2017

PHILADELPHIA CITY PLANNING COMMISSION

University City, Philadelphia

PARKING INVENTORY

Introduction

The Philadelphia City Planning Commission (PCPC) completed the University City Parking Inventory, a comprehensive review of public and private parking spaces in the vicinity of University City for the first time in 2017. The inventory was conducted to better understand changing parking demand and supply associated with increased institutional, commercial, and residential development west of the Schuylkill River. This report established a baseline for future assessment of patterns and trends in the characteristics of the University City parking supply, focusing on capacity, occupancy rates, and prices. The inventory focuses on public and private parking facilities in an area bounded by Spring Garden Street and Haverford Avenue, 46th Street, and the Schuylkill River. The University City Parking Inventory can serve as a companion to the Center City Parking Inventory, which was last released in 2015 and is completed every five years.

This report can equip policy makers, community members, developers, and parking facility operators with information about an issue that is often the source of debate: costs and congestion related to parking within University City. The information offered in this report can help guide decisions to ensure that parking is provided and priced at rates that meet the needs of commuters, visitors, businesses, and residents, while also advancing the City's broader goals of economic development and sustainability.

Parking supply has many implications for the accessibility and built form of the University City area, and has direct impact on neighboring residential areas. Parking is a necessary facet of university and hospital operations, and neighborhoods feel burdened when demand for parking spills over into residential streets. However, an over-supply of low-priced parking can serve as an incentive to drive personal vehicles into the district, which increases traffic congestion, and decreases demand and support for a robust public transit network. A further consequence is the rise in development of auto-oriented buildings, resulting in higher costs to underlying real estate values, increased conflicts between pedestrians, bicycles and automobiles, and negative impacts to the public realm.

Credits

Authors:
David Kanthor, Transportation Planner
Heather Liang, Planning Intern
Abby Lowe, Planning Intern
Sydney Maves, Planning Intern

Contributors:
Mason Austin, City Planner
Martine DeCamp, City Planner
Inder Grewal, Planning Intern
Ian Litwin, City Planner
Alex Smith, City Planner
Mike Thompson, City Planner
Philadelphia Parking Authority
University City District

A well-managed parking supply can help provide for current needs without inducing parking demand. When on-street parking is priced competitively with garages or is dedicated for residential permit parking, there is less incentive to "circle" in search of free or cheap parking. Further, when public parking is managed in a way that promotes higher density development and alternative modes of transportation, associated social, economic, environmental, and health benefits can be achieved. Recognizing that the automobile continues to play an essential role for many residents and businesses, University City's parking inventory must continue to provide for a total supply and distribution of parking that accommodates future market demand, yet is compatible with other public objectives.

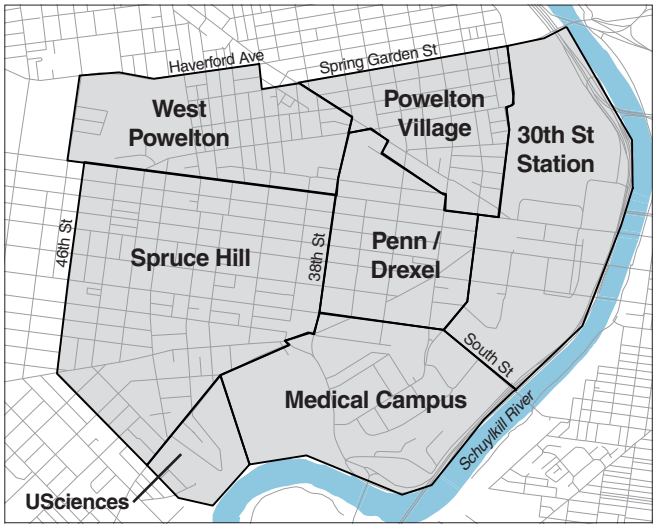
These data were assessed relative to University City as a whole, as well as in the context of its various component neighborhoods. In addition, the on-street parking capacity was measured to understand the total parking supply available in this area. Following the analysis, the report provides recommendations for improvements and best practices for the future of University City's parking supply.

Context

Over the past decade, University City has seen significant growth, hosting some of the city's largest academic, research, and commercial institutions. The district employs nearly 77,000 workers in the 30th Street Station, Penn/Drexel, Medical Campus, and USciences areas, and is flanked by commercial corridors and diverse residential neighborhoods, which include Powelton Village, West Powelton, and Spruce Hill (see map to the right). There are over 40,000 students enrolled across four colleges and universities, office occupancy is high at 95.5 percent, and the area has seen almost 4,000 new units of multi-family housing, including 10 million square feet of new construction or major renovation over the past decade. The district's growth shows no signs of slowing, with millions of square feet of new development projects in the pipeline, and significant investment anticipated around 30th Street Station and the former University City High School site. University City, in conjunction with Center City, is now defined by the Delaware Valley Regional Planning Commission (DVRPC) and PCPC as the city's Metropolitan Center. The Brookings Institute defines the University City portion of this Metropolitan Center as an innovation district and a regional economic hub that is a key player in Philadelphia's efforts to become a world-class innovation city.

University City is host to a variety of transportation options, including one of the busiest Amtrak Stations in the country at 30th Street Station, SEPTA's Market Frankford El, trolley, and bus network, and the university-funded LUCY transportation system that circulates within the University City area. Amtrak's 30th Street Station District Plan calls for specific improvements to the transit network to reduce reliance on vehicles and improve the quality of public transportation. SEPTA continues to study its own service, and has already made plans to make future accessibility improvements to fixed rail. Ample bicycle facilities in University/Southwest support a six percent commute mode share by bicycle, which is among the highest share for a planning district in the city. The University City District is working to develop a Transportation Management Association, which will serve as a formal organization dedicated to solving transportation concerns in University City. The City continues to focus efforts on Vision Zero, aiming to achieve a highway system with no fatalities or serious injuries involving vehicles by improving overall safety of the road network.

Study Area



Parking issues in the University City area mainly involve striking a balance between the parking that is needed for employees, visitors, and residents, and managing the impacts that over-abundance of parking can have on real estate values and congestion of the road network. Shift work patterns in University City hospitals and universities can lead to congested roads and parking facilities at specific times of day when shifts begin and end. Businesses are interested in ensuring that customers have convenient access to their establishments, neighboring residents often complain that parking demand spills out into the neighborhoods, and the City continues to have an interest in supporting non-vehicular modes of transportation to support the dense and growing urban environment.

The 2017 University City Parking Data

The survey conducted as part of this 2017 University City Parking Inventory included public and private facilities that contained 30 or more spaces. A facility is considered **public** if it is accessible to anyone interested in parking at the location and includes posted rates if there is a cost to park. **Private** facilities require predetermined access to the garage, commonly controlled by issuing a permit. Whereas the most recent Center City Parking Inventory assessed only public facilities, the 2017 University City Parking Inventory includes data and analyses for parking facilities that are available for use not only by the general public, but also by private businesses and institutions. This inventory also identified on-street parking supply and surveyed blocks for residential permits as well as blocks with parking meters and kiosks. Some facilities include both private and public parking, such as a garage with certain levels gated off and reserved for specific clients, and the spaces available for both public and private parking were surveyed. All parking facilities were surveyed in spring 2017 on weekdays during daytime hours. The on-street parking inventory was completed using the 2015 GeoCyclorama viewer.

Parking Capacity

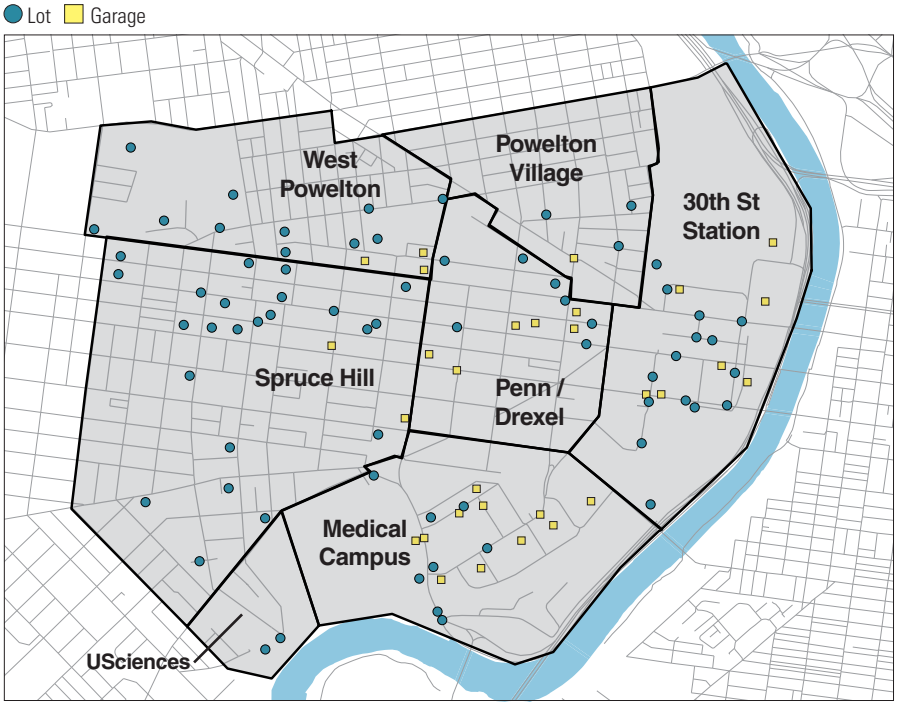
The 2017 University City Parking Inventory included 45 public facilities, 43 private facilities, and 11 facilities with combined public and private parking for an overall total of 24,056 parking spaces. Despite there being almost an equal number of public and private parking facilities, over two-thirds of parking spaces in University City exists within public facilities. The Medical Campus accounted for 43 percent of parking capacity in University City, including over 50% percent of private parking capacity. The neighborhoods with the highest parking capacity are the Medical Campus (10,276) and 30th Street Station (5,412). The lowest parking capacity is located in the University of the Sciences (445) and Powelton Village (228) neighborhoods. University of the Sciences and Powelton Village are the only University City neighborhoods where private parking spaces constitute a majority of total parking capacity.

Parking Facilities
By Capacity & Type

Area	Public	Private	Total
30th St Station	4,343	1,069	5,412
Penn/Drexel	2,617	834	3,451
Medical Campus	6,083	4,193	10,276
West Powelton	1,538	263	1,801
Spruce Hill	1,527	916	2,443
USciences	0	445	445
Powelton Village	86	142	228
TOTAL	**16,194**	**7,862**	**24,056**

Source: Philadelphia City Planning Commission, 2017

Public and Private Facilities
By Type



Source: Philadelphia City Planning Commission, 2017

Almost two-thirds of the 99 public and private parking facilities in University City are surface lots. Twenty-five out of the total 30 parking garages in University City are located at the 30th Street Station, Penn/Drexel, and Medical Campus neighborhoods to accommodate for commuters working in education, healthcare, and service jobs within University City.

Occupancy

As this was the first time that this parking inventory was performed, PCPC collected information during daytime hours during the Spring of 2017 to determine the total number of parking spaces available as well as the number of spaces occupied. Due to inaccessibility of some sites, data on occupancy rates was not collected at 5 locations. Among the remaining 94 sites surveyed, the occupancy rate was 70.1% at public facilities while private facilities had a 69.8% occupancy rate showing an almost equal utility for public and private parking facilities.

Occupancy Rate

By Area

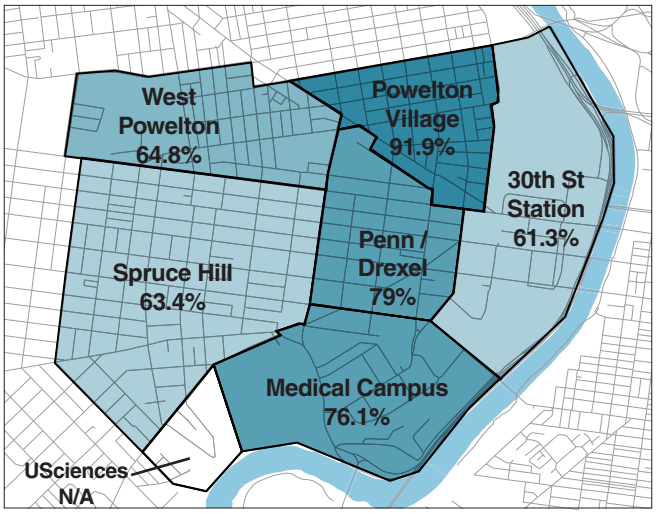
Area	Public Occupancy	Private Occupancy
30th St Station	61.3%	60.5%
Penn/Drexel	79%	62%
Medical Campus	76.1%	79.9%
West Powelton	64.8%	13.6%
Spruce Hill	63.4%	67.5%
USciences	N/A	86.3%
Powelton Village	91.9%	58.5%
ALL University City	**70.1%**	**69.8%**

Source: Philadelphia City Planning Commission, 2017

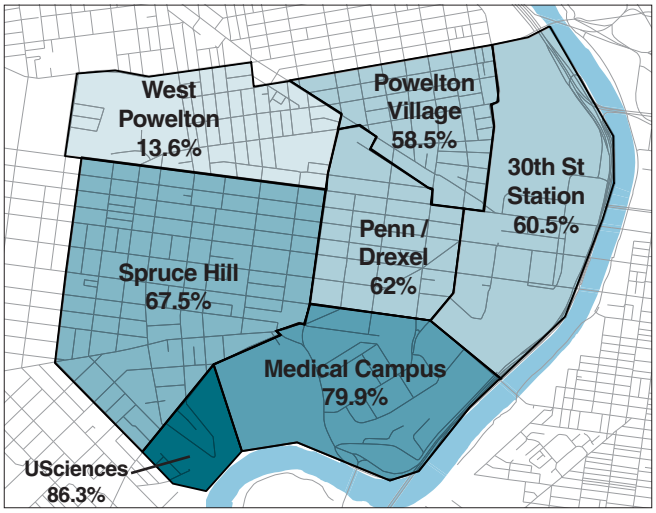
Of the six neighborhoods with a mix of public and private facilities, only the Medical Campus and Spruce Hill had a private occupancy rate that exceeded its public occupancy rate. The range for public parking occupancy was 61% to 79% for most neighborhoods. However, the public parking occupancy rate for Powelton Village was 91.9%, showing high demand for parking at the one public facility within that area with over 30 spaces. The neighborhood with the highest private parking occupancy was University of the Sciences with a rate of 86.3%, where the high occupancy rate in this neighborhood is due to a lack of public parking facilities. Of neighborhoods with a mix of both public and private facilities, the Medical Campus had the highest private occupancy rate of 79.9%, which means that over 800 parking spaces were unused during the daytime during the survey. The neighborhood with the lowest private parking occupancy was West Powelton, with a rate of 13.6% and a limited demand for private parking facilities with just three. The other four neighborhoods fell within a range of 58% to 68% private parking occupancy.

Sites surveyed during this inventory demonstrate changes in the parking landscape, including newly constructed parking facilities associated with development, such as the new parking garages in the Medical Campus, or development sites that are slated for new construction within the next five years, such as those in the Penn/ Drexel area, including the Wexford/University City High School site.

Public Daytime Occupancy



Private Daytime Occupancy

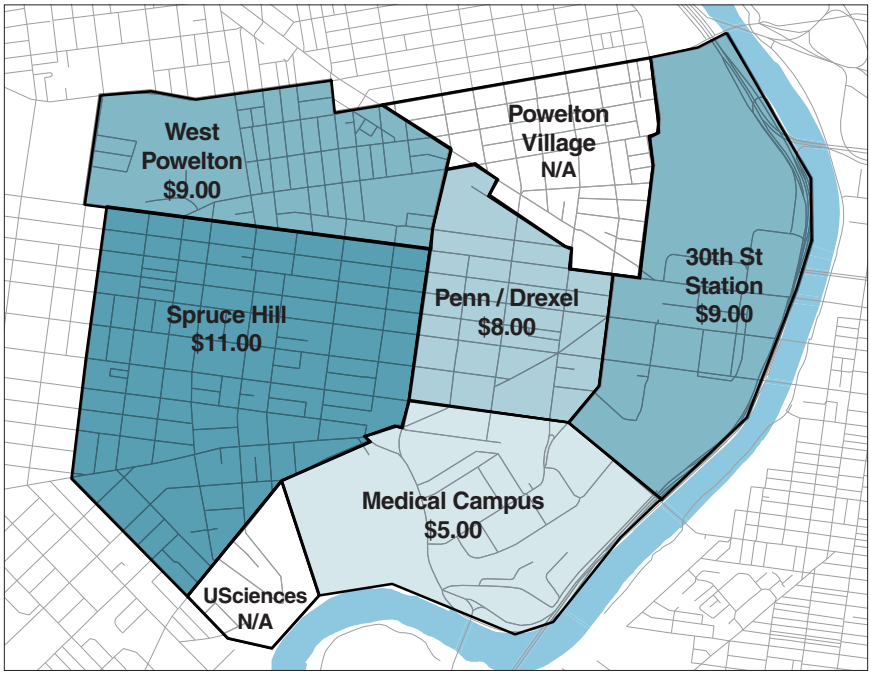


Parking Rates

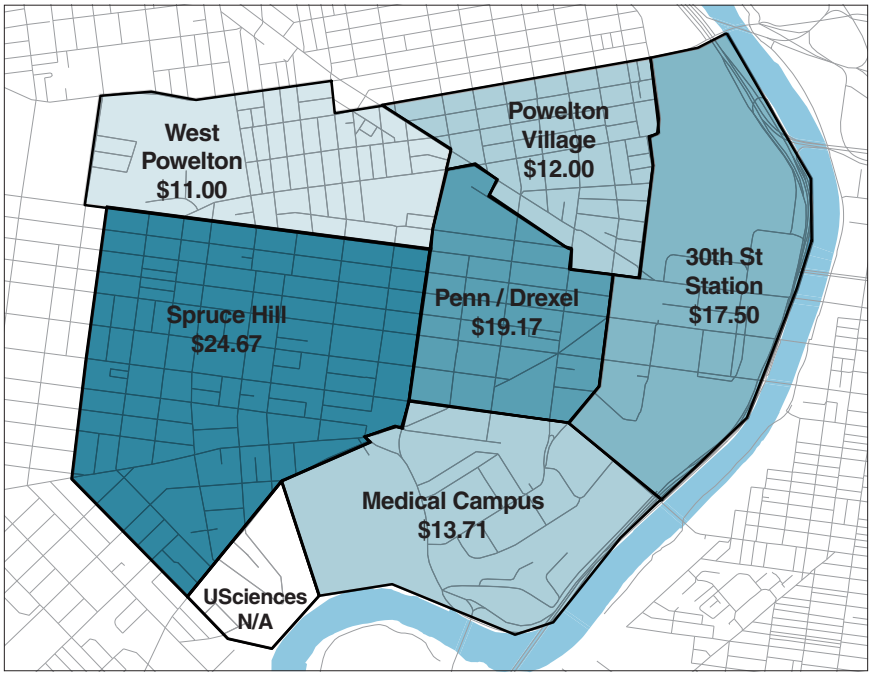
The map to the right provides the one-hour rates of public facilities in each of the University City areas, where the hourly cost of parking ranged from $3 to $13/hour and an overall average hourly rate of $7.89. Subsidized parking offered by institutions and ample supply enabled the Medical Campus neighborhood to have the lowest average hourly rate at $5/hour. Spruce Hill had the highest rate for one-hour at $11/hour, priced as a luxury since parking by visitors is typically sought on-street instead of in a public garage or lot. Powelton Village and USciences areas currently do not have public parking facilities with one-hour parking rates to compare.

All-day parking rates at University City public parking facilities range from $5-$30/day, with an average cost of $16.29/day. The daily rates for the Medical Campus facilities, which were lower than the average, again are often subsidized for patients and visitors. The three Spruce Hill facilities have higher on-street parking than average all-day rates for the same reason. USciences does not have public lots with rates for hourly or daily parking but instead holds a lottery for semester-long parking permits. While $10-$16 remains the most-common range for all-day rates, approximately 1/3 of daily rates cost $20 or more. These higher cost facilities exist in immediate proximity to 30th St Station or near hospitality venues where visitors are willing to pay more for parking in lots and garages.

Average 1 hour rates for public parking facilities



Average all day rates for public parking facilities



Parking Rates

Public Parking Rates
Includes Parking Tax Rate of 22.5%

Neighborhood	Hourly Rate Range	Hourly Rate Average	Daily Rate Range	Daily Rate Average
30th St Station	$4 - $15	$9	$8 - $25	$17.5
Penn/Drexel	$3 - $11	$8	$13 - $30	$19.17
Medical Campus	$4 - $8	$5	$5 - $22	$13.71
West Powelton	$7 - $13	$9	$10 - $12	$11
Spruce Hill	$11*	$11	$19 - $30	$24.67
USciences	N/A	N/A	N/A	N/A
Powelton Village	N/A	N/A	$12*	$12
All University City	**$3-$13**	**$7.89**	**$5-$30**	**$16.29**

**Only 1 facility*
Source: Philadelphia City Planning Commission, 2017

Comparison to Center City

When compared to the 2015 Center City Parking Inventory, University City houses fewer public facilities (56 vs 189), lower capacity (16,194 vs 46,400) and a lower daytime public parking occupancy rate (70.1% vs 73.9%). On average, University City facilities charge $5.50 less per hour than Center City facilities and $6.63 less per day while only 13 locations offer early-bird discounts. University City differs from Center City in that it has "free" parking options, including abundant accessory lot parking at stores, such as Rite Aid, and unmetered, unpermitted on-street parking options, both of which are rarely found in Center City.

Comparison with Center City
Capacity, Occupancy & Rates

Neighborhood	Number of Public Facilities	Public Facility Capacity	Public Daytime Occupancy	Average rates	
				One-Hour	All Day
University City	56	16,194	70.1%	$7.89	$16.26
Center City	189	46,400	73.9%	$13.39	$22.92

Source: Philadelphia City Planning Commission, 2017

On-Street Parking

While University City is well-known for its educational and medical institutions, the neighborhoods that are located in and around the district are comprised of both owner-occupied homes, often with long-term occupants, and rental properties. While 9,983 on-street parking spaces exist in the study area, 86% of the spaces are located in just three neighborhoods: Powelton Village, West Powelton and Spruce Hill. In Spruce Hill, the number of on-street parking spaces is more than double the number of off-street parking spaces. In Powelton Village, the amount of on-street parking is 10 times greater than the number of off-street parking spaces. The Medical Campus has almost no on-street parking, which requires patients and medical staff to rely completely on off-street parking options.

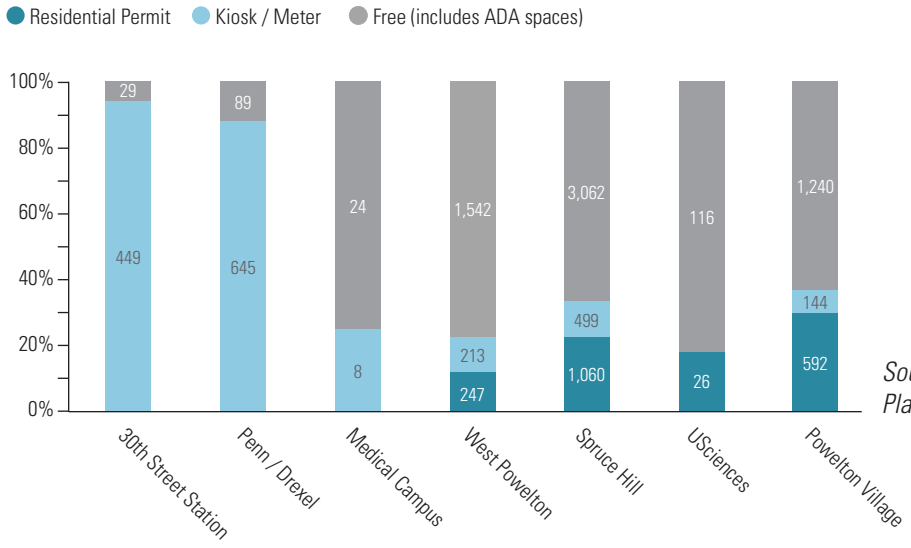
The number of cars registered to addresses within the study area is a primary indicator of parking demand in residential areas. In 2017, the study area included 6,102 cars registered in Pennsylvania, which was a 27.6% increase from 2012. Nearly half of these registered cars are located in the Spruce Hill neighborhood and very few cars were registered in the Medical Campus area. Because universities attract students and faculty from out of state, there are a large number of vehicles not registered in Pennsylvania and therefore, the total demand by residents in the study area is assumed to be higher.

Public Facilities and On-Street Parking
By Area

Area	Off-Street Parking	On-Street Parking	Total
30th St Station	5,412	476	**5,888**
Penn/Drexel	3,451	734	**4,185**
Medical Campus	10,276	32	**10,308**
West Powelton	1,801	2,002	**3,803**
Spruce Hill	2,443	4,621	**7,064**
USciences	445	142	**587**
Powelton Village	228	1,976	**2,204**

Source: Philadelphia City Planning Commission, 2017

Percentage of On-Street Parking



Source: Philadelphia City Planning Commission, 2017

On-Street Parking

The Philadelphia Parking Authority (PPA) manages the Residential Parking Permit (RPP) program where residents in eligible areas can purchase parking permits that exempt vehicles from meter and time limit restrictions on posted blocks. These permits attempt to assist residents in finding parking spaces near their home even when adjacent to businesses, transit facilities or large institutions. Vehicles with residential parking permits may only park in the specific zone where they are registered. University City includes both District 2 and 3. Between 2012 and 2016, District 2 experienced a 19.23% increase in parking permits and District 3 experienced a 21.83% increase. Between 2015 and 2016, the number of residential parking permits issued for districts 2 and 3 within the 19104 zip code boundary, which is similar to the study area, increased from 1,759 to 1,961. At the same time, approximately 19 percent of the on-street parking spaces identified in this inventory (1,925) are located on 94 blocks with residential permit parking making the total number of permits issued almost equal to the number of spaces available in the program.

There are also a number of streets in University City that have parking kiosks and meters; these blocks comprise about 20 percent of the on-street parking spaces. The revenue from this paid on-street parking is collected by the PPA and has fluctuated between $6 - $7 million dollars annually for the past five years, which is much less than in Center City, where parking meter revenue collected reaches approximately $30 million annually with many more blocks of metered parking.

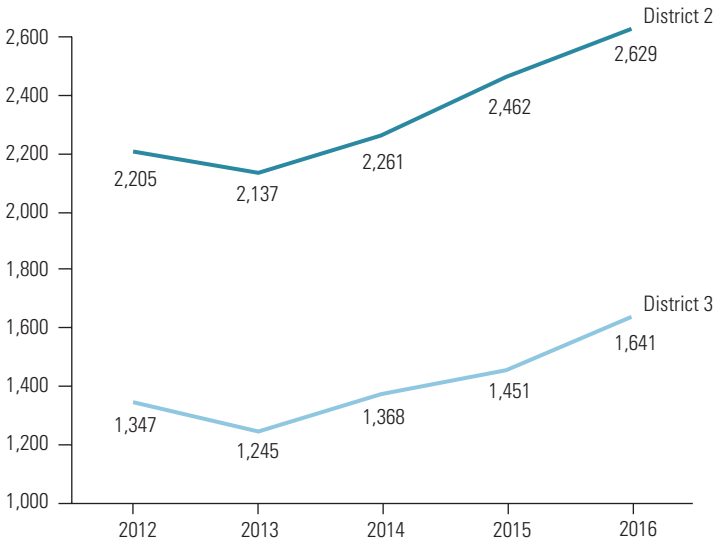
Residential Parking Permit 101

To be eligible for a Residential Permit Parking sticker, a vehicle must have Pennsylvania license plates and be registered and insured to a home address within the area's permit parking district. Applicants must provide the PPA with proof of vehicle registration and insurance; along with proof of residency in the form of the following: driver's license, lease or recent utility bill in applicant's name. The vehicle registration requirement can be waived for a company car (including a leased company car), or an applicant is in the military service.

The annual fee for a permit is per household:
1st vehicle: $35
2nd vehicle: $50
3rd vehicle: $75
4+ vehicle: $100.00 each

Residential Permits Issued

RPP Districts 2 & 3



Residential Permits Issued

RPP Districts 2 & 3, only within 19104

Year	District 2	District 3
2015	888	871
2016	972	989

Source: Philadelphia Parking Authority, 2017

Registration Increase

2012-2017

Area	2012	2017	Percent Change
30th St Station	356	568	**59.6%**
Penn/Drexel	286	362	**26.6%**
Medical Campus	24	27	**12.5%**
West Powelton	877	1,322	**50.7%**
Spruce Hill	2,489	2,945	**18.3%**
USciences	55	72	**30.9%**
Powelton Village	696	806	**15.8%**

Source: DVRPC, PennDOT, 2017

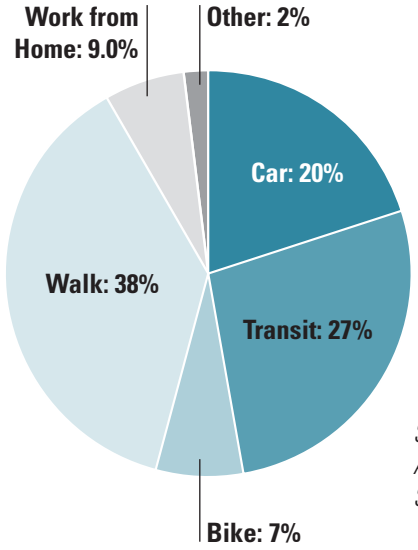
Transportation Alternatives

University City is well-served by transportation infrastructure, including alternatives to driving and parking cars. Public transportation, train connections, bicycle lanes, and car and bicycle sharing are all readily available in the study area.

At 30th Street Station, 50,000 travelers a day use AMTRAK, SEPTA Regional Rail service, and New Jersey Transit trains to get to and from University City. Additional service by the SEPTA Market-Frankford El, buses, and trolleys creates a well-connected transit network to the hub for employment, education, medical services, and commercial activity. Recently, New Jersey Transit added bus service to 30th Street Station to connect commuters from South Jersey to this employment center. In addition, the Loop through University City, known as the LUCY Shuttle, has provided door-to-door service to University City institutions since 1999, with daily ridership at just under 3,000 passengers per day. While the loop has grown in popularity with ridership over the past eighteen years, the shuttle travel time has increased by 10 minutes due to congestion.

The bicycle network in the University City study area includes over 15 miles of bike lanes, including the Chestnut Street protected bike lane recently installed in 2017. Indego bike share recently expanded to now include 18 stations within the study area and there are approximately 95 car share vehicles available for use by carshare members.

Means of Transportation to Work
University City Study Area Residents



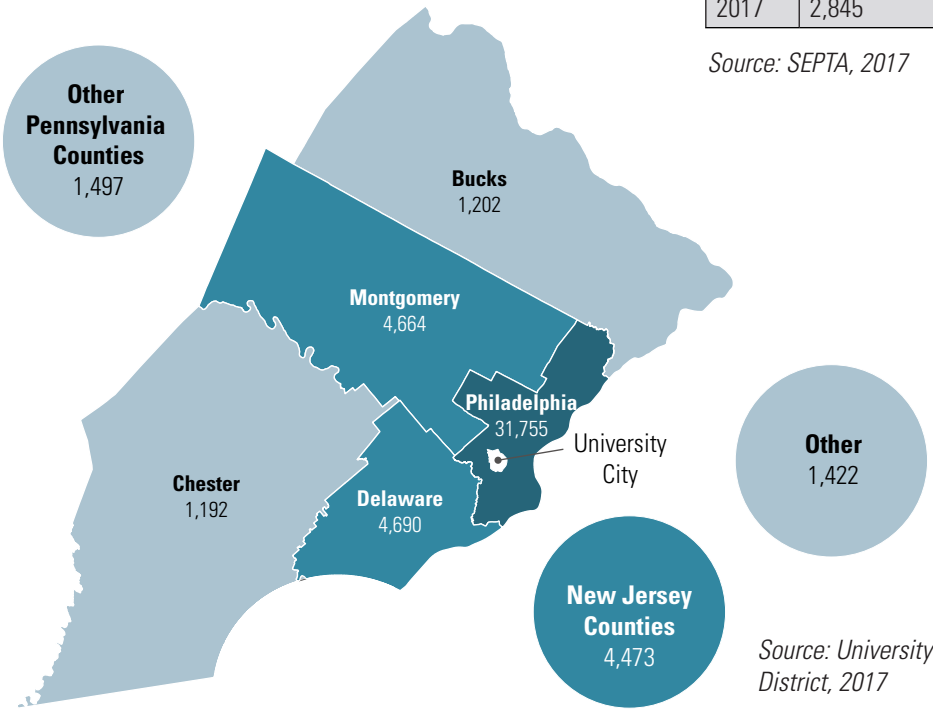
Source: US Census, American Community Survey 2012-2016

LUCY Daily Ridership

Year	Daily Ridership
2014	2,919
2015	2,966
2016	2,617
2017	2,845

Source: SEPTA, 2017

University City Institutional Employees
By County of Residence



Source: University City District, 2017

Conclusions & Best Practices

PCPC inventoried the parking facilities in University City because of the growth in parking demand due to institutional, commercial, and residential development. The findings created a baseline parking inventory in University City. The current supply is not considered stressed since the rates for public facility parking (70.1% occupancy) and private facility parking (69.8% occupancy) fall below the optimal rate of 85% for efficient parking facility operations. In addition, 9,983 on-street parking spaces exist in the study-area with approximately 2,000 spaces located on blocks with parking kiosks and meters. PCPC will monitor parking trends and will release follow-up inventories on a five-year schedule.

Areas closer to 30th Street Station, universities and medical centers rely primarily on off-street parking facilities to provide the needed storage for cars and on-street parking options are not in great supply. Adjacent residential areas with fewer off-street parking facilities may experience tighter on-street parking constraints and have needed to implement the residential parking permit program to ensure that there is available parking for residents. There are some residential blocks where car owners are able to find parking on their block or even in front of their house consistently. The following best practices could serve to better manage parking in University City both now and in the future if demand increases.

Shared Parking

Parking facilities are built to accommodate the parking needs that are created by nearby land uses. In University City, the off-street parking facilities include garages and lots that primarily support the educational, research, and medical institutional uses nearby. There are also garages and lots that support the commercial, residential, office and 30th St Station land uses. While each garage and lot is managed by an entity, there are opportunities to identify shared parking as a solution to future parking needs. Other cities, including Madison, Wisconsin, have created an overnight shared parking program that allows office users to park during the day and residential users to park overnight. Creation of shared parking in University City would likely require participation by a number of stakeholders including the University City District (UCD), parking operators, institutions, and City agencies.

Residential Parking Permit (RPP) Program

The RPP is designed to improve the parking availability for vehicles owned by neighborhood residents. Suggestions to adjust the program have been made in other neighborhoods, especially to better align the number of permits to the number of parking spaces or increase cost per permit and the amount of permit parking. In Districts 2 and 3, the number of permits is reaching close to the number of available spaces on RPP blocks and the PPA should monitor the number of future permit applications to ensure that the number of permits does not create a situation where the program does not meet its original purpose. In the future, neighborhood residents also have the ability to request to extend permit zones to blocks where parking demand increases.

Parking Signage Improvements

Better signage at all garages and lots in University City will help drivers make informed decisions on where to park. The current zoning code for signage at public garages, as amended in 2013, calls for a standard sign to be displayed prominently at the entrance of each facility with basic information such as cost per hour, maximum cost per day, and Early Bird rate if applicable. In order to achieve increased compliance with the current code an opportunity exists for the creation of a signage design standard by PCPC to ensure visibility and consistency and to assist the Department of Licenses and Inspections with regulation.

Transportation Demand Management

Reducing the amount of traffic congestion, improving air quality and creating a better commuting experience for employees, patients, students, residents, and others is important to the vitality of University City. The provision of adequate parking is important, yet University City has a wealth of transportation alternatives infrastructure and every effort should be made to encourage commuters to use SEPTA, AMTRAK, New Jersey Transit or commute by walking or bicycle. A new Transportation Management Association (TMA), similar to the Central Philadelphia TMA for that exists for Center City, could be established by the University City District to provide employee outreach to the institutions and companies within the area.

Technology

While parking demands may increase in the short-term, the introduction of technology has the potential to improve parking operations and reduce congestion. A live count of free spaces within each facility should be displayed to show available spaces. There are a number of smartphone apps available to assist drivers to locate and purchase their parking before reaching their destination and the Philadelphia Parking Authority recently relaunched the on-street parking app, MeterUP.

PCPC is also monitoring the development and deployment of autonomous vehicles, which could influence the demand for parking spaces. At the same time, on-street loading and unloading demands may increase resulting in increased emphasis on curbside management. An expectation has been created that change is on the horizon and any investments in parking facilities today must incorporate adaptable and flexible designs so that they are solid investments into the long-term.

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