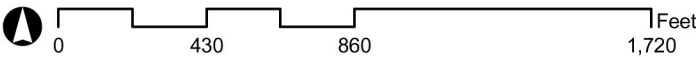
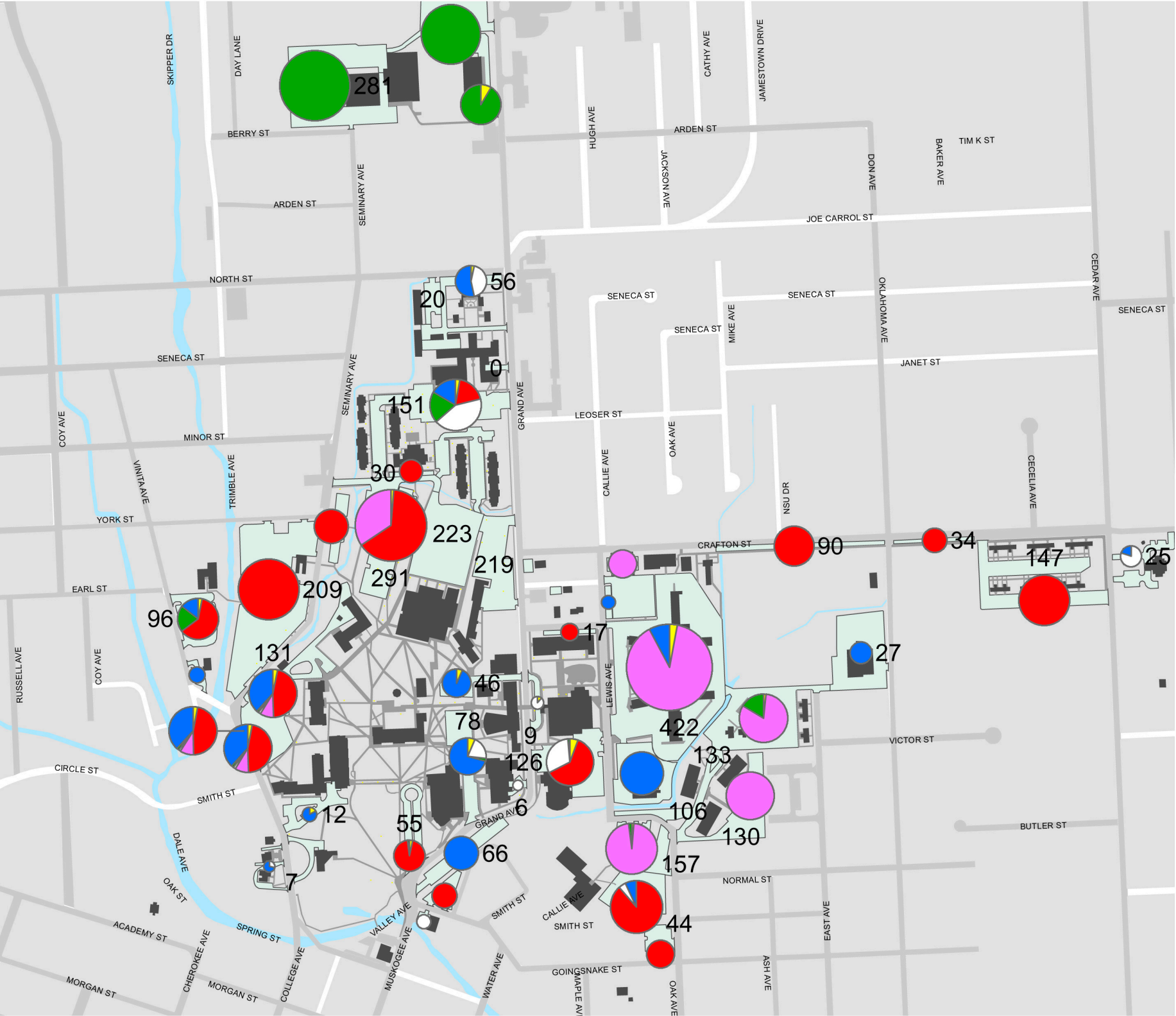
Distribution and Use

Information from Parking Services was used to evaluate the use and location of parking lots across the NSU campus. Parking along public streets and in private lots was not considered for this mapping project.

Visitor spaces, along with Faculty and Staff spaces are centrally located near the core of the campus. Commuter parking is provided along the edges of campus with limited space in the core. Parking for campus residents is located near housing. The football stadium has two large parking lots for gamedays and other events.

Legend

-  170
-  HandicapSpaces
-  CommuterSpaces
-  DormSpaces
-  VisitorSpaces
-  Recreation_OtherSpaces
-  Faculty_StaffSpaces



Map Projection: Lambert Conformal Conic,
1983 North American Datum State Plane,
Oklahoma North FIPS-3501.

Housing

On Campus Student Housing

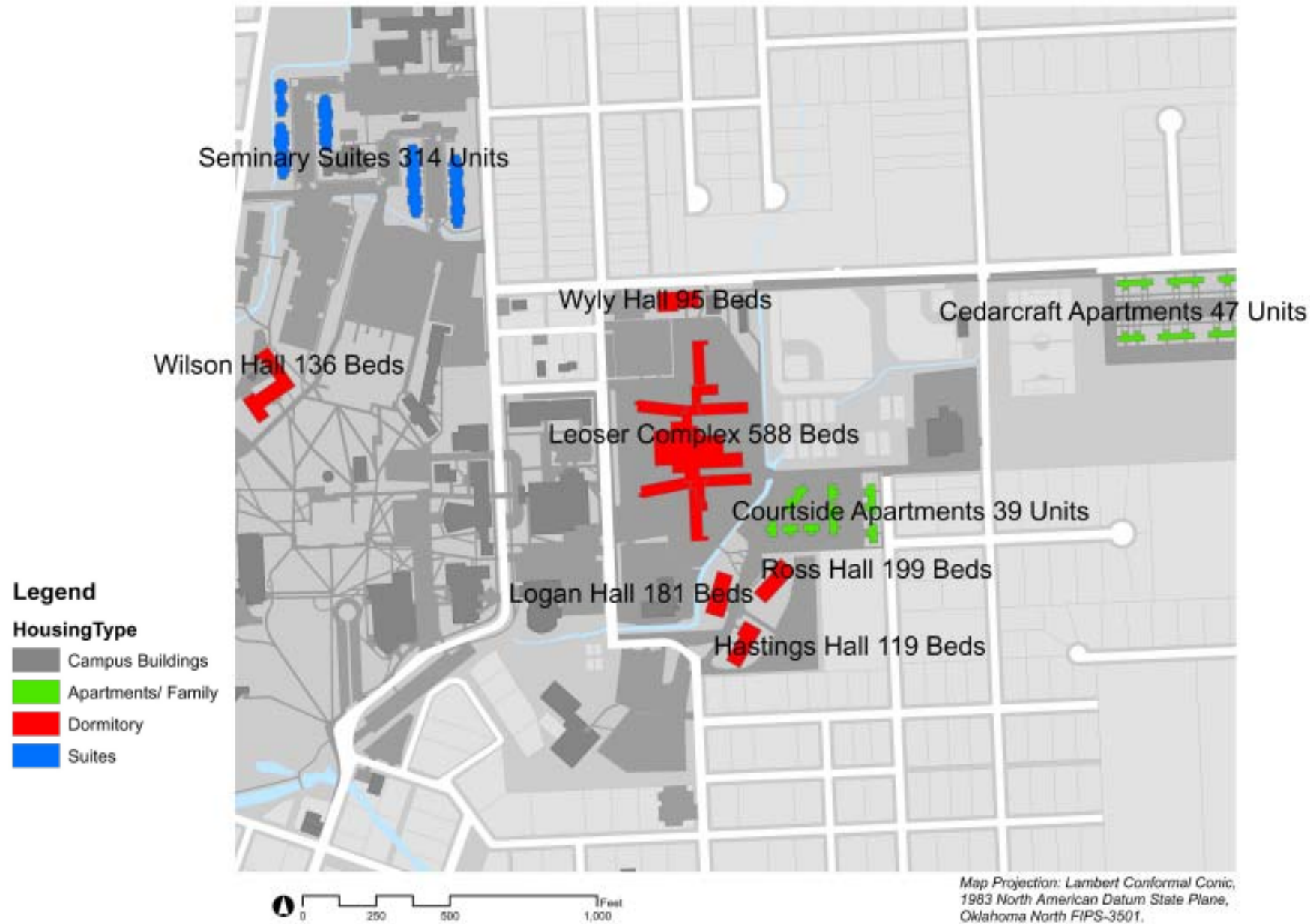
Dormitory life at NSU offers underclassmen a traditional experience. Each residence hall has its own unique amenities to offering students. Students can choose a private room or to live with a roommate. Many students choose residence halls because they provide a safe social atmosphere in close proximity to the academic core of campus. Parking is provided for all residents and there are in-house food service venues.

Seminary Suites are the newest additions to the NSU housing system. Two or four bedroom suites come standard with full utilities including high speed internet. A centrally located commons area and laundry facility are on site, along with a recreational clubhouse and pool.

Northeastern State University has apartments available for families, these units have a standard kitchen and laundry facilities and parking is included.

The ideal location for new housing is near the Leoser complex. This is the best site for new student housing on campus due to its close proximity to the core of the academic campus as well as the University Center and the new Student Services building.

There is question as to whether or not NSU should remain in the business of housing students. The economics may be working against students residing on the NSU campus. Logan, Hastings and Ross are in poor condition, and may soon be not fit to be house students. All together, these three dormitories house nearly 600 students. If these students are unable to live in these buildings, NSU will be forced to trade these students for commuter students. Without additional housing, NSU will become more and more a commuter campus. The future of housing and the NSU community is a question that is to be answered by the community itself.



Driveway to Logan, Ross and Hastings Halls.



Clubhouse and pool area at Seminary Suites.



Wyly Hall seen from a distance.

Demographics

Enrollment

Northeastern State University in Tahlequah has been experiencing a steady decline in freshmen enrollment since 2003. However, the top graph indicates that senior enrollment has increased during the same period. Transfer student enrollment is up nearly 3% in the last year alone.

Professional enrollment in the Graduate College remains fairly constant over time. The College of Optometry admits 26 students a year out of an applicant pool estimated at around 200.

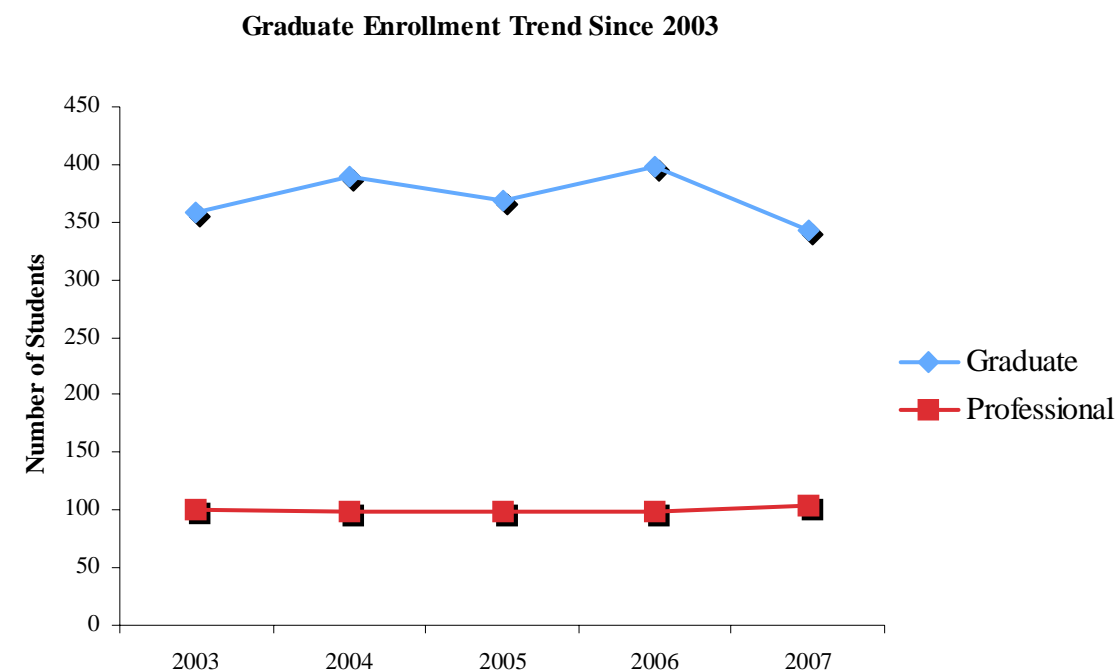
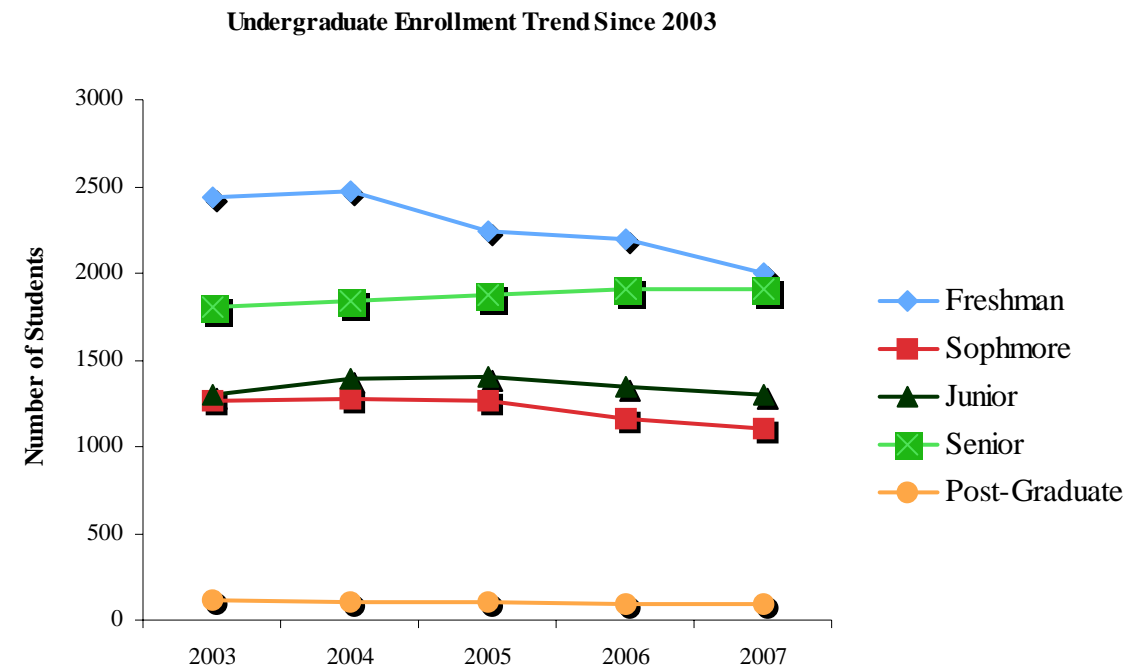
Graduate enrollment has also experienced the downward trend since 2003. NSU confers masters degrees with several program options.

The Graduate programs offered at NSU Tahlequah are:

- M.A., Communication
- M.A., English
- M.Ed., Mathematics Education
- M.Ed., School Administration
- M.Ed., School Counseling
- M.Ed., Science Education
- M.Ed., Teaching
- M.S., Collegiate Scholarships & Services
- M.S., Counseling Psychology
- M.S., Industrial Management
- M.S., Health and Kinesiology
- M.S., Library Media and Information Technology
- M.S., Speech-Language Pathology

Graduate Certificate Programs:

- School Counselor
- School Library Media Specialist
- Visually Impaired
- Writing Program Administration



Demographics

Student body composition

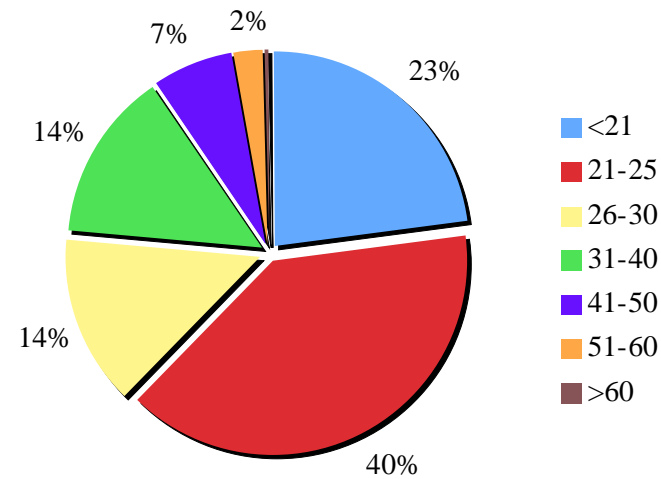
More than half of the students at NSU are under the age of 25. Traditional students use the campus for academic study and social activity. The demands and needs of this age group are rapidly changing with technology.

Recruitment from high schools and transfer students from other colleges and universities keeps the NSU population within the typical age range of a traditional university. Economic trends over the past several years have taken people from their careers and put them back into the classroom. Identifying the curriculum that non-traditional students are seeking can help NSU increase its enrollment and advance its campus diversity.

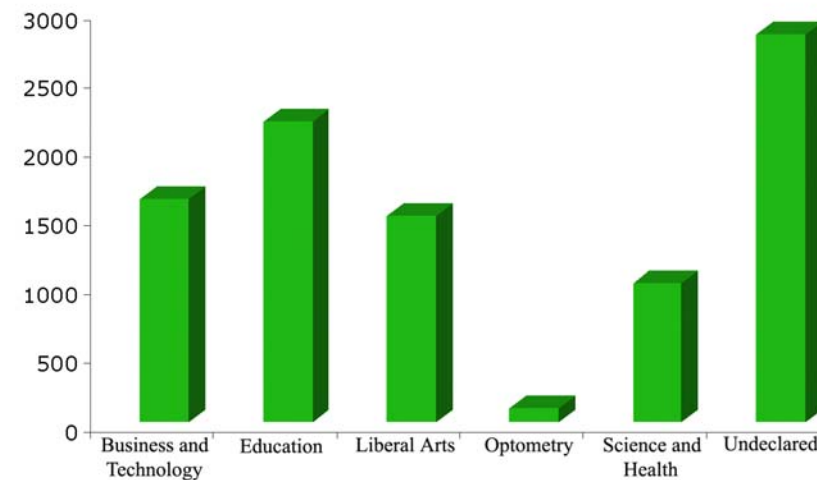
NSU has the largest Native American student enrollment in the state of Oklahoma Higher Education System. International student enrollment is largest from the country of Japan. However, there are more than 50 different nations represented at NSU.

Based on the enrollment numbers at the begining of the fall 2007 semester, 22% of NSU students lived on campus, leaving 78% as commuters. Campus residents are seperated between students living in dorms and suites, and then those living in campus apartments. In addition to paying for their rooms, students in the dorms and suites must also purchase a meal plan from University Housing.

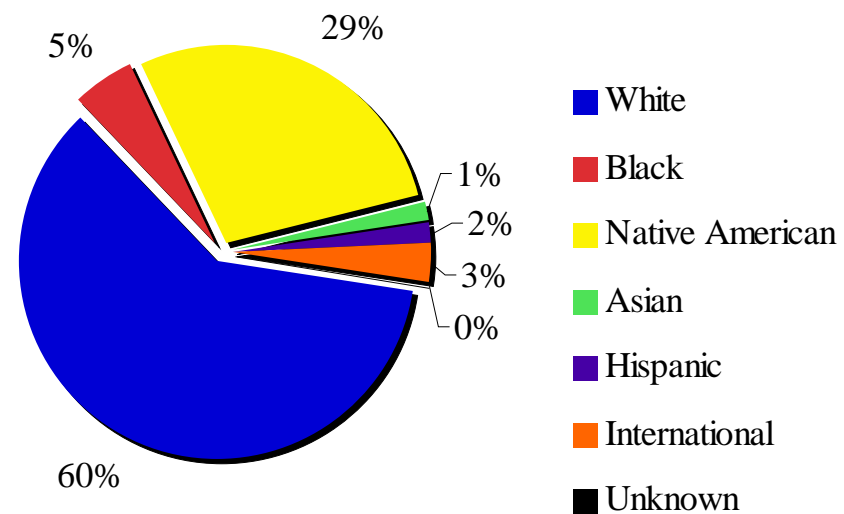
NSU Enrollment by Age



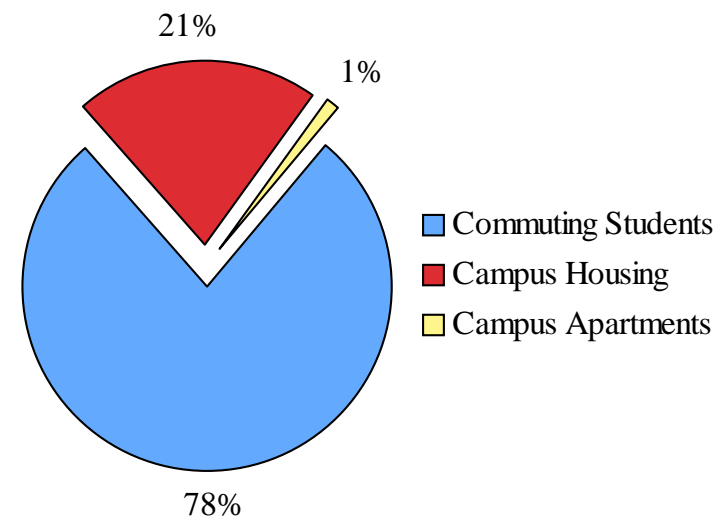
NSU Enrollment by College



NSU Enrollment by Race and Ethnicity



NSU Campus Housing Occupancy



Comparison Chart

Primary/Secondary Peers

<u>Primary</u>	Southeastern Okla.State University	Pittsburg State University	University of Central Missouri	Northeastern State University
Main Campus Location	Durant, OK	Pittsburg, AR	Warrensburg, MO	Tahlequah, OK
Setting	Small Town	Small Town	Small Town	Small Town
Locality Population	13549	19243	16340	14458
Year Founded	1909	1903	1871	1851
Enrollment	4000	6859	10711	9072
Mission	Regional University	Regional University	Tier 2 University	Regional University
Endowment	N/A	49 million	23 million	12 million



-All are in a small town and/or have a similar size enrollment
-All are regional universities with similar issues

<u>Secondary</u>	Truman State University	Arkansas State University	Miami University
Main Campus Location	Kirksville, MO	Jonesboro, AR	Oxford, OH
Setting	Small Town	City	Small Town
Locality Population	16988	55515	21943
Year Founded	1867	1909	1809
Enrollment	5850	17401	15726
Mission	Public Liberal Arts	Tier 2 University	Tier 2 University
Endowment	27 million	36 million	320 million



-All are either larger or more selective than NSU
-Each was a regional campus that has had a shift in direction



Primary Peers

Southeastern Oklahoma State

Southeastern Oklahoma State University - “Campus of a Thousand Magnolias”- Durant, Oklahoma

- SOSU is in the process of developing their master plan: “A Design that Endures”
- **Key Issues:**
 1. Concern about campus design principles/history and how it relates to SOSU. There is a need for a strong image, access, official entrances, and the defining of the campus edge.
 2. Concern about eastern SOSU campus being in disrepair and having no good connection to the rest of the campus, making it look separate.
 3. Historical timeline of the physical development of SOSU.
 4. Policy statements:
 - Reduce life-cycle costs of operations and maintenance.
 - Have facilities that are less costly to modify.
 - Maintain and improve structures that contribute to quality of campus.
 - Reduce deferred maintenance to zero by 2010.
 - Enhance landscaping.
 - Complete criteria for ranking the importance of capital projects.
 - Complete a space management plan.



SOSU building

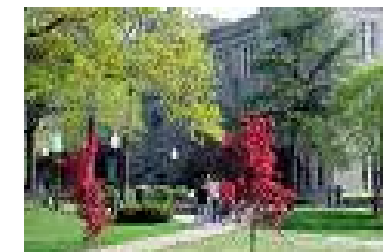


Columns at SOSU

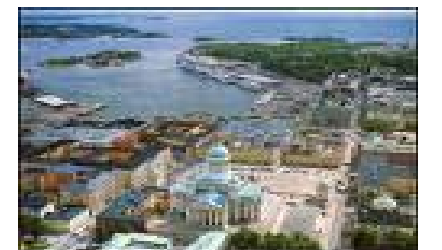
University of Central Missouri

University of Central Missouri-Warrensburg, Missouri

- UCM completed a master plan update in 2002.
- UCM’s initial plan was completed in 1989, updated in 1996 and again in 2002. Because most previous recommendations have been carried out, the new plan focuses on facilities management.
- **Key Issues:**
 1. *Interior space utilization*-Some space is substandard. Residence halls still heavily bonded. There is a need for a central storage facility.
 2. *Parking and traffic flow*-Closure of interior streets and creation of a pedestrian mall have not resulted in a parking shortage, although issues remain.
 3. *Renovation/construction*-Additional funding is needed to complete projects.



UCM Campus



Aerial image of UCM



Primary/Secondary Peers

Pittsburg State University

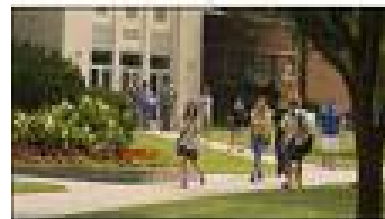


Pittsburg State University- Pittsburg, Kansas



Landscaping at PSU

- Last Master Plan update completed in 1999 with a new plan underway.
- Major Goals:
 1. Return the core of campus to pedestrians
 2. Provide new centers of student activity
 3. Tie the campus together in a unified and uplifting setting
 4. New buildings should appropriately relate to other buildings in vicinity
 5. Construction projects should enhance master plan
- Areas of Focus:
 1. Connective strategy, campus gateways and wayfinding
 2. Building and design review guidelines
 3. Residence life strategy
 4. Bicycle policy and parking strategy
 5. Vehicle circulation-create a campus ring road
 6. Grounds improvement-including landscaping and outdoor furniture
 7. Master plan revisions and updates



Scene at PSU



"Gorrilla Park"

Truman State University



Truman State University-Kirksville, Missouri

- Master Plan completed in 2000 (Hellmuth, Obata and Kassabaum-HOK) with an "Academic Project Development" update completed in 2003 which focused solely on specific projects and the amount of square footage required for the change in the mission of the University from a regional to public liberal arts focus.
- Considerable attention was paid to closing streets and moving parking to the exterior of campus.
- Summary of the Master Plan Issues:
 1. Continue enhancements of the academic environment
 2. Enrich student housing
 3. Upgrade landscaping
 4. Minimize pedestrian/vehicular conflicts
 5. Improve pedestrian routes



The Columns at TSU

Secondary Peers

Arkansas State University

Arkansas State University-Jonesboro, Arkansas



ASU campus



ASU at Night

- ASU has become a NCAA Division 1 school.
- The “Campus Design Study: Site Analysis and Goal-Setting Workshop Report” was completed in 1997 by The Stuck Associates and EDAW, Inc. Updates of the plan were completed in 2002 and 2007.
- This was the most detailed and extensive master plan reviewed.
- According to the Executive Summary:
 1. There is a focus on connections with the community of Jonesboro. Landscaping on campus could involve local garden clubs. Greenway trails are suggested.
 2. Focus is on improvements to the campus edges, entrances, streetscapes, and central open spaces.
 3. Recommendations are included on parking and circulation with a pedestrian focus.
 4. Concern is given to how future buildings will fit into the campus.
 5. A list of projects was developed by priority and estimated costs.
- Design concepts, costs and suggestions were provided for the overall open space/campus framework, edges, entrances, a cultural arboretum, a new main entrance, signage, streets, student center, open space, the quadrangle, recreation elements and outdoor site furnishings.
- An update was completed in 2002 by Stuck Associates and Carter and Associates Architects. The goals for the update were:
 1. Provide a safe and accessible campus for pedestrians. Provide for convenient and safe parking for commuter students, faculty and staff, and visitors to campus.
 2. Look at campus properties to sell which no longer meet the needs of the university. Examine adjacent sites to purchase to further the mission of ASU.
 3. Locate proposed facilities to provide for a logical phased development and growth of campus.
- A schedule of projects was adopted in a systematic way.



Miami University

Miami University-Oxford, Ohio



- Miami has transitioned into a full fledged Division I NCAA school. Miami is one of the original “public ivys”—a public alternative to the Ivy League.
- Begun in 2001, its planning effort has been to create “a living document”.
- The Plan is very focused on preserving its beautiful Georgian architecture and history of the campus.
- Elements examined:
 1. Circulation system—uses a campus grid.
 2. Wayfinding—the fact that so many buildings exhibit similar architecture requires good wayfinding. An exterior graphic sign program is expected.
 3. Planning analysis—open space, activity space and circulation corridors. Spaces are categorized on the basis of function and spatial equity.
- Major accomplishments (since the beginning of plan) include: a new academic quad (completed by the removal of an ice arena and construction of underground parking beneath the quad), a new ice center (relocated and expanded) and new parking structures.
- A detailed projection of needed building rehabilitation is included beyond 2040.
- Miami does not use demolition, but deconstruction (disassembling buildings with reuse/re-cycling of usable materials).
- Recognition is given to the need for a utilities infrastructure loop plan, particularly a need for a high-voltage electrical system to meet the growing need for power.
- A huge issue is planning for block obsolescence due to the large number of structures built between the 1950s to the 1970s.
- Attention is paid to the funding sources for capital improvements, with a prohibition on state funds being used for non-academic buildings. Bond sales are considered as a solution provided there is a funding source to pay off the bonds.
- Meetings now occur twice a year to update implementation of the current plan and to provide direction, input and assignments for the next six month period.



Miami fall



Miami winter

Master Plan Issues

Circulation and Connections



Library views at TSU

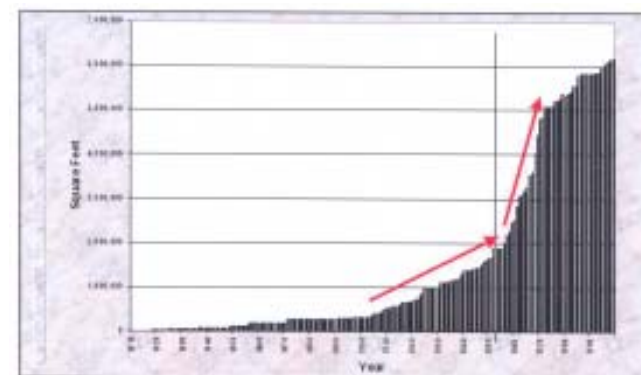


Basic Circulation Strategy:

- Pedestrian (typical goal of making the campus interior more pedestrian-friendly either through creations of new quads, pedestrian malls or street closures)
- Vehicular (moving vehicles to the edge of campus, creating a campus ring road for traffic, moving parking to the edge or into non-obtrusive parking above or below ground)
- Examples of the Circulation Strategy in Specific Forms of Connections:
 - Wayfinding (signage, directions, building/department identifications)
 - Walkways
 - Gathering areas (open space)
 - Landscaping (this could also include outdoor art and furniture)
 - Lighting
 - Gateways (entrances to the campus with a link to the surrounding community)
 - Building relationships (how buildings relate to each other in form, design and location)



New "utilities ring" under construction at Miami University



Graph of block obsolescence conditions at Miami University

Capital Costs

- Block Obsolescence is defined as the problem of many campus buildings aging at the same time.
- It is frequently noted that most buildings need a major renovation or replacement every 50 years. Given the post-war boom in campus construction, this is a major issue for many campuses in the master plans reviewed.

Major issues included:

- Repair Backlogs getting caught up on deferred maintenance and repair of buildings and infrastructure. Regional campuses all referred to this issue, with the plan for SOSU expressing the greatest need.
- Less Costly Maintenance and Construction--constructing infrastructure, buildings and completing renovations in a less costly manner for future maintenance.
- Funding is frequently inadequate for campus facilities and improvements.
- Upgrading Facilities (especially residence halls)--replacing or renovating traditional resident halls with suite or apartment style units.
- New and Renovated Facilities focus on general facilities improvements was a constant theme in the plans reviewed.



New Miami University Ice Center

Precedent

Campus Circulation

Campuses are a network of connections, both utilitarian and artistic, but the core connection is about getting students to their locations:

- Housing
- Classes
- Library
- Student union
- Locations within the city

Clarity involves dividing measures to separate the types of transportation:

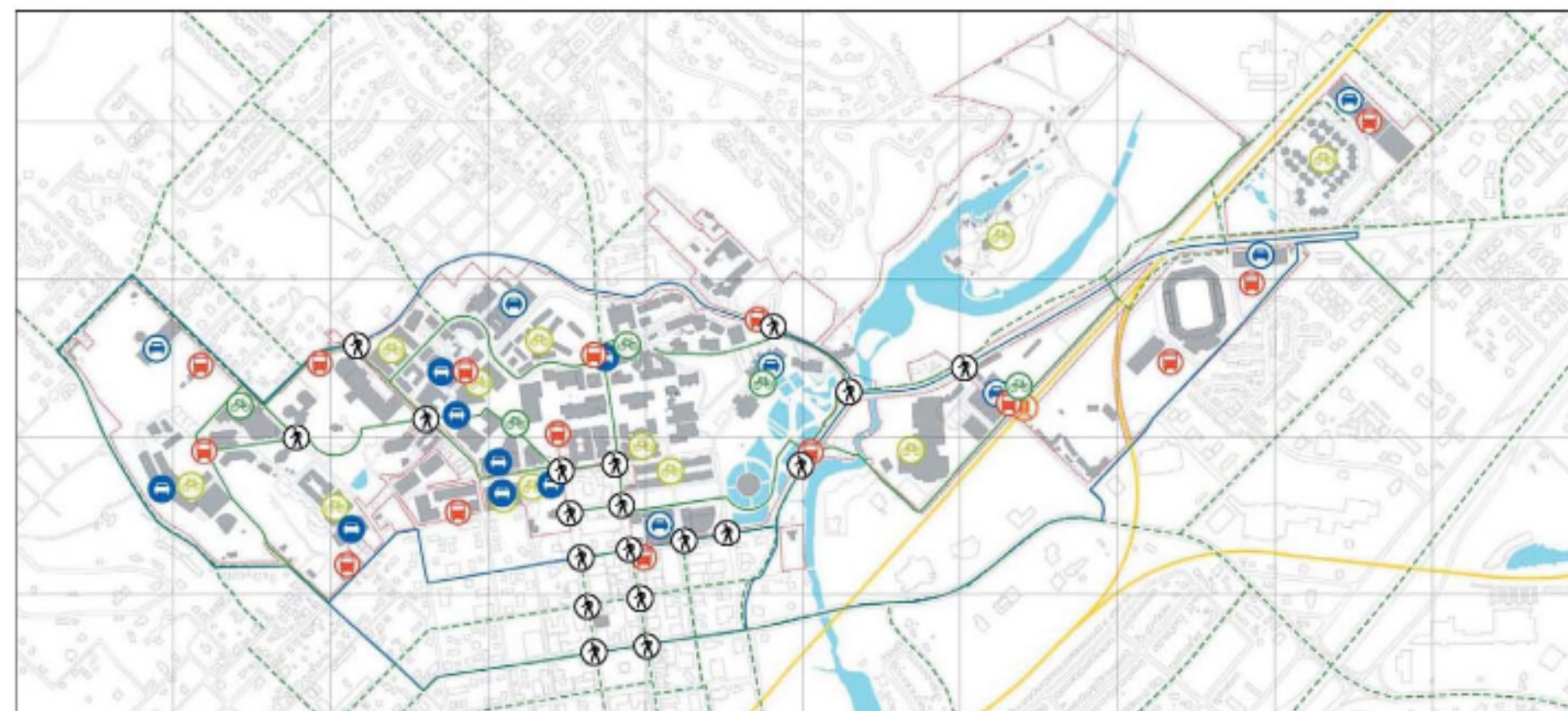
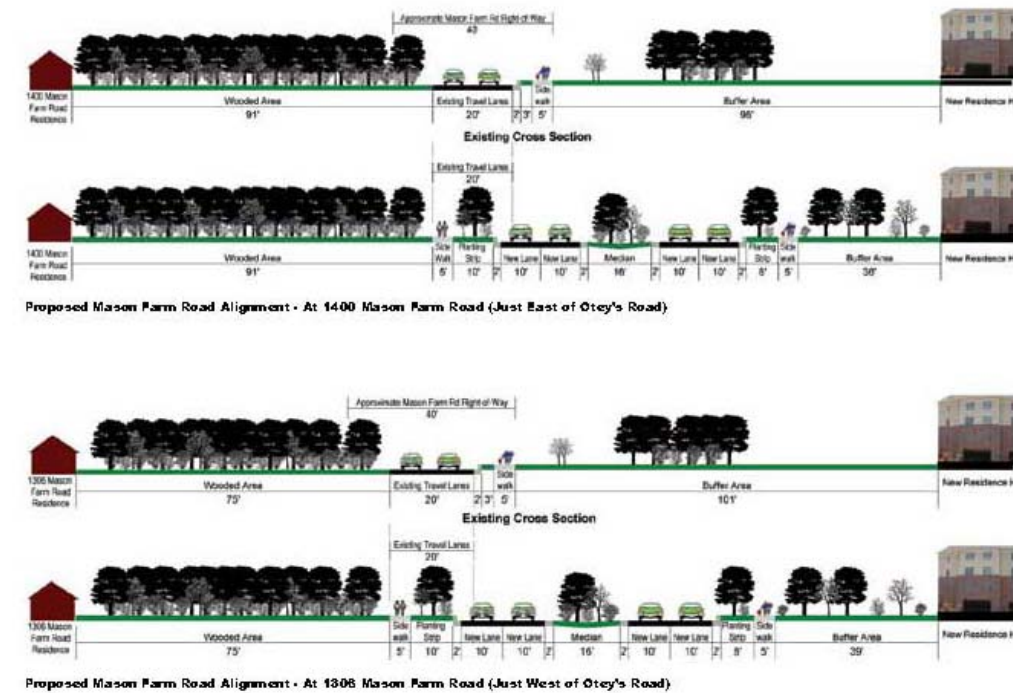
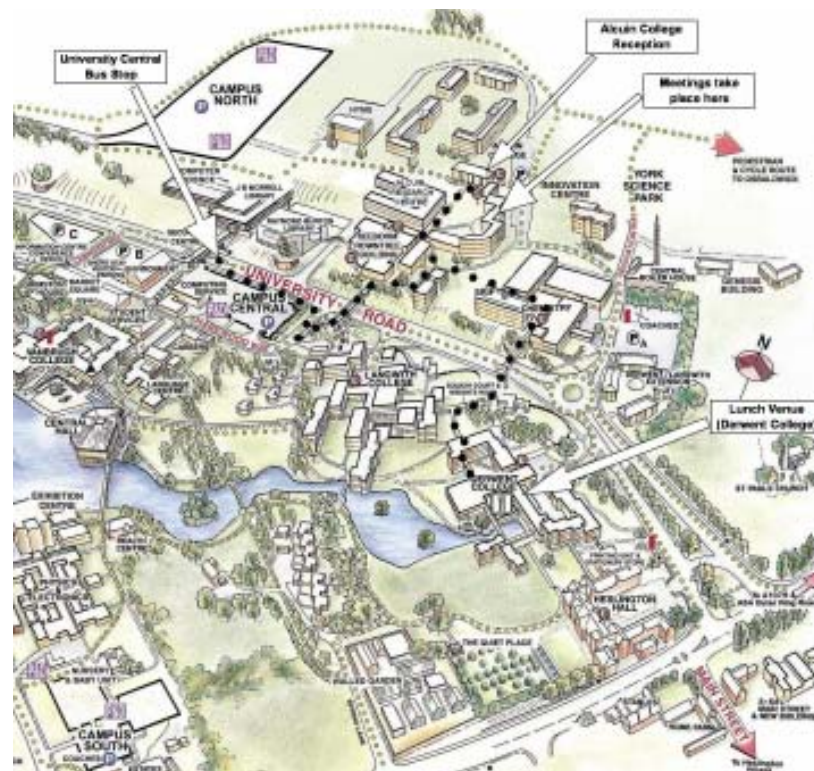
- Pedestrian
- Bike
- Mass
- Auto

It is then necessary to provide common nodes that all modes share. Circulation should be safe, work to enhance the existing opportunities, and finally should be efficient in moving people to their destinations.

(Top left) University of York Circulation Route.

(Top right) University of North Carolina Cross Section Circulation Studies.

(Bottom) Circulation methods map at Texas State University San Marcos.





(Above) From Panhandle State, the sculpture is placed in a formal garden setting, with pathway and landscaping leading up to the location. This lends a sense of importance to the landmark, and creates a node on campus.

(Right) At St. Andrews College, this natural setting forms a landmark by creating a strong edge that works with the circulation path. The location is accessible and is displayed in a way that lends permanence to the location.



(Above) The columns at Missouri University are a central landmark to the image of the campus. Displayed on a null, and set apart in the landscaping, the columns speak of history, tradition, and strength of the collegiate institution in the formation of a solid landmark.

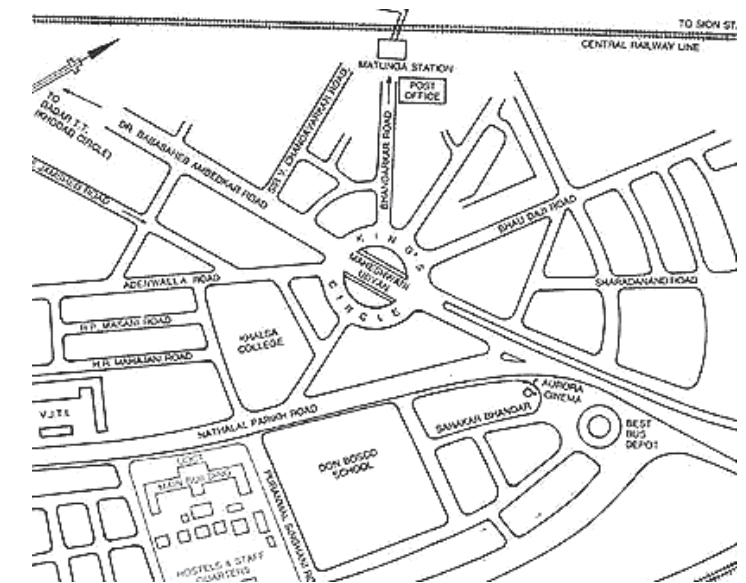
Precedent

Campus Landmarks

On the college campus, landmarks are more than our typical urban description of “having visual hierarchy.” Landmarks are about places of significance to the campus culture.

Landmarks on a college campus must serve both the needs for **social significance**, and **visual prominence**. Landmarks could be part of the built environment, or part of the natural environment – but either way, they should be set apart from their surroundings by the use of circulation, landscaping, and visual prominence.

These locations become key elements in navigation through the campus; “take a right at beta field” should be part of a regular campus direction conversation. It takes more than a sign to say “you are here,” it requires creating a design that communicates “you have arrived.”



(Above) This formal arrangement with strong center node creates a location for visual prominence on the Mumbai University Campus.





(Above) The landscaping design at Gavilan College creates a sense of pathway in what nearly becomes a forest environment. This works with the natural setting of the big trees, native plants around the pathway, while reducing maintenance to only the landscaping adjacent to the buildings.

(Right) Formal garden landscaping at Duke University leading to the Sarah B. Duke Gardens and Pond. The formalized landscaping creates and frames spaces that work with the existing natural conditions and environment.

(Bottom Left) Cutler Hall at Ohio State University has a formal sensibility with the landscaping in front of the building. The landscaping both frames the building, and helps establish the entry to the building by creating pathways, and gathering places in front of the building.



Precedent

Campus Landscaping

Landscaping should bring several specific qualities to the campus:

The landscaping should **enhance circulation** by creating pathways and corridors. Additionally, landscaping should improve circulation by the creation or enhancement of nodes.

The overall landscaping should work with buildings, and create “landscape elements” out of the buildings. On a college campus, the landscaping should help tie all of the elements of the campus together to create a **vista**.

Working with the concept of campus image, the landscaping should add to, or even become the **theme** for the campus by its arrangement, style, and design intent.

Sustainability is a key component of good landscaping. Sustainable design strategies create landscaping that requires little to no maintenance by using local species that work with local conditions.



Precedent

Campus Image

A successful campus plan should create an image for a campus which evokes a sense of memory, history, and nostalgia.

Formality is really about creating a location that speaks to the tradition of the collegiate environment. Collegiate education is a process. The organization of collegiate spaces and elements within the campus should carry a formal sensibility that establishes an environment for learning, a sense of structure in the surroundings, and a sense of community.

Intention within the college master plan is the full understanding of the elements of design working within their context. Simply having good intentions is not enough in planning, having the *right* intentions is imperative. Placement of structures, services, and pathways should be well thought out, and not evoke a sense of “haphazard,” but create a feeling of purpose and strategy to work toward a common goal of consistent image.

Design theme creates a consistent image across the campus by using similar building styles, and materials. By having a common language of built elements (not just buildings), the campus begins to have a sense of place.

A campus wide theme binds together formality and intention into what makes a familiar campus image. It ties together the campus structures, communicates circulation routes (both their location and type), and establishes a sense of permanence, or a timeless sense of design, for the campus.



1896 Master Plan of Harvard - Formality of entry sequence along the main axis of the campus.



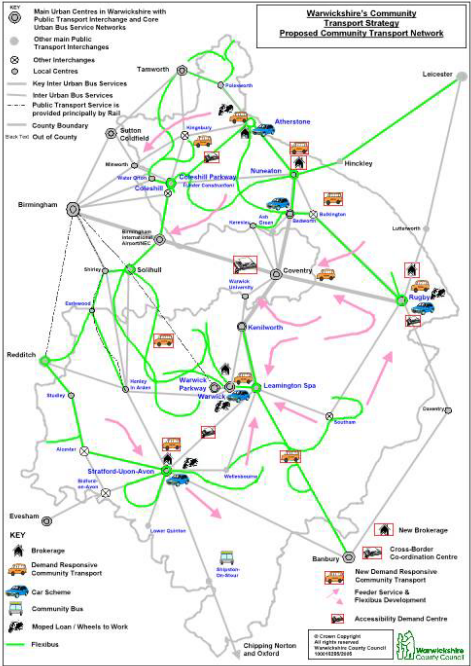
King's College Main Walk. The design creates an opening within the trees with a clear view along a primary axis.



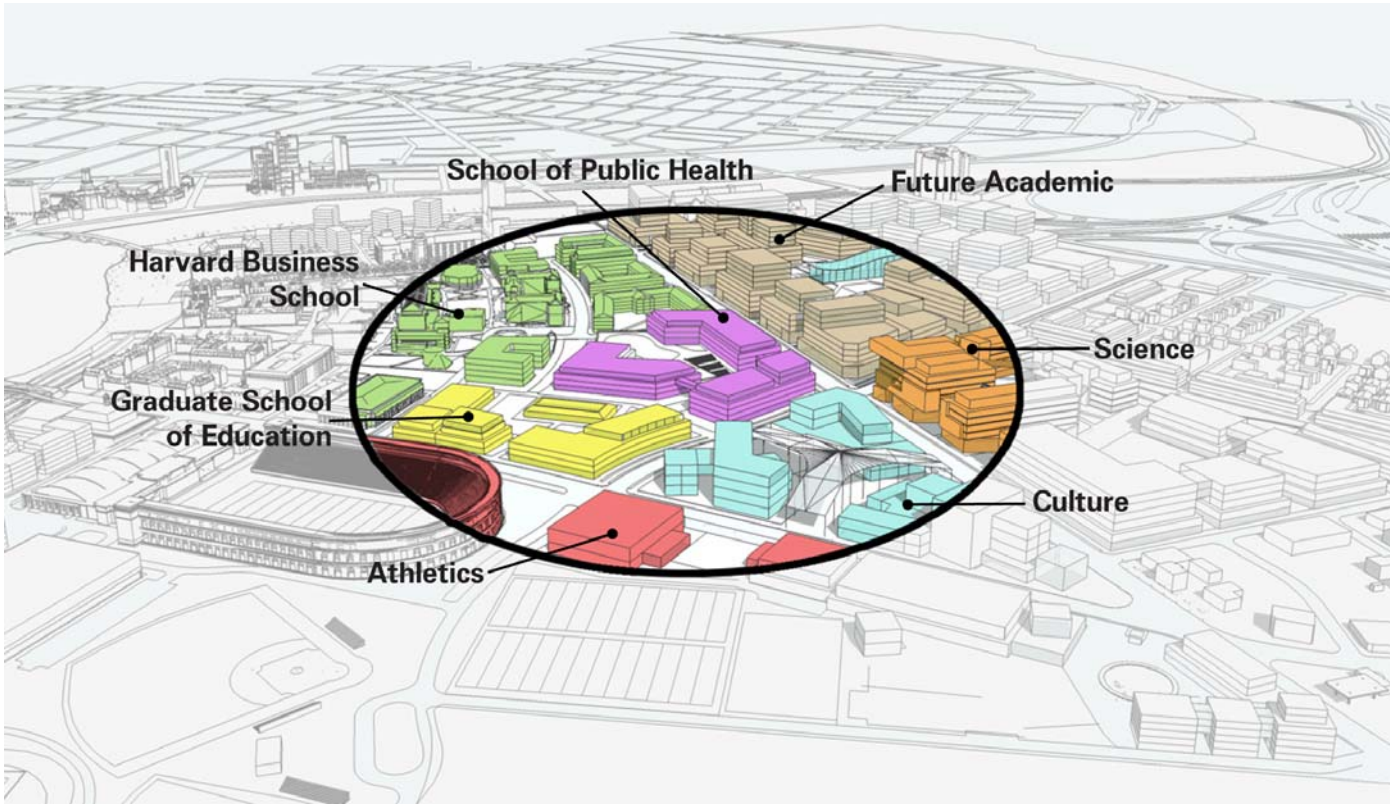
Ohio State University Quadrangle. The horseshoe shape is similar to the original design configuration at NSU, but has been established with more formality, improving the sense of campus image.

(Right) Just off the campus at Puget Sound - between the street and sidewalk is a water retaining bioswale. A bioswale both keeps water on site preventing run-off and erosion, and acts as a filter for water contaminants (oil, access nitrates, etc.) by using the right type of native plants arrange to absorb water, reduce maintenance, and enhance the landscape.

(Right) Campus Connection Plan for Warwickshire University. The map, in its lack of coherency, begins to reveal the complexity of identifying how the college campus relates to housing, transportation, and local development.



(Right) Harvard University Master Plan detailing new areas of campus development noting their relationship to existing community components.



Precedent

Campus Economics

Great planning helps the economy of the campus as well as bolstering the **economy of the community**.

Successful plans look at the university in its larger context:

- How does the housing relate to the local industries and services?
- How does the university’s extensions and ownerships with community improve the districts or neighborhoods they are in?
- How do the employees of the university fit into the community?
- How do the graduates of the university improve the local economy?

A small city unto itself, the university also needs to be aware of its impact on the **economy of the environment**. Sustainability directly effects the type of construction performed, and has a positive impact on improving both maintenance costs, and operational costs. The core issue is the design and construction of building smart: high efficiency, low waste, long term life span, and flexible use of all constructed and placed elements on the campus.

Photo Inventory

Aerial Photography

An aerial photograph provided by the NSU Physical Plant captured in the winter, reveals details of the campus hardscape and pedestrian circulation systems, hidden by the extensive deciduous tree canopy present during the summer months. The football stadium is clearly present at the top of the frame with the historic campus core toward the bottom southwest corner. Downtown Tahlequah is just off the frame to the south. Additional aerial photography was conducted on October 1, 2007 by Professor Schaefer from an altitude of 2,000 feet mean sea level or 1,000 feet above ground level using a 300mm telephoto lens on a 6.1 megapixel, digital camera. The birdseye perspective of Seminary Hall shown below is an example of photographs taken that day. Other photographs included in this report were obtained in the same manner.



Aerial View of Campus



Seminary Hall

Photo Inventory

Buildings



Jack Dobbins Field House



Seminary Hall



Administration Building



John Vaughn Library



NET Building



College of Optometry



University Center



Science Building



Journalism Building



Seminary Suites Clubhouse



Wilson Hall



Wyly Hall



Leoser dormitory



Photo Inventory

Landscape



Sidewalk in front of Haskell Hall



Sidewalk running west toward Seminary Hall



Beta Pond



Beta Pond



Beta Pond



Beta Field



Courtyard between the Administration and Fine Arts Buildings

Photo Inventory

Campus Buildings Downtown



NSU Jazz Lab



NSU Gallery on Muskogee Avenue



Covered sidewalk in front of the NSU Playhouse



University Playhouse



NSU Visitors Center

Recommendations

External Circulation

Recommendations for improving vehicular circulation, calming traffic, providing access to buildings and connecting to the surrounding town.

Campus Landscape

Recommendations dealing with the natural environment, climate, drainage, and urban forestry.

Internal Circulation

Recommendations for pedestrian circulation, public spaces, alternative modes of transportation and parking.

Building Program

Recommendations for expanding academic space, administrative functions, housing and recreation opportunities.

Convocation Center

Alternatives for siting the proposed Convocation Center.

Land Planning

Strategies for acquiring and managing campus real estate assets and coordinating with the City of Tahlequah.

Strategies and Sub-Plans

Detailed recommendations at the system level presented in Appendix A.



Vehicular Traffic:

Sequoyah Parkway:

Current Conditions:

One of the major issues for NSU is traffic north and south through the campus on Grand Avenue. While traffic calming, addressed elsewhere in this report, will help, the best solution is to create an alternative route that takes most of the traffic away from the heart of campus. The problem is that currently no good route exists for such a bypass or alternative route. Consideration was given to both Seminary Street and Lewis Street, but each option would only relocate traffic to another street that cuts through part of the campus. In the case of the Seminary option, there is an issue with routing traffic across an inadequate bridge with steep elevations across Town Branch Creek.

Proposed Actions:

The design solution to this problem appears to be the creation of a new street—Sequoyah Parkway—that will run along Town Branch Creek. The proposed route would begin at Goingsnake, proceed northwest to Grand and continue west just north of Beta Pond crossing Seminary. The parkway would then follow Town Branch Creek and the alignment of the proposed History Trail through the existing trailer park site and ending at the intersection of Trimble and Minor Streets.

Results:

Sequoyah Parkway has the potential to be a significant addition to the natural beauty of Tahlequah while diverting much of the Grand Avenue traffic from the heart of campus. The parkway will greatly enhance the views of Town Branch Creek and the history trail as well as create new recreational and exercise opportunities in the adjacent parkland. It will also open up an area of natural beauty that currently is isolated and should keep or increase the desirability of the neighborhoods in close proximity. In addition, it sets a new visionary standard for continuing the parkway south completely through Tahlequah along Town Branch should the City desire to do so.



Rendering of the Sequoyah Parkway.

Vehicular Traffic:

Sequoiah Parkway - Phasing:

Sequoiah Parkway does not have to be built all at one time. The route allows for the phasing of construction as resources become available. The following is the recommended phase schedule:

Phase 1:

The first phase would be between Grand Avenue and Seminary Street just north of Beta Pond. A key benefit of this phase is that traffic could already be diverted from Grand to Seminary. While Seminary still cuts through the campus, traffic on it will impact the heart of campus much less.

Phase 2:

The second phase is the loop running along Town Branch Creek through the existing trailer park site. In this section, there would be a significant amount of green space created where the trailer park once stood and it would parallel the History Trail. Completion of this section would divert traffic further west from Seminary.

Phase 3:

Phase three would be further north to the intersection of Minor and Trimble Streets. This section would complete the north end of the parkway as recommended. Traffic would be diverted from cutting off land across Seminary that has potential for new NSU development.

Phase 4:

The final phase would extend southeast from Grand to Downing, along the east side of the Creek. This phase would run on the edge of the existing neighborhood surrounding the Leoser Cabin. After crossing Goingsnake, the Parkway would run south through existing parkland to Downing. Completion of this route would complete the Parkway by tying it into an existing park and allowing for future extensions all the way through Tahlequah. Additionally, this route would allow easier access between the campus area and Downing, which is a major arterial street running east.





Roundabout at the intersection of Muskogee, Valley and Sequoyah Parkway.



Traffic signal at Crafton and Grand.



Raised crosswalks and center island at the east and west circulation routes adjacent to the University Center.

Vehicular Traffic

Traffic Calming:

Traffic moving north and south along Grand Avenue eventually crosses in front of the University Center, which is the main east to west gateway for student pedestrian traffic on the NSU campus. This creates a dangerous situation where auto traffic intersects the pedestrian pathway across campus. To increase the safety of the pedestrian, two changes need to be made. First, vehicles must be forced to slow down in order to improve reaction time of both the walkers and drivers. Second, driver must become more aware that they are entering a campus environment. To accomplish both tasks, several “traffic calming” measures are recommended along Grand Avenue, which should act both as a safety measures, and traffic deterrents – promoting the use of alternate routes:

A roundabout at the intersection of Valley Street, Muskogee Avenue, and the proposed Sequoyah Parkway. This would allow a constant flow of traffic at this particularly busy intersection, while slowing the traffic down and adding some definition to the pathways; it would also create an opportunity to provide university signage and act as a gateway for the south entry.

At the three major crossing locations across Grand Avenue at the University Center provide raised crosswalks with a center island to narrow both the north and south bound lanes. This would provide a visual cue to the driver that a crosswalk is approaching, and force a reduction in speed to navigate the street and the raised cross walk. The crosswalk should be an extension of the sidewalk pattern with stamped leaves and a colored concrete to provide contrast with the road surface.

A traffic signal at the intersection of Grand and Crafton Street. This will bring traffic down in speed after exiting the highway and continuing down Grand to the south. It would also serve as a location to divert traffic to the east and west, rather than continuing south on Grand.

Vehicular Traffic

Traffic Dispersion:

Along Grand Avenue, between Crafton and Valley Streets, there is a circulation conflict between pedestrians and vehicular traffic. As a result, Grand Avenue acts as a physical divider between much of the student housing and the academic core of NSU.

To resolve this situation:

- Traffic from the north on Grand is being diverted to the east on Crafton.
- Crafton Street is extended to the west to meet with the proposed Sequoyah Parkway. This would also eliminate the problem of traffic passing through the parking lots North of the Vaughn Library.
- Installation of a traffic signal at the intersection of Crafton Street and Grand Avenue to slow traffic, and either encourage, or force traffic to reroute on Crafton St., eliminating traffic in front of the University Center during peak academic hours.
- Reroute traffic on the South end of Valley Street (which turns into Grand Ave. at the Net Building) onto the proposed Parkway.
- Create a round-a-bout at the intersection of Sequoyah Parkway, Valley, and Muskogee Avenue to slow traffic, and encourage (or force) drivers to take Sequoyah Parkway to the East or West.

These solutions separate the vehicular traffic from the pedestrian traffic by creating a “traffic loop” around the campus. This promotes further use of the existing and underused parking at the edge of campus, and promotes a more fluid entry sequence on the campus when arriving by car: park on perimeter, walk to academic core, walk to class.



Traffic dispersion path indicated in red, moving vehicles off of Grand Avenue

Vehicular Traffic

North and South Gateway:

Current Conditions:

At this time, there is no real gateway or architectural element that signifies the entrance to the NSU campus. The closest element is the irongate archway above the south walkway to Seminary Hall and duplicated up by the Doc Yardley Stadium. There is no defining architectural element that provides a positive first impression upon coming to campus particularly from the north or east.

Proposed Actions:

It is proposed that two gateways be constructed. One would be on the southwest corner of Crafton Street and Grand Avenue. This would serve both primary entrances from the north and east to campus. A unique feature of this gateway would be the use of the ruins from the old football stadium. It is proposed that the rock bleachers remaining be cleaned up and used for terraced landscaping and lighting and a distinctive campus sign. The columns, which are currently south of Seminary Hall in Beta Field, would be relocated to this site where they are more visible.

The other gateway would be on the south and would enhance the current campus entrance. It would involve two different elements. First, there would be a new statue of Sequoyah erected as part of NSU's Centennial celebration in a small plaza on the southwest corner of the proposed Parkway, Grand and Valley. Second, a roundabout would be constructed in the middle of the intersection between Grand, Valley and the proposed Sequoyah Parkway. In the middle would be landscaping and a sign bearing the campus name.

Result:

It is anticipated that the entrances to the heart of the Northeastern campus will be much more identifiable and will present a positive image to the surrounding area.



Proposed north gateway



Proposed south gateway



Existing Bridge #1



Existing Bridge #2



West Entry

Pedestrian/Bicycle Gateways

Current Conditions:

There is a pathway from a large west parking lot that makes access to the lot undesirable. The pathway is narrow, with steep steps, unlit and has a rickety bridge across a stream. Thus, the parking lot is largely unused by students, faculty and staff as it is considered the parking location of last resort.

Proposed Actions:

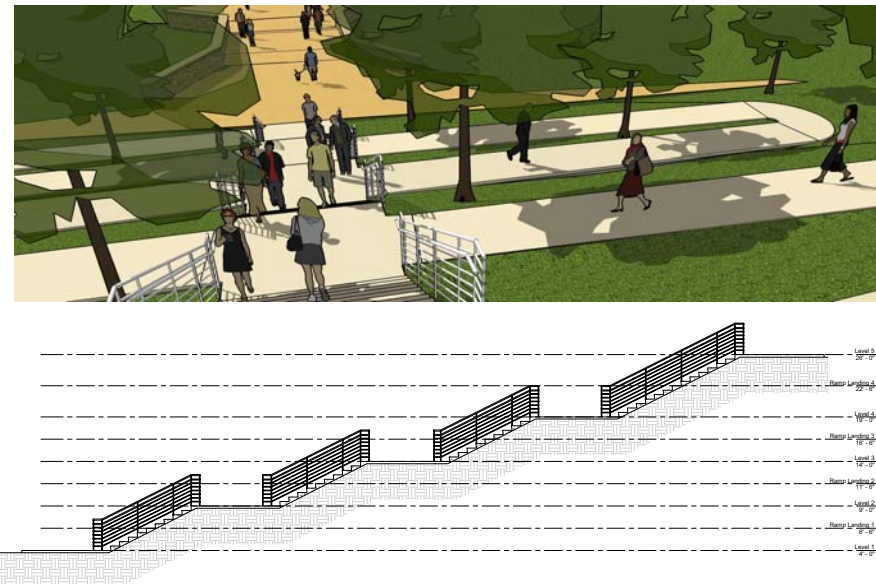
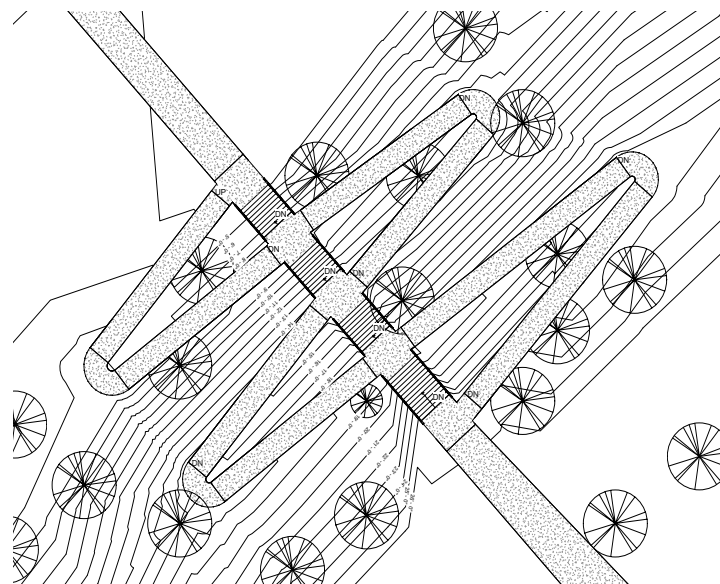
To promote better utilization of this existing parking, which will be necessary due to removal of spaces from the interior of campus, a new walkway, bridge, ramp and stairs should be constructed. Each of the elements would be wide enough for pedestrian traffic to comfortably pass. The pathway will be well lit and safe for use at all times of the day and night. The ramp will be compatible with accessibility standards of the Americans with Disabilities Act (ADA). At left, the middle rendering is of the new walkway, bridge and ramp. The elevations of the ADA ramp and stairs are pictured in the bottom images.

Result:

The result should be much better use of this existing parking. It is very close to the heart of campus but because of the existing pathway has been perceived as being remote and undesirable. Campus information shows that it is just as close to the heart of campus as most of the existing parking that it being removed from the campus interior. In the future, should the recommendations be implemented, the parking will not not perceived to be an impediment to creating a more pedestrian friendly campus and still allows easy parking for core campus users.



New walking path



Concept:

There has been a lot of discussion concerning trees and tree maintenance on the campus. People at every level of the University, from full-time faculty members to first year students have expressed sincere desires to preserve and maintain the campus appearance and feel. It is believed that at some point NSU had a sample of each native tree to Oklahoma; this has not been confirmed or proved, but it serves as a starting point for the discussion of what NSU would like to do with its future. Many individuals have talked about developing the NSU campus into an arboretum.

What is an Arboretum?

An arboretum is a place where trees, shrubs, and herbaceous plants are cultivated for scientific and educational purposes. Ornamentation is also sometimes applied as criteria for an arboretum.

How does NSU get official Arboretum status?

There is no official certifying body for arboreta, but many institutions regard membership in American Public Gardens Association (APGA) as an indication that an institution is an arboretum and not just using the name. In general, APGA members maintain plant records, label their plant collections, function as an aesthetic display, educational display, or research institution, are open to the public at least on a part-time basis, and have professional staff. An arboretum is loosely defined as an institution where woody trees and shrubs are cultivated for scientific, ornamental, or other education purposes.

Goals of the NSU arboretum:

Biodiversity should be one of the foremost goals of an arboretum. A wide selection of species type and varieties will help avoid widespread epidemics and infestations. Urban foresters aim to keep the population of any one species to no more than 12% of the total population. The plant material should be representative of Tahlequah and Cherokee County Oklahoma. Indigenous plants should be preferred over imported species to ensure the native landscape is kept in tact.

The rapid globalization of trade and travel has brought many exotic and interesting plants to North America. Certain care needs to be applied when choosing non-native species. The same planes and boats that haul these species have also been known to carry insects and plant diseases as exotic as the plants themselves. Some non-native plant species know no limits in our environment while others are simply poorly suited to the harsh conditions of Oklahoma. The Cherokee Nation has done extensive work to identify indigenous plant material and identify best planting strategies. Using this information, a planting strategy can be developed for NSU.

An additional goal of the NSU Arboretum should be to manage the surface water generated by rain on the many paved surfaces and rooftops of campus. Localized flooding has been identified as an issue during our design workshops, both for automobiles and pedestrians. There are also several buildings on campus that collect water during rainstorms. The landscape should be designed to provide water the path of least resistance into shallow retention ponds and Bioswales.

Several springs can be found on or near the NSU campus, feeding the Town Branch Creek. Reducing the amount of direct runoff into the creek will help eliminate some pollution and erosion. The health of the living campus, reflected in the individual parts, will stand as a commitment to the town and to its future.

Lastly, a living classroom should be created with the NSU Arboretum. Educational groups of all ages can benefit from the diversity of spaces and textures created by the NSU Arboretum. The variety of trees planted within the classroom should go beyond native plants to include certain types with educational values; such as Ginko. This is an extremely old species of tree that offers students a chance to observe pre-historic plant species.

Arboretum

Goals

- Maintain open space
- Protect biodiversity
- Protect native tree species
- Protect native habitat
- Preserve watershed health
- Control localized flooding
- Improve local air quality
- Provide educational resources



Wooded grove behind Cedarcraft Apartments facing West.

Landscaping

Informal Design

It has been mentioned several times that one of the best parts of the NSU campus is its trees. The natural progression of the landscape has left the campus with a distinct feeling of being in the woods. In an effort to preserve this atmosphere all efforts should be made to resist planting trees in straight lines. This formal linear pattern will break from the other natural tendencies of the physical campus.

The Town Branch of Tahlequah Creek forms a winding southern and western boundary to campus. The dynamic nature of water makes this border a fluctuating and pulsing component of the campus setting. Aligning the trees in a linear fashion seems to favor a rigid planned environment, instead of allowing the forces of nature to create its own pattern. The flow of nature is what has created the lasting impressions of the NSU campus; it is important that everything be done to maintain this environment.

Elements of informal landscaping:

- Diverse plant population
- Focus on indigenous plant species
- Non-linear planting arrangement
- Allow natural plant formations
- Maintain a porous edge with downtown
- Remain in scale with the surroundings

Things to avoid with the landscape plan:

- Plants too near to building foundations
- Plants too near to infrastructure; sidewalks, utilities, streets
- Aggressive, invasive species



(Top left) Tree lined sidewalk entering Seminary Hall. The formal approach compliments this gateway nicely, but widespread formality should be avoided.



(Top right) This open space is located along the Fine Arts Building. This is an example of a formal space that can be broken up by planting a variety of different tree species.

(Bottom left) This open space is located near the College of Optometry. The trees here have been allowed to grow freely with a random distribution.



(Bottom right) Natural growth pattern of trees in Beta Field.



Landscaping

Specific Areas

Landscaping issues across Northeastern State University can be approached from several angles. However, with the large area and relatively small landscaping crew, it would be beneficial to locate a few specific areas on the NSU campus for immediate landscaping improvements. The proposed areas for improvement would include the plaza north of the University Center and the area directly south of the University Center, the south “corridor” of Seminary Hall and on the north of Seminary Hall within the “heart” of campus. Other areas for landscape improvements would include northeast of the Library, along the old stadium wall and east of Seminary Suites.

Methods suggested for landscape improvements would include:

- Grouping native, low maintenance plants together to improve visual aesthetics and reduce maintenance expenses.
- Align sidewalks to create clear visual connection as well as organize exact areas for pedestrian street crossings.
- Explore techniques regarding tree canopy to open visual connection of Seminary Hall from the south.
- The use of bioswales in particular locations throughout campus to aid with drainage and aesthetics of the campus.



Specific areas to be addressed in landscape planning.



Beta Field looking South towards downtown Tahlequah.



Lawn between Seminary Hall and the John Vaughn Library.



Plaza between the Student Center and the Business and Technology Building.



Remnants of the original football stadium.



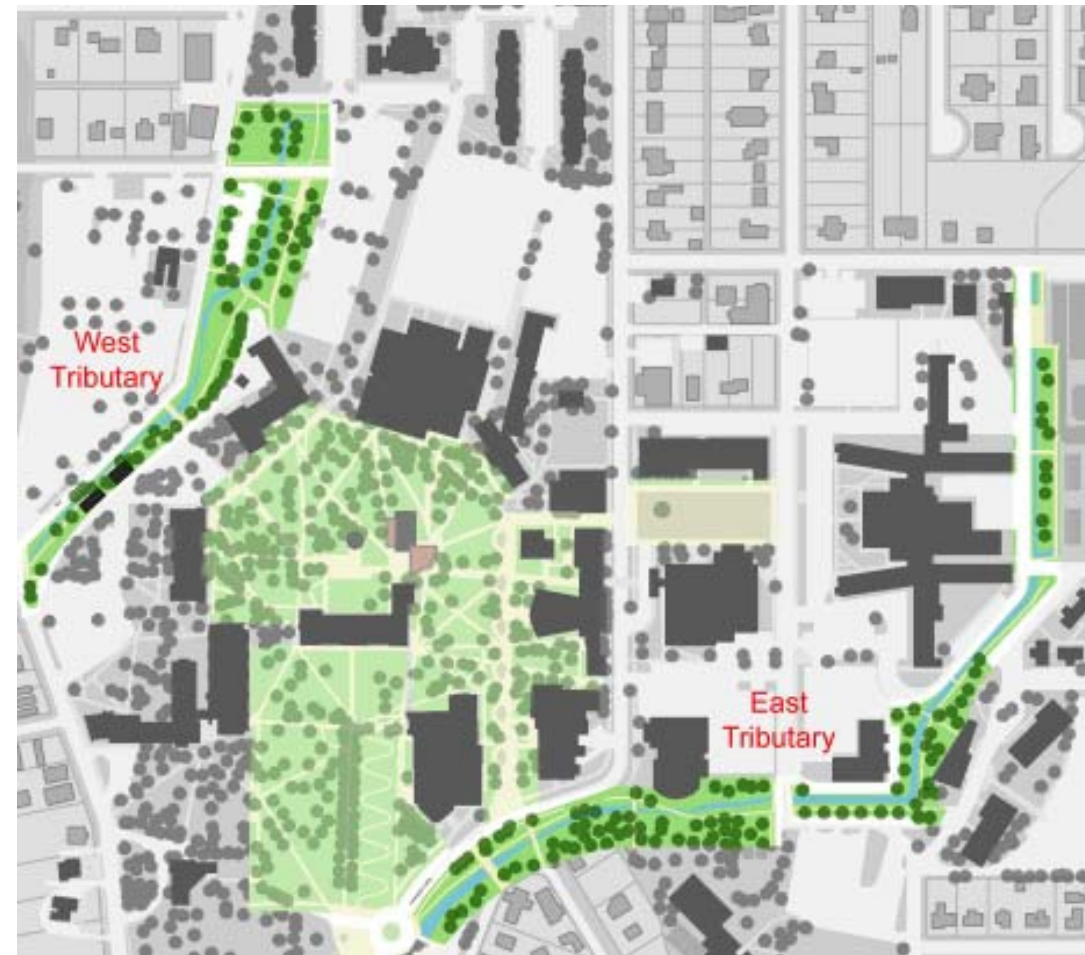
Pathway between the Administration Building and the Fine Arts Building.



New drain outside of the Science Building.



Pipe to move water away from the foundation of the library.



Town Branch Creek Tributaries



Concrete channel of the East Tributary located at the baseball field.

Landscaping

Water and Drainage

Several areas have been identified as trouble spots during heavy rain events creating an inconvenience for both pedestrians and drivers. It has also been reported that some buildings collect water because sidewalks and drive-ways funnel the water into them.

Town Branch Creek has two tributaries that flow from the NSU campus. Currently these two creeks are comprised of large segments of concrete; sometimes they are forced underground or under the tennis courts. The concrete channels need to be removed from these areas, to allow natural creek bed to redevelop. Vegetation and soil will reduce the amount of initial runoff into Town Branch. Gathering runoff and filtering it through a bioswale will deliver cleaner water into the watershed.

Several types of drains can be found across the campus. The most obvious ones are located west of the Student Center, and consist of large concrete ditches to move water past the traditional residential halls. Many smaller versions of this can be found on campus. New construction on the Science Building has resulted in a nice drainage feature that also ties into the natural setting of campus. Water is directed out across large stones and then into the grass. Limiting the amount of concrete involved in this drainage allows many things to happen. First, the water is able to saturate the soil and recharge the water table. Second, this water is healthier and contains fewer contaminants. Collection areas let particulate matter fall out and collect in the bottom, instead of being carried down into the Town Branch. NSU can capitalize on its natural settings to capture, clean, and preserve water on its campus.

Landscaping

Bioswales

Bioswales are vegetated conveyance channels for storm water. Unlike normal drainage ditches they remove pollutants more effectively. Designed for slow shallow flow, Bioswales reduce erosion and allow particulate matter to settle out.

Several areas have been identified bioswales. The two tributaries of Town Branch Creek that run through campus, and the lawn in front of the John Vaughn Library. Additionally, collecting pools will be developed along Town Branch Creek to create a series of pools to collect and hold water.

Other Benefits

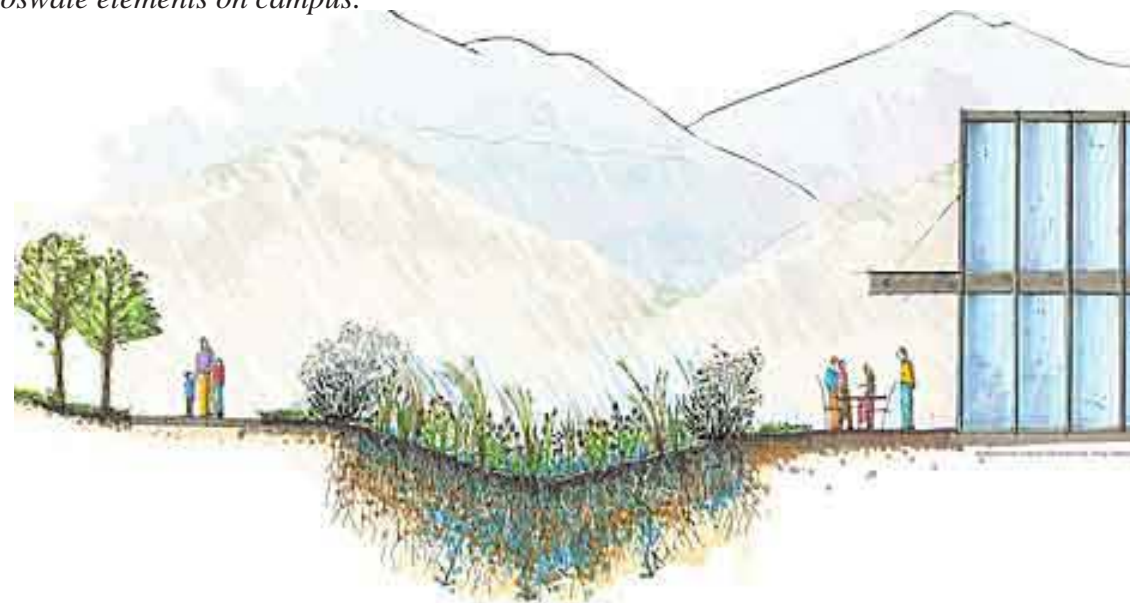
- Reduced polluted storm water entering Tahlequah's rivers and streams.
- Improved pedestrian and bicycle safety and convenience.
- Reduced impervious surface so storm water can infiltrate to recharge groundwater.
- Reduced demand on the campus sewer collection system and the cost of constructing expensive concrete systems.
- Increased campus green space.
- Improved air quality and reduce air temperature.
- Help to protect public health.
- Restore and protect watershed health.



Map of proposed drainage and bioswale elements on campus.



*Bioswale being constructed in the foreground.
Completed bioswale in the background.*



Cross section of a typical bioswale.

Landscaping

Green Streets and Parking

A street that uses vegetative material to manage stormwater runoff at its source is called a Green Street. Vegetation is typically located along the street edge at sidewalk level and in special outlet drains. These drains allow water to move from the street surface into the drainage basin where it is slowly absorbed into the soil and plant material. This natural systems approach helps manage stormwater, reduce flows, and improve water quality and enhance watershed health.

Alternative surfaces such as porous concrete or pervious pavers effectively reduce the runoff generated by parking lots. There are several strategies that can be applied to parking systems. Creating green islands within a parking lot, grass filters can be utilized at the edge of parking lots, even using grass pavers to provide a cover to parking spaces. This approach also seeks to capture and reduce stormwater, improve water quality and enhance watershed health.

Elements:

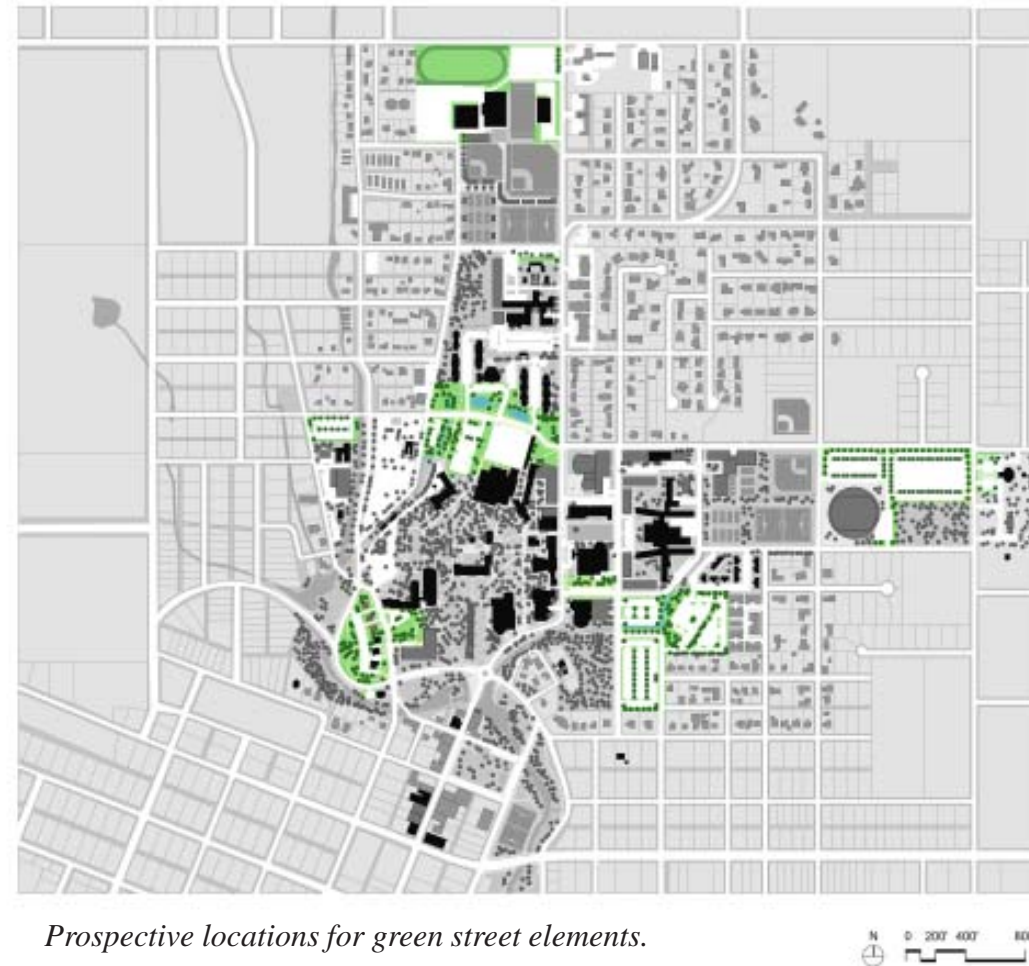
- Pervious surface material
- Drains to move water away from the surface of travel
- Low areas for particulate matter to settle out
- Hardy, Low maintenance plant material
- Often native or indigenous plant material
- Soil to support root growth

Benefits:

- Stormwater management
- Cleaner water for healthy watersheds
- Lower surface air temperature
- Increased pedestrian convenience and safety

Applications:

- Overflow Parking
- Temporary Parking
- Alumni Tailgating Lot
- All new street projects
- Grass buffers in all parking lots
- Short term parking

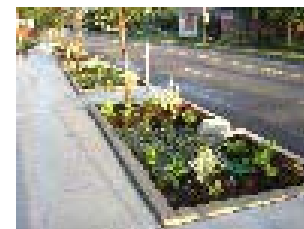


Prospective locations for green street elements.

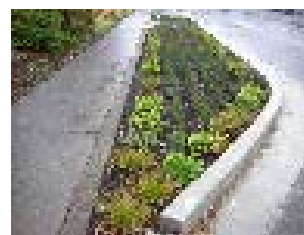
Green Street Details from Portland, Oregon



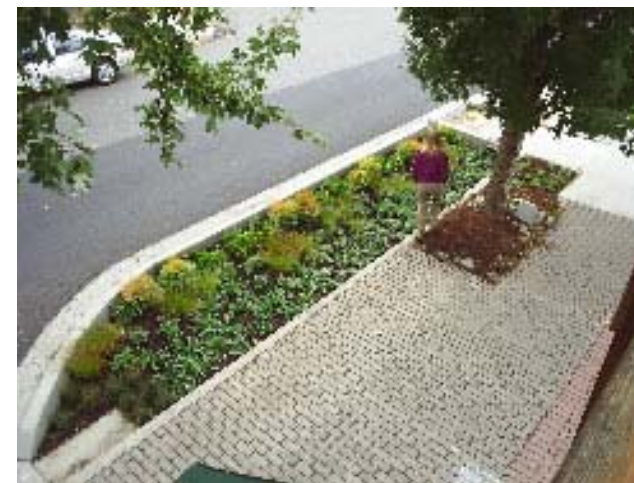
Green street gutter and settling area.



Planting buffer for increased pedestrian safety.



Visibility is maintained with low vegetation.



Green street planting strategy with pervious sidewalk material.



Green Parking Lot in Tennessee.

Landscaping

Beta Field and Pond

Current Conditions:

Beta Field and Pond are two wonder recreational elements of the campus that are isolated and relatively unused by students, staff and faculty. In addition, the general public does not fully use them either. Part of the problem is a lack of good access from the rest of campus, the poor condition of the stonework around the pond and just a general perception that it isn't safe to be there.

Proposed Actions:

Beta Field and Pond represent two areas that provide a natural transition from the NSU campus to downtown Tahlequah. Thus, it should be regarded as a highly desirable park and recreation area for both. Access to the area would be improved through the construction of the Sequoyah Parkway, better walkways and lighting, new landscaping and the repair and maintenance of stonework around the pond. While the Parkway would cut off the Pond from the rest of campus, it would better define the space and provide much greater access and visibility. Care should be taken to ensure that adequate walkways and traffic calming on the Parkway exist to insure that access from the campus actually improves.

Result:

It is anticipated that Beta Field and Pond will become much more desirable areas of outdoor recreation for the campus and the Tahlequah community. As pictured in the adjacent slide, perhaps families will use the Pond for children to float small boats. Students should find the area to be one where studying on a bench or taking a relaxing break is fun. In short, the area should become much more of a gathering space where people want to be.



Beta Field and Beta Pond after the development of the Sequoyah Parkway.





Arboretum Trail between the Administration Building and the Dobbins Fieldhouse.



What once was parking is now a pedestrian corridor into the heart of campus.



Imprinting the surface of the Arboretum Trail will identify this trail as a distinct campus feature. These leaf prints occurred naturally, but could easily be duplicated.



Rendering of proposed Arboretum Trail.

Internal Circulation

Arboretum Trail

The Arboretum Trail is designed to provide a curving, winding trail that celebrates NSU as “the campus of trees”. Currently, the walking track at the stadium is a popular attraction for recreational walking and running. The Arboretum Trail will be both an alternative and an extension to the track at the stadium linking the campus to downtown.

Opportunities

- This would provide a unique and creative element for campus walkways.
- The trail could be phased as new trees are planted and marked through the most forested part of the campus.
- It would create an interpretive trail out of the Arboretum Trail complete with leaf imprints to identify its importance.
- There would be a connection to the Tahlequah History Trail.
- It would make the campus more available to residents of Tahlequah.

Challenges

- The initial costs of the trail are unknown and could divert resources from other needs.
- The interpretive trail will require rigid documentation of the trees.
- Low lying portions may flood during severe rain events.

Internal Circulation

Bicycle Infrastructure

With transportation options changing across campus it is important to plan for all potential uses. Global fuel economics will cause more people to consider alternative means of transportation on and off campus, including the use of bicycles. Planning for these travelers will include bike lanes and bike racks, crosswalks, and well lighted sidewalks.

This map indicates a designated bike path. Bicyclists would be provided a safer path on which to travel and convenient access to bike racks. Bike racks will be placed near entrances to key buildings such as the library and the Student Center. It is also recommended that residential halls provide bike 'lockers' so residents can bring bikes inside and store them securely for longer periods of time and during inclement weather.

Increased bike use will also require vigilance on the part of the NSU Police Department. Physical harm to persons and theft of property are two of the major areas of concern with bicycles.

Present

- Bicyclists fend for themselves, no designated routes
- Possible routes are discontinuous and narrow
- Sharing paths with pedestrians is dangerous
- Almost no secure parking available

Proposed

- Wide, bicycle-friendly paved pathways across and through campus
- Separate, well-marked lanes for bicycles and pedestrians
- Easy connection between residences, parking, and campus buildings
- Secure racks at all major campus buildings and residences
- Possible secure indoor storage in residence buildings
- Trails would provide emergency vehicular access to inner campus



The only bike rack on campus.



A common bike rack alternative.



A bike locker in downtown Portland, OR.



LEGEND

- Bike Path
- Bike Rack

Internal Circulation

Fountain Plaza

The proposed renovation of the Fountain Plaza, adjacent to the the University Center and the Business and Technology Building will bring a big change to the daily walk through campus.

Renovation Goals:

- Remove the planters and other features that make the space unattractive and difficult for pedestrians.
- Maintain the Garrison Memorial Fountain as a special water feature on campus.
- Create a central outdoor gathering and meeting place on campus.
- Create a plaza for special events like: outdoor concerts, art shows, festivals or different campus celebrations.

The proposed vision of the Fountain Plaza will transform a public space that is currently in decay into an area that will become an open gathering space for NSU to enjoy for decades to come.



Proposed plaza North of the University Center.



Parking

Elimination from Campus Core

One of the goals of the plan is to make the campus more pedestrian friendly. In looking at core campus land uses, it was determined that there were four parking areas that needed to be removed from the core to accomplish this goal.

These are:

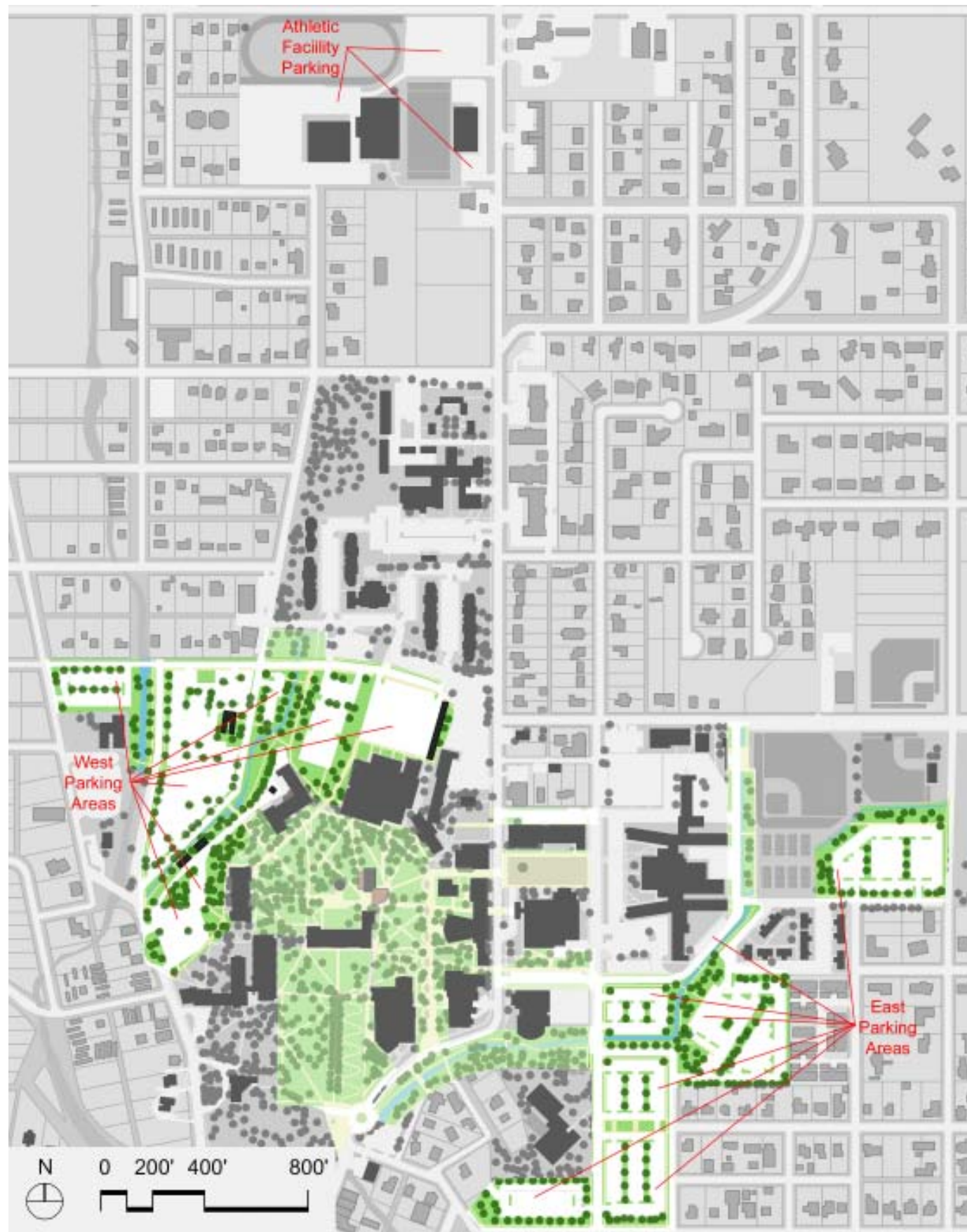
- On the south side of Seminary Hall, in the circular drive
- West of the current Administration Building
- Northwest of the Fine Arts Building
- Southeast of the current alignment of Valley Street

In total, it is estimated that 300 spaces will be removed from the core of campus.

Recommended parking changes outside the core of campus will result in no net loss of total parking spaces.

The loss of 300 spaces from the core can be accommodated through better utilization of existing spaces. Currently, it appears that there is a surplus of parking spaces, particularly on the West Commuter lot, that will be made much more accessible to the core for use when work on rebuilding the West Entrance to the campus is completed.

The general parking strategy recommended in the plan will result in essentially two large areas of parking lots: one on the northwest and one on the southeast.



Map showing key parking areas West and East of campus core, interior lots have been removed.

External Circulation

Shuttle Bus

Transportation alternatives around campus have been a topic of discussion since the beginning of this process. NSU has a large international student population, it is generally reported that these students do not drive cars and therefore have limited access to services and shopping opportunities far from campus. A shuttle bus will also help students and faculty and staff get to and from classes and appointments campuswide. Extending beyond campus shuttle service may replace the need for persons living off campus to drive in and park everyday.

During large campus events, such as football gamedays, the shuttle bus route can be extended to allow fans a chance spread their time and money between campus and downtown. Shuttle service will make it possible for NSU to utilize all of its parking lots during periods of heavy use on campus. Graduation days can be made more convenient by providing clean efficient transportation to and from the convocation center.

Offering ground transportation can be an attraction to conference when selecting host cities. NCAA events can also benefit from shuttle service. Being able to attract these events into Tahlequah, more specifically NSU, will bolster the local economy and promote NSU as a strong academic institution in the region.

Pros:

- Safe reliable transportation
- Reduce demand for parking
- Increase campus image
- Attract events to campus

Cons:

- Initial capital expense
- Maintenance expense



Recommended shuttle bus routes and stops.

Bath House

Computer Lab & Coffee House

Built in 1916, the Bath House is located in the heart of the historic academic campus. The location of the building, temporarily serving as the Financial Aid office, makes it ideal for student use.

Converting the Bath House into a computer lab would allow students who reside on-campus to work and study without being forced to return to their dormitories between classes. The computer lab would provide a work space in addition to the library for commuter students. Moreover, the building would make a perfect meeting place for group work and group projects.

The addition of a coffee house within the Bath House would encourage students to meet at this location throughout the day for both academic and social purposes. This new gathering place would help to increase the sense of community on campus.

Last, an improved connection to the currently underutilized gazebo, just west of the Bath House would provide an additional outdoor gathering space. Students would be able to socialize and study at the Bath House as well as the gazebo. The addition of a new computer lab with the inclusion of a coffee house and a better connection to the existing gazebo would help to enhance student life at NSU.



Campus Buildings 1:

Additions:

New Recreation Center:

The current Recreation Center needs to be replaced. The building has significant structural problems that make it difficult to properly repair and maintain. It is recommended that the Recreation Center relocate adjacent to the existing intramural fields and Leoser Center. This site would take the place of the current athletic facilities, which would be moved just south of Doc Hadley Stadium.

New Athletic Facilities:

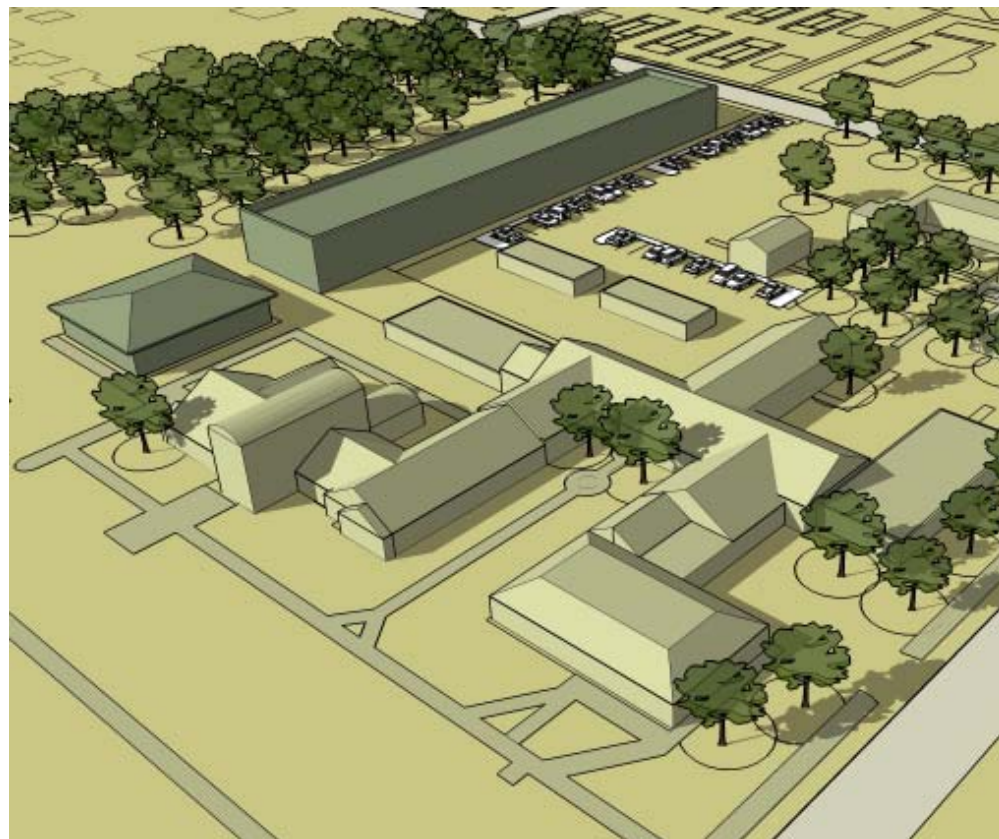
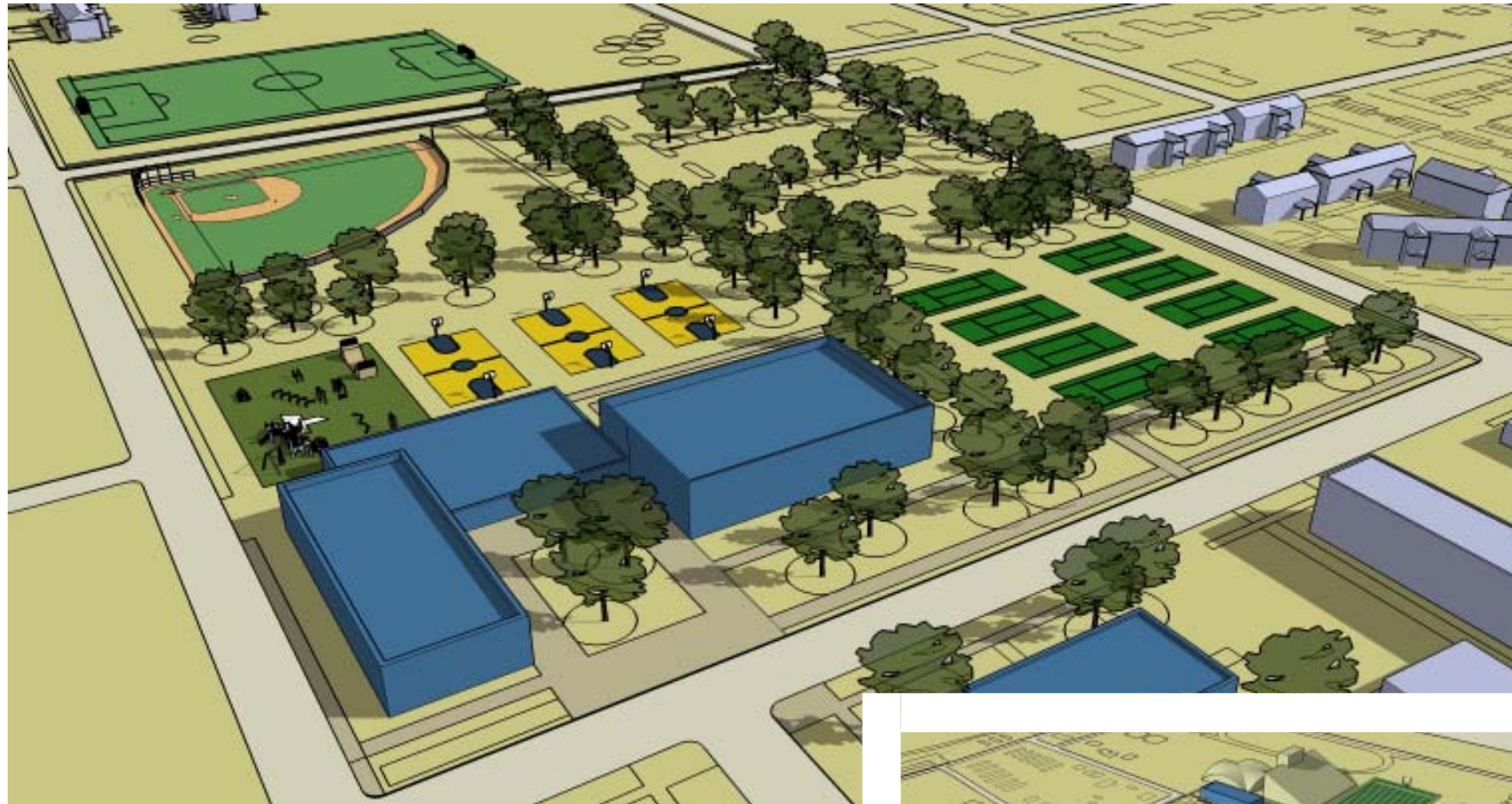
A new facility for athletic support functions such as training, the athletic department, locker rooms would be built adjacent to the existing Stadium. This location is suitable not only because of the existing stadium complex but also because of its close proximity to the newly relocated athletic fields.

Optometry School Expansion:

The College of Optometry is one of the premier academic units of NSU. As one of only nineteen optometry colleges in the U.S., it draws its students from a much broader geographic area than the university as a whole. Demand for admission is high with many more applicants applying than are admitted each year. Thus, it is suggested that an expansion of the College of Optometry facilities to accommodate a larger student body be explored. If the facilities are expanded, the recommended site is just to the west of the current buildings, adjacent to the Arboretum Trail.

New Physical Plant:

As currently planned, it is recommended that the Physical Plant be relocated to the far western edge of the campus, across Sequoyah Parkway and Town Branch Creek. The location is ideal for the consolidation of current campus maintenance facilities due to sizeable site and its separation from the rest of the campus.



Campus Buildings 2:

Additions:

Addition to Haskell Hall:

It is anticipated that there will be a need in the near future to expand academic support space that is currently housed in Haskell Hall. The opportunity exists to create an academic support quad by adding on a wing on the east side of the Haskell Annex. Not only would this provide a unique amenity primarily for use by faculty and staff, but it would also obscure an architecturally unappealing addition to historic Haskell Hall.

New Student Health Center:

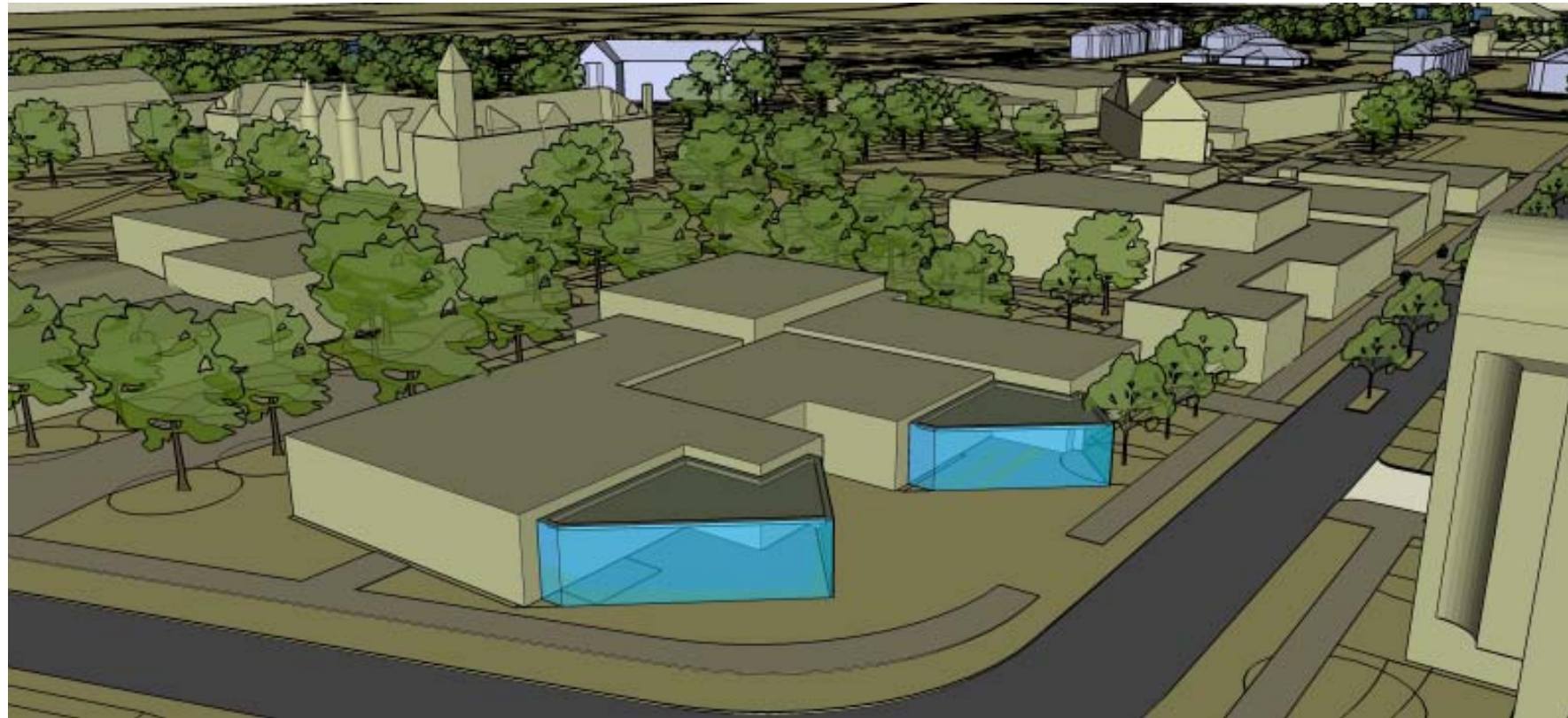
The current Student Health Center is located in a temporary building, which is inadequate for campus needs. A recommended relocation is on the northeast corner site, adjacent to Leoser Center. This site is convenient to the majority of current and proposed residence halls.

New Performing Arts Center:

The current Performing Arts complex is in need of renovation and repair. Its location largely blocks the view into the core of campus from the east. Additionally, there is inadequate space for trucks using the dock to load and unload sets and other large pieces of equipment without blocking traffic on Grand Avenue. It is recommended that the university explore the possibility of a new performing arts facility where the Baptist Student Center is now located. The removal of the wings of the current facility would open up a view of the interior campus core from the east. If feasible, the current auditorium could be renovated into a large campus lecture hall.

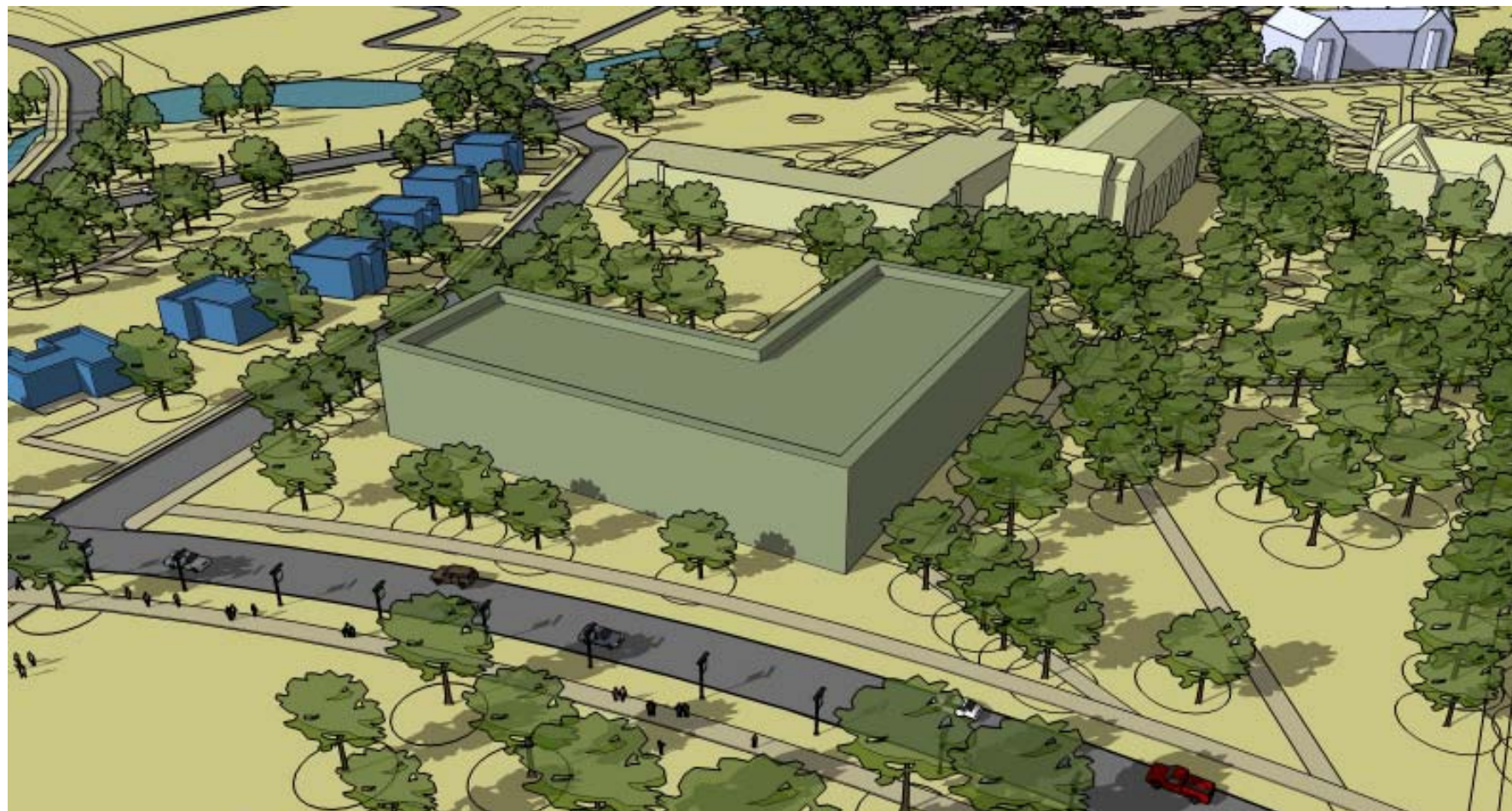
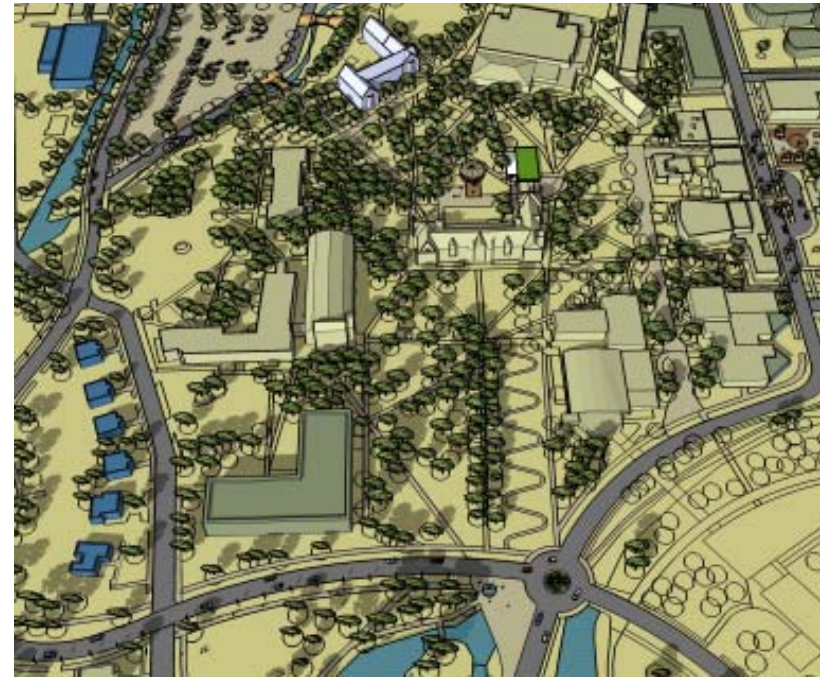
Addition to the Net Building:

If the university finds that an addition is needed to the Net Building, the recommended site is on its east where parking is currently located.





The President's house at the left and the surrounding area show its location near the Science Building, Beta Pond and Beta Field.



Campus Buildings:

New Academic Building:

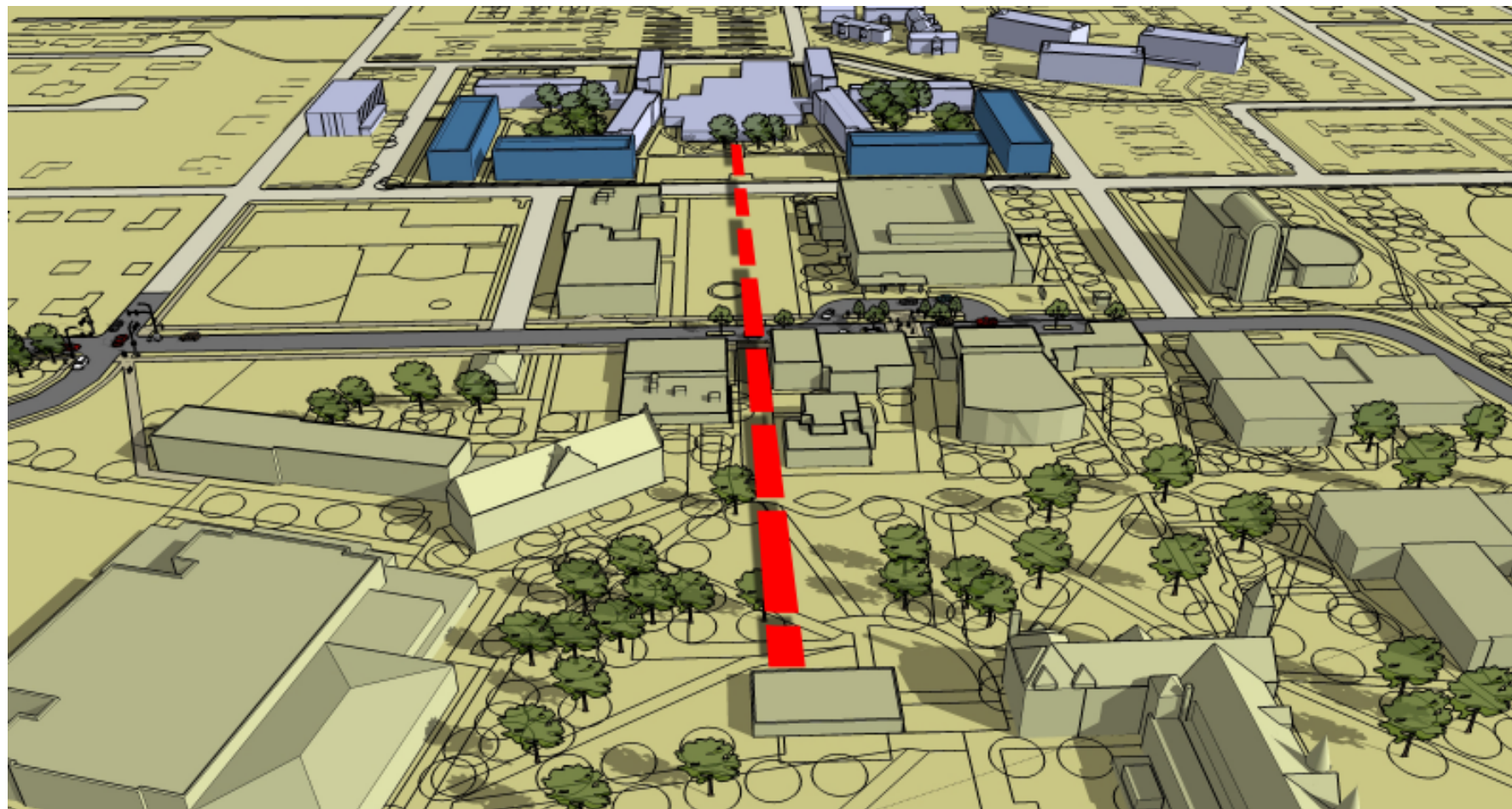
As noted in the plan recommendations, the current President's house is in the wrong location on the NSU campus and should be relocated to a new structure on the east edge of the campus adjacent to the current Alumni Center. The existing house does not fit well with the architectural style, scale or massing of adjacent campus buildings, particularly Seminary Hall. Since it is believed that there are issues with the integrity of the structure due to water seepage problems in the basement, it is recommended that the existing structure be razed once the new President's home is built and replaced with a new academic building when the need arises.

The new academic building would be a general purpose building that could house classrooms and offices. This location is ideal because of its close proximity to the core of the academic campus.

If the south alternative location for the proposed Convocation Center and attached Hospitality complex is not chosen, the Hospitality School, Conference Center and Hotel could also be located on this site instead of a new academic building. With this location adjacent to the new Sequoyah Parkway and south entrance to campus, it is perfectly located to serve both the university and surrounding downtown Tahlequah community.

(Right) Diagram of Leoser Center pedestrian traffic flow from the academic core to the campus housing core.

(Below) View from above the bath house to the Leoser Center. This axis (in red) should become the major circulation route for students, with destinations at both ends. The bath house providing a location for student gathering in the academic quad through it's conversion into a coffee shop and cafe setting.



Campus Housing

Campus Life Integration:

Currently, there is a division between the east and west sides of the campus, separated by Grand Avenue. This arrangement is the logical programmatic separation: the predominance of academic buildings on one side and student life buildings on the other. However, the connection between student life and academics should be physically and conceptually linked. At NSU, these campus aspects are literally divided by the busiest street on the campus.

Our goals:

- Redirect the majority of pedestrian traffic to the north of the Student Center by redesigning a pathway, creating a link from Leoser to the remodeled Bath House, the new student academic hub (top diagram: far left orange box).
- Create two additional pathways across Grand Avenue to help pedestrians move north and south of the Student Center.
- Create landscaping and a student courtyard north of the University Center that is easy to maintain and complimentary to the campus theme.
- Provide traffic calming from Crafton Street to Valley Avenue, improve the campus' curb appeal, and create visual continuity from east to west.
- Connect and clarify the east to west pathways with goals in the form of either major or minor exterior gathering locations.
- Encourage walking by providing improved pathways.

Campus Housing

Leoser Center:

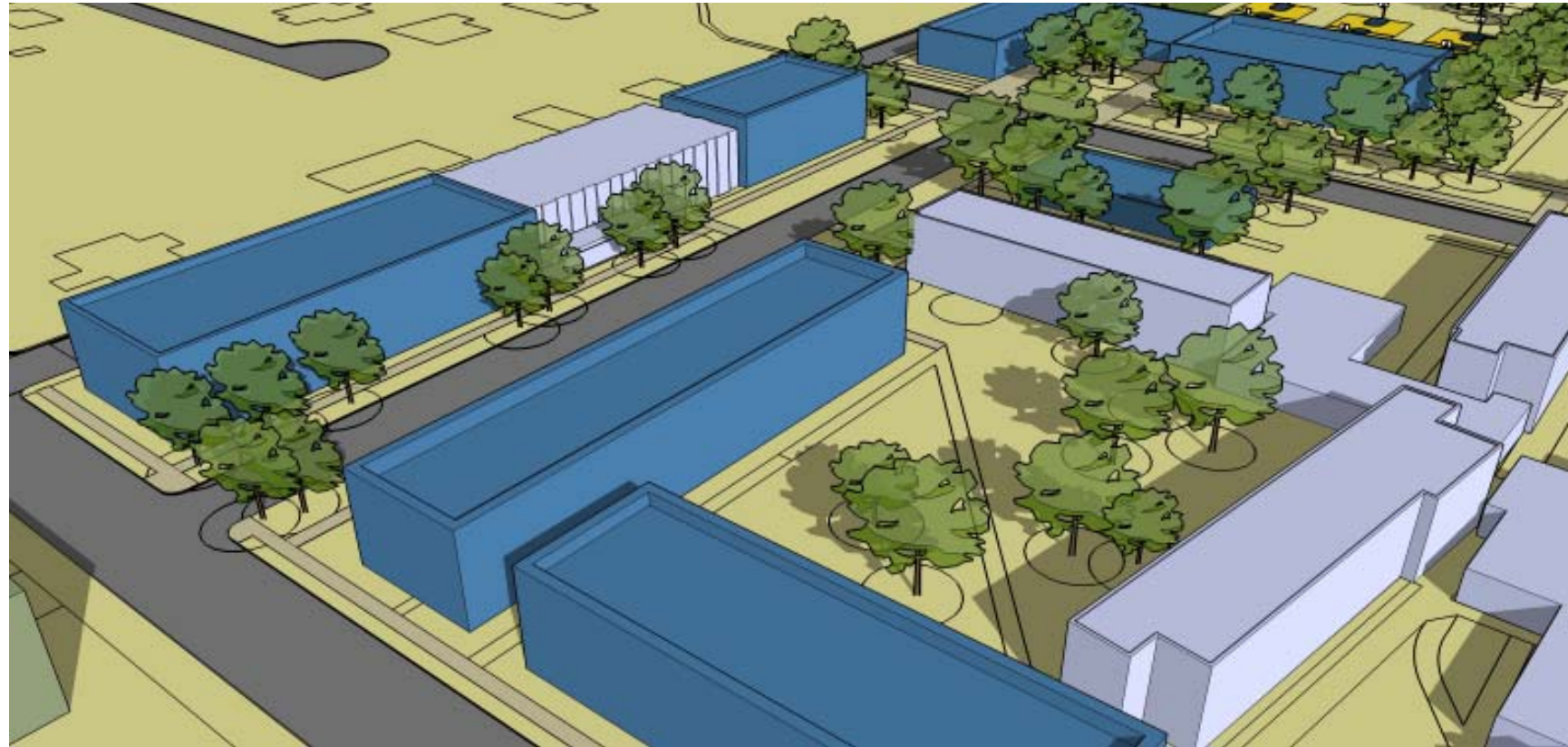
One of the key locations for providing new housing is at the Leoser Center on the east side of campus. Providing four new dormitory buildings (colored in blue) at this location creates several key opportunities, which make this site one of the ideal locations for a campus housing development:

- This location continues the overall trend of the campus providing housing on the east end, with activity/sports areas, and close proximity to the Student Center.
- The design creates a sense of community out of Leoser through the formation of an enclosed courtyard.
- The plan shifts parking away from a direct connection with the dorm to enforce the campus as a pedestrian environment.
- The design creates a student gathering site at the two “quads” formed at the Leoser Center.
- The additional structures flanking the entry formalize, and help provide a better sense of scale to Leoser.
- The locations helps to direct pedestrian traffic to and from the front entry, which creates a visual connection to a new student “hub” at the Bath House on the west end of campus.

Diagram of the Leoser Center student housing addition. The building additions create a courtyard, improving the scale of the building complex, and helping the housing center engage the east-west axis from Leoser to the student gathering location at the renovated Bath House.



Student housing addition at the Leoser Center.



Campus Housing:

Wyly Addition and Greek Life:

Wyly Additions:

Because of the suggested demolition of Ross, Hastings and Logan Halls, additional housing may be needed beyond the new residential quads at Leoser Center.

Due to proximity to Leoser, it makes sense to plan for the expansion of Wyly Hall on both the east and west ends; this will further consolidate the location of housing in one area of the campus.

Greek Row:

Many campuses have some form of Greek housing; however, this is not the case at NSU. Fraternities and sororities reside in the wings of the existing Ross, Hastings and Logan Halls. With the recommended demolition of Ross, Hastings and Logan, NSU has an opportunity to create a Greek Row to house members of sororities and fraternities.

The recommended ideal site is on the west side of Seminary Street where the existing trailer park is located, just north of the proposed Sequoyah Parkway. The houses could be located close to the street so that they are visible and out of the flood plain of the Town Branch Creek. Parkland is proposed behind the suggested houses which could be a great location for Pan-Hellenic games and competitions. Locating a Greek Row of houses in this location will blend with the existing character of larger historic homes that will remain and also provide a nice boundary to the campus on the west side.



Suggested housing additions and Greek Row concept

Design Studies

Convocation Center

North Location

The proposed location for the construction of the Convocation Center on the north side of campus along Grand Ave can be evaluated by challenges and opportunities.

Opportunities:

- NSU already owns much of the property
- The site lends itself toward the construction of the convocation center
- Located near other sport facilities
- Serves as an impressive landmark on the north entrance of campus
- Connection with rest of campus if “Arboretum Trail” is extended north
- Parking facility is already in place

Challenges:

- Site does not connect with downtown Tahlequah
- Distant from most students
- Create traffic issues along Grand Ave. and surrounding neighborhoods
- Currently disconnected from campus

The north site was rejected by the Steering Committee during our research stage because the site was too remote from the rest of the campus.

Another common concern for the north site location was that it may have too much emphasis on collegiate athletics when entering the NSU Campus from the north.



Possible site location for Convocation Center



Area site map

Recommendation

Convocation Center

Alternative site A

Locating the Convocation Center on the east side of Campus south of Crafton St. and west of Oklahoma Ave. proposes both opportunities and challenges.

Opportunities:

- The landscape lends itself to the construction of the Convocation Center
- Northeastern State University already owns the property
- The site is near the majority of students living on campus
- Recreation center and other sport facilities are located in nearby vicinity

Challenges:

- Construction of new parking facilities would be needed
- Traffic overload on Crafton St.
- Disconnected “feeling” from core of campus
- No significant connection between downtown Tahlequah and Convocation Center
- Awkward entrance to campus from the east
- Does not promote pedestrian traffic

(Top right) Map of original location for Northeastern State University’s Convocation Center on the East side of campus. This map displays the surrounding environment of Convocation Center.



(Lower right) Sketch of East site location as it relates to nearby roads, student housing, and accessibility from the South.



Recommendation

Convocation Center

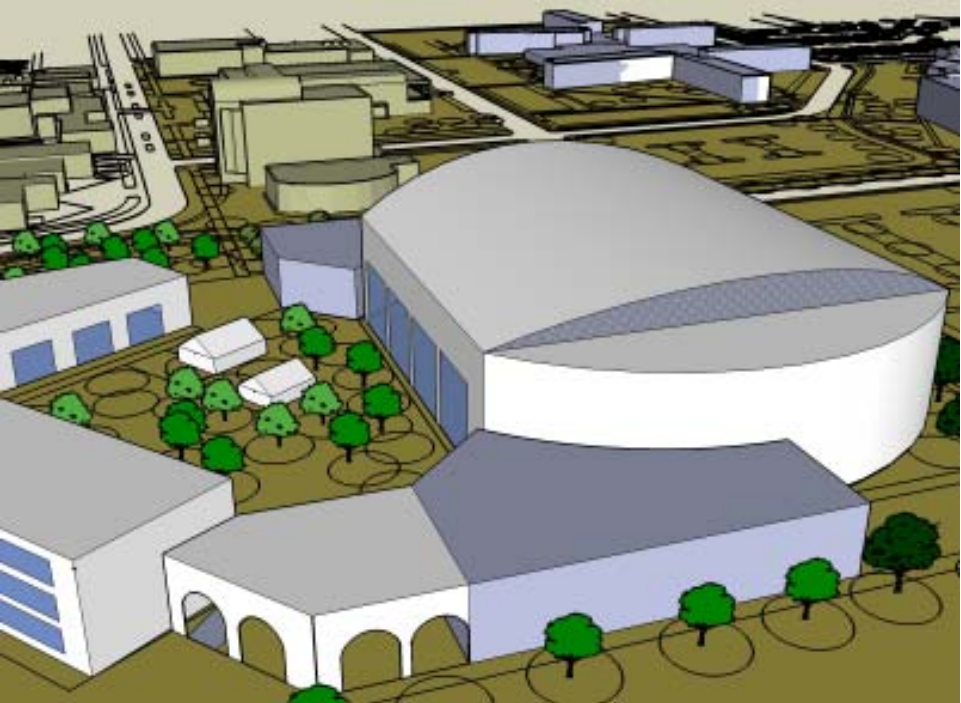
Alternative Site A



Model views of proposed site location for the Convocation Center at the Alternative Site A.



Alternative Site B



Model views of proposed site location for the Convocation Center at the Alternative Site B.



Recommendation

Convocation Center

Alternative site B

Locating the Convocation Center on the south side of Campus north of Goingsnake St. proposes both opportunities and challenges

Opportunities:

- Direct connection with downtown Tahlequah and campus
- Exploration of Hospitality and Gaming Operations facility
- Relatively close to students and other recreation facilities
- Serve as visual anchor on the south side of Campus
- Create hub for downtown and community events
- Incorporated into parkway concept and prominence of historic Leoser Cabin

Challenges:

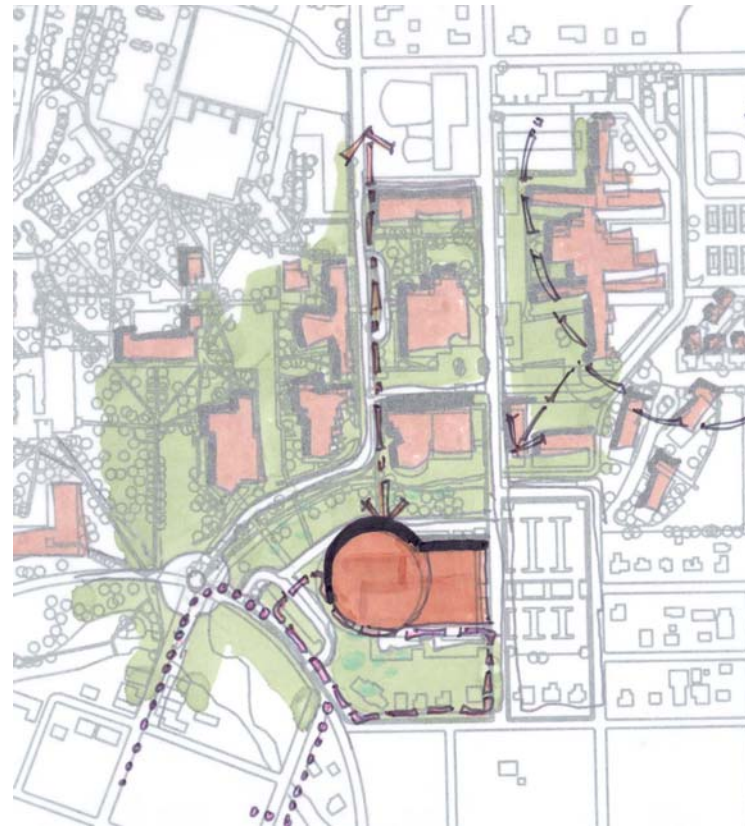
- Site would require additional work before construction
- Needs for additional parking
- NSU must acquire nearby property
- Concerns regarding Leoser Cabin

Initial design studies depicted a connection between campus and downtown Tahlequah. The original design of the Convocation Center would be aligned with Grand Ave. and serve as an impressive visual anchor.

Upon the realization of the historic Leoser Cabin located on the axis of Grand Ave. we decided to alter our original designs to affect the historic site as little as possible.



(Middle left) Map of proposed Convocation Center located on the South of Northeastern State University as it relates to its surrounding areas.



(Top right) Design sketch of the Convocation Center representing the axis along Grand Ave. with the relationship of nearby student housing along with accessibility to downtown Tahlequah.



(Lower right) Altered design of Convocation Center located to the East of the Leoser Cabin to minimize affects to the historic site.



(Top) Front porch of the Leoser cabin.

(Right) Backside of the Leoser cabin.



Leoser Property

Dr. Irwin Leoser's Cabin

Current Conditions:

- This is one of the oldest buildings in Tahlequah and the State (built sometime between 1833 and 1850).
- It is listed on the National Register as of November 1978.
- There is no evidence that it has ever been relocated.
- It is on private property with two other structures that may or may not be historic.
- Currently the site is not open to the public and remains owned by a descendant of Dr. Leoser.
- The site is adjacent to the NSU campus in an important site for future campus expansion.

Proposed Alternative Actions for NSU Control of the Property:

- Acquisition of the property and surrounding sites by NSU for campus development with the Convocation Center or other development to be built on the adjacent current Recreation Center site.
- Relocation of the cabin to a new site in a park for the construction of the new Convocation Center or other development by NSU. This would be controversial because of the historic nature of the property and moving it could destroy its historic integrity.
- Keep the cabin on the existing site and create an NSU owned park around it-maybe Leoser Park. This would be adjacent to the Parkway and could be accessible by the public. The Tahlequah History Trail could run by the cabin. Key issues would be security and preservation of the structure with public access. NSU police would patrol the site.
- Build the proposed Convocation Center and Hospitality School around the cabin with it being a centerpiece in a courtyard. The main concern here would be preservation of the current cabin setting.



Large lot to be acquired south of Doc Yardley Stadium



Map showing properties to be acquired



Aerial view of trailer park to be acquired

Future Planning

Properties to Acquire

Issues to consider for property acquisition:

- Trailer park--necessary to acquire for the concept of the parkway to become reality. This is a blighted area that harms the image of the campus.
- Leoser cabin site--prime site at the south end of campus that could be converted into a park or the site of the new hospitality school and conference center. A key consideration is the future of the Leoser Cabin and the structures next to it.
- The Baptist Student Center and related properties--again this is a prime site that only makes sense to control for campus expansion as it is just north of the Leoser dorm and already surrounded by NSU on three sides. It could be the site of new Performing Arts Center.
- Properties south of the Stadium--NSU is in the process of trying to acquire these parcels presently. It makes sense to completely control the site as it will provide a link to the rest of campus and is a natural area for future growth.

Campus Image

Style, Theme and Intent:

NSU is, in places, a melting pot of architectural styles, forms and design concepts. Within certain locations of the campus this creates a situation where it is difficult to define, and retain a distinct campus image. There is, however, an image or design theme that has been cultivated over the last century of development on the NSU campus. Discerning the core elements of the design themes will help create clear design intent for future developments and construction.

Themes:

- The use of natural materials that are not *purchased and placed*, but are *crafted* (see bottom left image of brick soldier course at the optometry building entry, the leaves in the concrete). Building details done on site create a less formal building, which works better with their natural setting.
- Natural landscaping features should be used to frame and define the buildings and their entry's.
- Artifacts of the campus' tradition should be used within the landscape design to allow exposure of the university's history and tradition. Opportunities exist with the old football stadium wall, the reuse of bricks, fallen trees, or other important and unknown features of the campus becoming part of the built academic culture.
- Exterior spaces should be defined, and enhanced by the tree canopy. New plantings should be selected and maintained with the understanding that the landscaping at NSU has a roof of trees. This is a feature important to the context of the school, and should be planned and further refined by development.



Top left - Leaf cast in concrete walk. Bottom left: Optometry Entry; Top center: Seminary Hall and below a canopy of trees; Upper right: Gateway leading to Seminary Hall; Bottom right: Science Building entry.

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- City of Tahlequah..... (918) 456-0651
- Cherokee Nation..... (918) 453-5000
- Northeastern State University..... (918) 456-5511
- Oklahoma Department of Transportation..... (405) 521-2704
- U.S. Census Bureau..... info@census.gov



Project Team



The project team for the Northeastern State University Campus Plan are all graduate students studying for masters degrees in architecture and urban studies. Seated from left: Shannon Green, Nathan Kuntz, Nathan Diekelmann. Standing from left: David Beach and Brent Isaacs. Not pictured: Rod Harwood.

The University of Oklahoma Urban Design Studio is founded on a three part mission:

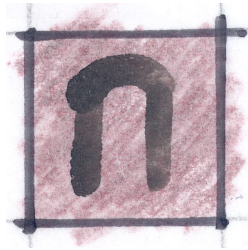
- To train urban design professionals through master's degree programs in architecture and urban studies.
- To advance understanding of the city through research and creative activity.
- To engage in community projects benefiting Tulsa and Northeast Oklahoma.

The Urban Design Studio is always looking for promising students and community partners for its endeavors.

For more information, contact us at:

The University of Oklahoma Urban Design Studio
450s East 41st Street
Tulsa, Oklahoma 74135
918.660.3493
sschaefer@ou.edu
<http://tulsagrad.ou.edu/studio>





Architectural Design Guidelines

Preserve and rehabilitate historic campus buildings. Nominate older buildings for designation to the National Register of Historic Places.

Comply with all applicable building codes, Americans with Disabilities Act guidelines, and City of Tahlequah standards.

Achieve a minimum LEED silver rating for all new buildings.

Convert the bathhouse to a student hub with food, services and study opportunities.

Use local and indigenous materials wherever possible.

Employ salvaged, recycled and renewable materials and assemblies.

Permit and strive for mixed uses, especially on ground floor perimeters.

Provide openings and windows on 50% of the first floor perimeter wall.

Exterior walls shall be red brick, native sandstone or architectural poured-in-place concrete with limestone, brick or cast stone trim.

Pitched roofs shall be >8:12 pitch with brown/gray standing seam, slate or concrete tile roofs, except optometry campus which shall be 3:12 or 4:12 pitch with Spanish clay tile.

Flat roofs shall be green roofs with vegetation.

Windows shall be operable wherever feasible, inserted in punched or arched openings. Avoid large glass curtain walls.

Orient buildings to take advantage of sun for daylighting and wind for ventilation.

Locate building entrances to face existing open space and circulation paths.

Limit the height of buildings to four stories.

Building depths should range from 40' – 80', except for large spaces with unique functional requirements.

Break up larger buildings into connected functional units.

Site buildings around existing trees and grades.

Design buildings with an appropriate campus scale. Provide human scale elements at entrances.

Include art work with all building projects. If Native American artwork is chosen, select Cherokee art.

Screen all exterior mechanical equipment.

Main building entries shall provide protection from the elements.

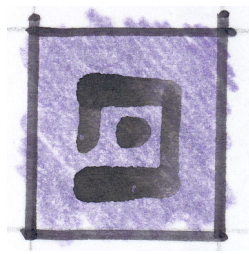
Appendix A

Strategies and Sub-plans

Strategies and sub-plans consist of further studies that should be conducted to fully develop and integrate the campus plan. They provide technical details and design guidelines to direct campus growth and manage projects. The strategies included here are an outline or conceptual framework for the development of future sub-plans. They have been developed during the campus planning process and refined using a wiki accessible to the design team, university stakeholders and community partners. The list is not exhaustive and will likely change with time as the sub-plans are fully developed, tested and implemented.

-  Architectural Design Guidelines
-  Space Allocation and Future Growth
-  Housing and Auxiliary Services
-  Drainage and Stormwater Management
-  Wayfinding Strategy
-  Planting and Landscape Guidelines
-  Land Planning
-  Lighting Strategy
-  Transportation Plan
-  Deferred Maintenance Strategy
-  Utilities and Infrastructure Framework
-  Security and Emergency Management





Space Allocation, Utilization and Future Growth

Measure and track allocation and utilization of classrooms, laboratories, offices and support space.

Project future growth of student body and academic programs.

Develop a faculty center with expanded office and support space that encourages interdisciplinary collaboration and student interaction.

Expand and centralize student services such as the registrar, bursar, academic advising, financial aid, information technology and other support functions, perhaps adjacent to the faculty center.

Build a new physical plant on the west side of campus.

Identify sites for future academic buildings and additions. Locate new structures within a 1000' radius circle or five minute walk from Seminary Hall.

Consider the feasibility of a new performing arts center to replace the aged Fine Arts Building. Provide improved loading and service access.

Explore the possibility of creating a School of Hospitality Management, including an operational hotel in collaboration with Cherokee Nation.

Study the possibility of greatly expanding the size the college and number of students pursuing the Doctor of Optometry degree.

Infill two lots on Muskogee Avenue owned by the university, perhaps with a speech pathology clinic.

Build a new President's Residence adjacent to the Alumni Center which can be also be used for presidential entertaining.

Locate and construct a Convocation Center to host academic convocations, athletics, concerts and community events. Explore a joint partnership with the City of Tahlequah.

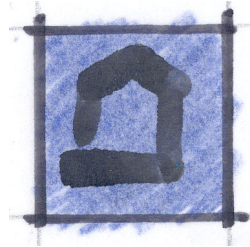
Move the visitor's center to Seminary Hall or one of the historic houses the university owns.

Appendix A

Strategies and Sub-plans

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Housing and Auxiliary Services

Maintain current on-campus housing levels around 1800 beds.

Replace Ross, Hastings and Logan Halls with new buildings in vicinity of Leoser and Wyly Halls.

Use the new building to create outdoor courts on the northwest and southwest sides of Leoser Hall.

Provide more private rooms, semi-private baths in suite arrangements.

Renovate existing housing with emphasis on providing air-conditioning, life safety improvements and expanded electrical capacity.

Discourage resident students from bringing automobiles to campus. Place resident parking in remote locations.

Explore options for Greek or theme meeting space and housing.

Build a new recreation and intramural sports building near the resident halls and existing athletic fields. Consolidate NCAA athletic facilities near the football stadium.

Provide additional food choices on campus.

Offer coffee and snacks at the Bathhouse Hub.

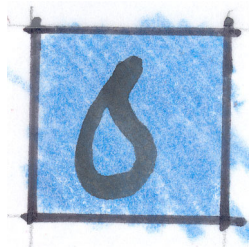
Utilize the gazebo as a student gathering and teaching space, including its close proximity to the new coffee house.

Appendix A

Strategies and Sub-plans

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Drainage and Stormwater Management

Coordinate the campus drainage plan with the City of Tahlequah stormwater plan.

Uncover the East Tributary to the Town Branch of Tahlequah Creek.

Divert water flowing down Grand Avenue.

Develop ponds, retention areas and wetlands as part of the Sequoyah Parkway project.

Create bioswales and rain gardens near low spots near the library and adjacent parking lots.

Reduce stormwater run-off rates by employing green roofs and minimizing paved areas.

Use low impact development practices for all parking lots.

Use sports fields for flood water detention.

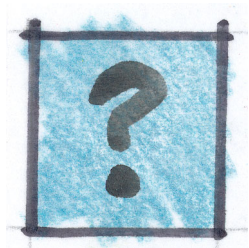
Employ permeable paving for drives, parking areas and plazas.

Appendix A

Strategies and Sub-plans

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Wayfinding Strategy

Use environmental cues, landmarks, and landscaping as opposed to signage for wayfinding where possible.

Create a hierarchy of streets and walks from higher to lower traffic areas. If a few main corridors are created, they could be named like streets and signed like streets for pedestrians.

Use straightforward and legible designs for buildings and sitework. Avoid complex geometry, confusing orientations and hidden entrances.

Enhance campus gateways and building entrances.

Incorporate building names into the architecture with keystones, cornerstones and ornament.

Establish graphic standards for durable, easy to understand, easy to modify exterior and interior signage.

Provide Braille, large text, audio tones and special paving for visually impaired users.

Employ Universal Design Principles of access.

Incorporate the Cherokee language into primary signage.

Internally illuminate monument signs.

Publish a detailed campus map / 3D model on NSU promotional materials and websites.

Appendix A

Strategies and Sub-plans

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Planting and Landscape Guidelines

Locate, catalog and assess all trees on campus.

Develop campus as an arboretum

Preserve and enhance Beta Field, the Historic Horseshoe and the campus core.

Connect the campus to the Tahlequah History Trail

Treat trees as assets (each mature tree is worth approximately \$5,000 to \$15,000).

Identify specimen trees with placards.

Develop maintenance and pruning guidelines for plantings.

Choose indigenous species suited to the climate with minimal irrigation.

Leave enough space for mature growth; generally a minimum land area equal to the canopy dripline.

Maintain existing grades around trees and avoid compacting soil.

Avoid low growing shrubs which may be used as hiding places.

Place trees in groups not in isolation or lines and allees.

Screen and divide parking areas with consolidated planting groups, not tree prisons.

Experiment with alternatives to turf, including ground covers, wildflowers, and inorganic materials.

Use water plants that filter pollutants near parking lots and in bioswales.

Concentrate annual plantings and color near campus entries.

Avoid the use of planter boxes and other containers.

Use captured rainwater and recycled greywater for irrigation.

Make leaf impressions in sidewalks and paths.

Select park benches and street furniture made from recycled materials.

Redevelop the Student Center Plaza as an outdoor room for events.

Construct bridges from timber and engineered wood.

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Land Planning

Set a firm campus boundary showing the planned acquisitions of the university and share this with community to allay neighbors' fears of the unknown and speculation.

Work with the City of Tahlequah to acquire right-of-way and develop the Sequoyah Parkway. Work out an agreement for the university to help maintain and police this area.

Acquire the trailer park to the west of campus, using eminent domain if necessary.

Preserve, protect and make accessible the historic Leoser Property.

Acquire the properties surrounding the Leoser Property.

Finish the acquisition of property between the Optometry College and the football stadium.

Identify fringe or buffer properties that the university is not actively trying to purchase but would consider acquiring under reasonable terms.

Identify the residential area northwest of campus as a redevelopment zone for private single and multi-family housing, perhaps for faculty or returning alumni.

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Lighting Strategy

Measure perceived and actual light levels around campus.

Reduce glare and excessive brightness from lighting sources. Do not use fixtures with exposed lamps or lighting elements.

Conceal light fixtures where possible with structural lighting. Use as few fixtures as possible.

Light surfaces: walkways, walls and buildings. Vary brightness levels so distances can be judged.

People use reflected light to discern features of persons approaching. Light from above creates shadows.

Use more than one source of light where possible.

Determine reflected light from surfaces when setting minimum light levels.

Use natural, broad spectrum light frequencies, not mercury or sodium vapor lamps.

Light paths and areas not well observed from buildings.

Evenly light stairs and ramps. Avoid confusing shadows.

Establish standards for a family of luminaires and lightpoles. Eliminate the use of wall packs and cobra head fixtures.

Prevent light from the exterior shining into building interiors, especially in residential areas.

Fixtures need to be able to withstand harsh climate and physical abuse.

Do not allow more than 1/2% of light from any fixture to be directed higher than 90 degrees from the ground plan to reduce light pollution and maintain a black sky.

Do not allow light to trespass on neighboring properties. Do not use high mast lighting in parking lots.

Use photocells, timers and motion sensors to reduce energy consumption on both exterior and interior lighting.

Do not light trees or place lights in trees.

Co-locate wireless points and emergency telephones with light poles.

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Transportation Plan

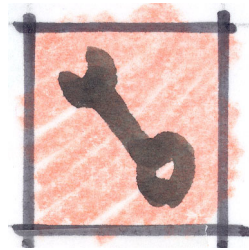
- Collaborate with the City of Tahlequah and the Cherokee Nation to model transportation modes and trips to/from and around campus.
- Disperse traffic around campus by introducing alternative routes including the Sequoyah Parkway, Lewis Avenue Extension and East/West Connectors.
- Calm traffic on Grand Avenue with raised crosswalks, neckdowns and medians. Close Grand during peak class hours.
- Establish a north gateway at the intersection of Grand Avenue and Crafton Street with a columnar gate and traffic signals.
- Establish a south gateway with a roundabout where Grand Avenue meets Muskogee Avenue.
- Remove parking from the campus core. Provide a fire lane / pedestrian mall for access to buildings located in the campus core.
- Provide perimeter parking areas roughly equally divided between east, west and north campus areas.
- Freeze or reduce the total number of available parking spaces and promote alternative transport. Encourage and reward carpoolers.
- Provide short-term convenience parking near the student center, visitor's center and other areas frequented by visitors.
- Develop a bicycle infrastructure with designated routes and storage facilities.
- Include bicycle storage in all new building projects.
- Constitute a shuttle service providing service to campus destinations and parking areas.
- Extend the shuttle to downtown Tahlequah and the shopping district south of town, particularly grocery stores.
- Run seasonal shuttles to the Illinois River and other tourist attractions. Use stadium parking for tour busses.
- Develop east-west pedestrian connections including a new west entry and improvements to the portal at the Fine Arts building. Create corridors that are well marked connecting parking areas to campus.
- Introduce serpentine paths, especially at grade changes.
- Establish standards for walks and hardscape.
- Determine accessible paths to all facilities.
- Offer moped/motorcycle parking area near student center and library
- Provide recharging stations for alternative fuel cars.

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Deferred Maintenance Strategy

Assess campus wide deferred maintenance and estimate costs.

Adopt facility management software to track maintenance and improvement projects.

Create and maintain a GIS database of campus.

Develop accurate as-built plans of buildings when undertaking projects.

Prioritize building deferred maintenance by:

- Structural Failures / Public Safety

- Water Penetration / Elements Entering the Envelope

- MEP Systems / Life Safety

- Functional Deficiencies

- Cosmetic Defects

Include substantive campus site improvements with all building projects.

Utilize existing facilities to the maximum extent possible. Attempt to achieve multiple objectives with each rehabilitation project.

Look for and pursue grants and alternative funding methods for deferred maintenance.

Demolish Logan, Hastings and Ross Residence Halls; the existing Physical Plant and Warehouse; the Recreation Building; President's Residence and all temporary buildings.

Renovate key campus buildings including Wilson Hall, Haskell Hall, the Education Building, Jack Dobbins Fieldhouse and the Fine Arts Building.

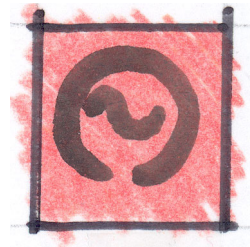
Adopt and continually update the campus plan.

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Utilities and Infrastructure Framework

Survey and map existing utilities.

Estimate current and future utility needs.

Follow appropriate ASHRAE, NEC and International Energy Codes.

Implement a campus wide energy management system.

Bury all existing and future campus utilities.

Place utilities in street rights-of way and easements under major walkways clear of tree roots, building foundations and other obstructions.

Consider the use of unit pavers which can be removed, replaced and reused for utility access.

Provide loop electrical and water service to campus buildings.

Provide sprinklers and fire mains to all campus buildings.

Color code and identify all lines.

Phase out the use of all CFC and HCFC refrigerants.

Purchase renewable energy credits or tradable renewable certificates for a minimum 35% of campus power.

Reduce campus total water usage by 20% and potable water usage by 50% by using water conserving fixtures, recycled grey water and reduced irrigation.

Properly commission all new and renovated buildings and conduct post-occupancy analyses.

Establish and adhere to indoor air quality standards.

Remove or remediate all environmental hazards including asbestos, lead paint and PCBs.

Utilize a recycling program for campus waste. Compost food and organic waste.

Screen all transformers, cooling towers and equipment.

Establish a campus wide wireless communication network.

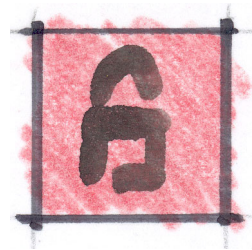
Locate cellular telephone antennae on the top of the NET building.

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Security and Emergency Management

Create and implement a security and emergency management plan with an emergency management team and designated incident managers.

Participate in the City of Tahlequah emergency response system.

Produce analyses of assets, threats, and vulnerabilities for all security and safety issues.

Provide emergency power for critical functions.

Work closely with Tahlequah Police, Fire, Ambulance and Civil Defense.

Utilize a one-card system for campus access control.

Use crime prevention through environmental design principles on all new projects. For instance, provide surveillance of public spaces from buildings and use security layering at building perimeters.

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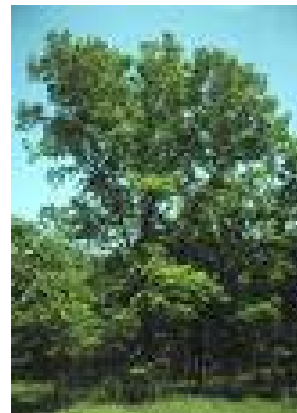
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Appendix B

Plant Selection: Large Trees



Plant Species:
Left column
Top to bottom

- Short Leaf Pine *Pinus echinata* **Mature Size:** 50+ Ft **Growth rate:** Moderate **Habitat:** Upland Forest
- Black Hickory *Carya texana* **Mature size:** 50+ Ft **Growth rate:** Moderate **Habitat:** Upland
- Bald Cypress *Taxodium disticum* **Mature size:** 50+ Ft **Growth rate:** Fast **Habitat:** Wetlands Non- native

Plant Species:
Middle column
Top to bottom

- White Hickory *Carya tomentosa* **Mature size:** 50+ Ft **Growth rate:** Moderate **Habitat:** Upland Forest
- Pin Oak *Quercus palustris* **Mature size:** 50+ Ft **Growth rate:** Moderate **Habitat:** Upland Forest

Plant Species:
Right column
Top to bottom

- Green Ash *Fraxinus pennsylvanica* **Mature size:** 50+ Ft **Growth rate:** Fast **Habitat:** Hardwood Forest
- Shagbark Hickory *Carya ovata* **Mature size:** 50+ Ft **Growth rate:** Slow **Habitat:** Upland Forest
- Pecan *Carya illinoensis* **Mature size:** 50+ Ft **Growth rate:** Moderate **Habitat:** Lowland Forest

Appendix B

Plant Selection: Small Trees



Plant Species:
Left column
Top to bottom

- Witch Hazel *Hamamelis virginiana* **Mature size:** 10 Ft **Growth Rate:** Slow **Habitat:** Hardwood Forest
- American Hazelnut *Corylus americana* **Mature size:** 10 Ft **Growth Rate:** Slow **Habitat:** Hardwood Forest
- Persimmon *Diospyros virginiana* **Mature size:** 30+ Ft **Growth Rate:** Moderate **Habitat:** Hardwood Forest

Plant Species:
Middle column
Top to bottom

- Flowering Dogwood *Cornus florida* **Mature size:** 20 Ft **Growth rate:** Slow **Habitat:** Hardwood Forest
- Redbud *Cercis canadensis* **Mature size:** 20+ Ft **Growth rate:** Slow **Habitat:** Hardwood Forest

Plant Species:
Right column
Top to bottom

- Sugar Maple *Acer saccharum* **Mature size:** 30 Ft **Growth rate:** Moderate **Habitat:** Hardwood Forest
- Sumac sp. *Rhus sp.* **Mature size:** 8+ Ft **Growth rate:** Fast **Habitat:** Ubiquitous
- Deciduous Holly *Ilex decidua* **Mature size:** 10+ Ft **Growth rate:** Slow **Habitat:** Hardwood Forest

Appendix B

Plant Selection: Herbaceous

Plant species:

Left column

top to bottom

- Cherokee Rose *Rosa setigera*
- Blanket Flower *Gaillardia aristata*
- Pampas Grass *Cortaderia selloana*

Plant species:

Middle column

top to bottom

- Sweet Grass *Hierochloa odorata*
- Pansey sp. *Viola sp.*
- American Lotus *Nelumbo lutea*
- Arrowhead *Sagittaria latifolia*

Plant species:

Right column

top to bottom

- Purple Coneflower *echinacea purpurea*
- Cattail *Typha latifolia*
- Marigold sp. *Calendula sp.*

