**Memorandum**

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Subject: Sustained Mobility Workshop Summary Documentation

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**Introduction**

On February 27, 2014, Kimley-Horn attended the Sustained Mobility Workshop at the University of Virginia, facilitated by UVA faculty and students, with participation by students, staff, and local residents. The goal of the workshop was to develop a future plan for transportation mobility on Grounds through focused discussions on the topics of bus transit, bicycle access and accommodations, pedestrian mobility, and safety. Discussion of each topic was targeted based on predetermined geographic assignments for participants of different areas of Grounds to include North Grounds, West Grounds, Central Grounds, and the South Lawn. This document serves to consolidate the discussions during the workshop and summarize the broad concerns identified impacting the University as a whole as well as location specific issues. Each section will focus on the four topic areas, with suggestions for mitigating some of the concerns.

**Bus Transit**

The discussion of bus transit considered the University Transit System (UTS) as well as Charlottesville Area Transit (CAT). Feedback provided by workshop participants that impacts all areas of Grounds included:

- Consider identifying user needs to shape bus transit, whether it be faster travel times or more convenient bus stops
- UTS and CAT bus route education and awareness (e.g. service routes, transfer opportunities, user responsibilities)
Evaluate bus headway to reduce instances of several buses arriving at once (both UTS and CAT)

- Advertisement of TransLoc® at UTS bus stops
  - Incorporate into TransLoc® whether a bus is full
  - Incorporate into TransLoc® CAT Trolley service
- Beginning UTS bus service earlier to cater to students with earlier commitments (e.g., jobs at establishments on Grounds)
- Mitigate crowding in the morning
- Provide more shade/shelter at bus stops

In addition to these suggestions offered by workshop participants, the following feedback was provided specifically related to the four areas of Grounds – North (N), West (W), Central (C), and South Lawn (SL):

- Increase service on the Corner now that CAT Route #7 no longer travels along University Avenue (N)
- Evaluate bidirectional bus service along McCormick Road/Hereford Drive (W)
- Provide new bus stops on Fontaine Avenue between Mimosa Drive and Maury Avenue (W)
- Provide more direct bus service from 1st Year Dorms to Barracks Road Shopping Center (W)
- Provide bus service on or near Wertland Street (C)
- Provide new bus stop at Kerchof Hall by way of CAT service (C)
- Increase frequency of service from W Main Street to Jefferson Park Avenue (JPA) (SL)
- Improve access for residents along 10th Street and Wertland Street (SL)
- Consider adjustments to bus service to/from the medical center and Grounds as construction of apartments on W. Main Street is completed (SL)

The specific suggestions provided above are summarized graphically in Figure 1. Overall, the information presented by participants are viable opportunities for enhancing bus transit on Grounds. Recommendations pertaining to CAT will require coordination with their governing body and the availability of funding to implement some of the suggestions above. With respect to the bidirectional bus service along McCormick Road/Hereford Drive, based on a preliminary assessment of the roadway geometry and topography, implementing this adjustment to bus service would likely require an investment of engineering design resources and could potentially require significant improvements to allow for safe access for buses and pedestrians.

**Bicycle Access and Accommodations**

Bicycle mobility throughout Grounds is being made more accessible and safer for bike users through the implementation of bike lanes and increased signage and markings. The introduction of a new bicycle sharing program (herein referred to as Bike Transit) on
Grounds will allow for increased bicycle mobility along McCormick Road between the Observatory Hill Dining Facility and the Architecture School. Feedback provided by workshop participants that impacts all areas of Grounds included:

- Provide bike lanes with a distinguished color from the main travel lanes
  - Provide pavement contrast or other alert for pedestrians to look for bicyclists when a bike lane passes through a crosswalk
- Sell bike lights and helmets at the Bookstore and TJs Locker
- Install more bike racks, particularly at Lambeth Field Residence Area and Alderman Road Residence Area
- Promote bicycle awareness related to the following:
  - Right-of-way of bicyclists and motorists and yielding to cyclists
  - Meaning of sharrow pavement markings
  - Consider a bicycle safety pledge for students, faculty, and staff
- Related to the Bike Transit consider the following:
  - Implement event-based Bike Transit stations
  - Expand Bike Transit to Barracks Road and the Downtown Mall
  - Develop an online class/quiz for bike and passenger vehicle users to take as part of the Bike Transit program; or consider an incentive to taking the class/quiz by offering a discount to the Bike Transit program
- Consider enhanced safety for bicyclists related to the following:
  - Increased reflectivity of sharrow pavement markings
  - Bollards or flex posts to improve delineation of bike lanes
- Install bike ramps by stairs around Grounds
- Provide covered storage for bikes

In addition to these suggestions offered by workshop participants, the following feedback was provided specifically related to the four areas of Grounds:

- Inadequate bicycle facilities in North Grounds (N)
- Consider bike lanes on Emmet Street, Massie Road, Alderman Road (N)
- Consider a Bike Transit station at the Emmet/Ivy Garage (N)
- Consider bike access on Engineer’s Way (W)
- Improve bike access around buses at busy stops while accounting for pedestrian crosswalks (e.g. McCormick Road Residence Area, Newcomb Hall, Brown College)
- Improve access between JPA and Central Grounds for bikes (SL)
- Improve pavement markings along JPA through the medical center to provide uniform lane widths (SL)
- Improve markings at the intersection of JPA/University Avenue/W Main Street to better delineate bike markings and signage (SL)
The specific suggestions provided above are summarized graphically in Figure 2. Many of the general suggestions provided above are relatively low cost improvements that could be made to address the concerns presented at the workshop. Evaluation of existing infrastructure, right-of-way, and roadway widths may be required prior to installing new signage, markings, and delineators. The University should consider that there is an added cost to maintain these types of enhancements and should evaluate the alternative solutions to these modifications. As a component to University recognition, similar to the “V” sabre markings along Alderman Road, a distinguishable bike lane marking or scheme could be implemented for bike lanes on Grounds. With respect to bike access on Engineer’s Way, UVA could potentially consider designating a bike lane through the Engineering School, either on the existing sidewalk or along the service/fire access drive adjacent to Thornton Hall. Similar to bus transit, implementation of a Bike Transit system beyond Grounds would likely require coordination with City of Charlottesville planning and engineering staff to identify appropriate Bike Transit station locations and develop memoranda of understanding for transfer of bikes between systems (assuming the stations outside the University are maintained by the City), which should encompass management responsibilities such as maintenance, replacement of equipment, fare collection, etc.

**Pedestrian Mobility**

Walking is at the core of mobility at UVA, as evidenced by the volume of students traveling along the expansive sidewalk network in between classes. Feedback provided by workshop participants that impacts all areas of Grounds included:

- Address runoff flooding of pedestrian travel ways
- Provide grass strips (verge) between sidewalk and road to separate pedestrians from bike lanes and travel lanes
  - The verge could also serve as increased storm water runoff and retention
  - Consider alternative methods to verge designation such as a permeable treatment to double as a running path
- Repair uneven sidewalk surfaces around grounds, particularly brick paver sections
- Install more detectable warning surfaces at crosswalks to alert pedestrians
- Identify major student cut-through paths that can be enhanced (i.e. improved and/or dedicated path) to include lighting

In addition to these suggestions offered by workshop participants, the following feedback was provided specifically related to the four areas of Grounds:

- Poor drainage along Emmet Street near the Lambeth Field Residence Area (N), at the Newcomb Hall patio through Brown (C), and along Wertland Street and at the intersection of 14th Street and Virginia Avenue (SL)
- Steep stairs connecting University Way to Lambeth Field (N)
• Consider adjusting signal operations at the intersection of University Avenue and Rugby Road during class changes to increase the frequency of pedestrian service across University Avenue (N)
• Lack of sidewalk on both sides of Alderman Road (between McCormick Road and Ivy Road), Stadium Road (west of Alderman Road), and along Maury Avenue (W)
• Consider a trail to Hereford College from the Alderman Road Residence Area (W)
• Improve the existing sidewalk network at the intersection of Emmet Street and Stadium Road to provide complete connectivity through the intersection (C)
• Construct a pedestrian bridge across the existing railroad between Chancellor Street and Virginia Avenue (C)
• Construct stairs on the east side of Kerchof Hall from JPA (C)
• Improve access between JPA (medical center) and the Corner (C and SL)
• Construct a designated pedestrian crossing between 15th Street and the Corner (across the railroad tracks) (C)
• Construct wider sidewalks along the north side of JPA (SL)
• Provide crosswalks at 14th Street and Virginia Avenue (SL)

The specific suggestions provided above are summarized graphically in Figure 3. The majority of the recommendations provided by participants at the workshop will require some level of engineering, whether it is a feasibility assessment, conditions assessment, or design. The improvements identified that involve access across existing railroad tracks will require coordination with the parent railroad company, which often times involves lengthy application and review periods as well as fees and other applicant assumed costs. With respect to verge construction, the University should develop and/or review existing running trail paths to determine the best application of permeable verge treatments should the University consider this alternative.

Safety

The topic of safety at the workshop was geared toward lighting concerns, but also included discussion of other broad and location specific safety concerns that overlap with the other three topic areas. Related to lighting, the workshop discussions not only focused on areas of inadequate lighting, recommendations for reducing lighting were also provided by participants. Feedback provided by workshop participants was focused by areas of Grounds pertaining to safety; however, a frequently made suggestion was to limit or restrict vehicular access on McCormick Road between class changes, including University service vehicles, and restrict access via the ramp from Emmet Street. The idea behind this would be that pedestrians and bicyclists would be able to travel between classes without being restricted to sidewalks only. While the benefits of this are enhanced safety, this suggestion precludes bus and emergency vehicle access. Should the University endeavor to consider this alternative, a comprehensive study would be required to assess the impacts and determine whether other measures or possible to mitigate perceived mobility concerns of pedestrians, bikes, and vehicles along McCormick Road.
In addition to these suggestions offered by workshop participants, the following feedback was provided specifically related to the four areas of Grounds:

- Address light pollution caused by sports fields and turn off the lights when the fields are not in use (N)
- Install additional crosswalks along Rugby Road and evaluate lighting (N)
- Improve the existing crosswalk at the intersection of Copely Road and Peyton Court to reduce the length of the crosswalk (N)
- Improve lighting at the poorly lit bus stops on Massie Road that serve the Faulkner Residences (N)
- Widen Old Ivy Road beneath the railroad trestle for vehicles and pedestrians (N)
- Evaluate access to the Lambeth Field Residence Area to ease the egress of left-turning vehicles (N)
- Consider installing lighting on the railings around the Lambeth Field Residence Area (N)
- Improve lighting underneath the railroad bridge that crosses over Emmet Street (N)
- Consider controlling the intersection of Rugby Road and Culbreth Road with a 3-way stop (i.e. all-way stop) (N)
- Consider controlling the intersection of Alderman Road and Whitehead Road with a 3-way stop (i.e. all-way stop) (W)
- Consider in-pavement crosswalk lighting on Alderman Road at the Aquatic and Fitness Center (AFC) and JPA at Woodrow Apartments south of the intersection of JPA with Emmet Street (W)
- Improve lighting on Alderman Road, the existing trail to Hereford College, along Stadium Road west of Whitehead Road, and along Montibello Circle (W)
- Consider installing sidewalk and lighting enhancements to Lac Hall along Edgemont Road (W)
- Evaluate alternative intersection configurations at the intersection of Emmet Street and Stadium Road to enhance pedestrian safety (C)
- Improve lighting behind Scott Stadium, the stairs to Kerchof Hall from Emmet Street, and in the vicinity of the International Residential College (C)
- Consider in-pavement lighting at the McCormick Road bridge, Rugby Road, behind Brown College, and at the intersection of Emmet Street and Stadium Road (C)
- Consider reducing the posted speed along Emmet Street south of Massie Road (C)
- Enhance safety of pedestrian accommodations at the intersection of JPA and Brandon Avenue to improve operations for the large volume of pedestrians at the intersection (SL)
- Improve lighting at the intersection of University Avenue and 14th Street and Wertland Street with a 4-way stop (i.e. all-way stop) (SL)
- Improve lighting near the intersection of University Avenue and Hospital Drive, on JPA near the South Lawn, and along Wertland Street (SL)

The specific suggestions provided above are summarized graphically in Figure 4. As evidenced above, concerns related to safety were specifically targeted and could not be generalized across the University. It is suggested that the University develop criteria for installing in-pavement crosswalk lighting to establish thresholds for installation (e.g. crash history, proximity to existing traffic signals, volume, proximity to a bus stop, etc.). Similarly, it is recommended that existing crosswalks be evaluated to determine if there are opportunities to consolidate crosswalks. Specific to Rugby Road, construction of speed tables south of Culbreth Road may reduce driver speeds and enhance the safety of pedestrian crossings; however, there may be implications to bus and emergency response access. Prior to implementing all-way stop improvements, an evaluation of turning movement count (TMC) data and crash history should be completed. Based on the range of concerns and suggestions provided by participants related to lighting, the University should evaluate each of the specific items to identify countermeasures, which may require field investigations.

**Conclusion**

This document is intended to help UVA to understand areas of concern related to bus transit, bicycle access and accommodations, pedestrian mobility, and safety as perceived by students, faculty, staff, and local residents. In conjunction with the enclosed Figure 1, the information presented above should be considered as a representative sample of areas for improvements or enhancements based on the cross-section of participants in attendance at the workshop. Additional investigation, review, inquiries, and preliminary engineering may be necessary to further evaluate the concerns to identify appropriate countermeasures.

**Attachments**: Sustained Mobility Workshop Documentation Figures (Figures 1 through 4)