

Meeting Summary
Vanderbilt University Bicycle and Pedestrian Advisory Committee
March 29, 2024, 10:30am-12:00pm
Hybrid Meeting

Attendees:

Student

Levi Schult, Graduate, Graduate Student Council
Jonathan Lifferth, Graduate Student

Faculty

Dr. Amanda Hellman, Director, Fine Arts Gallery

Staff

Adam McKeever-Burgett, President, University Staff
Advisory Council

Research / Post Doc

Dr. William Barbour, Research Scientist, Institute for
Software Integrated Systems
Dr. Ishita Dash, Post-Doc, Department of Civil and
Environmental Engineering

Identity Centers

Sarah Brennan, Program Coordinator, Margaret Cuninggim
Women's Center

Ex Officio

James Moore, University Landscape Architect, Campus
Planning & Construction
Lynn Maddox, Neighborhood and County Liaison,
Government & Community Relations

Others

Lindsey Ganson, Assistant Director, Transportation and
Mobility
Miriam Leibowitz, Commute Concierge Manager,
Transportation and Mobility
Paul Goodman, Assistant Vice Chancellor of Maintenance
and Operations, Facilities
Julie Covington, Director, Campus Planning and Construction
Brian Wilson, Transportation Manager, VandyRide and
Mobility Rides
Tiffany Fentress, Parking Services Manager

BPAC Administrator

Matthew Cushing, Bicycle & Pedestrian Planner,
Transportation and Mobility

Minutes

1. Agenda Review, Introductions, Team Updates

Matthew Cushing reviewed the agenda, and asked if there was anyone new who would like to introduce themselves. Sarah Brennan from the Women's Center introduced herself and explained that she was replacing Dr. Rory Dicker on the Committee. Brian Wilson, Transportation Manager for the VandyRide and Mobility Rides programs also introduced himself. Matthew provided a team update, explaining that the Director of the Transportation and Mobility Office, Michael Briggs, has gone over to the Mayor's Office to help with the transit referendum. This is a short-term appointment, and he will return. Lindsey Ganson is serving as interim Director.

2. Panel Discussion - Parking on Paths and Bike Lanes

Matthew introduced the topic for the panel – vehicles parking on sidewalks and bike lanes. He commented that one of the reasons this problem exists is that we've done a good job of pedestrianizing spaces by removing parking, but that we may need to improve vehicular planning as well. He explained that panelists will be given a chance to introduce themselves, followed by questions from the BPAC administrator, before opening the floor to the committee.

Paul Goodman introduced himself. Matthew asked about Paul's ongoing efforts to improve bollard performance on campus. Paul explained that much of this work is in preliminary stages, but that he is especially concerned about large vehicles (rather than carts) making their way off roads onto campus. These vehicles don't belong past the perimeter of bollards. However, there

are several valid reasons why vehicles may be on campus – such as delivering large or heavy equipment or landscape materials, and for emergency vehicles access. As such, much of his thinking focuses on how control of these bollards works. As a first effort, he put together a team to survey the state of existing bollards and found that many were missing or laying to the side. This team was instructed to put them all back, and Maintenance and Operations was instructed to always put them back after use. This worked for a few months, and then the problem recurred.

Paul commented that most existing bollards are not locked, and many with existing hinged plates have damage to the locking mechanism. He speculated that it may be important to lock the bollards but commented that this presents some challenges for the those with legitimate on-campus needs. Operationally, someone will have to respond every time someone comes onto campus, and there is a lingering question as to who would be responsible/available.

Paul also explained an ongoing project, managed by Jessamyn Davis (Campus Fire Safety Officer) which will put Knox Boxes on all buildings per a city requirement. He explained that Knox Boxes are specialized key boxes only accessible by the fire department and the University. He mentioned that they may be some potential for using the same keying for bollards and knox boxes.

Paul discussed the merits of manual bollards versus automatic, commenting that manual bollards seem to work very well, whereas there have been challenges with electronic bollards. These electronic bollards break easily, are expensive to repair, and have a long parts backlog. For instance, the electric bollards in the West End Neighborhood have been broken for around a year.

Paul commented that he doesn't view bollards as his responsibility, rather it is a campus community responsibility – but he is trying to step up where he can, because he sees a need. Otherwise, he is seeking feedback – are the bollards in the right locations? Should we lock them down? If so, who is a good fit for managing access?

Matthew clarified Paul's comment about the campus community. He asked whether this meant that it was okay for community members to replace bollards on their own accord. Paul said yes, this won't cause any harm, as the worst-case scenario is someone has to remove it again to access the space. Paul cautioned, however, that these bollards are heavy, so it is important that users are cautious and do not hurt themselves. Also, he commented that the holes where the bollards are inserted often hold water, so if the bollard is dropped down quickly, there is a risk of splashing.

The discussion then moved to the next panelist. Brian Wilson introduced himself as a Transportation Manager. He commented that one of the biggest challenges he's seen in his two months at Vanderbilt is the widths of the sidewalks, and the spacing between existing bollards. He commented that it is important for Mobility Rides operations that these are spaced to allow the carts in and out, as the carts cannot fit through when the bollards are up. He also commented that there are spots where the turning radius on the sidewalk isn't enough for the carts, and they end up turning on the grass.

Next, Lindsey Ganson, standing in for Parking Manager, Tiffany Fentress, talked through parking enforcement processes, summarizing responses Tiffany submitted in writing due to a last-minute scheduling conflict. She explained that Vanderbilt staff does parking enforcement in house, rather than contracting out. In best case scenarios, there is a team of three during the day, and two at night, however current staffing is down to two during the day. She explained that this team is separate from the Medical Center team, even in shared parking facilities. Because of this small team, they focus on the parking lots themselves, especially considering the high volume of special event parking requests. Lindsey further clarified that this team also manages signage placement and other operations for event reservations. Lindsey clarified that it is common to see Community Service Officers (CSOs) on site, but these do not primarily serve an enforcement function. Instead, these are separate police and contracted staff with a primary security/safety function. Additionally, Lindsey explained that there is a permit for contractors, that costs ~\$2,200 a year / ~\$190 a month.

A committee member asked about the options for contractors who are on site for a single day. They commented that if the cost is \$190, they'll likely be instructed to risk the price of a ticket, rather than pay this higher cost and undertake administrative process. Lindsey commented that there is a "special event" options, at the cost of \$21 per space per day.

The discussion then moved to the final panelist, Julie Covington, Director of Campus Planning and Construction. Matthew asked Julie if there is a standard process for assigning parking for contractors and construction projects.

Julie confirmed that there are some processes that are relatively standard, but not a written policy or guideline, but that she does have a goal of putting this together and will want feedback on it. She also commented that our campus has some unique challenges, as we have so many buildings interior to our campus with very little access.

She commented that the large number of construction projects on campus means a lot of workers, and the team tries to plan ahead, in partnership with Tiffany's team. There are times when construction workers can use lots that are otherwise closed for construction impacts, and there are times when parking permits are purchased. She further commented that there are two models for construction parking: 1. In the summer, there are lots of small construction projects happening, sometimes with only 3-4 workers, and 2, larger projects, like the ongoing Central Utilities Initiative.

For smaller projects, parking can be challenging, as these teams often work in various locations across campus, and parking in one assigned space creates logistical challenges. For the larger projects, often the workers can park within the construction fence, but it more challenging when there isn't sufficient space in the fence and additional parking is needed. This is especially challenging when there are subcontractors on the project. In addition to on-campus parking constraints, it's important that these teams don't impact the adjacent neighborhoods. In the past, Campus Planning and Construction has sometimes asked contractors to partner with churches in the area.

When parking is offered, the costs are rolled into the project, but it can be expensive – sometimes as much as \$100,000 for a project. Julie explained that she sees this as a challenge, as ultimately "Vanderbilt is paying ourselves," so she thinks there's room for discussion about

how we make this work in a way that benefits everyone.

Tiffany Fentress, Parking Manager, signed into the meeting, and introduced herself, explaining that she oversees enforcement and special event parking, while also helping Brian with Mobility Rides.

The floor was opened to committee discussion. A committee member commented that all non-VU vehicles should have some kind of permit displayed on their window, even if this is as simple as requiring the display of contact information, so the parker can be contacted if there is an access problem. This committee member also clarified that it is not just Campus Planning and Construction, or Maintenance and Operation that brings vehicles and contractors onto campus.

Another committee member commented that future discussions about bollard spacing/design should also consider bollard height, as there is a chance for cyclists to clip taller bollards and crash. They commented that this happened on-campus previously. This committee member also commented that there is a parking challenge for high profile visitors. They recently had this kind of visitor on campus, and generally high-profile visitors expect to be shuttled from location to location. In this case, they had to disobey parking regulations to satisfy the need.

Another committee member commented that one of their biggest complaints is when the path is completely unpassable due to vehicle parking and reported that a campus dining truck often parks in front of Rand and blocks the entire pathway. They stress that if parking on a path can't be avoided, being mindful of where the vehicle in the path is key. Another committee member agreed, and says they see this in the city of Nashville too, and that it often means vehicle block a sidewalk and impact traffic flow, which is bad for all.

A committee member commented that there isn't currently a central authority managing on-campus vehicle fleets, but that there may be a need for one, to ensure that parameters like size and parking are considered when purchasing vehicles, especially as there seems to be a trend that purchases seem to get bigger and bigger. As these vehicles get larger, we'll likely need to increase bollard sizing until larger vehicles can get through. They expressed that it would be useful to take on a mobility study, which examines the level of access we intend for the interior of campus, considers bollard sizes, and thinks through primary routes for service vehicles and contractors, as well as whether any path improvements are needed.

Matthew commented that he has observed many departments moving towards golf carts, and parking in an ad hoc manner for long-term parking, and that this likely should be considered in this kind of planning. He asked Tiffany about who should be contacted when these issues arise, and the turnaround for this. Tiffany replied that complainants can call parking, dispatch, or e-mail parking@vanderbilt.edu. Response time will depend. As there are often only two staff members working, responses could be immediate, or take up to an hour.

A committee member asked whether there are any established expectations for maintenance and operations vehicles that they shouldn't park in the cycle track, as these vehicles are common offenders. Paul replied that probably this hasn't been communicated clearly enough, but that he will work to re-iterate this. Matthew commented that he has some ideas about how to help, potentially including mapping out preferred service parking locations in this area, if this would be helpful. Paul commented that at a prior university he worked out, they built out

locations for carts, and it wasn't acceptable to park in other locations. He expressed that the campus is built differently here, but wondered if we might be able to designate some locations like this, even if may not be feasible to build new ones.

Julie commented that there is some ongoing planning around fire lane access, and there may be a way to incorporate this kind of thinking into this planning effort. She explained that this plan will update areas of campus which have been grandfathered in for a long time and will likely add 14–16-foot pathways in parts of the historic core. The ongoing work is to identify where the pathways will go and minimize negative impacts to the arboretum. She commented that the recent rework of the area in front of Kirkland is a great model, and this plan may lead to an ability to better identify service parking areas. Paul commented that funding is still being determined for this project, but it could provide any opportunity to help with many needs.

A committee member asked whether any questions had been asked about getting smaller fire trucks. Julie commented that she was not part of the discussion with the Fire Marshall but will pass along the suggestion. However, since we don't have a fire department on campus, this will depend on the city. Paul commented that the city has shown an understanding of our campus limitations and commented that the 14-foot width request is much smaller than the norm, and shows that the City is enthusiastically working with us to minimize impact.

With this discussion closed, Matthew asked the committee to move the Vanderbilt Place Design Brainstorm session to the April meeting, as the panel discussion took longer than expected.

3. **Pedestrian Stress Study**

Dr. Ishita Dash introduced herself and explained that she would be talking about the Pedestrian Stress Study she has been working on. She clarified that the data collection stage of the project involved teams from Vanderbilt and Gresham Smith, but that analysis and visualization has occurred solely within Vanderbilt. She explained that the study used interactive and site-specific information to address the issue of urban pedestrian safety, using wearable technology to collect heart rate and location information to identify high stress locations for pedestrians.

Dr. Dash then explained the methodology for the project, with data collected from Feb-May 2023. The study monitored heart rate and the locations of pedestrians 18 years or older, while walking on the Vanderbilt campus and surrounding areas. The study did not collect any personal identifying information. Dr. Dash showed on screen the activity data for all participants over the 4-month period.

Dr. Dash then provide background information relevant to the mechanisms of the study. She explained that smart watches use photoplethysmography (PPG) to track heart rate, using LED lights to collect data on changes to volume of the blood in the cardiovascular system changes, detecting changes in small skin vessels like veins and arteries. She also explained that the human heart rate adjusts to any level of activity that the body undertakes. It slows down when relaxed, but speeds up when activity, stress, or danger. The team used a methodology called root square of successive differences (RMSSD), a metric for measuring variation in successive heart rate over time, and showed the resulting graph on screen. This approach was applied to 190,664 data points.

The primary goal of the study was to pinpoint areas where pedestrians had high levels of stress. After analysis, found that 75% of stress scores are at or below 0, 25 above 0, indicating moderate to high stress. 13% were within quadrants 1 and 4, indicating possible stress response. After analyzing this data, the team then plotted data on the map, with results within 5 meters/18 feet tolerance. This was used to identify the top 5% of high stress locations on campus, with the top 6 sites shown on screen. These sites often had poor lighting, or interactions with other transportation modes. Locations shown were: 1. Natchez Trace between West End and Vanderbilt Place, 2. Ellison Place near West End Avenue, 3. In front of Stevenson Center Complex, 4. Edgehill Ave and Pedestrian Bridge, 5. the Path between Jacobs Hall, Buttrick, Vaughn Home, and Bishop Johnson Center, and 6. Garland Avenue near the Eskin Biomedical Library.

Dr. Dash then showed a demo of the visualization interface on the screen, before turning to committee questions.

A committee member asked about the high stress location near the Bishop Johnson Center. They were surprised by this site, as there isn't a lot of modal conflict there. Dr. Dash replied that there is some parking in area, but also light is low.

A committee member asked how many people were involved in the study, as well as wondering if it makes sense to repeat in a different time frame, as March- May is finals season, which may raise baseline stress. Dr. Dash replied study can be repeated, but enrolling volunteers is challenging. The request for participants to wear smart watches became an enrollment issue. There were 36 participants.

A committee member asked how Dr. Dash planned to move forward the recommendations for lighting, infrastructure, etc on campus. Dr. Dash replied that presenting to BPAC is one of the ways to do this. A committee member asked if the findings would be published. Dr. Dash confirmed the findings are in press and should be out for public consumption next month. Another committee member asked if the Dr. Dash could provide a PDF of recommendations, to which she agreed. Matthew confirmed that he would use the data as a means of helping to push for change, especially for the on-campus locations.

4. General Updates

Matthew showed on the screen the most recent construction detours related to the Central Utilities Initiative, while summarizing that the work has moved north on campus to modify 25th Ave in front of Student Life Center. Cars and bikes are now being routed via Garland over to 24th, rather than along 25th. Garland was already open to traffic, but had lower flow, so now there is some increased conflict between car and pedestrians crossing in the area. He explained that interventions are in place and are being monitored.

He then looked to the future of the project. He explained that, in the near future, the construction area is as big as it will be, but around August, there will be additional impacts to the east on Garland, which will likely be an especially big impact for VUMC. However, otherwise, by the end of the year, the construction area starts to pull back.

Next, Matthew provided an updated on the Spin Bikeshare program, showing ridership data on the screen. He noted that Spin did not include one of the 9 on-campus parking locations on the data report. He showed how many rides were taken by location. He summarized that in the first month of the program there were lots of rides, followed by a relatively sharp drop off in the following month. This then normalized, and showed some small increases in the following months, but then rides dropped off in the winter. As Spring starts, rides started to pick back up in February, but given the small base numbers, it's hard to confirm whether the shown 10% increase will lead to a trend.

Matthew then discussed a chart which showed the percentage of rides that occurred at each location, summarizing that the Branscomb location was consistently popular, the Stevenson location was on and off, and that the Wilson and Blair locations didn't start as popular locations, but have shown consistent growth since.

Matthew then showed a chart which compared campus rides to rides in the city program, as well as preliminary heat map of rides provided by the city. Matthew explained that he has a meeting with city next week to get better heat map data. He then explained that city's bike share program is a lot smaller than their scooter program and compared city and campus rides. In the winter months, there was a steep drop in both city and campus rides, at similar rates. Matthew speculated that this signals the drops in campus rides were not related to any program deficiency on campus. However, he pointed out that the February increase in rides is much more pronounced for the city, so it will be important to monitor March data to better understand if these start to differ.

In reviewing the heat map, Matthew pointed out that areas near the Law School/Owen were experience relatively high ride volume, as well as the area near West End Neighborhood and Centennial Park, as well as Wilson/Warren/Moore, and Hillsboro village. He summarized that there does seem to be evidence for high volume of ride starts on the campus edge.

A committee member commented that a more granular view would be helpful, but, as a first impression, the city data mostly shows more rides in correlation with hotel locations.

5. Looking Forward

Matthew then moved onto provide a look ahead for the remainder of the academic year. He explained that there will be one more BPAC meeting this year, and that Doodle poll will be sent on Monday to support scheduling for the late April meeting. He showed some upcoming events on the screen, while explaining that many of the upcoming large events will be in May, which is Bike Month, including things like Bike to Work Day, and Walk Bike Nashville's Tour de Nash.

He then previewed the meeting for the next agenda, described that NDOT's Walking and Biking Program Manager, Anna Dearman, will discuss plans for an Edgehill bikeway, adding bike lanes on Edgehill from near 21st at the Medical Center all the way out to the interstate. Otherwise, Matthew is helping to update the abandoned bicycle policy so he may add this to the agenda if the policy is sufficiently developed, as well as holding the Vanderbilt Cycle Track design brainstorm, and discussing the transition to annual BPAC for 2024-25. He expressed that committee members should feel free to follow up with other agenda requests.

The committee expressed that they would like to continue to discuss: 1. bicycle parking standards and locations, 2. The potential for walkway accessibility audits.