ONE UNIVERSITY

Community Transportation Meeting
January 31, 2019
Updated Draft Site Plan
Transportation Meeting Outline

1. Existing Conditions
2. Multimodal Facilities
3. Proposed Development
4. Multimodal Traffic Impact Analysis
5. Proposed Improvements
6. University Drive/Ox Road Simulations
7. Community Questions
**Existing Conditions**

- **Existing Uses**
  - 46 Affordable DU
  - 16,689 SF Office

- **Existing Site Access**
  - 170’ Through-Right Lane
Multimodal Facilities

CUE Green 1 & 2
CUE Gold 1 & 2
WMATA 17G & 29K

West Campus Shuttle

CUE Green 1 & 2
CUE Gold 1 & 2
WMATA 17G & 29K

CUE Green 1 & 2
CUE Gold 1 & 2
WMATA 17G & 29K

CUE Green 1 & 2
CUE Gold 1 & 2
WMATA 17G & 29K

CUE Green 1 & 2
CUE Gold 1 & 2
WMATA 17G & 29K

Meeting the needs of a mobile society
Multimodal Traffic Study Parameters

Traffic study was scoped with Fairfax County Department of Transportation (FCDOT) and the Virginia Department of Transportation (VDOT).

- Study includes 11 intersections (2 city & 9 county)
- Evaluates the multimodal facilities serving the site.
- Analysis years:
  - Existing (2018)
  - Future (2022) without & with development
  - Future (2040) with development.
- A one (1) percent growth rate was used for forecasting future background traffic at the study intersections.
- Utilizes market rate multifamily ITE trip generation rates for the proposed uses.
- Forecasts additional pedestrian activity at the University Drive/Ox Road intersection.
- Recommends improvements to offset proposal’s impacts and addresses existing operational issues at the University Drive/Ox Road intersection.
- Establishes a set of Transportation Demand Management (TDM) strategies to reduce vehicular traffic to/from the site.
### Site Trip Generation

#### Standard Multifamily – Used in Traffic Impact Analysis

<table>
<thead>
<tr>
<th>Use</th>
<th>AM Peak Hour Trips</th>
<th>PM Peak Hour Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Housing ¹</td>
<td>154</td>
<td>184</td>
</tr>
<tr>
<td>Senior Affordable ¹</td>
<td>45</td>
<td>62</td>
</tr>
<tr>
<td>Affordable ¹</td>
<td>61</td>
<td>81</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>260</strong></td>
<td><strong>327</strong></td>
</tr>
</tbody>
</table>

#### Use Specific Trip Generation

<table>
<thead>
<tr>
<th>Use</th>
<th>AM Peak Hour Trips</th>
<th>PM Peak Hour Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Housing ²</td>
<td>87</td>
<td>198</td>
</tr>
<tr>
<td>Senior Affordable ³</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>Affordable ¹</td>
<td>61</td>
<td>81</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>168</strong></td>
<td><strong>305</strong></td>
</tr>
</tbody>
</table>

| Difference         | -92 (35%)          | -22 (7%)           |

Multimodal Traffic Study Results

Existing Conditions (2018)

- All signalized study intersections operate at overall acceptable levels of service (LOS “D” or better) during the AM and PM peak hours with the exception of:
  - University Drive/Ox Road (PM peak hour)
  - Braddock Road/Ox Road (AM and PM peak hours)
- All unsignalized study intersections and site driveways operate at acceptable LOS during the AM and PM peak hours.
- Queueing along Ox Road is heaviest in the northbound direction during the AM peak hour and southbound during the PM peak hour. Eastbound University Drive queues exist during both the AM and PM peak hours.

Future Conditions without Redevelopment (2022)

- All study intersections would continue to operate at similar levels of service compared to existing conditions with the addition of regional growth.

Future Conditions with Redevelopment (2022)

- The University Drive/Ox Road intersection would experience the greatest increase in delay due to the site’s proximity to this location.
  - Specifically, the northbound left-turn (from Ox Road) and eastbound approach of University Drive.
  - Other signalized study intersections would experience an overall average delay increase of three (3) seconds or less.
- The two (2) proposed site driveways would operate at acceptable LOS.
University Drive/Ox Road
Level of Service Comparison

Overall Intersection LOS & Delay
(seconds per vehicle)

<table>
<thead>
<tr>
<th></th>
<th>Existing Conditions</th>
<th>Future with Development</th>
<th>Future with Development &amp; Proposed Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Peak Hour</td>
<td>47.3</td>
<td>50</td>
<td>42.5</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td>58.3</td>
<td>71.2</td>
<td>52.4</td>
</tr>
</tbody>
</table>

Eastbound Approach LOS & Delay
(seconds per vehicle)

<table>
<thead>
<tr>
<th></th>
<th>Existing Conditions</th>
<th>Future with Development</th>
<th>Future with Development &amp; Proposed Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Peak Hour</td>
<td>54.5</td>
<td>94</td>
<td>58.9</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td>70.8</td>
<td>135.2</td>
<td>53.5</td>
</tr>
</tbody>
</table>

LOS “A” – “D”  LOS “E”  LOS “F”
Proposed Improvements

1. REMOVE ON-STREET PARKING

2. RE-STRIPE EASTBOUND APPROACH TO A SHARED LEFT-THROUGH & EXCLUSIVE RIGHT TURN LANE

3. SIGNAL MODIFICATION TO INCLUDE EASTBOUND RIGHT-TURN PROTECTED PHASE W/ NORTHBOUND LEFT-TURN

4. POTENTIAL RIGHT-TURN LANE & REMOVAL OF ON-STREET PARKING

5. LENGTHEN NORTHBOUND LEFT-TURN LANE
Future Conditions Results

Without Improvements

<table>
<thead>
<tr>
<th></th>
<th>Overall LOS</th>
<th>Overall Delay</th>
<th>Eastbound Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ox Road/University Drive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AM Peak Hour</td>
<td>D</td>
<td>50.0</td>
<td>70.8</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td>E</td>
<td>71.2</td>
<td>135.2</td>
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With Improvements

<table>
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<tr>
<th></th>
<th>Overall LOS</th>
<th>Overall Delay</th>
<th>Eastbound Delay</th>
</tr>
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<tbody>
<tr>
<td>Ox Road/University Drive</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>AM Peak Hour</td>
<td>D</td>
<td>42.5</td>
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