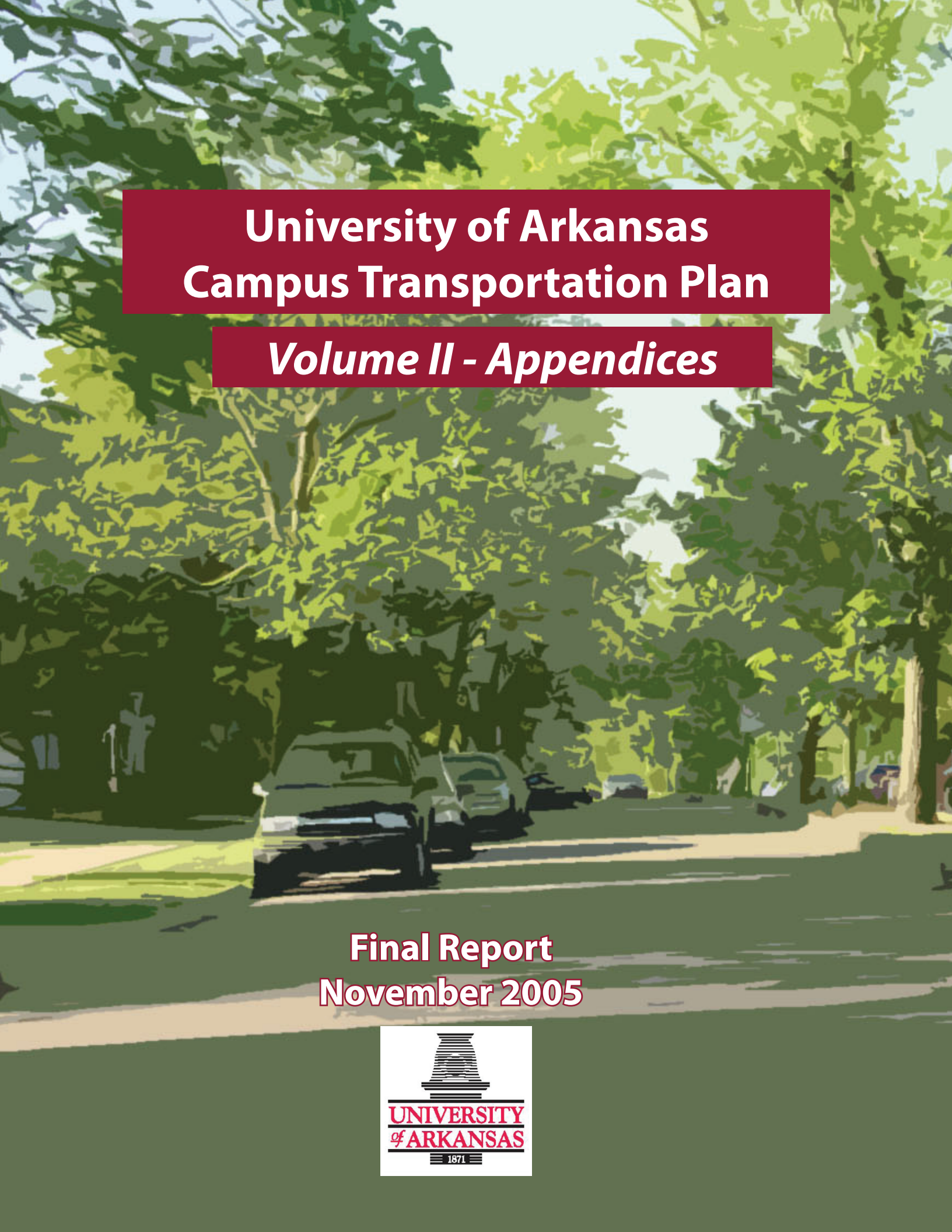


University of Arkansas Campus Transportation Plan

Volume II - Appendices

Final Report
November 2005

UNIVERSITY of ARKANSAS
1871

MARTIN
ALEXIOU
BRYSON

TRANSPORTATION PLANNING
TRAFFIC ENGINEERING

2414 WYCLIFF ROAD
SUITE 101
RALEIGH, NORTH CAROLINA, 27607
PHONE: 919-881-1243
FAX: 919-881-8081

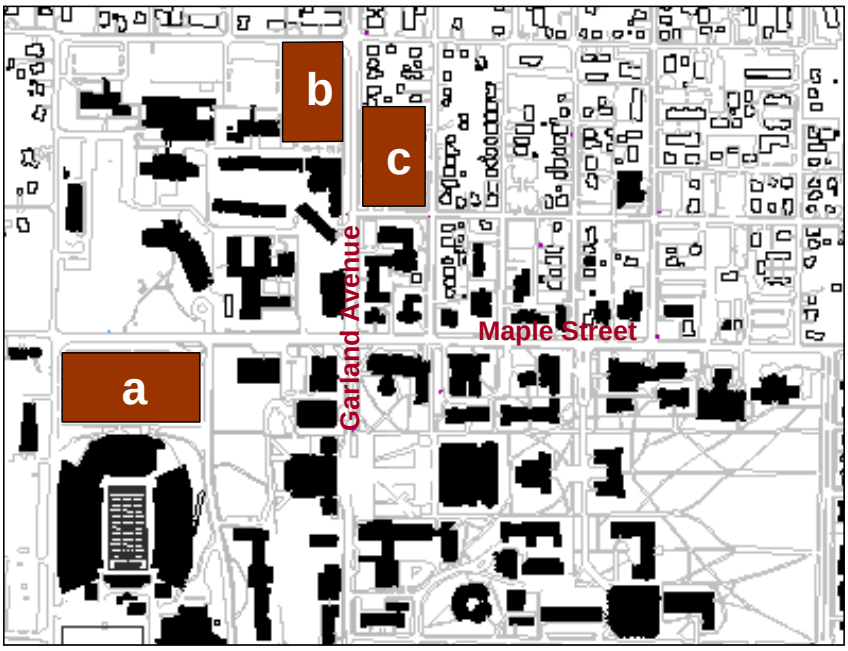
MEMORANDUM

To: Kevin Santos, University of Arkansas
From: George Alexiou, P.E.
Date: April 20, 2005
Subject: North Campus Parking Deck Site Analysis

Introduction

This memorandum supplements the February 11, 2005 memorandum (attached) that analyzed eight alternative north campus deck sites. At the direction of the Steering Committee and University staff, we have further analyzed the three highest ranking sites from that previous analysis. The three sites (shown in the figure below) are:

- Site A: Lot 44 (Razorback Stadium Parking Lot)
- Site B: Lot 37 (southwest corner of Garland Avenue and Cleveland Street)
- Site C: Lot 75 (northeast corner of Garland Avenue and Douglas Street)



Evaluation Criteria

We analyzed and ranked Sites A, B and C according to several criteria, including:

- Potential to add parking spaces (how many net spaces will be added);
- Cost per space;

- Vehicular access (convenience of access, impact on surrounding street system, traffic impacts);
- Location (convenience to campus core, walkability, impact on adjacent uses);
- Potential to serve special events (proximity to athletic venues);
- Visual impacts (ability to place parking below grade, visual impact on surrounding properties and uses); and
- Opportunity cost (cost of losing land for academic and university purposes).

A comparison of the three sites is shown in the table below. For each rating factor, sites were scored 1-3, with three being the highest score.

Factors	Stadium Site	West Garland Site	East Garland Site
Potential to add parking spaces	1	2	3
Cost per space	1	3	2
Vehicular access	1	3	2
Topography	2	1	3
Potential to serve special events	2	1	3
Visual impacts	2	1	3
Opportunity cost	2	1	3
Total	**11**	**12**	**19**

1. Assumes a deck on the stadium lot would have a landscaped plaza roof, level with Razorback Road and Stadium Drive.
2. Assumes decks at Sites B and C would have liner buildings to reduce visual impacts, enhance the streetscape and provide pedestrian scale.

Evaluation Summary

Site C scored the highest and is the most appropriate site for the next parking deck on the northern part of campus. Each of the sites is described in the attached February 11, 2005 memorandum. Key points relative to each site are described below:

Site C, located at the northeast corner of Garland Avenue and Douglas Street:

- Captures traffic from the north before it reaches Maple Street and the campus core;
- Provides good access from Garland Avenue, a major arterial street;
- Would be less expensive than the other sites to develop;
- Has the potential to integrate other uses in liner buildings on the street-facing facades to improve appearance and enhance the financial feasibility of the deck;
- Is an easy walk to the campus core; and
- Takes advantage of site topography to locate parking below grade at Garland Avenue, which increases the number of levels in the deck (and the number of potential spaces).

Site B, located on the west side of Garland Avenue at Cleveland Street:

- Also captures traffic from the north before it reaches Maple Street and the campus core;
- Also provides good access from Garland Avenue, a major arterial street;

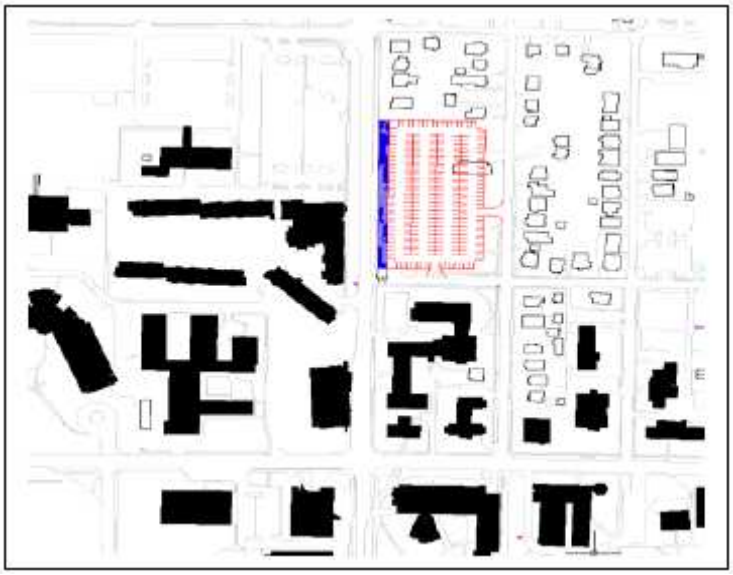
- Would be more expensive per space than Site C with the addition of liner buildings on both Garland Drive and Cleveland Street;
- Is flat and higher in elevation than Site C, which limits the number of levels in the deck, does not allow for parking below the grade of Garland Avenue, and increases the visual impacts to the surrounding area; and
- Is also a relatively easy walk to the campus core.

Site A, the Razorback Stadium Lot:

- Would be the most expensive of the three sites to develop, given the desire for a landscaped plaza roof and the significant excavation that would be required;
- Has a high number (775) of existing spaces, which would limit the potential for net increase;
- Would bring traffic coming from the north to Maple Street and Razorback Road, both major campus streets with high traffic volumes and congested intersections;
- Is the site closest to the campus core, but requires some uphill walking;
- Provides convenient parking for athletic events at the stadium; and
- Has the potential, with the addition of a landscaped plaza roof, to add a significant open space amenity to campus, and improve pedestrian circulation for pedestrians traveling to and from areas west of campus.

Conclusion

It is recommended that **Site C** (at the northeast corner of Garland Avenue and Douglas Street) be developed as the next location for a parking deck on the northern part of campus. The site has the potential to add a large deck totaling over 1,400 parking spaces (a net increase of approximately 1,200 spaces), with 5 to 6 levels of parking. In order to mitigate the visual impact of a deck of that size, it is recommended that a liner building be incorporated at least on the Garland Avenue façade. Depending on the extent of the use of the site, a liner building may also be appropriate on the north side of the deck oriented toward Cleveland Street.



Site C: Garland Ave/Douglas Street

MARTIN ALEXIOU BRYSON
TRANSPORTATION PLANNING
TRAFFIC ENGINEERING

2414 WYCLIFF ROAD
SUITE 101
RALEIGH, NORTH CAROLINA, 27607
PHONE: 919-881-1243
FAX: 919-881-8081

MEMORANDUM

To: Kevin Santos, University of Arkansas
From: George Alexiou, P.E.
Date: February 11, 2005
Subject: North Campus Parking Deck Alternative Sites Analysis

Introduction

Eight sites were identified and analyzed as potential locations for a parking deck in the northern part of the University of Arkansas campus and areas to the north of campus (see Figure 1). Analysis of these sites included a review of existing conditions, the 1998 Campus Master Plan, the 2001 *Parking Supply/ Demand and Alternatives Analysis* by Walker Parking Consultants (Walker), and current parking needs. This analysis focuses on meeting parking demand on the northern portion of campus.

Alternatives

The eight alternative sites were reviewed and compared using a variety of criteria, including:

1. Potential to add parking spaces (net addition);
2. Convenient vehicular access (located on major arterial street);
3. Convenient access to transit (within easy walking distance to bus stop);
4. Impacts to local streets (level of traffic increases);
5. Impacts to local residences (impact on neighborhood quality of life);
6. Site topography (ability to place parking below grade);
7. Compatibility with adjacent land uses;
8. Proximity to the campus core;
9. Potential to users;
10. Cost per space (and cost per net space for sites with existing surface parking);
11. Potential to serve special events (proximity to athletic venues); and
12. Opportunity costs (cost of losing use of land for academic and university purposes).

Each site was ranked based on these twelve criteria. Table 1 below compares and ranks each alternative. In addition, the five-minute walk zone (approximately 1,200 feet) is shown for each site.

Summary

The three sites that scored the highest in the rankings in Table 1 are:

1. Site 3: Lot 44 (Razorback Stadium lot)
2. Site 4: Lot 37 (Corner of Cleveland Street and Garland Avenue)
3. Site 5: Lot 75 (East side of Garland Avenue)

These three sites have a large capacity to add additional parking spaces, provide convenient street and transit access, and are compatible with adjacent land uses. Sites 4 and 5 have the added benefit of intercepting traffic coming to campus from the north along Garland Avenue before it reaches campus.

Figure 1. Alternative Sites

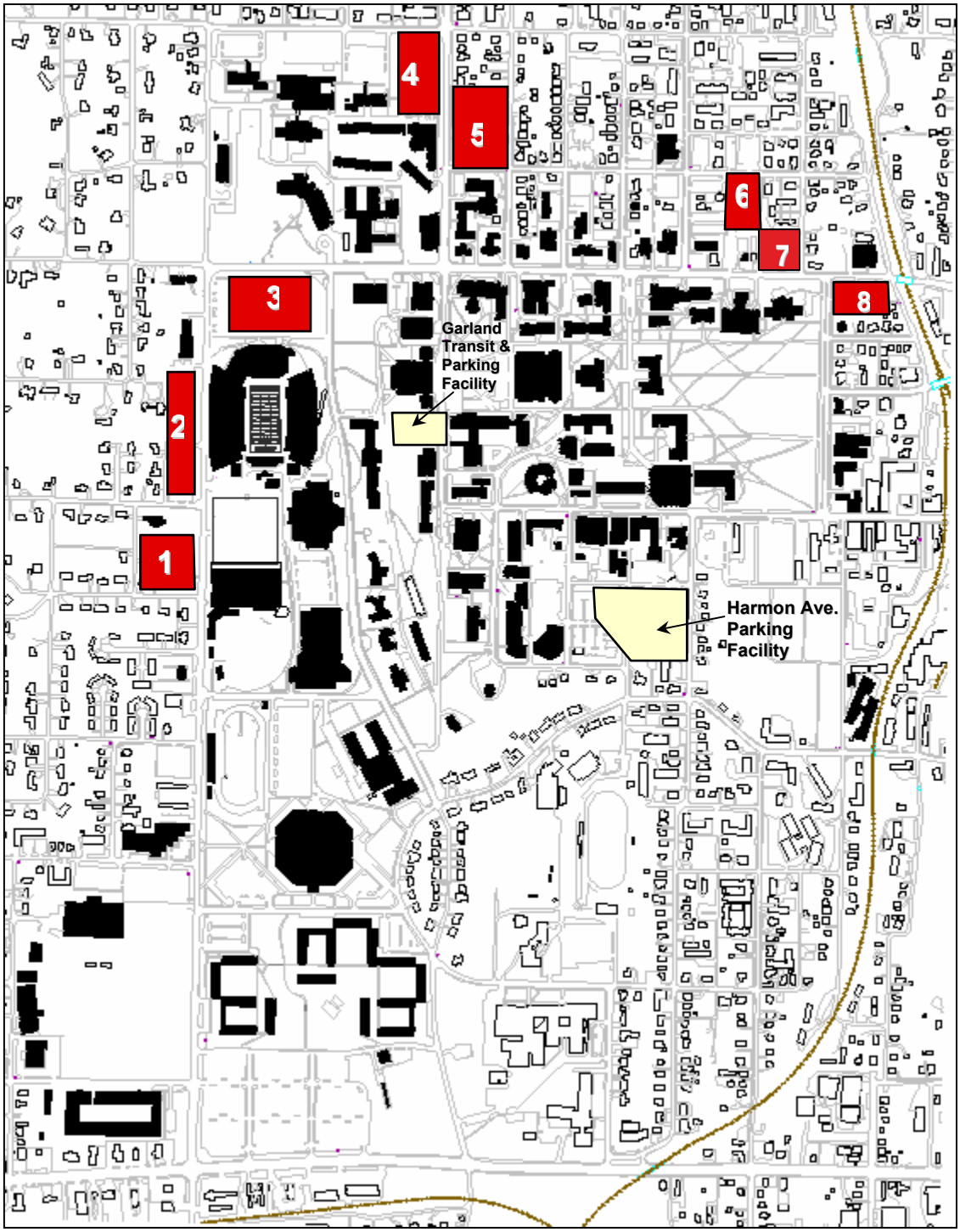


Table 1. Comparison of Alternative Deck Sites

Deck Reference		Site Characteristics							Rankings[1]															
		Deck Dimensions (length/width)		Assumed number of levels	Spaces per level	Total spaces	Existing spaces (removed)	Net space addition	Potential to add parking spaces	Convenient street access[2]	Convenient access to transit	Impact to local streets	Impact to local residences	Site topography[3]	Compatibility with adjacent land uses	Proximity to campus core	Potential to users	Cost per space	Cost per net space	Potential to serve special events	Low opportunity cost	Total	Rank
1	Lots 73 and 73A (Corner of Razorback and Markham)	300'	300'	4	300	1200	128	1072	5	4	4	4	2	2	2	2	2	3	3	5	5	43	4
2	Lot 72 (West of Football Stadium)	700'	120'	3	280	840	323	517	3	4	4	4	2	1	2	2	2	2	2	5	5	38	5
3	Lot 44 (Razorback Stadium Lot)	300'	500'	3	500	1500	775	725	4	4	4	4	5	5	3	4	5	5	5	5	4	57	1
4	Lot 37 (Corner of Cleveland St and Garland Ave)[4]	400'	180'	4	240	960	151	809	4	5	4	5	5	2	5	4	4	4	5	4	4	55	2
5	Lot 75 (East side of Garland Ave)[5]	450'	240'	6	240	1440	259	1181	5	4	4	5	4	3	4	4	4	4	4	4	4	53	3
6	Lots 38, 35 and 31 (SE Corner of Leverett St and Douglas St)	300'	180'	2	350	700	217	483	2	2	2	1	1	1	2	5	5	4	4	2	1	32	7
7	Lot 34 (Corner of Maple St and Whitman Ave)	180'	180'	2	80	160	79	81	1	2	4	1	1	4	1	5	5	3	2	1	1	31	8
8	Lots 14 and 14A (Corner of Arkansas Ave and Maple St)[6]	120'	300'	4	120	480	46	434	2	4	4	1	1	5	1	5	4	3	2	1	1	34	6

1. Sites were scored 1 to 5 for each rating factor, with 5 being the highest.

2. Assumes Razorback Road widening.

3. All lands are considered to have topographic concerns. This column ranks the ability to place parking below grade.

4. A 25 ft building liner could be added, but would decrease size of deck.

5. May require property acquisition to maximize development potential. A 25 ft liner building could be included facing Garland Ave.

6. Would require property acquisition. Includes a 25 ft liner building facing Maple Street.

Site 1

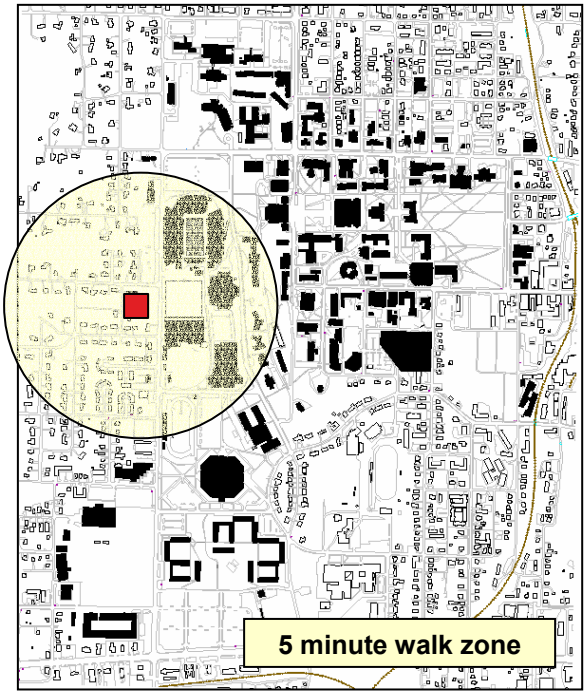
Location: West side of Razorback Road between Markham Road and Hotz Drive. The site is west of Razorback Stadium and the football practice fields. The University Heights neighborhood is northwest of the site.

Access: From Razorback Road and Markham Road.

Current Land Use: Surface parking. The site overlays existing Lots 73 and 73A (128 spaces).

Deck Footprint: 300' x 300'

Potential Capacity: The site has the potential to support a parking deck with four levels and approximately 300 spaces per level, for a total of 1,200 spaces (a net increase of 1,072 spaces).



Relative Cost Per Space: Medium

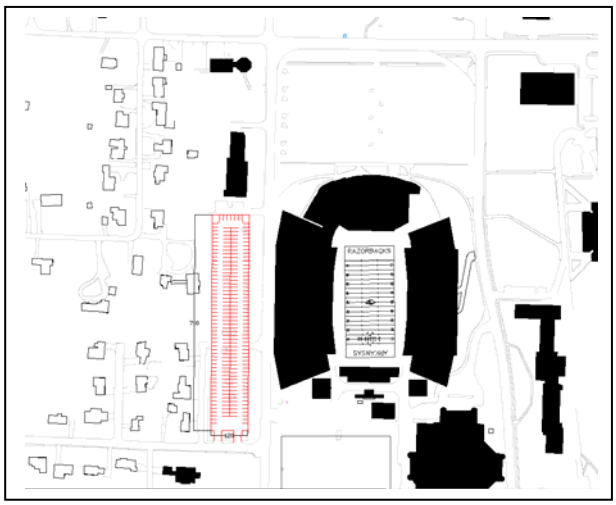
Key Points:

- The site is adjacent to University Heights, an established residential neighborhood. A multi-level parking deck would have a significant visual impact and would detract from the low-density residential character of the neighborhood.
- Site topography would increase the cost of construction. The site slopes steeply toward Razorback Road.
- Traffic coming from north of campus would have to use Maple Street and Razorback Road to reach deck.

Rank: 4th (out of 8)

Site 2

Location: Northwest of intersection of Razorback Road and Markham Road, immediately west of Razorback Stadium. The University Heights neighborhood is west of the site.

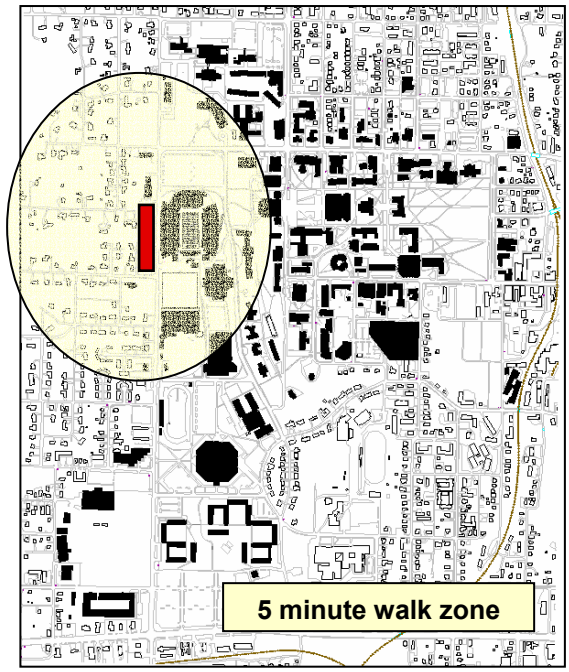


Access: From Razorback Road and Markham Road.

Current Land Use: Surface parking. The site overlays existing Lot 72 (323 spaces).

Deck Footprint: 700' x 120'

Potential Capacity: The site has the potential to support a parking deck with three levels and approximately 280 spaces per level, for a total of 840 spaces (a net increase of 517 spaces).



Relative Cost Per Space: High

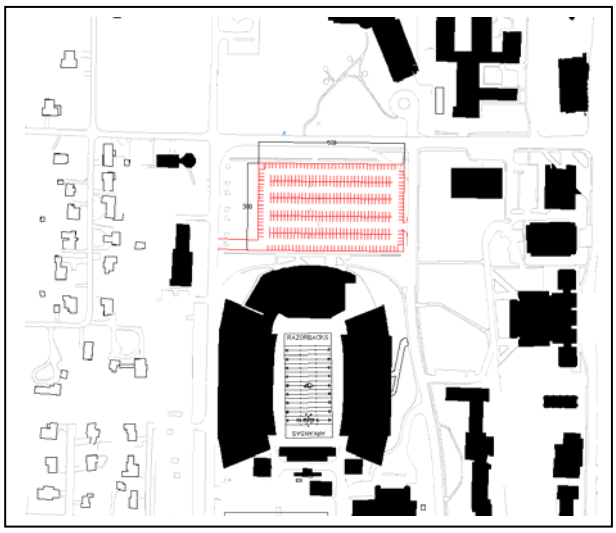
Key Points:

- Like Site 1, the site is adjacent to University Heights, an established residential neighborhood. A multi-level parking deck would have a significant visual impact and would detract from the low-density residential character of the neighborhood.
- The site is adjacent to the Alumni House.
- Site topography would increase the cost of construction. The site slopes steeply toward Razorback Road.
- Traffic coming from north of campus would have to use Maple Street and Razorback Road to reach deck.

Rank: 5th (out of 8)

Site 3

Location: Immediately north of Razorback Stadium; south of Maple Street, between Razorback Road and Stadium Drive.



Access: From Maple Street and Razorback Road.

Current Land Use: Surface parking. The site overlays existing Lot 44 (775 spaces).

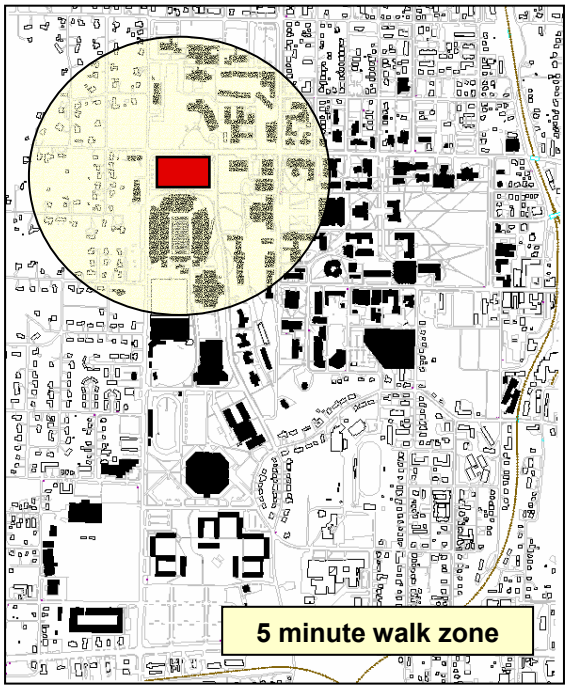
Deck Footprint: 300' x 500'

Potential Capacity: The site has the potential to support a parking deck with three levels and approximately 500 spaces per level, for a total of 1,500 spaces (a net increase of 725 spaces).

Relative Cost Per Space: Low

Key Points:

- The site is within an important view corridor between the Alumni House and the Stadium and Administration Building.
- The below-grade topography would permit some levels of a deck to stay below this view corridor.
- Site topography would not significantly increase the cost of construction as compared to other sites.
- Potential to provide a large amount of below-grade parking.
- The whole site is not required for deck.
- Could be integrated with other development.
- Potential for plaza or open space on roof of deck.



Rank: 1st (out of 8)

Site 4

Location: Southwest corner of Garland Avenue and Cleveland Street.

Access: From Cleveland Street.

Current Land Use: Surface parking. The site overlays existing Lot 37 (151 spaces).

Deck Footprint:
Option A: 400' x 180' (deck only)
Option B: 375' x 155' (deck w/liner building)

Potential Capacity:
Option A: The site has the potential to support a parking deck with four levels and approximately 240 spaces per level, for a total of 960 spaces (a net increase of 809 spaces).
Option B: If a liner building were added to the deck facing Cleveland Street and Garland Avenue, the site could support a deck with four levels and approximately 194 spaces per level, for a total of 775 spaces (a net increase of 624 spaces).

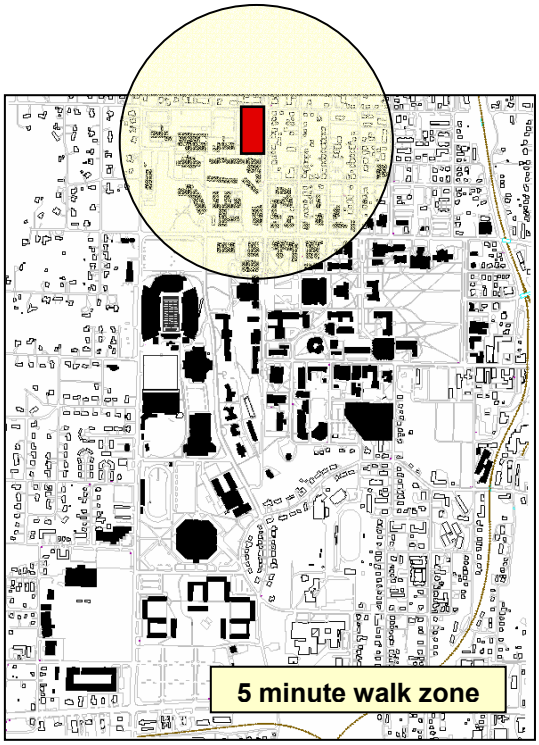
Relative Cost Per Space: Low

Key Points:
- The site is a principal gateway to campus. Option B utilizes a liner building facing Cleveland Street and Garland Avenue to mitigate the visual impact of a large parking garage.
- In the future, the areas surrounding the site would only be developed with University and high density residential uses, which are generally compatible with a parking deck.
- If the elementary school just north of this site remains open in the future there may be significant impacts to locating a parking deck on this site.
- Intercepts traffic coming from the north before it reaches campus.

Rank: 2nd (out of 8)

Option A

Option B



Site 5

Location: Southeast corner of Garland Avenue and Douglas Street.

Access: From Garland Avenue and Douglas Street.

Current Land Use: Surface parking and a residential building. The site overlays existing Lot 75 (259 spaces).

Deck Footprint:
Option A: 450' x 180' (deck only)

Option B: 450' x 180' (with liner building)

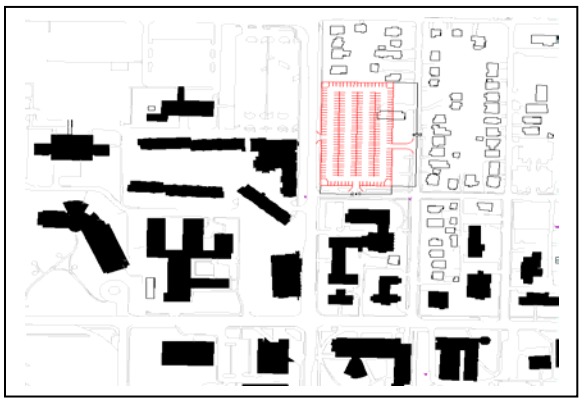
Potential Capacity:
Option A: If only a deck were built, the site could support a deck with six levels and approximately 240 spaces per level, for a total of 960 spaces (a net increase of 809 spaces).

Option B: The site has the potential to support a parking deck with the same capacity as Option A, with a liner building attached to the deck facing Garland Avenue that could be developed with a mix of uses.

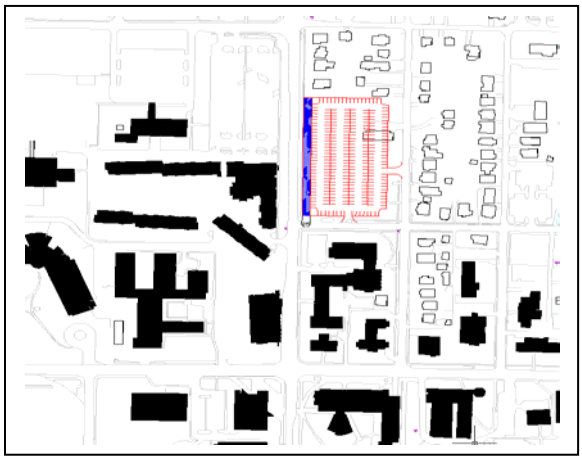
Relative Cost Per Space: Low

Key Points:
- Both options would require acquisition of a residential property in the northeastern portion of the site.
- Both options traverse a creek/drainage channel that runs north/south. Further investigation would be required to determine impacts.
- The areas surrounding the site are developed with University and high density residential uses, which are compatible with a parking deck.

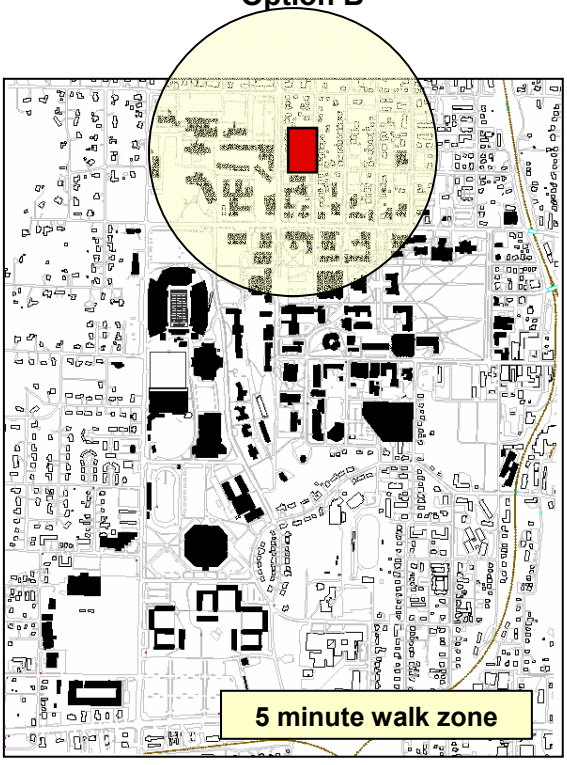
Rank: 3rd (out of 8)



Option A



Option B



Site 6

Location: Southeast corner of Leverett Avenue and Douglas Street.

Access: From Leverett Street.

Current Land Use: Surface parking and three University-owned buildings. The site overlays existing Lots 31, 35, and 38 (217 spaces).

Deck Footprint: 300' x 180'

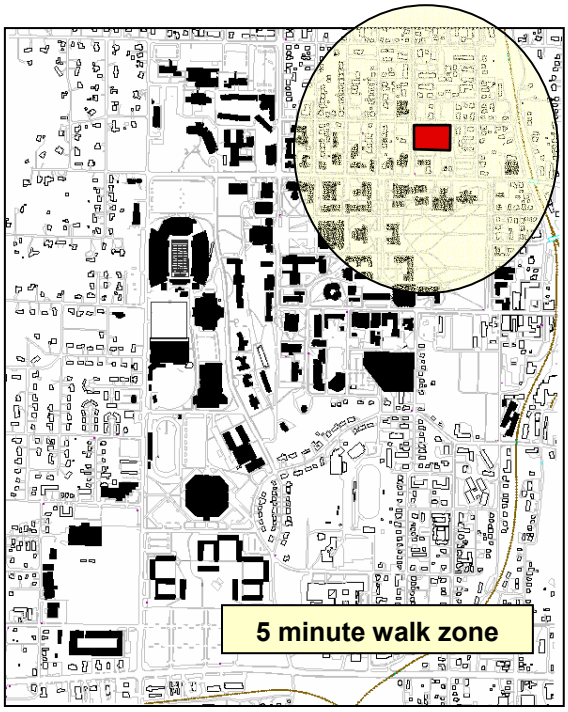
Potential Capacity: The site has the potential to support a parking deck with two levels and approximately 350 spaces per level, for a total of 700 spaces (a net increase of 483 spaces).

Relative Cost Per Space: Low

Key Points:

- The site is at a peak elevation. A multi-level parking deck would be highly visible from surrounding areas.
- If fully developed, would require demolition of three University-owned buildings.
- Potential for other development on site with below-grade deck.
- Access to the site is poor – not located on major arterial.
- The areas surrounding the site are developed with University uses and University parking lots, as well as medium density residential uses, which are generally compatible with a parking deck.

Rank: 7th (out of 8)



Site 7

Location: Northwest corner of Maple Street and Whitham Avenue.

Access: From Maple Street and Whitham Avenue. Site dimensions do not permit internal ramps for deck. Upper level would be accessed from Maple Street and lower level would be accessed from Whitham Avenue.

Current Land Use: Surface parking. The site overlays existing Lot 34 (79 spaces).

Deck Footprint: 180' x 180'

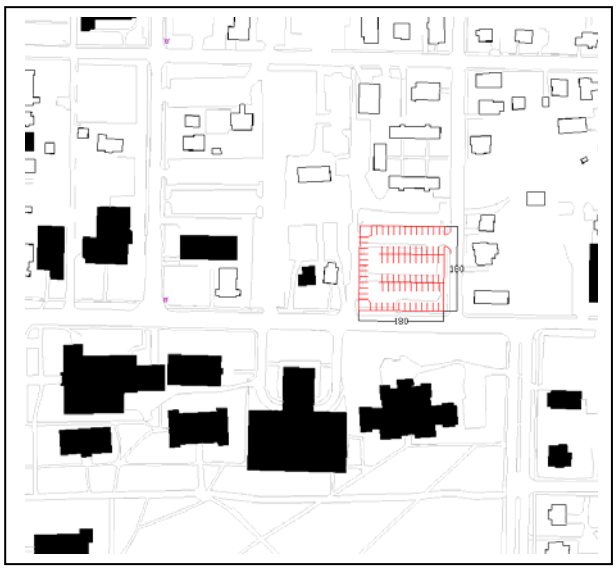
Potential Capacity: The site has the potential to support a parking deck with two separate levels and approximately 80 spaces per level, for a total of 160 spaces (a net increase of 81 spaces).

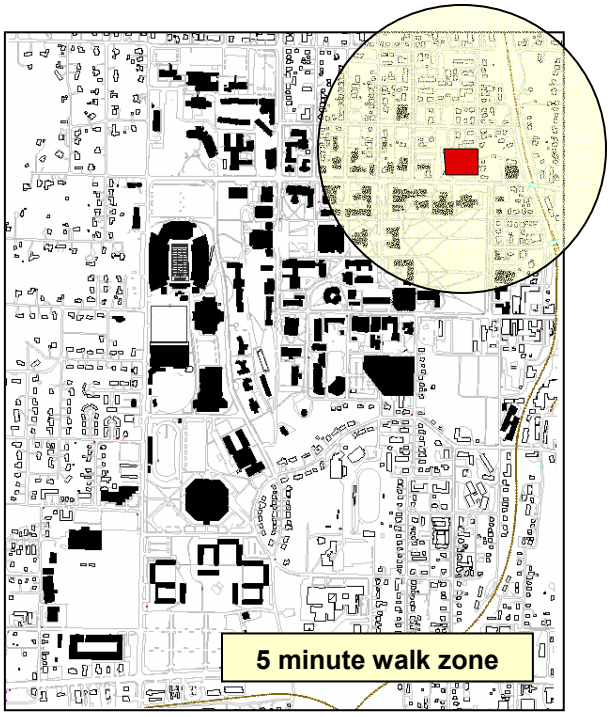
Relative Cost Per Space: Medium

Key Points:

- Topography would allow for new building to be located on top of below-grade deck. A building could be constructed at-grade with a single layer of parking beneath, which would essentially replace the existing surface parking. The topography would allow for two levels of parking if the new building is elevated above grade.
- The site sits at a principal gateway to the University, near the intersection of Maple Street and Arkansas Avenue.
- The historic Carnall Inn is located across Maple Street, and Old Main and its associated open space is nearby.
- Because the site slopes away from Maple Street, visual impacts would be reduced with a two-level parking deck.

Rank: 8th (out of 8)





Site 8

Location: Southeast corner of Maple Street and Arkansas Avenue.

Access: From Maple Street, Arkansas Avenue, and Gregg Avenue.

Current Land Use: Surface parking, three residential buildings, and the University's Speech Clinic. The site overlays existing Lots 14 and 14A (46 spaces).

Deck Footprint: 120' x 300'

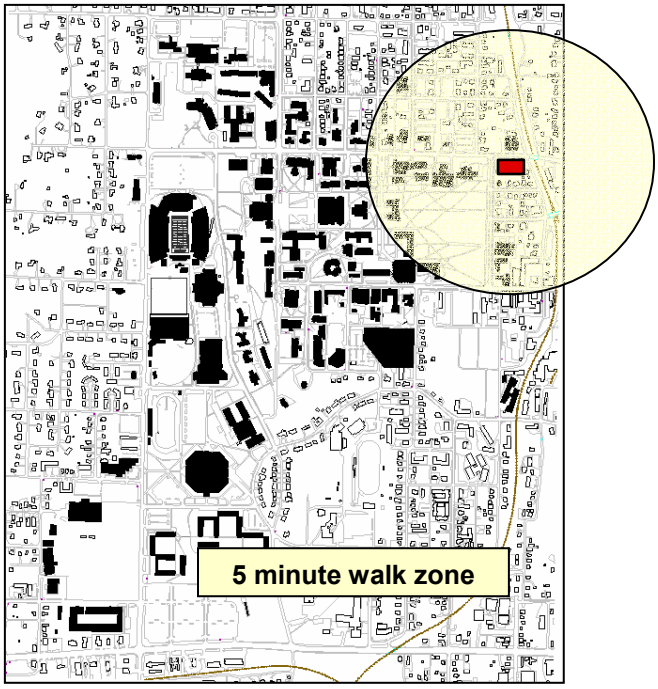
Potential Capacity: The site has the potential to support a parking deck with four levels and approximately 120 spaces per level, for a total of 480 spaces (a net increase of 434 spaces).

Relative Cost Per Space: Medium

Key Points:

- Development of deck would require acquisition and demolition of three high-quality residential properties, as well the demolition of the University-owned Speech Clinic building.
- The site sits at a principle gateway to the University, at the intersection of Maple Street and Arkansas Avenue, between the University and downtown Fayetteville.
- The historic Carnall Inn, as well as Old Main and its associated open space, are located across Arkansas Avenue.
- Residential properties immediately adjacent to site to the south.

Rank: 6th (out of 8)



Martin
Alexiou
Bryson