July 2019

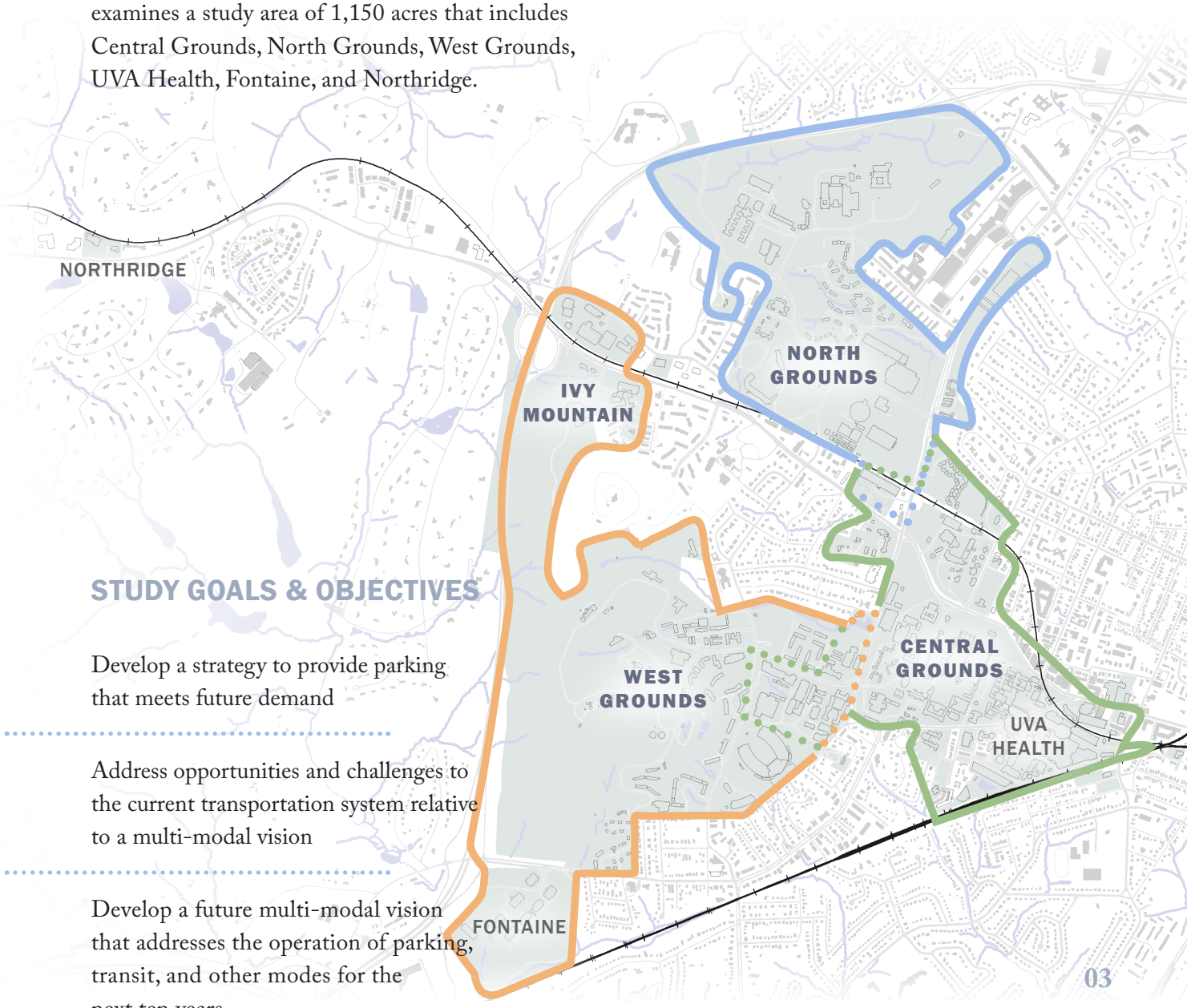
UVA

PARKING AND TRANSPORTATION MASTER PLAN

The University seeks to establish a strategic approach to meet the evolving parking and transportation needs of its students, faculty, staff, patients, and visitors.

The University of Virginia is a premier public university and health system located in Charlottesville, Virginia. From April 2018 through March 2019, the University worked with a consultant team to develop an updated Parking and Transportation Plan that sets forth a vision for transportation at the University. The Plan represents an update to two previous Parking and Transportation Plans developed in 2007 and 2011. This new Plan has a ten-year planning horizon and examines a study area of 1,150 acres that includes Central Grounds, North Grounds, West Grounds, UVA Health, Fontaine, and Northridge.

The Plan considers the existing conditions on Grounds as well as the University's suburban setting, which shapes the travel choices of those accessing the University. The Plan also takes into account the University's role in the community as a regional provider of health care services as well as athletic, cultural, and academic events.



STUDY GOALS & OBJECTIVES

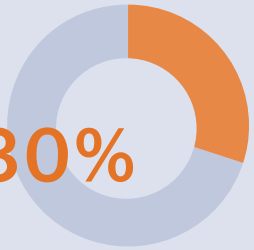
Develop a strategy to provide parking that meets future demand

Address opportunities and challenges to the current transportation system relative to a multi-modal vision

Develop a future multi-modal vision that addresses the operation of parking, transit, and other modes for the next ten years

UNIVERSITY FACTS

22,985 students were enrolled at the University in the academic year of 2018–2019 with



of students living on Grounds.[1]

The Academic division of the University employs **9,868** individuals, while UVA Health (which includes a 612-bed hospital and various clinics) employs **7,613** individuals on Grounds.[2]

In 2018, the hospital admitted

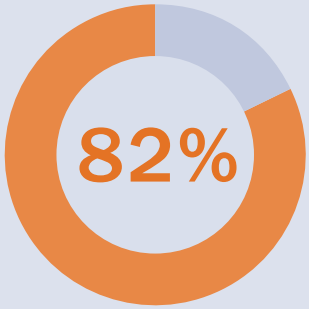
28,359

inpatients and had

878,781

outpatient visits.[3]

As a university located in a suburban setting, the majority



of University faculty and staff access Grounds by driving,[4] while nearly all students use UTS, walk, or bicycle.

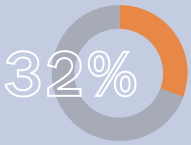
The University's parking supply includes

19,344

parking spaces to meet employee, student, and patient/visitor parking needs.

Parking capacity is highest in Central Grounds, which includes UVA Health. It comprises approximately

of the total parking capacity, while North Grounds and West Grounds account for



&

of total parking capacity, respectively.

Based on the University's 2017 population, there are approximately **0.49** parking spaces per person, which falls within the range typical of university campuses (generally, 0.20 to 0.60).

1 *Student population sourced from UVA Office of Institutional Assessment & Studies. https://ias.virginia.edu/university-stats-facts/enrollment. Student enrollment total reflects all enrolled students, including those in the School of Continuing and Professional Studies who may not attend class within the study area.*

2 *Sourced from https://ias.virginia.edu/university-stats-facts/employees.*

3 *Sourced from https://uvahealth.com/about/facts-stats.*

4 *Sourced from 2017 University of Virginia Mode Split Survey.*

Many students, faculty, and staff park in intercept parking facilities located in West and North Grounds. Within a 1.5-square-mile service area, University Transit Service (UTS) provides connections to campus from these intercepts through high-frequency commuter transit routes. Several UTS routes also circulate throughout the day among the University's three precincts and adjacent student neighborhoods, providing high mobility in a compact service area.

HOW AND WHY DO PEOPLE MOVE?

Transit

UVA has operated a campus transit system since 1972. Known as the University Transit System (UTS), the eight-route system supports campus mobility needs and the University's land use goals. Within a 1.5-square-mile service area, UTS circulates on and off Grounds, connecting passengers to activity centers on and adjacent to Grounds, and linking Central Grounds to remote parking areas. It also supports travel demand management (TDM) goals by providing "last mile" connections and serving as a driving alternative for employees while on Grounds and for students directly from their neighborhoods. The Charlottesville Area Transit (CAT) and the JAUNT also serve the region, and University faculty, staff, and students are provided with free access to these systems through a reciprocal agreement.

PRIMARY USES OF UTS

Bars represent % of trips

Bicycle

The scale of the University is ideal for biking, providing a foundation for a successful biking program. Bike lanes, sharrows, and mixed-use paths support circulation around Central Grounds and West Grounds. The bicycle network also connects Central Grounds and West Grounds to bicycle facilities in the City of Charlottesville, and both the University and the City have been recognized as silver-level Bicycle Friendly Communities by the League of American Bicyclists. There are a few areas on Grounds that are a challenge to access by bicycle. These include North Grounds, where vehicular traffic is heavier and bike facilities are sparse, as well as Fontaine Park. The University has also capitalized on its setting by establishing a bikeshare system and amenities to support bicyclists (fix-it stations, shower stalls in buildings, bike storage, and bike racks on transit vehicles).

Pedestrian

The walkways on Grounds provide a robust pedestrian network and important connections to other transportation modes. Convenient access to transit stops and parking facilities encourages the interconnectivity of the system. UVA employs several strategies to enhance pedestrian safety, including grade-separated pedestrian bridges to help avoid vehicular-pedestrian conflict, flashing beacons, and lighting throughout Grounds.

Multi-modal Alternatives

The University offers a variety of programs to support multi-modal transportation:

- Transit incentives, including fare-free rides on UTS, CAT, and the JAUNT commuter routes
- Occasional parking permits
- Guaranteed Ride Home through TJPDC
- Carpool and vanpooling incentives

In 2007, UVA also developed a Transportation Demand Management Plan to set forth a strategy for increasing multi-modal trips.

Parking

As a university located in a suburban setting, driving is a common means for accessing Grounds for employees and visitors. According to a 2017 mode split survey, the majority (82%) of University faculty and staff access Grounds by driving.

During the past five years, demand among faculty and staff for parking permits has increased. The average yearly increase in permit sales has been 5% with increases in permit sales driven by increased sales to UVA Health employees. The rate of permit sales has been consistent as the number of University employees grows.

In contrast to employee permit sales, permit sales to students have declined. Between 2013 and 2017, student parking permit sales decreased by approximately 5% annually. This trend is notable because the student population increased during this period.

Parking Supply

The University's parking supply includes 19,344 parking spaces to meet employee, student, and patient/visitor parking needs. The supply of parking is distributed among 11 parking structures and 165 surface lots. Parking capacity is highest in Central Grounds, which comprises approximately 38% of the total parking supply. Approximately 46% of the inventory in this precinct is allocated to serve the Health System's unique parking needs. North Grounds and West Grounds account for 32% and 29% of total parking capacity, respectively. Due to the limited parking capacity in Central Grounds, West Grounds and North Grounds have absorbed excess parking demand through remote facilities and commuter parking lots like Scott Stadium and John Paul Jones arena.

Event Parking

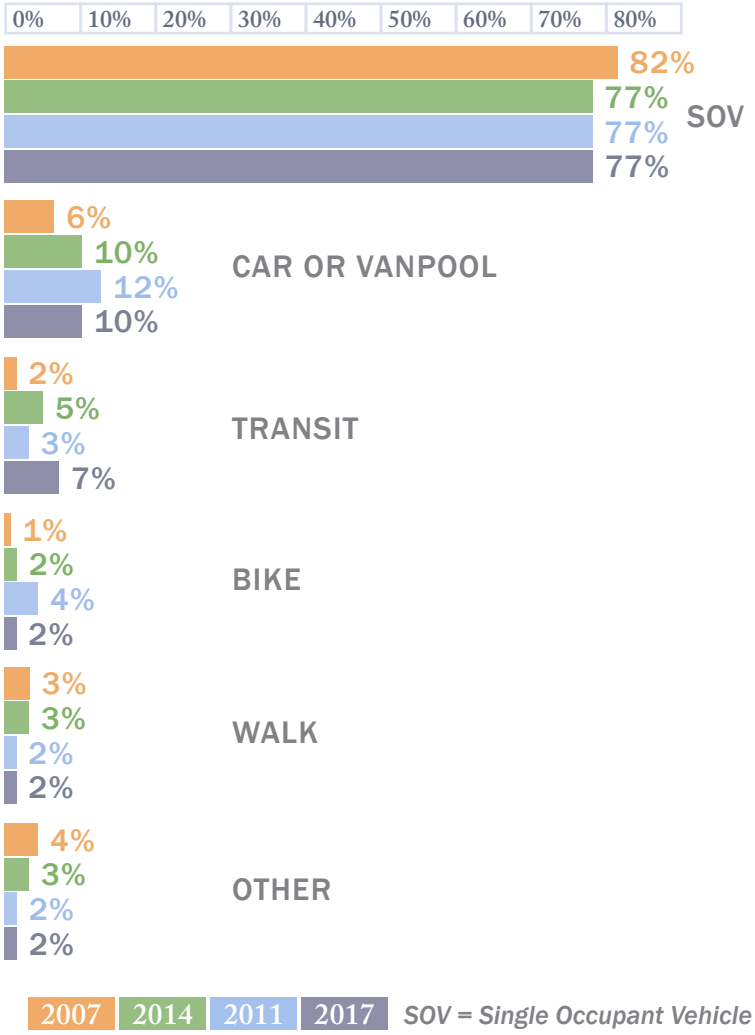
UVA hosts several cultural, athletic, and entertainment events, which meet a need in the region that is not provided by any other community institution. The events attract thousands of visitors to the University, causing spikes in parking demand. UVA intends to continue hosting such events in the future and providing convenient parking for attendees.

Occupancy

Across Grounds, the peak occupancy rate on a "typical" (non-event) day of the University's parking spaces is 69%. This utilization varies among the precincts, with parking occupancy in Central Grounds being highest (77%) compared to North Grounds (59%) and West Grounds (70%).

This occupancy reflects daily student, faculty, staff, and UVA Health patient/visitor parking demand. When event parking is taken into account, which is estimated to be an additional 1,200 spaces, the University's utilization is approximately 93%. At this point, parking is considered to be effectively full and users experience difficulty finding available parking.

Primary Modes Split for Faculty and Staff, 2007–2017



Faculty and Staff data sourced from UVA Center for Survey Research Transportation Survey, prepared for the Department of Parking & Transportation (2007, 2011, 2014, 2017).

Student data sourced from Transportation Demand Management Plan (2007).

Local Transportation Landscape

The transportation options available in the City of Charlottesville have a bearing on student, faculty, and staff travel behavior. Although there is transit service in the city and adjacent counties (via CAT and the JAUNT), most service is infrequent and in limited areas, making commuting by transit a challenge for many. Bicycle and pedestrian facility improvements are planned in the region; however, most systems serving Grounds are incomplete.

ENGAGEMENT

As part of data collection for the study, the consultant team also engaged the UVA and Charlottesville community to gain insight into existing transportation needs and desired improvements to the network. The study sought input through three methods:

- Quarterly meetings with a Steering Committee comprised of University executives, faculty, staff, and students
- Focus group meetings open to UVA students, faculty, and staff, as well as Charlottesville residents held on September 6–7, 2018
- A public online portal that collected comments from UVA students, faculty, and staff, as well as Charlottesville residents from August 22 to September 14, 2018

More than 2,500 comments were received through the online portal. The feedback received from these platforms was used to inform the development of recommendations.

Focus Groups discussed the following topics:

Close-in Parking

Remote Parking

Transit

Biking

Walking

Alternative Transportation

Public Input Summary

CLOSE-IN PARKING

THEMES

Access and pricing to parking

Politics in priority parking

Technology – real-time info

OFTEN REPEATED

Wait list takes forever

Need more convenient parking, shift-based permits, and underground parking within UVA Health

Expand temporary parking permit options

Fees – monthly or pay by use

Events are inconvenient

Running errands is difficult

REMOTE PARKING

THEMES

Explore park-and-ride opportunities in the region

OFTEN REPEATED

Fee structure

Amenities nearby (bathrooms, daycare)

Emergency rides to remote lots

Frequent shuttles to remote lots

Covered waiting areas

Express shuttle service

15-minute transfer between Grounds and remote lot is acceptable

Perception of remoteness could be a negative

TRANSIT

THEMES

Approach to service delivery: Continuous service to meet the demand or schedule based

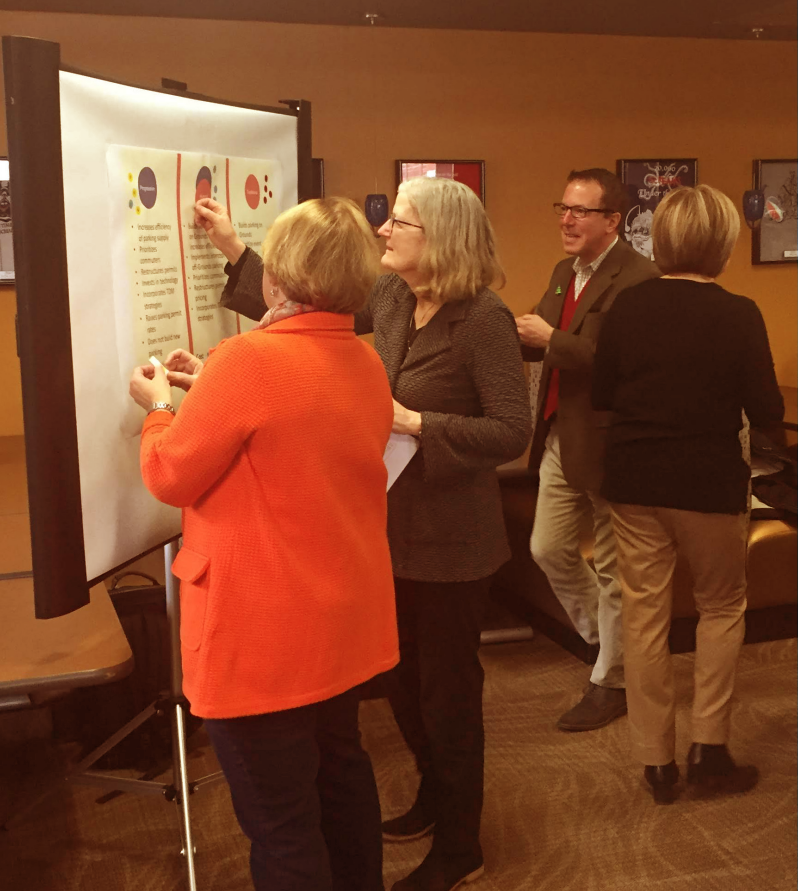
OFTEN REPEATED

Hours and frequency of UTS service (not early enough or late enough, summer/holiday schedules)

Underserved areas (Fontaine, Northridge, Old Ivy, Culbreth, Carruther/Michie)

Real-time information and map availability issues

Regional system – UTS/CAT/JAUNT coordination



BIKING

THEMES

Facilities

Connectivity of bike lanes

Covered racks, showers, lockers

Lack of bike facilities (racks and lanes) at corner

Safety

OFTEN REPEATED

Better education and enforcement for bikers and drivers

Bikeshare at parking areas – free

Workplace policy

Covered racks, showers, lockers

Barriers to riding

WALKING

THEMES

15- to 20-minute walk limit

Pedestrian safety

OFTEN REPEATED

Workplace policy (showers, dress code)

Railroad is a barrier (Emmet/Ivy – Athletics, Old Ivy Road, Grove/Cherry)

Safety concerns: distracted drivers, security, lighting, intersections

Wayfinding on Grounds – walking map

Connectivity challenges (Ivy to Boar's Head, Old Ivy, Fontaine, Corner to UVA Health, JPJ to Hospital, Milmont, Rivanna Trail across Ivy, Carruthers/Michie)

ALTERNATIVE TRANSPORTATION

THEMES

Telework/alternative work schedules

Carpool match tool

Pay-as-you-go parking

No incentive for using other modes

OFTEN REPEATED

Time saving is incentive

Monorail (Epcot)

Real time – slugging

Transit accessibility from home

Efficiency of commute time

Lyft, carpool

BlancRide and other carpool apps

Looking towards the Future

The study examined various aspects of the University to understand its future context as it relates to transportation. The following factors are expected to shape the University's transportation needs over the next ten years.

POPULATION GROWTH

UVA's population is projected to increase based on historical trends and University projections.

CAPITAL IMPROVEMENTS

The University plans to invest in new facilities that will temporarily and permanently displace parking on Grounds and potentially increase demand.

EVENT PARKING

The University will continue to host events on Grounds, which draw hundreds to thousands of visitors requiring convenient parking.

TECHNOLOGY ADVANCEMENT

Evolutions in parking technology could impact demand in unpredictable ways.

MOBILITY

The evolution of automated vehicles, micromobility, and the use of transportation network companies or TNCs (Lyft, Uber) will reshape mobility in and around Grounds.

Projected 2025 Population

Historically, the University's population has steadily grown. Data dating back to 1990 show that the **student population has increased annually by 0.92%**–nearly a **12% growth in the student population since 2005**. Since 2005, the number of **faculty and staff have increased by 29%**. More than half of this growth is attributed to growth in UVA Health staffing.

The current estimate is that **the University's total population will increase from approximately 38,300 individuals to 44,000 individuals in ten years**. This increase is driven by UVA Health, which is expected to increase staffing by 4% annually and serve on average 5% more patients each year.* This increase in the population is expected to place additional pressure on the University's parking and transportation system.

Population growth is expected to result in an additional parking demand of 2,000 spaces in 2025.

**Based on historical UVA Health staffing data and UVA Health patient projections for 2019–2021.*

The Brandon Green Street Redevelopment District has removed 228 spaces in 2018 and will replace the deficit with 130 spaces in 2019, 140 parking spaces in 2021, and 60 spaces in 2023, for a net gain of 102 spaces.

Athletics Complex has removed 320 spaces in 2018 and will not fully replace 225 of those spaces until plan is built out.

Ivy Corridor Redevelopment (including a hotel in the initial phase) will change the demand for the existing spaces in the Emmet/Ivy Garage by rellocating 186 spaces in the early 2020s from the inventory available for students, faculty, and staff.

Capital Improvements

To support increased programming and a growing population, the University intends to invest in constructing new facilities on Grounds. Several projects are expected to impact the University's parking supply by building on an existing parking facility, or by temporarily displacing parking spaces due to construction phasing.

A parking supply projection based on approved projects to date shows a significant loss of parking (±1,100 spaces) as early as 2020, if no changes are made to the parking demand or supply. In the long term, the University is expected to have a net loss of over 600 spaces in Central Grounds.

Based on the above factors,

the University is expected to reach 100% parking occupancy as early as 2020 if no changes are made.

The University's parking capacity will fluctuate following this point as a result of capital projects that replace parking facilities, the temporary loss of parking due to construction phasing, or new demand created by new projects. By 2028, however, the University is expected to face a shortage of over 1,100 spaces. To address this challenge, the University sought input from the community to inform recommendations in the Parking and Transportation Plan.

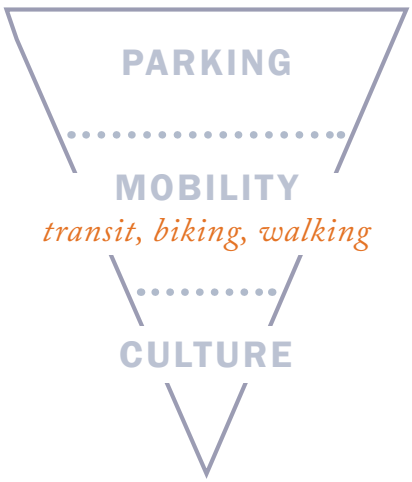
Transportation Plan Framework

Feedback received through focus group meetings, the online portal, and Steering Committee meetings formed the foundation for the direction of the Plan. The Steering Committee, in particular, was consulted on the direction the University's future transportation plan should follow. To provide a framework for developing an appropriate package of plan recommendations, the Steering Committee considered options along various continuums. The strategies fell between two ends of a spectrum– one that continued UVA's current transportation approach focused on parking (traditional) and another that transitioned to a new approach focused on multi-modal options (progressive).

Based on community input, the Plan's recommendations center around a "hybrid" approach to transportation that combines traditional strategies (such as building more parking capacity) with more progressive approaches (including investing in alternative transportation incentives).

The Plan's recommendations center around a "hybrid" approach to transportation that combines traditional strategies with more progressive approaches.

The Plan prioritizes parking over other transportation modes (mobility) and educational/marketing efforts (culture) to address the expected 2020 parking shortage.



Transportation Prioritization

The Plan prioritizes parking over other transportation modes to address the expected 2020 parking shortage. This philosophy also recognizes that although the University strives for a more multi-modal culture, driving to Grounds is most conducive to the University's suburban setting and will likely remain the more popular mode choice in the near future.

Efforts should continue to include incentives for use of other transportation modes, particularly for mid-day mobility, and the employee work trip.

Recommendations

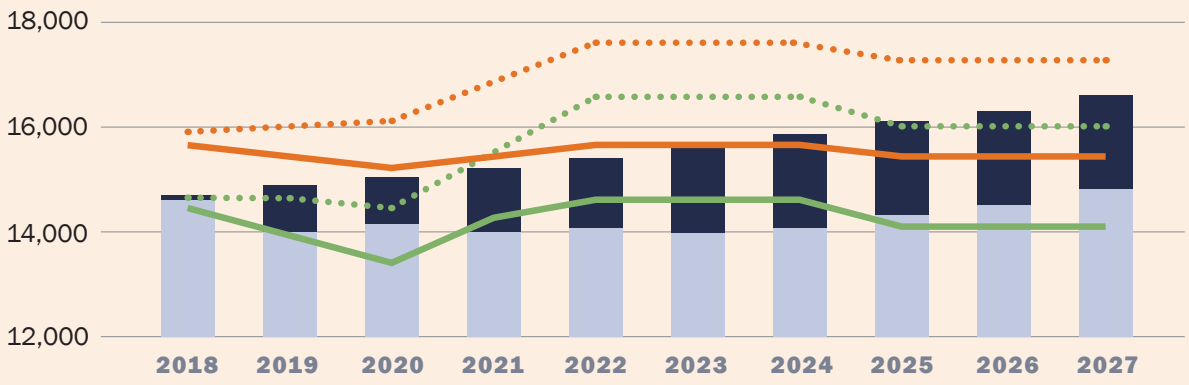
The Parking and Transportation Plan consists of 18 strategies that address the expected 2020 parking shortfall and projected long-term parking and transportation needs through technology and transportation demand management programs. The 18 strategies fall within **seven categories** that are introduced during various phases of the Plan. Several strategies begin in the short term (within 1–3 years) to address the expected 2020 parking shortfall. Some categories continue across phases and have strategies that begin in different times of the Plan.

- Build parking supply
- Enhance accessibility to Grounds
- Develop remote/shared parking options
- Improve efficiency of existing parking supply
- Strengthen TDM program
- Revamp permit fee structure
- Use technology to enhance parking operations

Plan Impact

A comprehensive analysis of the impact of the plan recommendations suggests that the plan reduces parking demand and increases parking supply enough to avoid a parking shortfall in 2020 and to accommodate projected demand in the future.

Parking Demand vs. Supply Projections



1. Existing supply reflects parking losses and gains resulting from the construction of capital improvement projects over the 10-year study period.
2. Total supply represents 100% of parking capacity, while effective supply represents ~90% of parking capacity and set asides like disability parking. A parking area is considered effectively full when it reaches 85%–90% occupancy. Beyond this point, users face significant difficulty in finding an available parking space.
3. The parking supply reflected in the graph excludes parking spaces at Northridge, Fontaine, and Old Ivy. It also excludes highly-restricted parking spaces that are not available for general use.

PLAN IMPLEMENTATION

The Plan consists of 18 strategies organized into seven categories, which are recommended in the timeline below. Some strategies may be deployed sooner than shown in timeline, depending on opportunities available.

SHORT TERM

1–3 YEARS

Build parking supply: Build new facilities

7

Enhance accessibility to Grounds: Provide additional bicycling amenities

11

Develop remote/shared parking options

5 6

Improve efficiency of existing parking supply

1 2 3 4

Strengthen TDM program

14 15 16 17

Revamp permit fee structure

8 9

MID TERM

4–6 YEARS

Build parking supply: Evaluate need for additional facilities

18

Enhance accessibility to Grounds: Collaborate with CAT and JAUNT to improve service to Grounds

13

Use technology to enhance parking operations

10

LONG TERM

7–10 YEARS

Enhance accessibility to Grounds: Offer University-run commuter shuttle service

12

Key Strategies

1. Reorganize commuter and student resident parking to reduce event impact and enhance commuter service
2. Increase parking efficiency by combining designations
3. Distribute patient scheduling across day as much as possible
4. Relocate some UVA Health clinics off Central Grounds
5. Establish off-Grounds intercept parking sites
6. Encourage and support use of community park-and-ride lots
7. Build new parking facilities in the near term
8. Revamp permit pricing
9. Implement pay-as-you-go parking pilot
10. Provide real-time communication of parking availability
11. Encourage bike riding through amenities
12. Expand transit accessibility and introduce technology
13. Work with CAT and JAUNT to enhance service to Grounds
14. Create cash-out incentives for multi-modal commuters
15. Encourage carpooling via customized commute plans and technology
16. Achieve higher use of flex-hour/telecommuting
17. Continue and strengthen TDM support programs
18. Evaluate need to build new parking facilities in the long term

Supporting Programs

- Institute supporting policies and practices to advance the success of the strategies.
- Educate and market to gain broad acceptance and continued use of alternative transportation.
- Adopt clearly-defined goals to drive program success.
- Measure the progress of programs against these goals.
- Consider changes in the funding of parking and transportation to support the strategies.

Key Takeaways

In the next 10 years, the University's most urgent transportation challenge is meeting the parking demands of its faculty, staff, students, patients, and visitors. Modeling shows that the University will face a parking shortfall as early as 2020, if no action is taken to address the issue.

The challenge is a reflection of several evolving conditions on Grounds: a growing population; capital improvements that will replace parking, but eliminate it in the short-term; and growing spikes in demand from University events. Growth in UVA Health is major driver of the increased population on Grounds, further straining the need for parking on Grounds. The parking and transportation needs may change over time as UVA Health considers the future of delivering health care services.

At the same time the campus is growing, it is important to recognize that many aspects of transportation are changing rapidly. Apps allow for real-time information. Micro-transit and micro-mobility, often by private providers, are offering new ways to move. Autonomous vehicles will be available for purchase in a few years. While the impact of many of these trends is uncertain, UVA is committed to maintaining flexibility. This plan attempts to embrace that by focusing on short-term needs and ensuring continued flexibility and support of non-auto modes.

The Plan developed through this study will help UVA to meet its expected transportation and parking needs. The Plan recognizes that while TDM strategies can help to alleviate the parking issue, they need to be coupled with strategies that increase the amount and efficiency of the parking supply. This change in the University transportation philosophy also requires changes in its parking policy and funding model.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