Comprehensive Facilities Master Plan

Martin Alexiou Bryson
Comprehensive Facilities Master Plan

• Pedestrian

• Bicycle

• Transit
  • Improvements to Date
  • Parking Demand Reductions
  • Future Transit Service

• Parking
  • Main Campus Supply Changes
  • Options for Main Campus
  • Main Campus Cost Analysis
  • Future Main Campus Parking Zones
  • TDM Measures
  • Options for Health Science Campus

Agenda
Pedestrian
• Reade Street Developments
  • Improved connection with campus
• 10th Street Improvement
  • Complete street for all modes
  • Consistent pedestrian experience
  • Reduced conflicts
• Founder’s Drive Closure
  • Safety improvement
  • New pedestrian spine
  • Improved connections
  • Maintain loading dock access
• New East-West Pedestrian Spine
  • Central path
  • Separates medical from teaching
  • Common access
• Service Drive Closure
  • Better connection to PCMH
  • Provides unimpeded flow
Bicycle
• Existing bicycle supply & demand

Bicycling
• Existing bicycle supply & demand

Additional bicycle parking needed

Bicycling
• Existing bicycle supply & demand

Bicycling
• Bicycle connections
  • Support the Greenville Urban Area MPO Bicycle & Pedestrian Master Plan

- Origin / Destination areas
- **Possible** bicycle connections
- Existing bicycle routes
- **Proposed** Greenville bike trail

Bicycling
• Bicycle Friendly University
• Ultimate goal of bicycle planning efforts
Comprehensive Facilities Master Plan

East Carolina University

Transit
Improvements to Date

• Numerous improvements noted in Needs Document and made prior to 2010-11
  • Route reduction/consolidation
  • Stop consolidation
  • Service hour reduction

• More efficient operations still possible
  • Service hour reduction to apartment communities in afternoon
  • First Street Place serviced by 506 route
    • 304 route becomes a circulator
Transit parking reductions

The ECUSTA reduces parking demand by ~2,000 parking spaces at peak period!
Where would these 2,000 vehicles park?

Area of additional 2,000 spaces = 600,000 SF of land

Transit
Future Needs

• New service/maintenance center
• Campus focus vs. student focus
  • Student Transit Authority → Transit Authority
• Closer relationship with parking
  • Revenue transfer from parking
  • Closer daily operations
• New mission statement to reflect service
• Campus transit committee
Main Campus Parking Demand Assumptions

• **Consistent space per person ratio** – The ratio of 0.333 spaces per person through 2025
• **No major changes in commuting patterns** – No drastic changes to commuting patterns
• **Linear growth of demand** – Supported by Eva Kline Associates report
0-5 years*
• Student Union (#9)
• Bio Sciences (#1)
• Alumni Center (#13)

5-10 years
• Academic A Building (#3)
• Student Recreation Center Expansion (#11)
• Foundation Building / Office / Swing Space (#19)
• Facilities Building (#6)
• Police (#7)
• Parking, Environmental Safety, Mail Services (#8)
• IT / Data Center (#20)
• Belk Hall Replacement

10-15 years
• Performing Arts

* - Also assumed Founders Drive closure within this phase
Main Campus Scenarios

- Surface Lots
- All Decks
- Remote Parking and Two Decks
- Student Union Deck, Remote Parking and New Storage Lot
- Student Union Deck, New Storage Lot and Aggressive Demand Reductions
Parking Locations

New Parking Locations
Parking Changes – Surface Lots

Net Loss: ~1,000 spaces
Future Deficit: ~2,400 spaces
Surface Lots

Deck locations built as surface lots. Costs are low but fails to meet demand. Supply issues within 5 year horizon.

Supply vs. Demand For Surface Lots

<table>
<thead>
<tr>
<th></th>
<th>Supply</th>
<th>Demand</th>
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<tbody>
<tr>
<td>Current</td>
<td>8,304</td>
<td>7,010</td>
</tr>
<tr>
<td>2015</td>
<td>7,800</td>
<td>7,900</td>
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<tr>
<td>2020</td>
<td>7,500</td>
<td>8,800</td>
</tr>
<tr>
<td>2025</td>
<td>7,300</td>
<td>9,700</td>
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</tbody>
</table>
Parking Changes – All Decks

Net Gain: ~1,400 spaces
Future Surplus: ~ 0 spaces
All Decks

Deck locations in Master Plan are built. Includes 5 decks total (3,500 spaces). Demand is met but costs are high.

Supply vs. Demand For All Decks

<table>
<thead>
<tr>
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<td>9,700</td>
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Parking Changes – Remote Parking + Two Decks

Net Gain: ~1,400 spaces

Future Deficit: ~0 spaces
Remote Parking + Two Decks

Assumes only the Student Union Deck and a second deck are constructed. 1,900 total deck spaces.
Adds new P&R lot near HHP which requires improved transit service.

**Supply vs. Demand For Two Decks and New HHP Lot**

<table>
<thead>
<tr>
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<th>2020</th>
<th>2025</th>
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<tbody>
<tr>
<td><strong>Supply</strong></td>
<td>8,300</td>
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<td>9,700</td>
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<td>8,800</td>
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</table>
Parking Changes – Student Union Deck, Remote Parking + Storage Lot

Net Gain: ~1,400 spaces and 500 spaces off-campus

Future Deficit: ~0 spaces
Student Union Deck, Remote Parking, and Storage Lot

Assumes only the Student Union Deck is constructed. Replaces second deck with resident student storage lot. ~1,000 total deck spaces.

### Supply vs. Demand For Student Union Deck, HHP Lot and New Storage Lot

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<tr>
<td>2020</td>
<td>8,200</td>
<td>8,200</td>
</tr>
<tr>
<td>2025</td>
<td>9,100</td>
<td>9,100</td>
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</tbody>
</table>
Parking Changes – Student Union Deck, Storage Lot, Aggressive Demand Reductions

Net Gain: ~600 spaces and 500 spaces off-campus

Future Deficit: ~0 spaces
Assumes only the Student Union Deck is constructed. Includes resident student storage lot, student parking ban, and new park and ride lots. Is very aggressive on demand reductions which will require a culture change.

### Supply vs. Demand For Student Union Deck, Storage Lot and Aggressive Demand Reduction

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<td>8,200</td>
<td>8,200</td>
</tr>
<tr>
<td>2025</td>
<td>7,900</td>
<td>7,900</td>
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</table>
## Costs Analysis

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Deck Construction</th>
<th>Surface Space</th>
<th>Storage Lot</th>
<th>Transit</th>
<th>TDM Programs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Decks</td>
<td>$5,250,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$5,250,000</td>
</tr>
<tr>
<td>2 Decks and Remote Parking</td>
<td>$3,000,000</td>
<td>$585,000</td>
<td>-</td>
<td>$247,500</td>
<td>$50,000</td>
<td>$3,880,000</td>
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<tr>
<td>1 deck, Remote Parking, and a Storage Lot</td>
<td>$1,650,000</td>
<td>$585,000</td>
<td>$276,000</td>
<td>$307,500</td>
<td>$65,000</td>
<td>$2,880,000</td>
</tr>
<tr>
<td>1 deck, Storage Lot, and Demand Reductions</td>
<td>$1,650,000</td>
<td>$100,000</td>
<td>$276,000</td>
<td>$600,000</td>
<td>$400,000</td>
<td>$3,030,000</td>
</tr>
</tbody>
</table>

### Parking

- SMITHGROUP JJR
How can parking demand be reduced?

- Incentives for alternative modes
  - Guaranteed ride home program
  - Passes to park on campus
  - Reduced GREAT transit passes
- Alternative parking options
  - Park and ride lots (off-campus)
  - Storage lots (resident students)
- Parking prohibitions
  - By group
  - By distance to campus
Benefits to parking demand reduction

- Lower costs
  - Reduced debt service
  - Better utilization of existing programs
- Sustainability
  - Reduced emissions
  - Less impervious surface
  - Lower costs to students
- Maintains core property for academic purposes

Parking
Specific Changes for ECU

- Survey indicates potential to decrease parking demand
- Demand reductions further reduces the need for structured parking
- Most promising options:
  - Carpooling and park-and-ride options for employees
  - Storage lots and parking restrictions for students

Parking
New Parking Locations
Comprehensive Facilities Master Plan

Parking

Parking Changes – No Decks

+600  +600  -100  +0

Net Gain: ~1,100 spaces
Future Deficit: ~700 spaces

Parking Locations

Parking

No Decks

Future Deficit: ~700 spaces

2025 Parking Gains/Losses
Parking Changes – All Decks

Net Gain: ~2,300 spaces
Future Surplus: ~500 spaces
Comprehensive Facilities Master Plan

**Parking**

Parking Locations

Parking Changes

Two Decks

Net Gain: ~2,000 spaces

Future Surplus: ~200 spaces
### Health Sciences Campus
**Potential Parking Supply and Demand**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Current Spaces</th>
<th>Parking Increase/Decrease</th>
<th>2025 Parking Supply</th>
<th>2025 Demand</th>
<th>Surplus/Deficit</th>
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</thead>
<tbody>
<tr>
<td>No Decks</td>
<td>3,100</td>
<td>1,100</td>
<td>4,200</td>
<td>4,900</td>
<td>700</td>
</tr>
<tr>
<td>All Decks</td>
<td>3,100</td>
<td>2,300</td>
<td>5,400</td>
<td>4,900</td>
<td>500</td>
</tr>
<tr>
<td>Two Decks</td>
<td>3,100</td>
<td>2,000</td>
<td>5,100</td>
<td>4,900</td>
<td>200</td>
</tr>
</tbody>
</table>
Health Science Campus Parking Keys

- Begin charging visitors to park
  - Consistent with PCMH
  - Reduced financing for decks in the future

- Determine level of surplus
  - Higher surplus can provide better experience to customer
  - Additional spaces have significant cost

Parking