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About the Parking Management Study

This study of parking issues in the Old Town section of Takoma Park includes an examination of meters, handicap parking, residential permit zones, enforcement, City Code and regulations, and parking hot spots. Study data collection efforts included a field inventory of all parking resources in the study area, as well as interviews with key stakeholder. The study is covered by a technical assistance grant from the Metropolitan Washington Council of Governments (MWCOG) to examine parking pressures in the Old Takoma area and advise on creative solutions. Findings and recommendations regarding curbside parking management for commercial and residential parking were presented to the Takoma Park City Council on June 15, 2016.[1]

The current study effort is part of an overall effort to address city-wide parking issues in a comprehensive manner.[2] Prior steps in the City's parking management study efforts have included on-line surveys of residents and business owners to gain a better understanding of parking needs.

City of Takoma Park

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Tim Male, Councilmember
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[1] Takoma Park City Council website: https://takomaparkmd.gov/government/city-council/meetings/
[2] Takoma Park Parking Study website: https://takomaparkmd.gov/initiatives/project-directory/parking-study/

I. Introduction

For decades after the opening of the Takoma Metrorail Station in 1978, the City of Takoma Park largely retained its residential character, but in recent years development pressures have led to major mixed-use projects radiating outward from the Station. To date, the transformation has been centered on adjacent areas in the District of Columbia, but soon conditions may lead to considerable new development in Takoma Park proper.

In response to the recent uptick in development, the City has decided that the time is right to review and update its existing parking code and regulations, ensuring that they effectively support the City's goals. Providing too much or poorly-placed parking can be immensely costly, increase vehicle traffic, reduce pedestrian and cyclist safety, and reduce development density. Conversely, supplying too little parking can create its own set of problems including undermining the financial feasibility of development projects, hampering the revitalization of commercial districts, and creating parking spillover issues.

The City solicited a qualified engineering consultant, through a the MWCOG *Transportation and Land Use Connections* Program, to perform a comprehensive assessment of current parking demand and supply; and to develop effective recommendations to ensure parking availability, prevent parking spillover from commercial areas into neighborhoods, and avoid an unnecessary influx of private vehicle traffic stemming from an over-abundance of free parking.

Study Objective

The study performed a comprehensive assessment of current parking demand and supply to develop a parking regulatory framework that:

- Balances the needs of existing residents and new commercial growth
- Encourages multi-modal transportation by preventing an over-abundance of free parking
- Is easy to understand, implement, and enforce

This study recommends new parking management strategies covering off-street parking code requirements, curbside metered parking in commercial zones, curbside permit parking in residential neighborhoods, City-managed off-street parking facilities, and potential partnerships with developers and other major property-holders.

Study Area

The City of Takoma Park holds a historic place as one of the first railroad suburbs in the Country. Its central commercial corridor along Carroll Avenue has long functioned as a local, activity center drawing customers from nearby communities in Montgomery County, Prince George's County and Northeast DC The combination of attractive neighborhoods with close-by amenities is what has made, and will continue to make Takoma Park a desirable location to live.

The Study Area encompasses the southwestern half of Takoma Park between Eastern Avenue and MD 410. The area is bounded by the DC Metro Red Line from the Montgomery College Takoma Park/Silver Spring Campus to Laurel Street NW. Adjacent areas on the DC side of Eastern Avenue including the Takoma Metro Station and sections of Maple, Willow, and Laurel Streets are included in the study area. Key commercial areas are located along Carroll Avenue in the downtown district of Takoma Park. Residential and commercial areas along Westmoreland Avenue and Walnut, Elm, Tulip, and Pine Avenues are included in the study area. The intersections at Carroll Avenue and Philadelphia and Grant Avenue and the surrounding residential and commercial areas are encompassed. The study area follows along MD 410, locally known as Philadelphia Avenue, but excludes the northeastern part of town beyond Philadelphia Avenue. Carroll and Philadelphia Avenues are classified as Urban Principal Arterial roads. Piney Branch Road is an Urban Minor Arterial, Takoma Avenue is an Urban Collector Road, and all other roads within the study area are classified as local roads. The northernmost point of the study area is the intersection at Chicago Avenue and Boundary Avenue. The study area's boundary is illustrated in Figure 1, Study Area. The study area is connected to the Washington Metropolitan region via additional transit service options including Montgomery County Department of Transportation Ride On bus routes and Washington Metropolitan Area Transit Authority Metrobus routes. The Study Area is served by 5 Metrobus routes and 9 Ride

On routes. On average, buses run every 30 minutes on weekdays and have abbreviated hours and lower frequencies during on weekends.

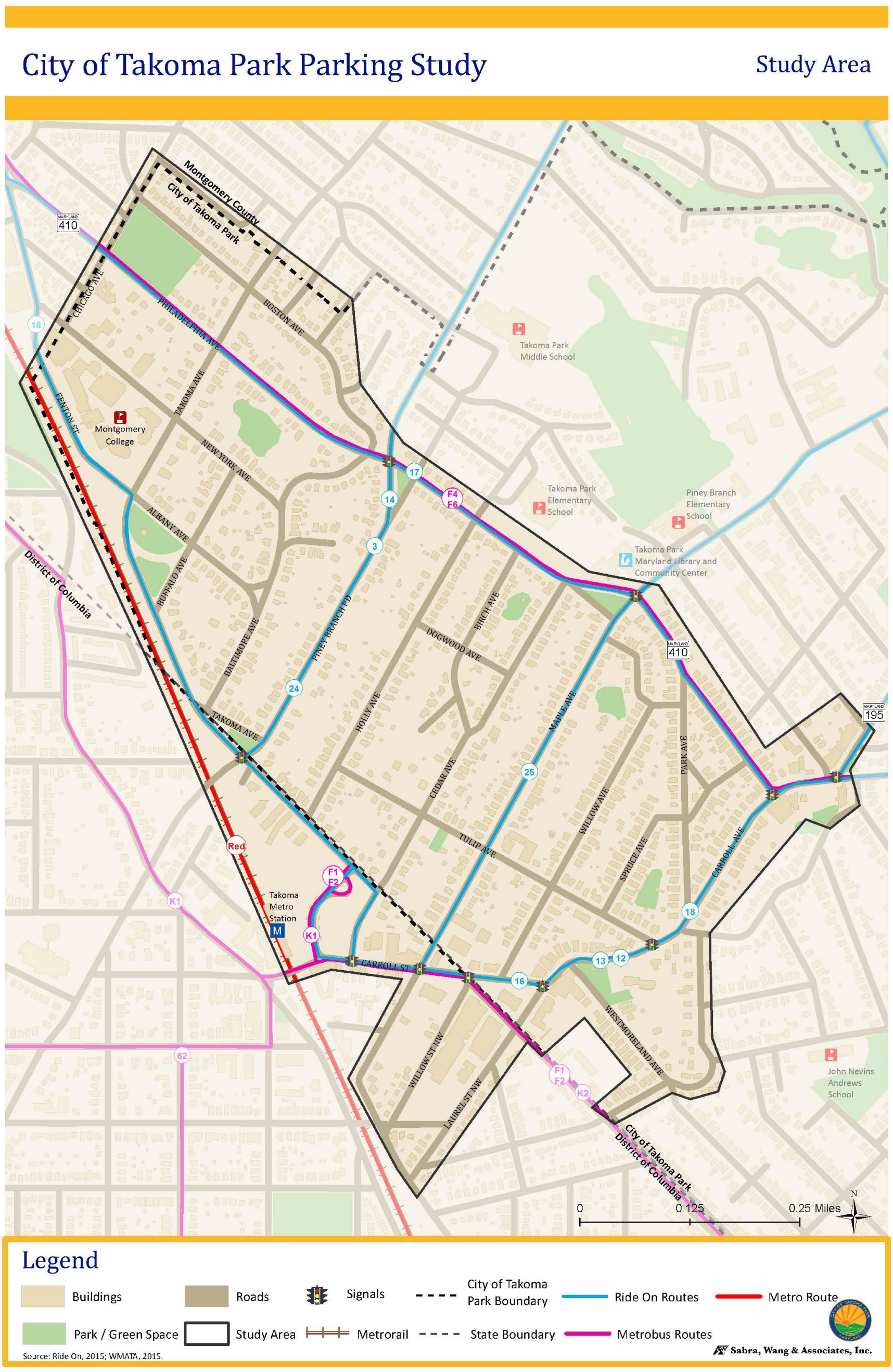


Figure 1: Study Area

II. Existing Conditions & Parking Supply

Land Use & Zoning

The land use within the study area, as shown in Figure 2, is relatively uniform. The majority of the area is residential, with smaller areas designated to other land uses dispersed throughout. The Montgomery College campus is identified as institutional, while Takoma Junction and downtown Takoma are both commercial areas. The Takoma Metro station has a transportation land use classification. There are also several parks.

The zoning classifications found throughout the study area can be seen in Figure 3. For the sake of simplicity, the specific zoning designations within the City of Takoma Park and DC portions of the study area gave been combined into similar general categories. The primary zoning classification within the study area is single family residential. Takoma Junction is zoned for neighborhood residential development and commercial retail, and multiple-family residential zoning along Carroll Avenue between downtown Takoma and Takoma Junction. Zoning in the downtown Takoma portion of the study area varies, as part of the area is zoned by the District of Columbia and the other part is zoned by Montgomery County and the City of Takoma Park. The portion of Takoma Park within the DC line is zoned for low density development, which includes the Takoma Metro station and the variety of businesses along Carroll Street. The portion of Takoma Parking within Montgomery County is zoned for neighborhood retail and commercial residential development.

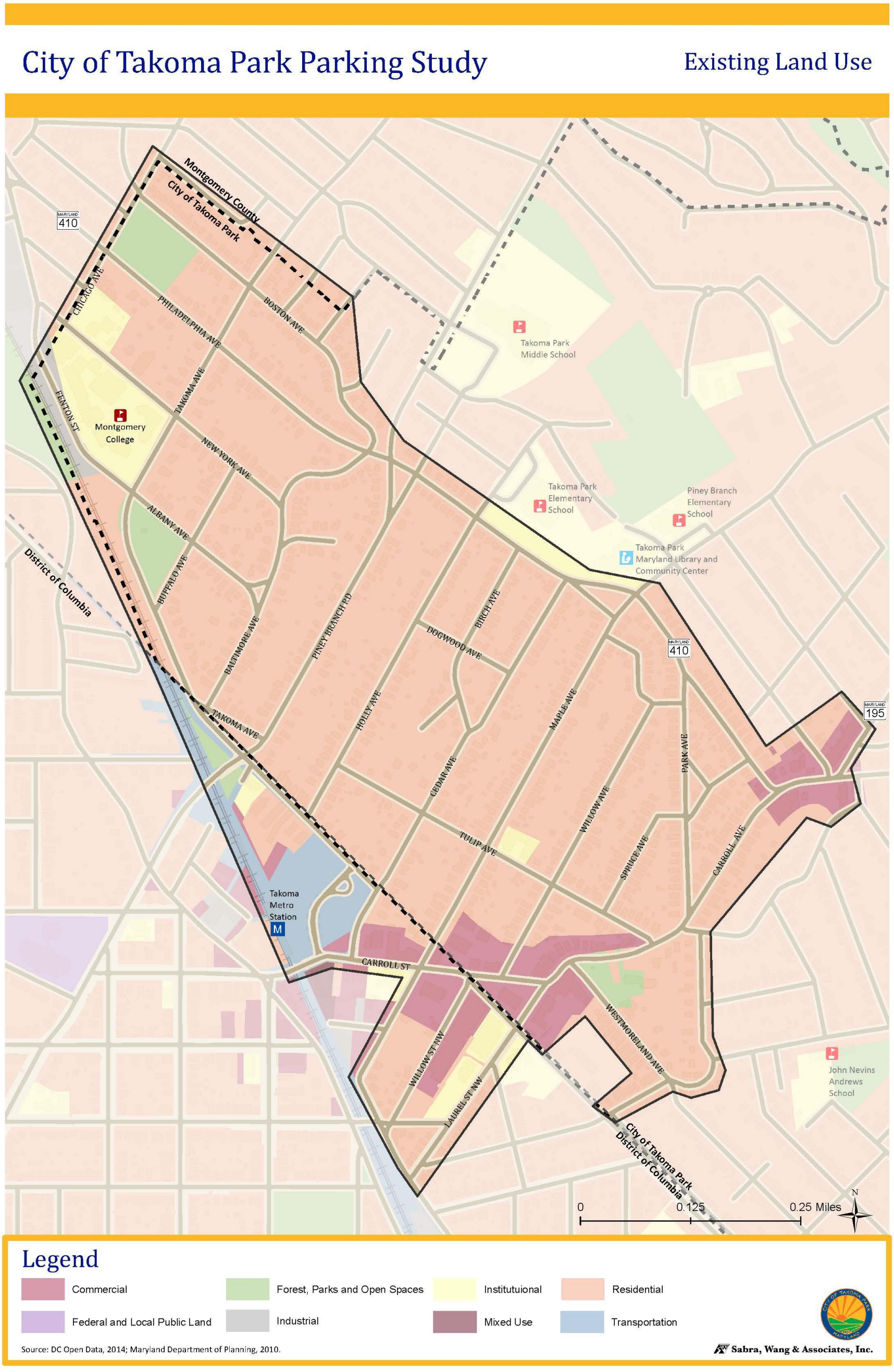


Figure 2: Land Use

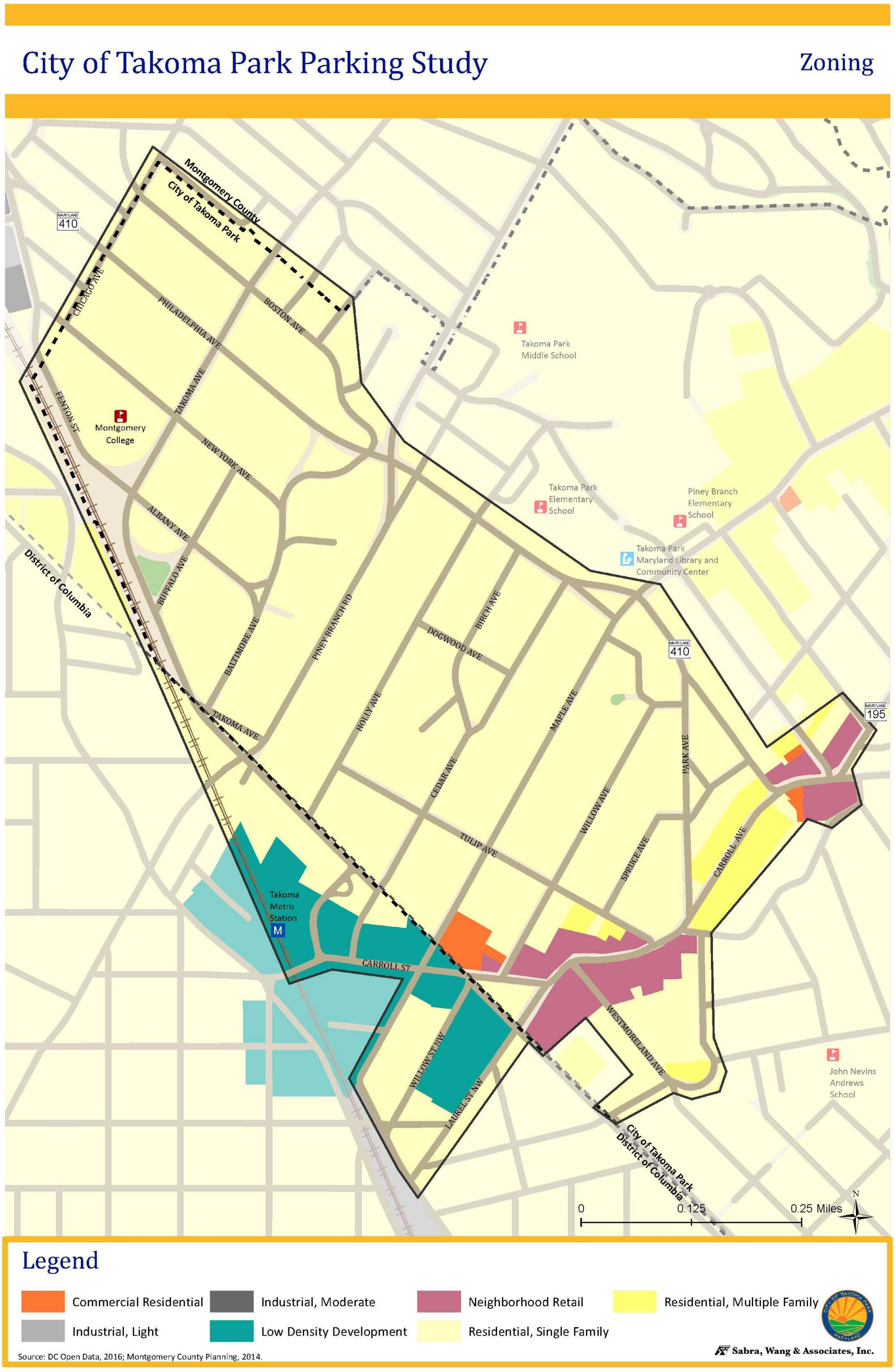


Figure 3: Zoning

Parking Infrastructure

Curbside

Curbside parking inventory was collected by Sabra, Wang & Associates, Inc. in March 2016.

Curbside space was measured and categorized by the following:

- Car Share, for a vehicle which can be rented for a short period of time
- Commercial Loading Zone
- Handicap Permit
- Metered or Pay-to-Park
- Passenger Loading
- Residential Permit Zone, which requires a City-designated permit
- Special Permit, which requires a private permit
- Under construction, where curbside parking is temporarily unavailable and not inventoried
- Unrestricted

Curbside parking inventory of metered and pay to park spaces provided information on the meter rates and time limits. Most meters were operational from Monday to Saturday, with some meters operating only on weekdays on Maple, Carroll and Eastern Avenues as well as Cedar Streets. Meters along or adjacent to Carroll Avenue that are part of downtown Takoma and Takoma Junction, which account for 86% of the meters, have a rate of $0.75 per hour and time limits ranging from 30 minutes to 2 hours. This differs from the meters along Takoma and Chicago Avenues, which have a rate of $0.50 per hour and a limit of 8 hours. Meters on the DC side of the study area have varying operational times, but either a 2 or 4-hour time limit and a consistent rate of $0.75 per hour.

Curbs that were un-striped for individual spaces were measured for spaces as follows: end parking spaces were 20 feet long and spaces in between two or more end parking spaces were measured to be 22 feet. Figure 4 shows the curbside inventory and
Table 1 provides additional information on the curbside parking within the study area.

There are a total of 1,414 curbside parking spaces available within the study area. The majority (64%) of the available curbside parking spaces requires a residential parking permit during designated hours. They are mostly found within the center of the study area. There are 238 unrestricted parking spaces, most of which are along Piney Branch Road and along Boston Avenue. Curbside parking along Carroll Street and Carroll Avenue is primarily metered or pay-to-park. There is no parking along Maryland 410, Philadelphia Avenue, and Maryland 195 north of Tulip Avenue.

Overall, publicly-accessible or visitor parking is located around downtown Takoma, Takoma Junction, and Montgomery College, but the majority of parking spaces within the study area are restricted by residential parking permit use.

Table 1: Curbside Parking Inventory by Category

Curbside Parking		
Parking Category	**Number of Spaces**	**Percentage**
Residential Permit Zone	908	64%
Unrestricted	238	17%
Meters or Pay to Park	197	14%
Under Construction	26	2%
Handicap	21	1%
Commercial Loading Zone	10	< 1%
Passenger Loading	7	< 1%
Special Permit	6	< 1%
Car Share	1	< 1%
TOTAL	**1,414**	**100%**

Figure 4: Curbside Parking Inventory

Residential Parking Permit Program

The residential parking permit program was established in 1976 by the Takoma Park City Council to alleviate parking pressures throughout the City, particularly due to nonresident commuters from the Takoma Metro Station and Montgomery College. Parking permit zones were expanded and added through 2012 to include the current eight (8) zones. Parking permits applications are available through the City of Takoma Park's website, with a one-year permit available for $12.50 and a two-year permit for $20.

The residential parking permit zones, number of spaces and number of permits issued per space are found in Figure 5. Within the study area, there are five (5) residential parking permit zones: zones 1, 1A, 2, 2A, and 3. Curbside parking within these zones is restricted to permit holders on weekdays from 8:00 AM to 7:00 PM. As shown in Table 2, the largest zone is Zone 2, with 359 available spaces, followed by Zone 1 with 279 spaces. In 2015, the number of permits issued exceeded the number of available spaces in three zones; 1A, 2A and 3.

Table 2: Residential Parking Permit Supply and Demand

Residential Parking Permit Zones		
Zone	**Number of Spaces**	**Number of Permits Issued**
1	279	168
1A	27	33
2	359	308
2A	114	142
3	36	43

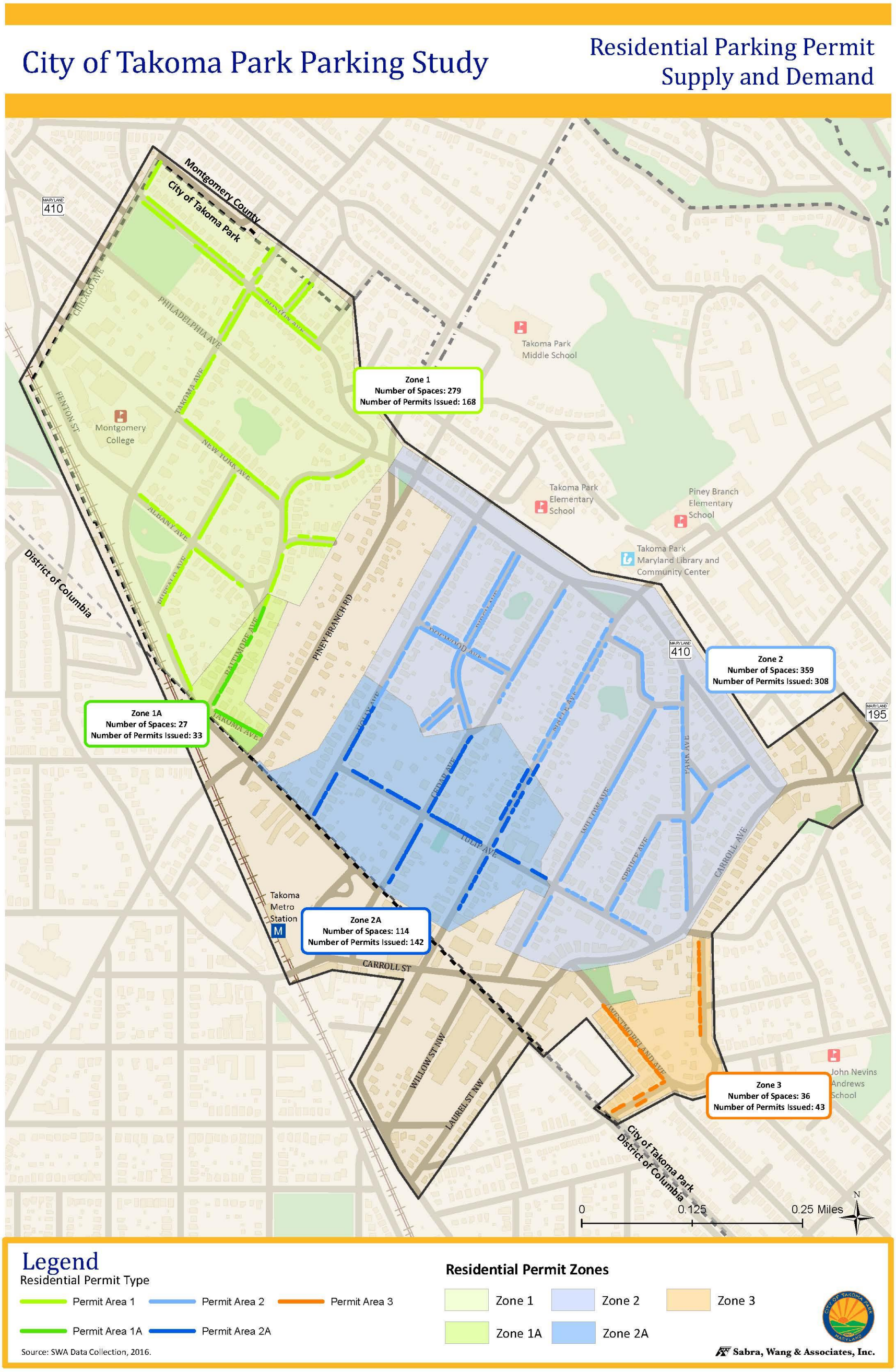


Figure 5: Residential Parking Permit Program Zones & Supply

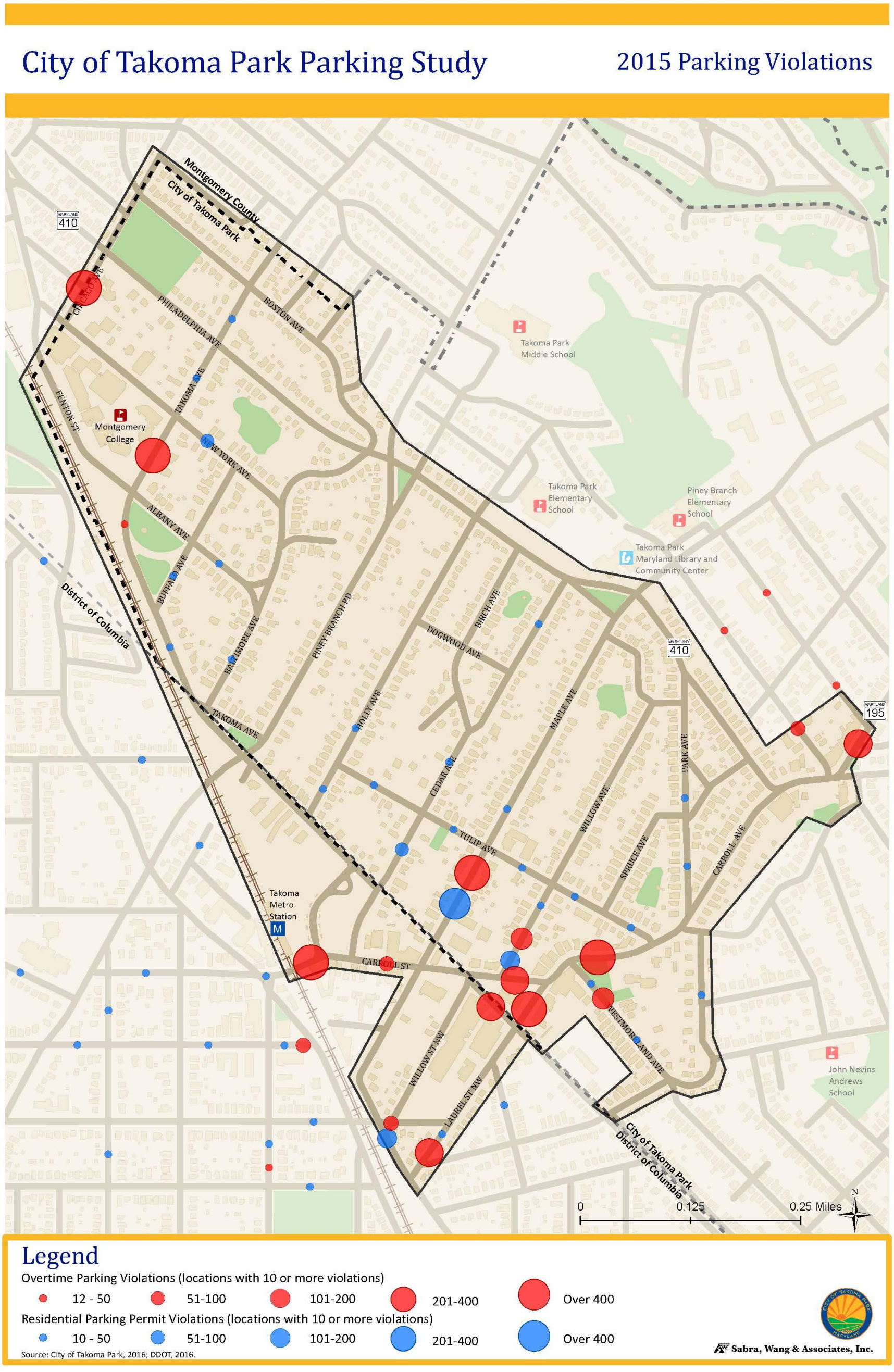


Figure 6: Parking Violations within the Residential Parking Permit Zones

Parking Violations

Parking violations incurred in 2015 are shown in Figure 6, summarized by block. The two types of violations analyzed include overtime violations (i.e. parking beyond the time paid for on the meter) and residential permit parking violations (i.e. parking in residential permitted areas without a permit during restricted times). Note that not all parking violations are shown; only blocks with ten (10) or more residential permit or overtime violations were included. The City employs two parking enforcement officers to administer violations.

The total number of overtime parking violations within the study area is 5,950, and the highest number of overtime parking violations on a given block is found on Carroll Ave, with 975 violations. Overall, areas with higher overtime parking violations are found in predominately commercial or intuitional areas, including blocks around Montgomery College, downtown Takoma, Takoma Junction, and the Metro station.

Residential parking permit violations are relatively dispersed throughout the permit restricted areas; although the number of violations increases the closer a block is to Carroll Street and Carroll Avenue. The total number of violations within the study area is 1,390, and the block with the highest number of residential parking permit violations (422 violations) is found on Willow Avenue.

While residential parking permit violations occur on more block faces than overtime violations, there overall are less residential parking permit violations per block face.

Off Street

Off street parking inventory was collected in April 2016 by Sabra, Wang & Associates, Inc. Figure 7 shows the off street parking inventory for the study area and Table 3 provides additional details.

The following categories were used to inventory off-street parking:

- Pay to Park, Public
- Pay to Park, Private
- Permit-Only, Public
- Permit-Only, Private
- Unrestricted/Free, Public
- Unrestricted/Free, Private

Public parking is defined as a lot managed by a public institution or local government, and private parking is owned by individuals or businesses. Off street parking is mostly found around the perimeter of the study area, with the majority of lots found around downtown Takoma. Five (5) of the six (6) Montgomery College lots are outside of the study area boundary, although all were included in this study. Any private or public pay to park or unrestricted/free parking lots are available for visitor use, while all permit-only lots are restricted to permit holders.

There are a total of 2,083 off street parking spaces within the study area, with 655 of these spaces available for visitor use. Of the total number of spaces, 75% are publicly owned, although most of these spaces are only accessible with a Montgomery College student, staff, or visitor's permit. Of the 292 spaces that are available, 182 are managed by a business, such as Bank of America or CVS; while they are not restricted, they are reserved lots for patron use. All public and private pay to park lots are accessible to the public who wish to visit Takoma Park, and include the Metro station lot, the city lot at Takoma Junction, and the Laurel Avenue parking lot.

Table 3: Off Street Parking Inventory by Category

Off Street Parking		
Category	**Number of Spaces**	**Percentage**
Pay to Park, Public	206	10%
Pay to Park, Private	177	9%
SUBTOTAL	*323*	*19%*
Permit-Only, Public	1,273	61%
Permit-Only, Private	155	7%
SUBTOTAL	*1,428*	*68%*
Unrestricted/Free, Public	90	4%
Unrestricted/Free, Private	182	9%
SUBTOTAL	*272*	*13%*
Total	**2,083**	**100%**

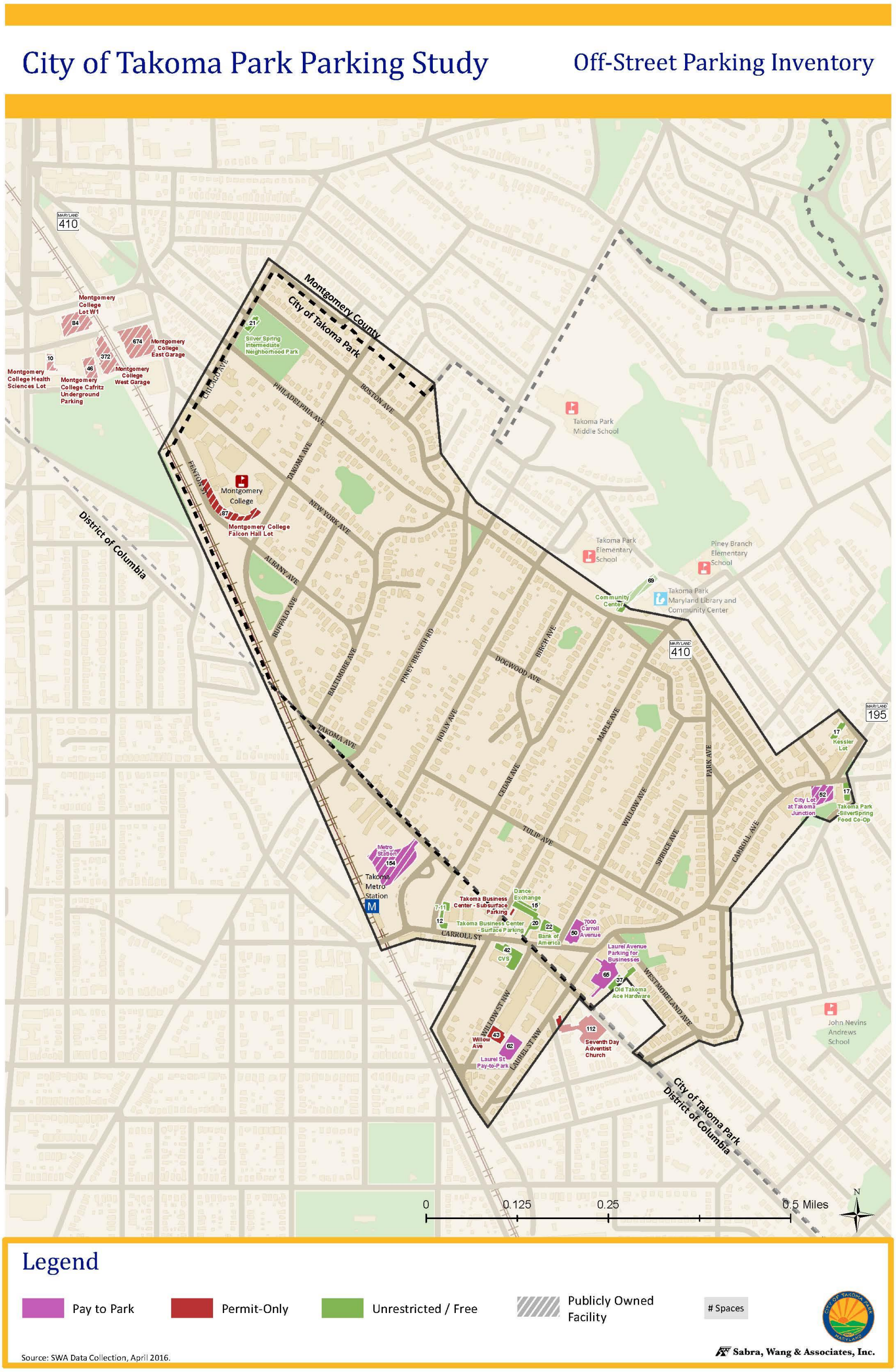


Figure 7: Off Street Parking Inventory

Pedestrian & Bicycle Infrastructure

The bicycle and pedestrian infrastructure within the study area can be seen in Figure 8 and Figure 9. The City of Takoma Park has a variety of bicycle amenities available to the public; the Metropolitan Branch Trail runs though the western portion of the study area and most parks have trails.

The following ten (10) streets have signed bicycle routes:

- Carroll Street and Carroll Ave
- Cedar Avenue
- Eastern Avenue
- Ethan Allen Avenue
- Grant Avenue
- Maple Avenue and Maple Street
- Philadelphia Avenue
- Sandy Spring Road
- Takoma Avenue (becomes an unsigned on-road route north of Boston Ave)
- Westmoreland Avenue

The City of Takoma Park is part of the Capital Bikeshare program, with four (4) locations within the study area: the Takoma Metro, the intersection of Philadelphia Ave and Maple Ave, Carroll Ave and Westmoreland Ave and Carroll Ave and Ethan Allen Ave. The study area also has many bicycle racks, with clusters around the Takoma Metro station, downtown Takoma, Takoma Junction, Belle-Ziegler Park and the Takoma Park Library and Community Center. The Takoma Metro station provides bicycle amenities to commuters, with 60 bicycle lockers and 51 bicycle racks near the Metro Station.

The pedestrian network within the study area is relatively complete, with the majority of streets lined with sidewalks on either side of the road. The network also features many marked crosswalks, particularly around areas with high pedestrian activity including Montgomery College, the Takoma Park Community Center, and downtown Takoma. There are also seven (7) intersections with pedestrian signals. This combination of the pedestrian infrastructure, in addition to the grid network street layout that primarily makes up the study area, provides pedestrians with a highly connective network.

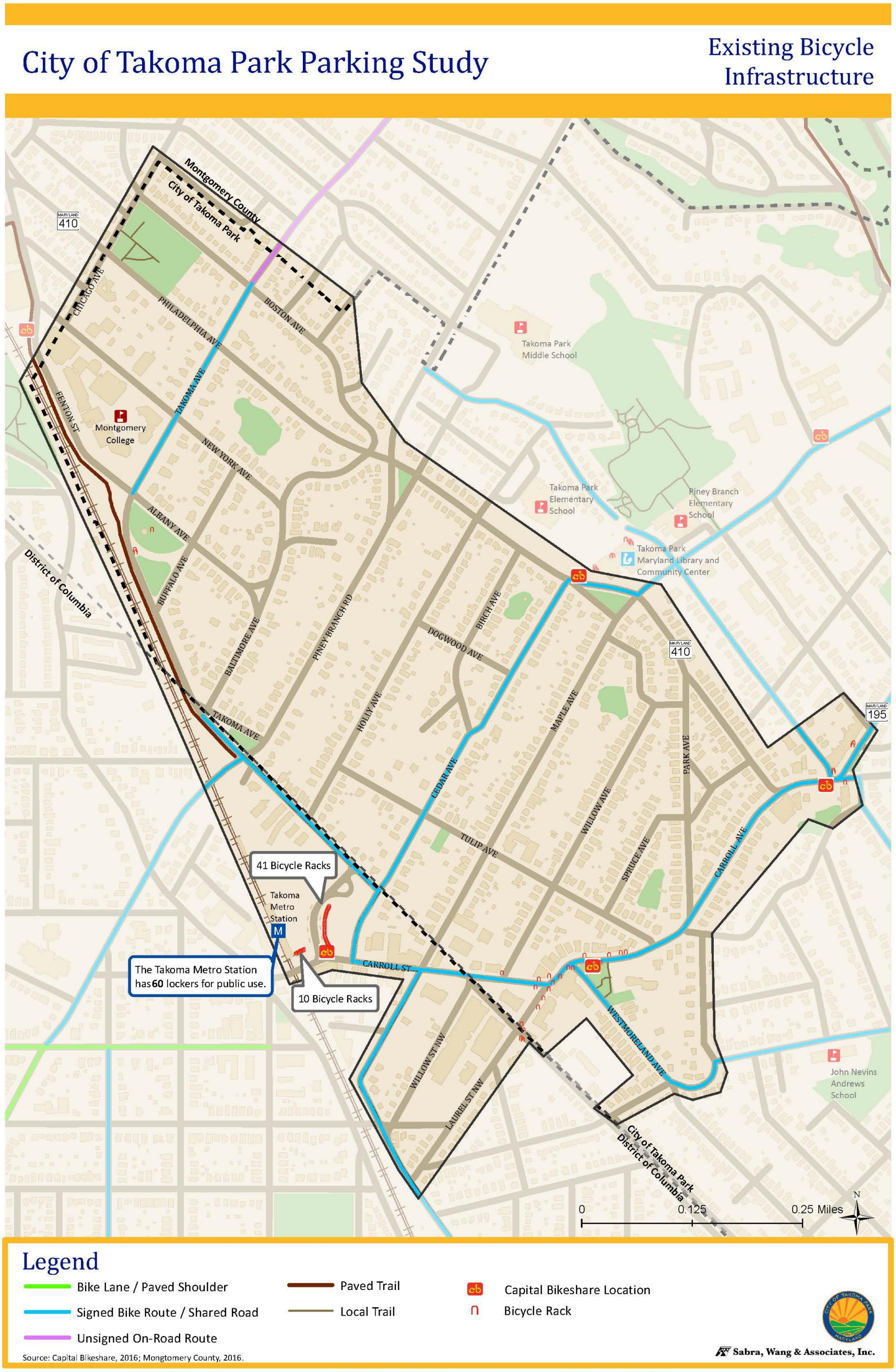


Figure 8: Bicycle Infrastructure

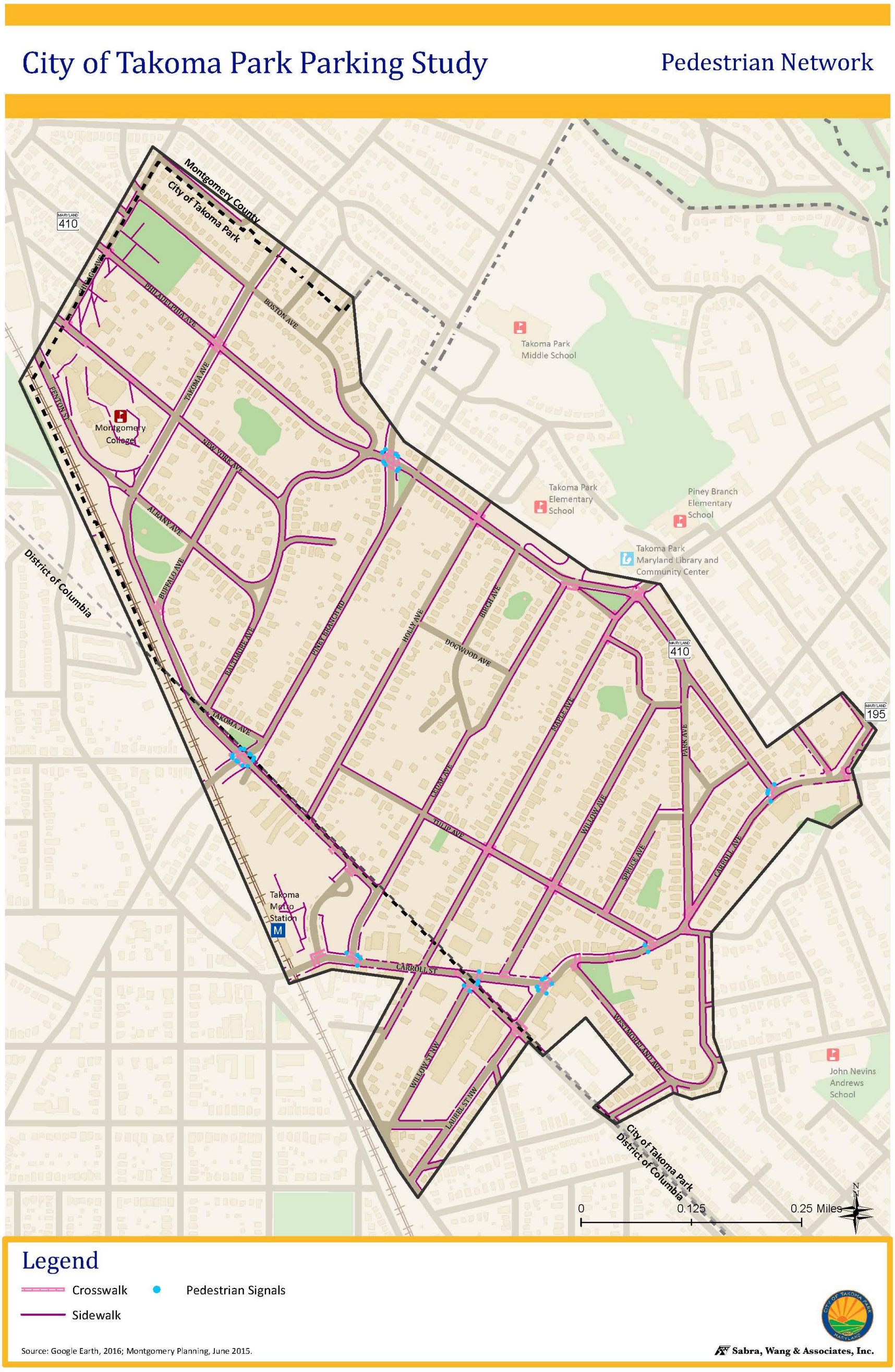


Figure 9: Pedestrian Network

III. Parking Demand

Ideally, parking supply correlates to parking demand. This section presents numerous factors that influence demand such as vehicle ownership, pedestrian generators, and walksheds as well as analyzes the parking demand within the study area through utilization studies.

Demographics Influencing Demand

Figure 10 shows the average number of vehicles per household by Census block groups within and around the study area. There is an average of 1.5 vehicles per household within the study area, showing relatively low auto dependence. For comparison, the City of Takoma Park on the whole has an average of 1.9 vehicles per household. Areas that are primarily residential show higher averages within their block group, between 1.72 and 1.82 vehicles per household, while the commercial areas and the areas immediately surrounding the Takoma Metro station show lower auto dependence.

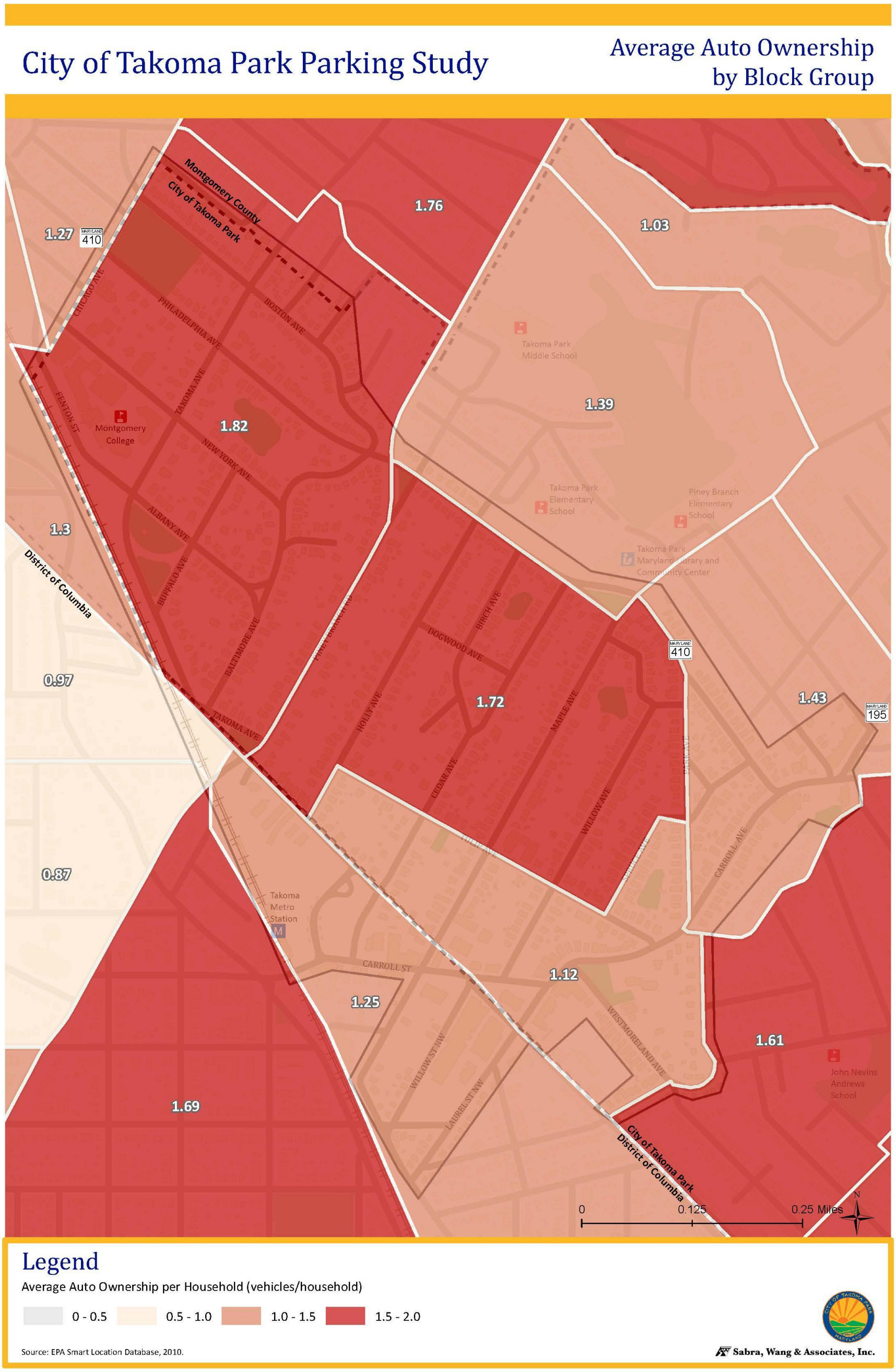


Figure 10: Average Auto Ownership per Household

Pedestrian Generators

The study area has many businesses and institutions that attract vehicle, pedestrian and transit trips, as shown in Figure 11. Many of these generators are found along Carroll Street and Carroll Avenue, which make up downtown Takoma. Some notable generators within the downtown Takoma area are: Takoma Metro station, Busboys and Poets, Republic, Willow Street Yoga, and the shops along Laurel Avenue.

Takoma Junction, found at the intersection of Ethan Allen Avenue and Carroll Avenue, includes generators such as the Silver Spring-Takoma Park Co-op and a variety of businesses on Carroll Avenue. The northern end of the study area also has some pedestrian generators including the Silver Spring Intermediate Park, Montgomery College, and Belle Ziegler Park.

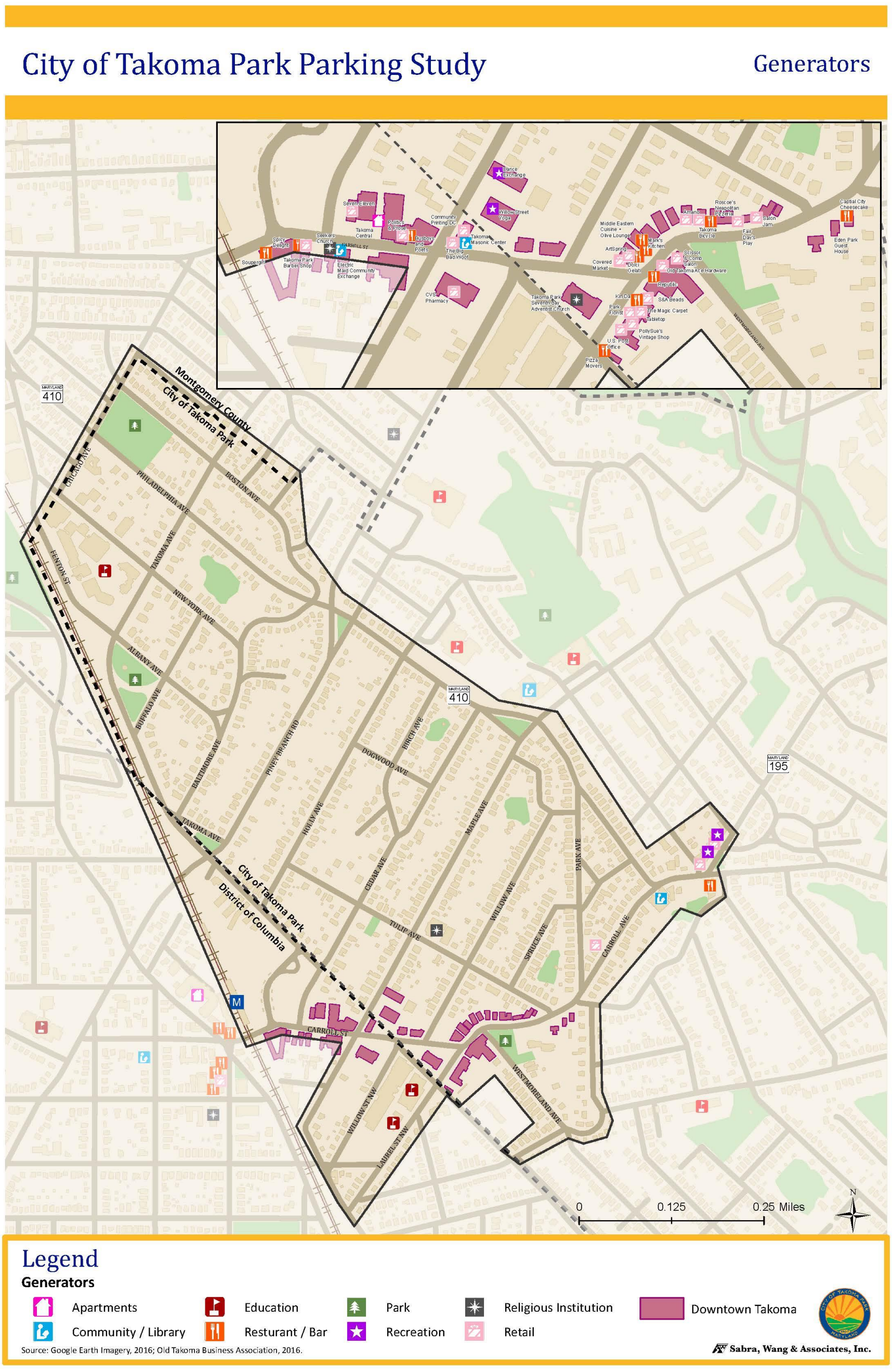


Figure 11: Pedestrian Generators

Takoma Park Metro Ridership & Mode Share

The Takoma Park metro station is located along the southwestern border of the study area, and is adjacent to downtown Takoma. The station influences the amount of visitors to Takoma Park and how they travel there. Its average weekday daily boardings in October, 2015 was 5,491, ranking near the middle of the system's ninety-one stations. The station's monthly average of daily boardings, from September, 2010 to February, 2016, is shown in Figure 12. The Takoma station exhibits the typical pattern of stations that primarily serve residential areas, with a majority of its boardings in the AM Peak period. This pattern is much less pronounced than at other stations that lack significant retail and business attractors in their vicinity, however.

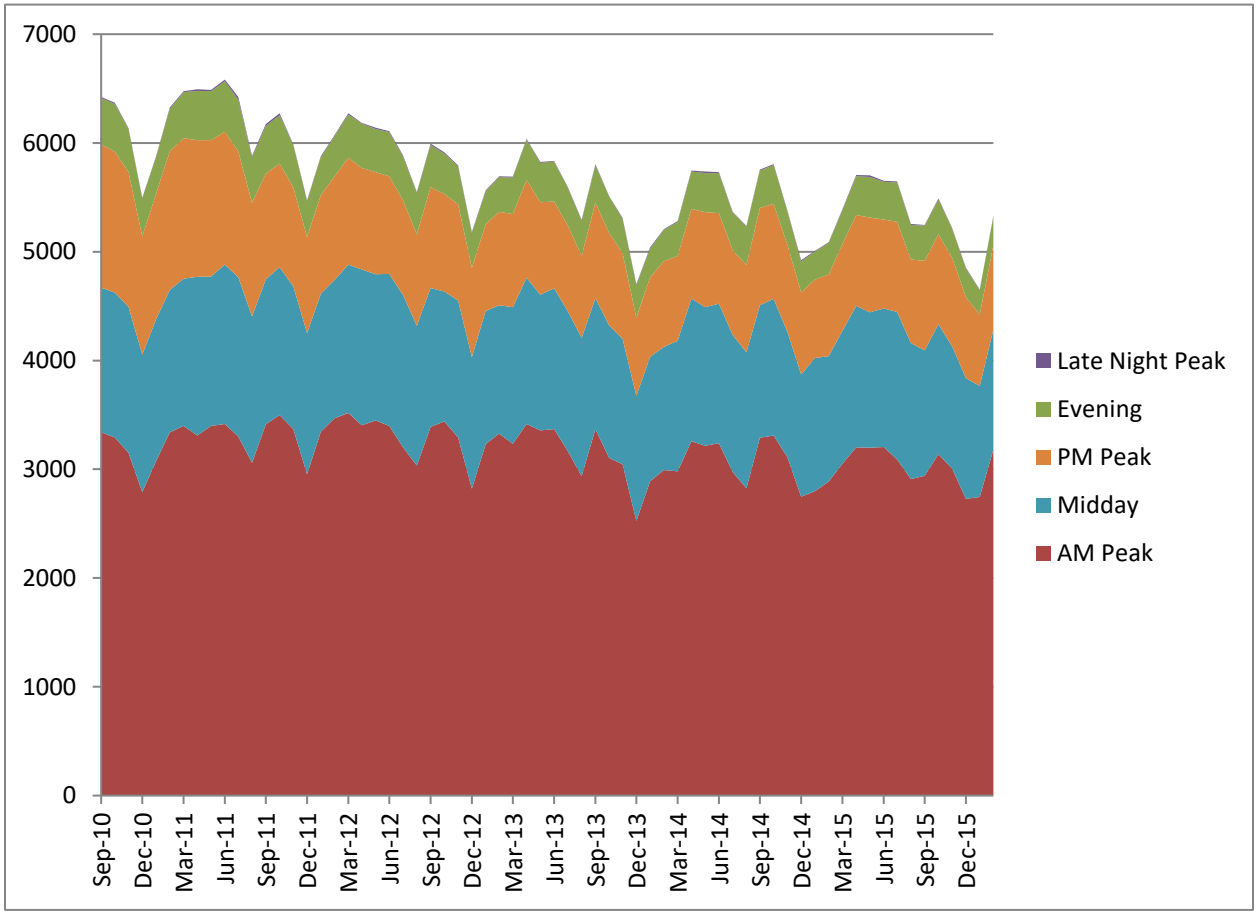


Figure 12: Takoma Station Average Ridership

Figure 13 shows the distribution of how riders using the Takoma Park Metro station travel to the station; walk, bike, ride a public bus, get dropped off (kiss and ride), drive and park (park and ride), or other. Half of the riders walk to the Metro, while only eight percent drive and park at the Metro station.

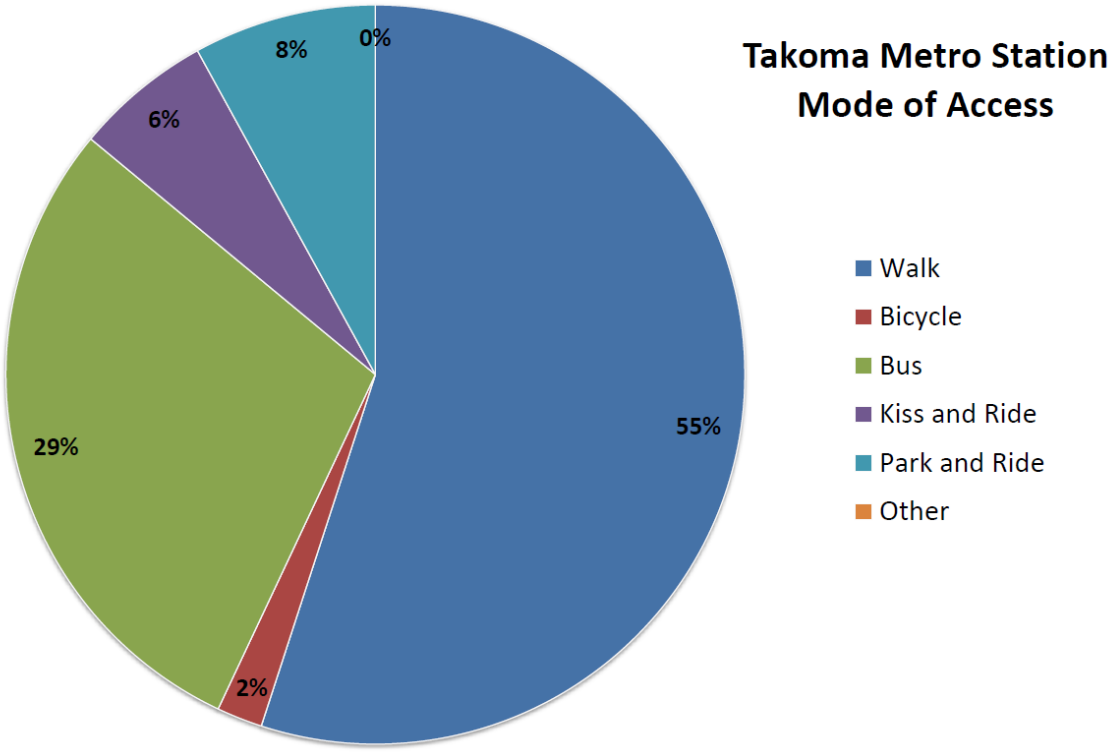


Figure 13: Takoma Metro Station Mode of Access

Figure 14 shows the locations and their respective density, where Metro riders using the Takoma Park metro station, start their trip. Three concentric rings with a center point of the Takoma Park Metro station are drawn in order to enable visualizing the proportion of riders who travel from origins within one, two, and five miles. While a high majority of riders come from a two mile radius, there are select locations in a greater than five mile radius that have riders that pass through Takoma Park at a weekly average of fifteen to fifty riders. There is a pattern of a larger proportion of riders coming from northeast of Takoma and DC, than any other direction.

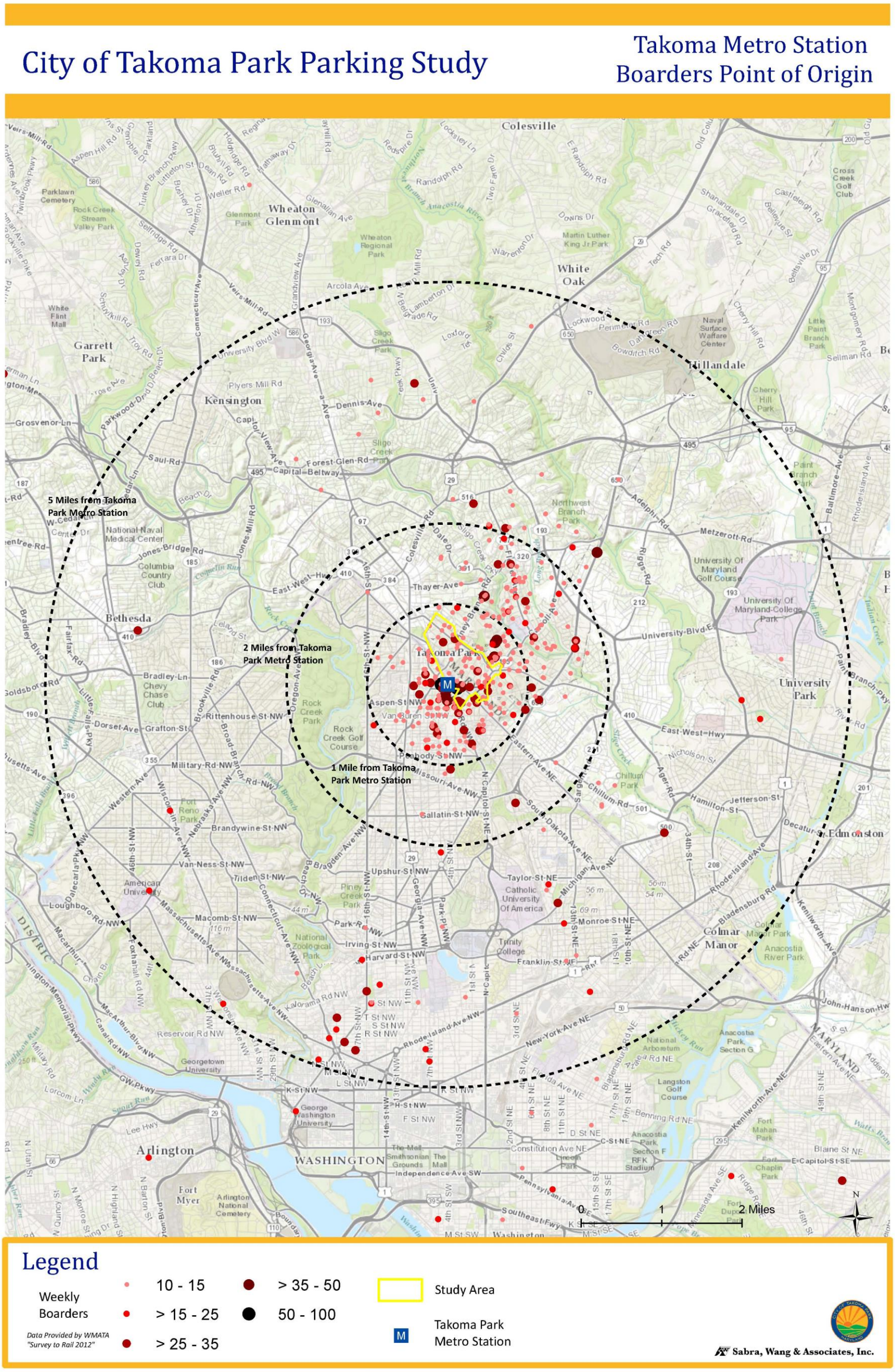


Figure 14: Takoma Metro Station Boarders Point of Origin

Walksheds

The parking supply and demand sections of this report focus on a study area- wide parking analysis, while this section on walkshed analysis will visualize attractions within a comfortable walking distance of a pedestrian generator. Four locations identified as primary trip attractor locations were selected and a ¼ mile walking distance buffer was drawn around each of them to determine the attractions within the buffer as well as the weekday and weekend parking utilization. Generally, a ¼ mile translates to a five to ten minute walk dependent upon individual walking pace and is an industry standard in a walkshed analysis. The four generators include 1) the Takoma Park Metro Station, 2) the intersection of Carroll Street NW and Maple Street NW, 3) the intersection of Carroll Avenue and Laurel Avenue, and 4) the Montgomery College campus. The walksheds for the Metro station, Carroll & Maple, and Carroll & Laurel overlap significantly.

Walkshed Inventory

Table 4 highlights the number of curbside spaces within each of the four walksheds and contrasts the number of publically available/visitor spaces (metered) against the number of permitted/residential spaces (residential parking permit restrictions). The intersections of Carroll & Maple and Carroll & Laurel have the greatest number of curbside spaces within a ¼ mile walkshed. Roughly 35% of those spaces are metered while just under half are residential restricted. Half of the curbside spaces within the walkshed of the Metro Station are metered while one-third is residential. A significant majority (88%) of the curbside spaces within the walkshed of the College are residential restricted.

Table 4: Walkshed Analysis - Curbside Parking Spaces

Number of Curbside Parking Spaces within the Four Walksheds					
	Number of Spaces	**Number of Metered Spaces**	**Percentage**	**Number Residential Permit Spaces**	**Percentage**
Metro Station	230	123	54%	75	29%
Carroll & Maple	416	154	37%	182	44%
Carroll & Laurel	424	150	35%	198	47%
Montgomery College	230	19	8%	188	88%

Error! Reference source not found. shows the number of off street spaces within each of the f our walksheds and highlights what percentage is pay to park / unrestricted. The number of off street spaces is greater than the number of curbside spaces for each of the four walksheds. The Montgomery College walkshed contains the greatest number off street spaced but with very few open for general public use. Greater than 65% of the off street spaces within each of the three remaining walksheds are available for public use. Figure 15, Figure 16, Figure 17, and Figure 18 show the parking inventory walkshed for each of the four generators.

Table 5: Number of Off-Street Parking Spaces within the Four Walksheds

Number of Off-Street Parking Spaces within the Four Walksheds			
	Number of Spaces	Pay to Park / Unrestricted	Percentage
Metro Station	315	315	100%
Carroll & Maple	634	479	76%
Carroll & Laurel	490	333	68%
Montgomery College	1,154	21	2%

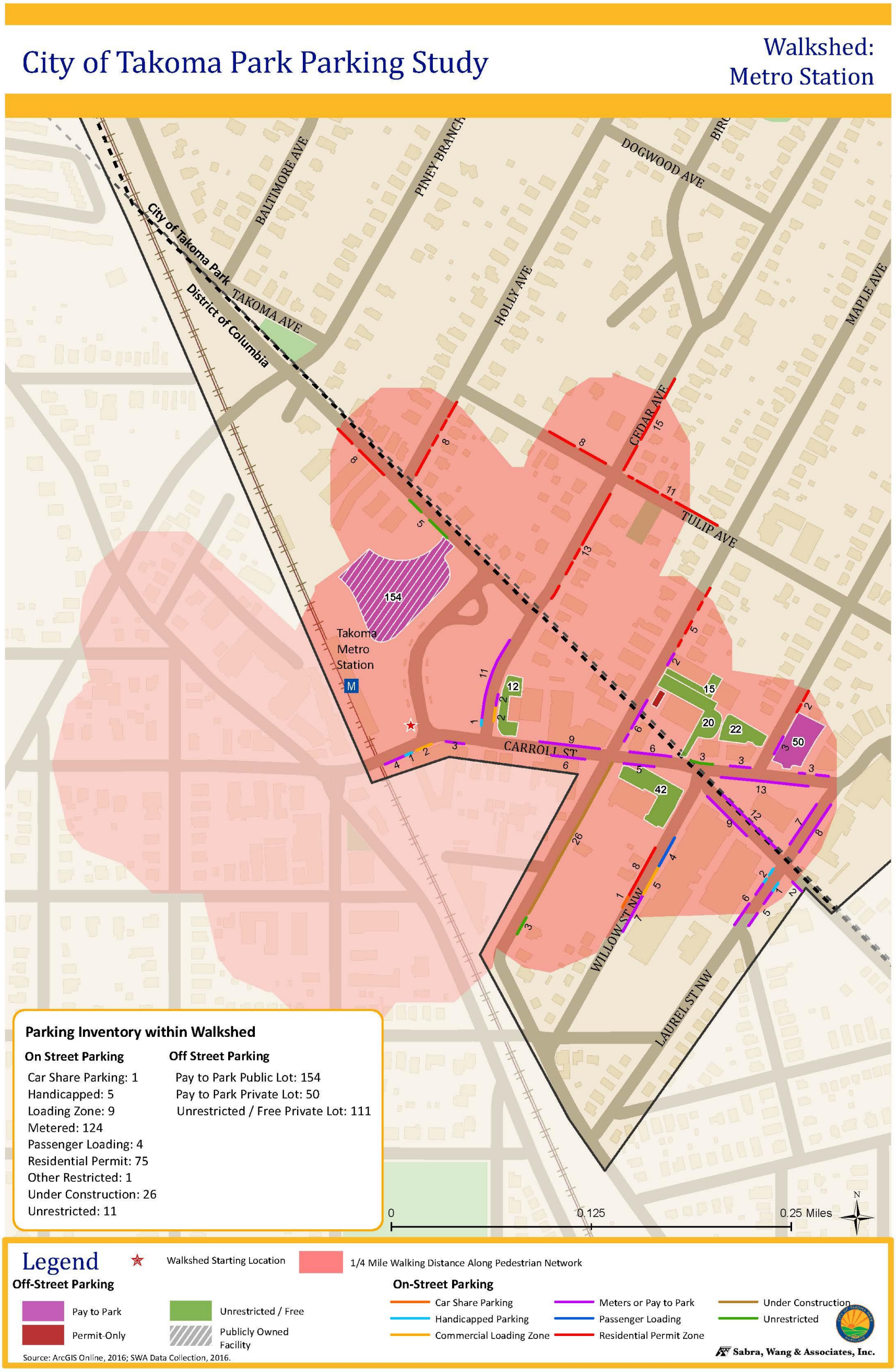


Figure 15: Walkshed for the Metro Station

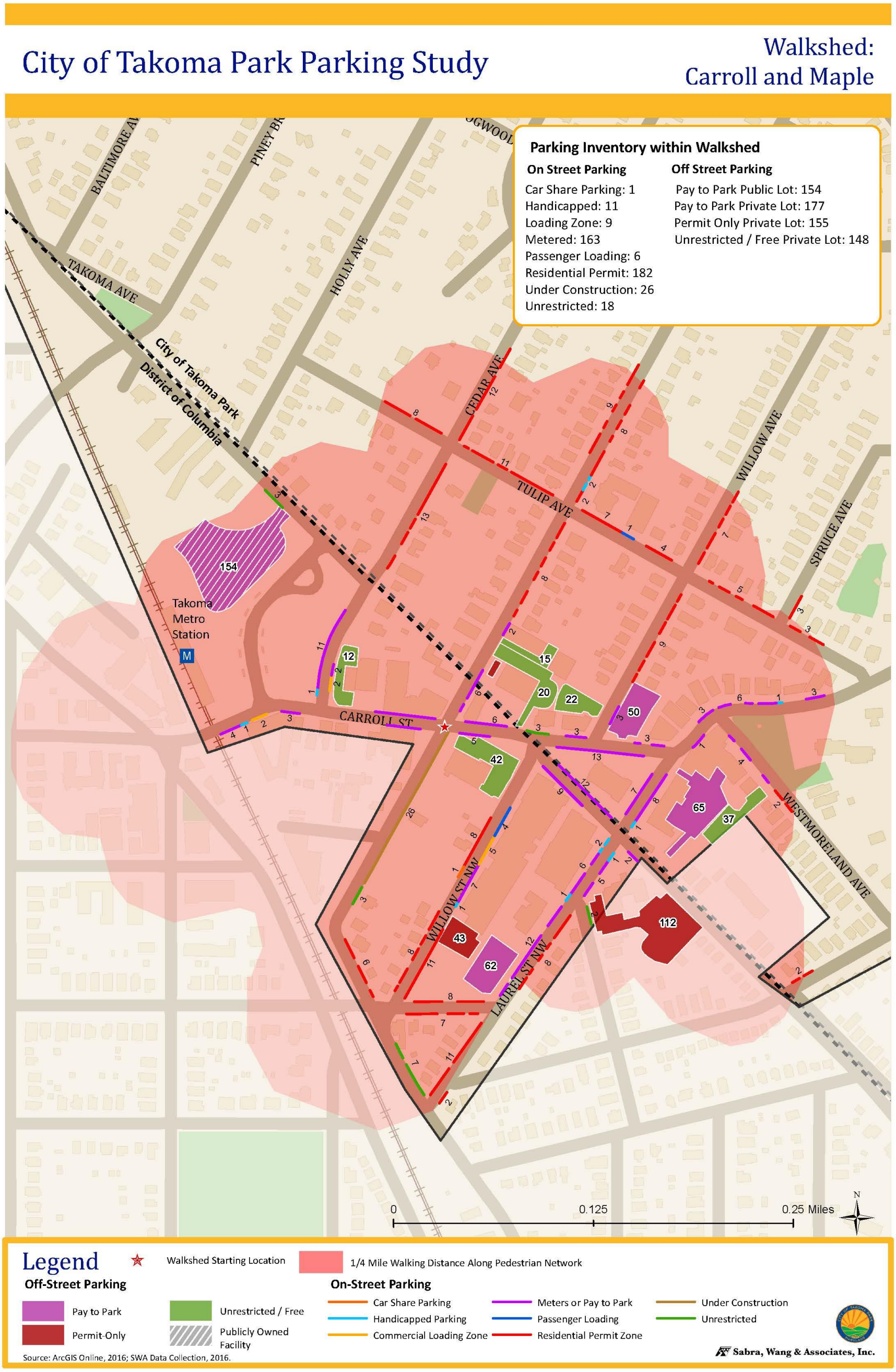


Figure 16: Walkshed from Carroll Street & Maple Street

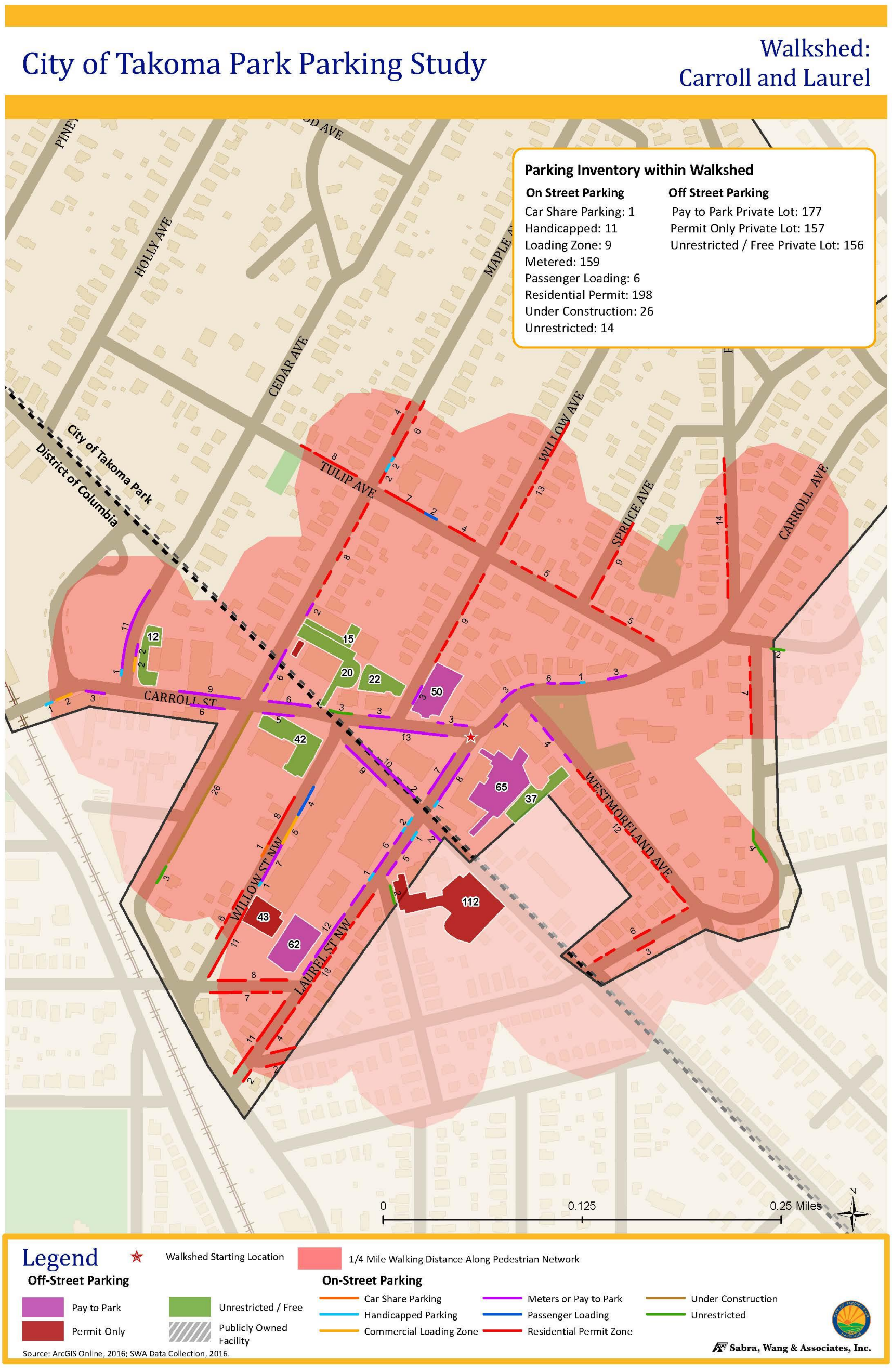


Figure 17: Walkshed for Carroll Avenue & Laurel Avenue

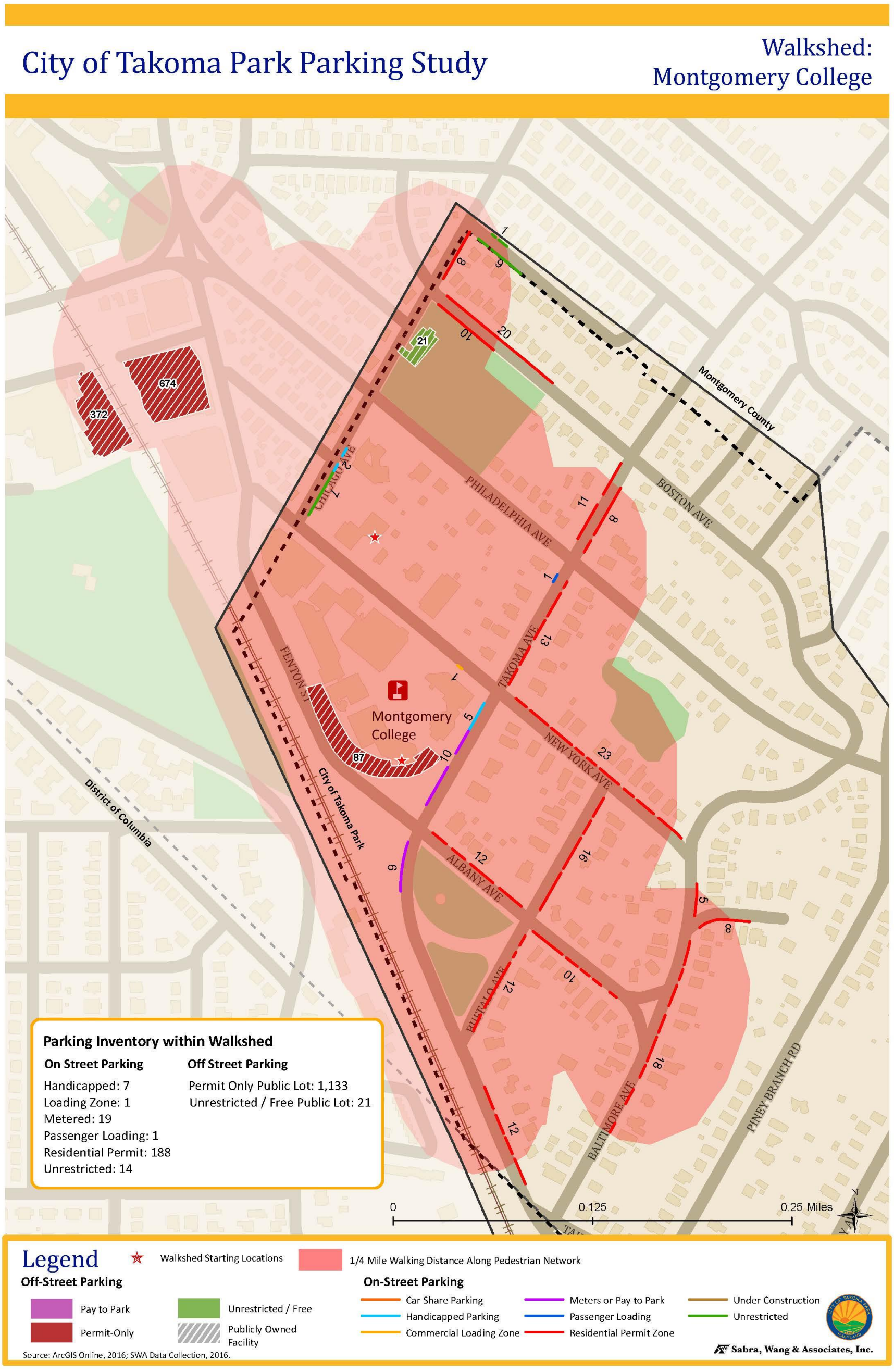


Figure 18: Walkshed for Montgomery College Student Union

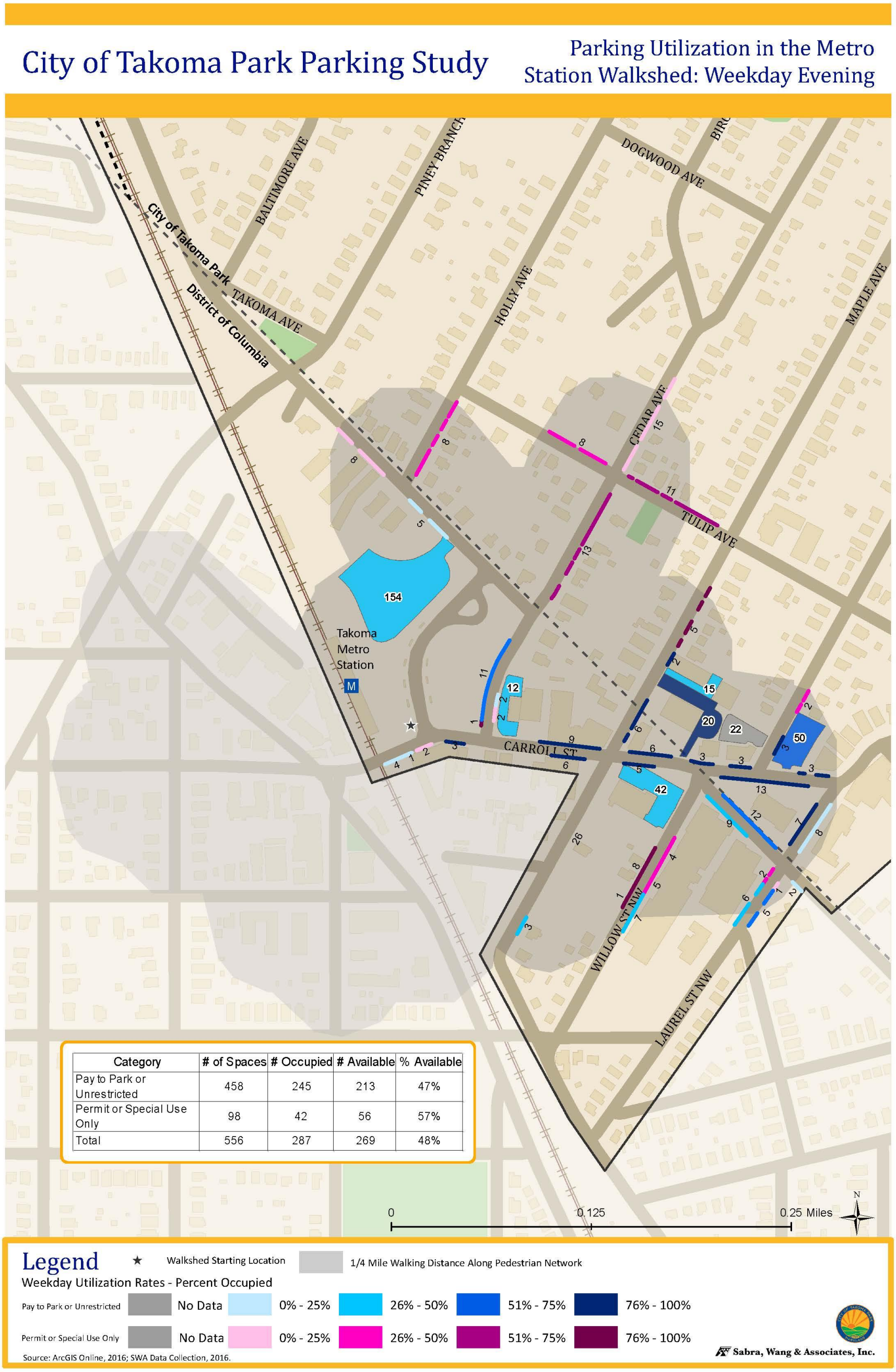
Walkshed – Weekday Utilization

This section presents a sub dataset of the parking utilization study conducted by Sabra, Wang & Associates in April of 2016 for the weekday evening period, focusing on the utilization with in the walksheds of the four predominant pedestrian generators in the study area. Table 6 highlights the quantity and availability of generally public parking (pay to park / unrestricted) against non-public parking (permit / special use) for each of the four walksheds. Figure 19, Figure 20, Figure 21, and Figure 22 show the weekday evening curbside and off-street parking utilization with each of the four walksheds.

About half of the public spaces are not utilized during the weekday evening peak period. There is a lower utilization rate along Willow, Tulip, Cedar and Holly than along Carroll or Maple. A significant portion of available spaces are to be found in commercial surface lots as well as the Metro station.

Table 6: Walkshed Weekday Utilization

Category	No. of Spaces	No. Occupied	No. Available	Percent Available
Metro				
Pay to Park / Unrestricted	458	245	213	47%
Permit / Special Use	98	42	56	57%
SUBTOTAL	556	287	269	48%
Carroll & Maple				
Pay to Park / Unrestricted	714	386	328	46%
Permit / Special Use	310	241	69	22%
SUBTOTAL	1,024	627	397	39%
Carroll & Laurel				
Pay to Park / Unrestricted	524	311	213	41%
Permit / Special Use	352	151	201	57%
SUBTOTAL	876	462	414	47%
College				
Pay to Park / Unrestricted	54	25	29	54%
Permit / Special Use	1,328	920	408	31%
SUBTOTAL	1,328	945	437	32%



Category	# of Spaces	# Occupied	# Available	% Available
Pay to Park or Unrestricted	458	245	213	47%
Permit or Special Use Only	98	42	56	57%
Total	556	287	269	48%

Figure 19: Weekday Utilization within Metro Station Walkshed

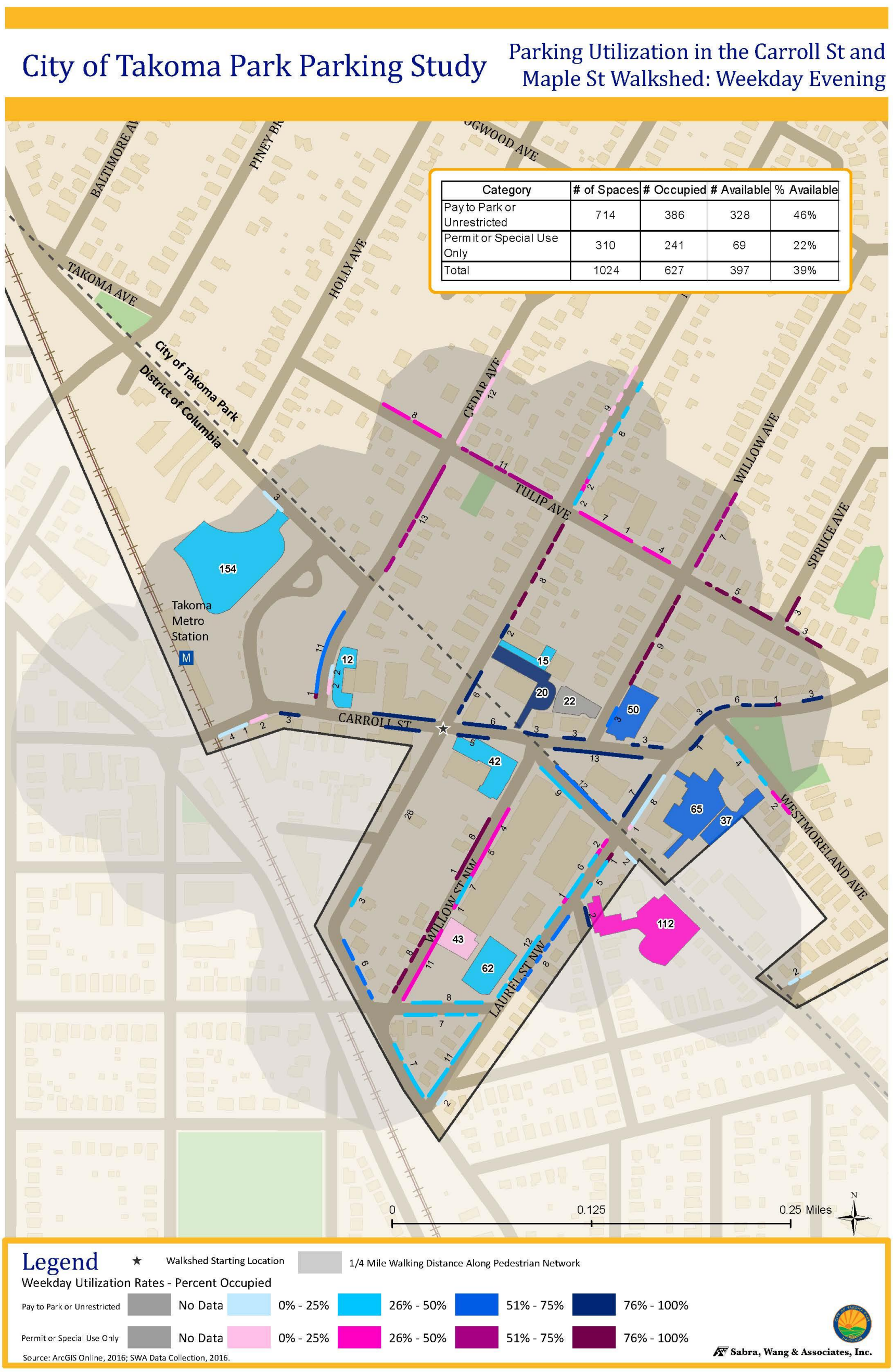


Figure 20: Weekday Utilization within Carroll & Maple Street Walkshed

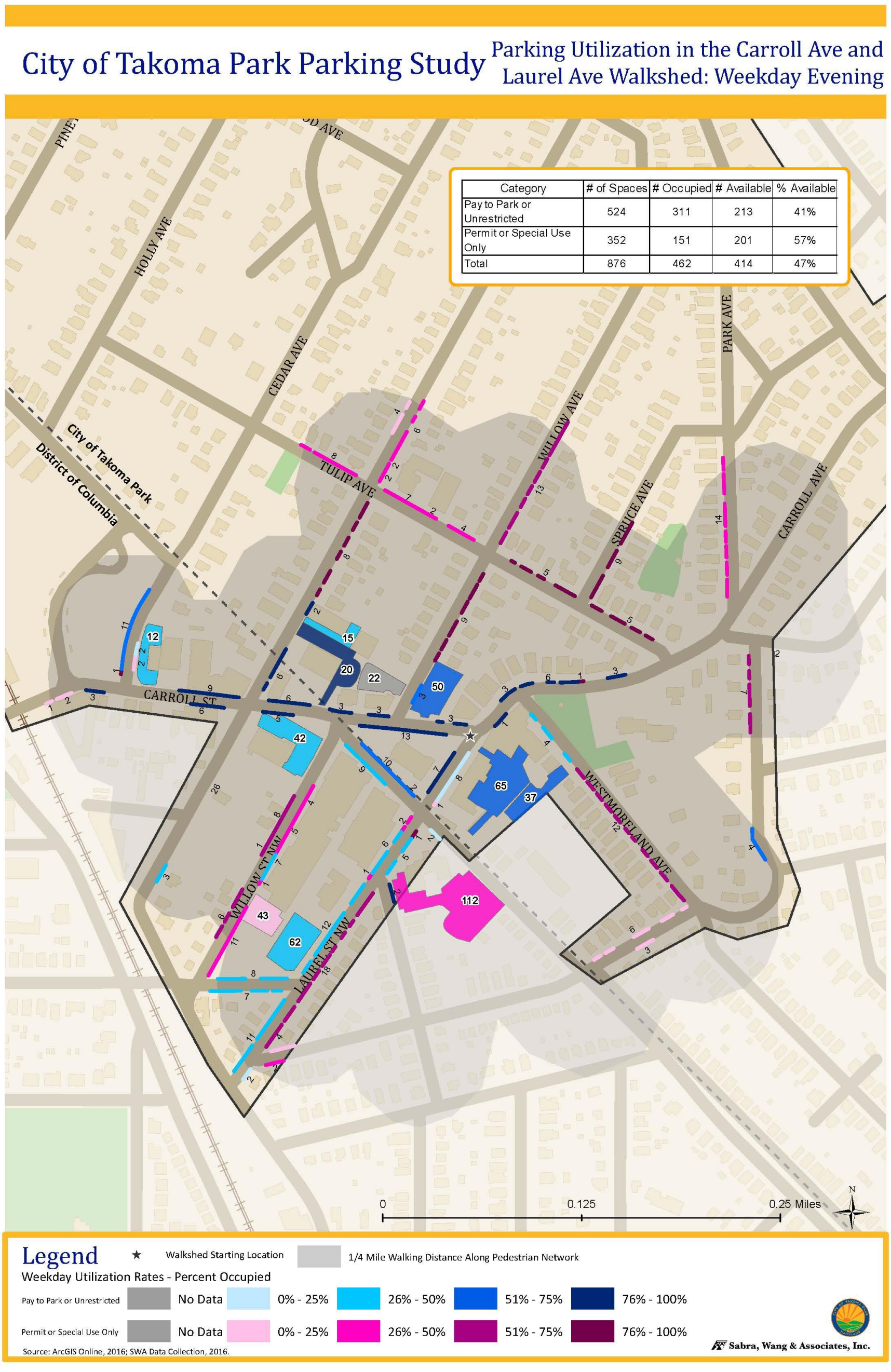


Figure 21: Weekday Utilization within Carroll Avenue & Laurel Walkshed

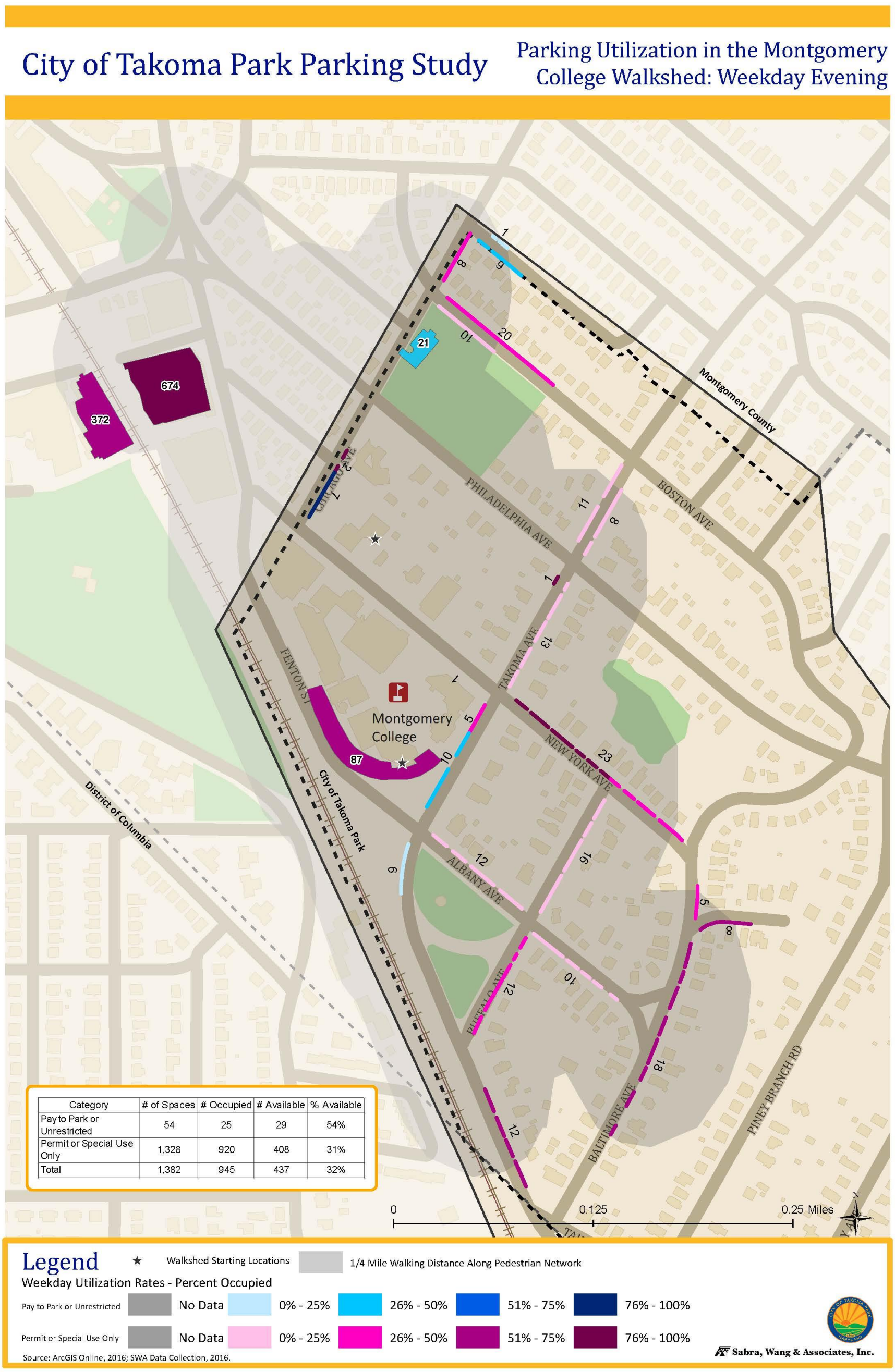


Figure 22: Weekday Utilization within Montgomery College Walkshed

Walkshed – Weekend Utilization

This section presents a sub dataset of the parking utilization study conducted by Sabra, Wang & Associates in April of 2016 for the Saturday evening period, focusing on the utilization with in the walksheds of the four predominant pedestrian generators in the study area. Table 7 highlights the quantity and availability of generally public parking (pay to park / unrestricted) against non-public parking (permit / special use) for each of the four walksheds. Figure 23, Figure 24, Figure 25, and Figure 26 show the Saturday evening curbside and off-street parking utilization with each of the four walksheds.

The availability of public parking during the Saturday evening period is slightly higher than during the weekday evening period at just over 50% availability across the four walksheds. The availability of spaces in permit or special use area is, on average, 11% higher than the public lots, indicating that these permitted lots are primarily rented to commuters for weekday use.

Table 7: Walkshed Saturday Utilization

Category	No. of Spaces	No. Occupied	No. Available	Percent Available
Metro				
Pay to Park / Unrestricted	458	242	216	47%
Permit / Special Use	98	44	54	55%
SUBTOTAL	556	286	270	49%
Carroll & Maple				
Pay to Park / Unrestricted	714	333	381	53%
Permit / Special Use	310	83	227	73%
SUBTOTAL	1,024	416	608	59%
Carroll & Laurel				
Pay to Park / Unrestricted	524	234	290	55%
Permit / Special Use	352	119	233	66%
SUBTOTAL	876	353	523	60%
College				
Pay to Park / Unrestricted	54	25	29	54%
Permit / Special Use	195	77	118	61%
SUBTOTAL	249	102	147	59%

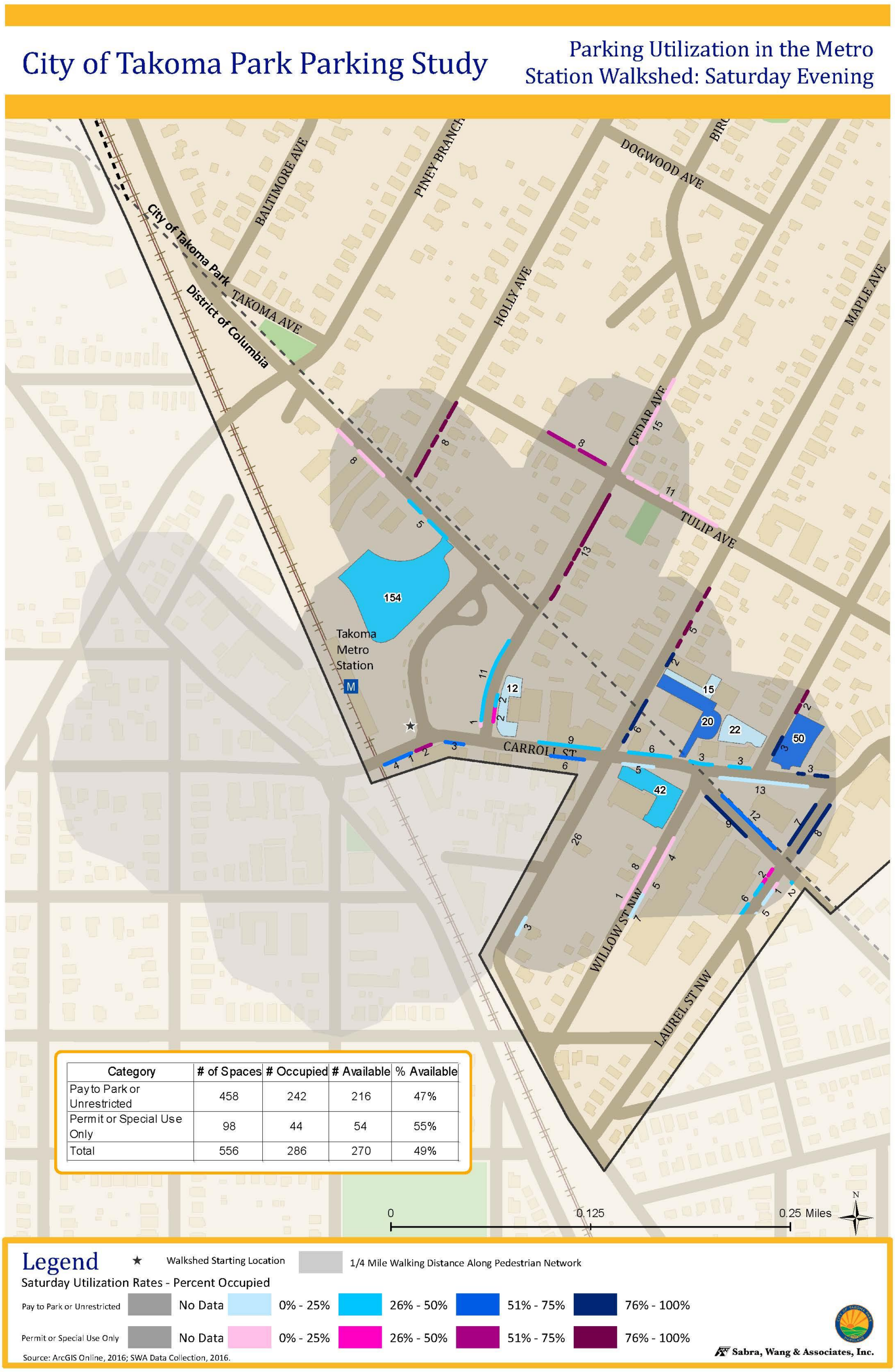


Figure 23: Saturday Utilization within Metro Station Walkshed

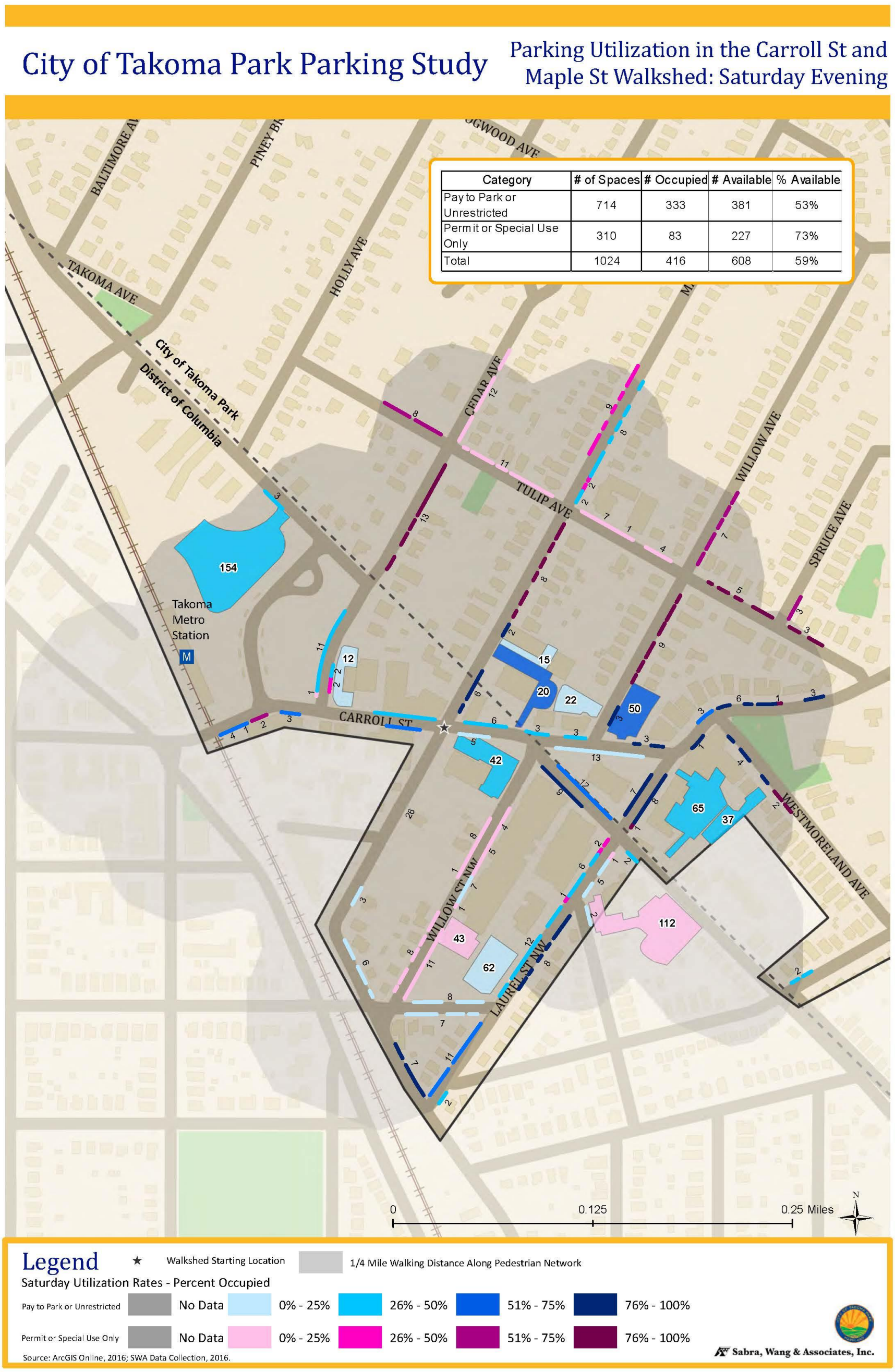


Figure 24: Saturday Utilization within Carroll & Maple Street Walkshed

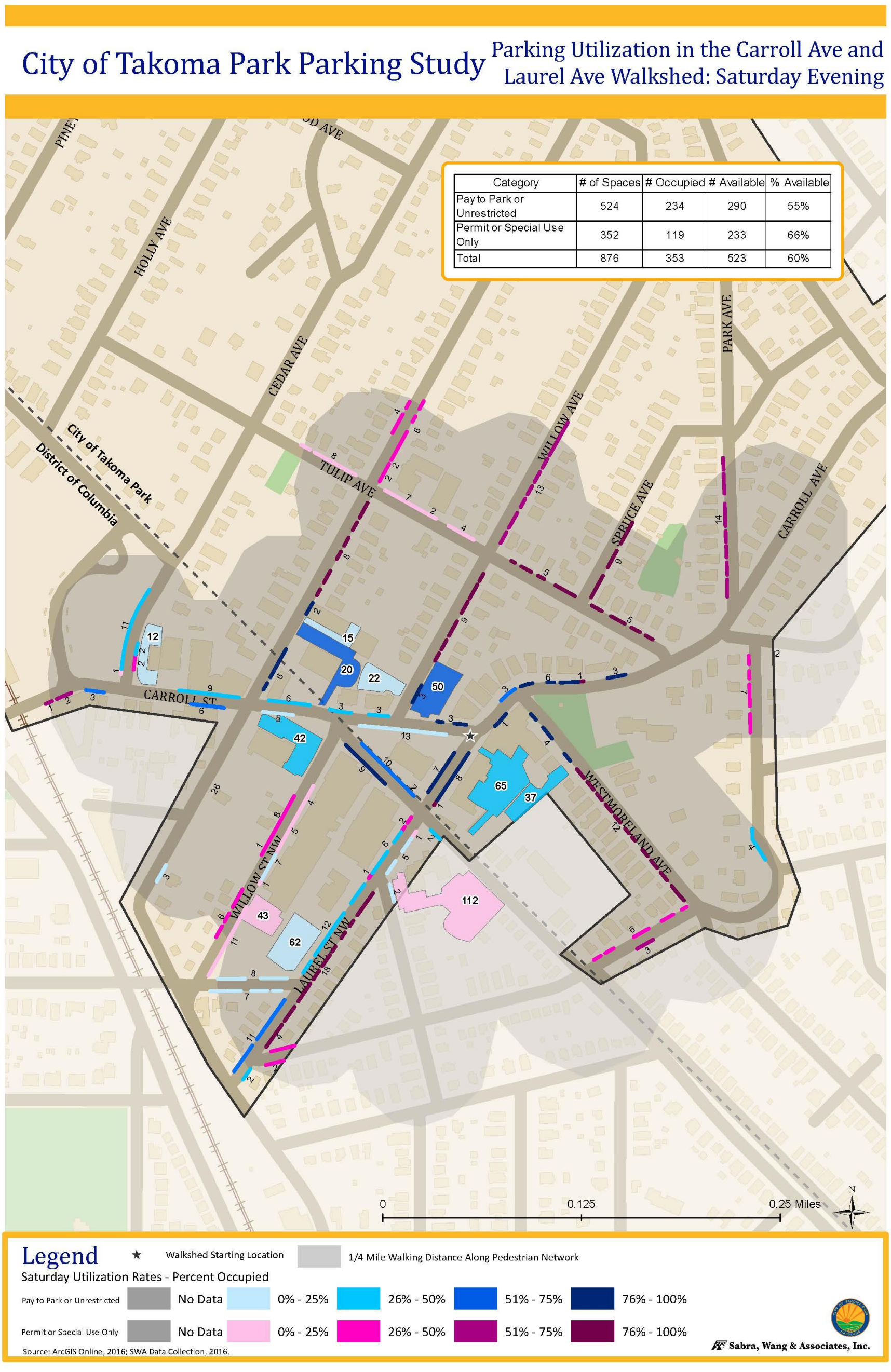


Figure 25: Saturday Utilization within Carroll Avenue & Laurel Walkshed

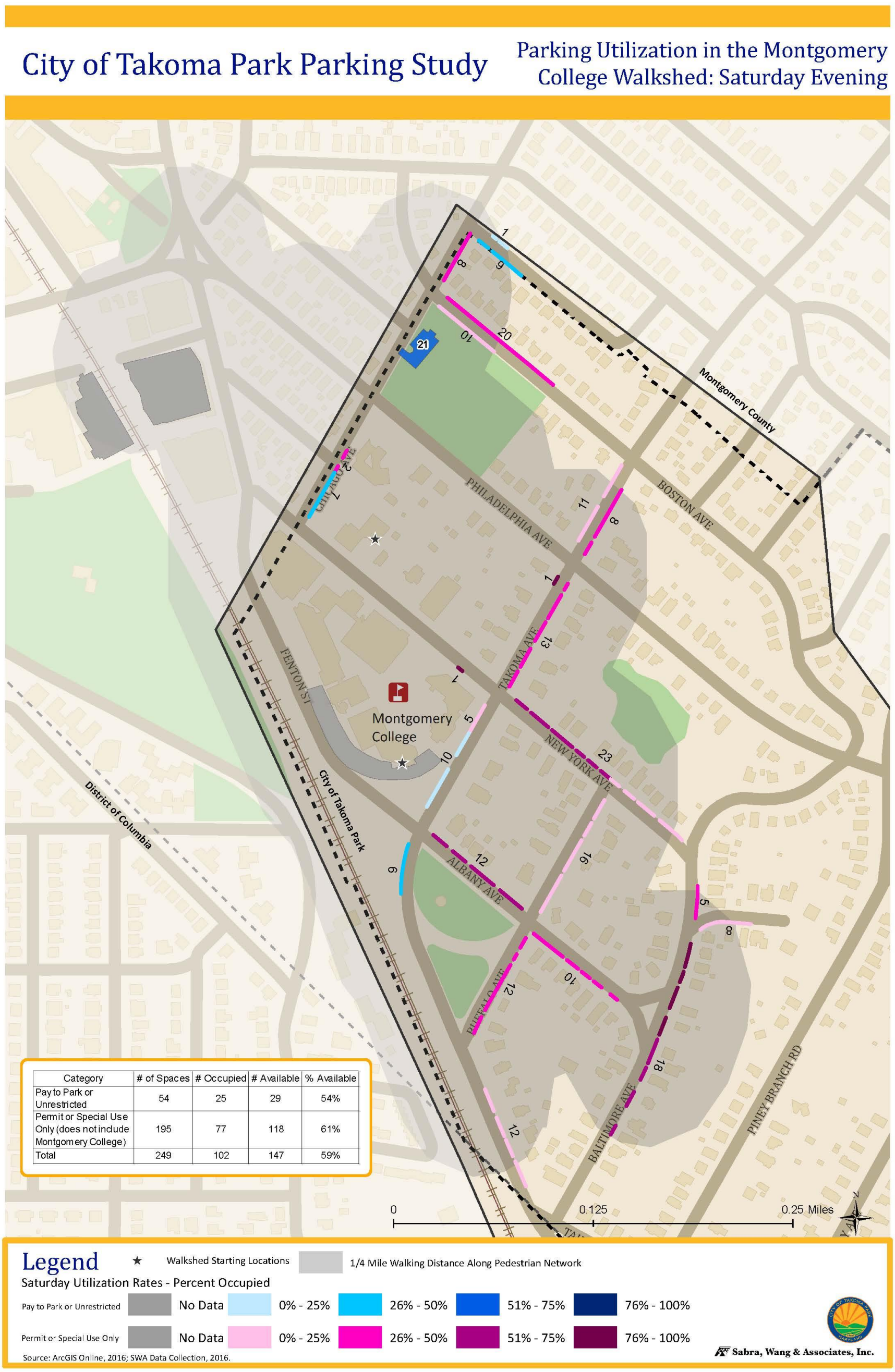


Figure 26: Saturday Utilization within Montgomery College Walkshed

Curbside Parking Utilization

Weekday and Saturday curbside parking utilization was collected in April 2016, during the peak hours of 5:00 PM and 7:00 PM by Sabra, Wang, & Associates, Inc. All data was collected at the block-face level, and can be seen in Figure 27 and Figure 28.

Weekday Utilization

On average, the weekday utilization rate of a block face in the study area is 53%. Blocks closest to commercial areas and institutions show the highest utilization rates, with the majority of both Carroll Street and Carroll Avenue showing rates of 90% utilization or higher. These areas are primarily available for visitor or public parking, with minimal restrictions with the exception of the handicapped and commercial loading zone spaces. The high demand for parking near downtown declines significantly north of Tulip Avenue, despite close proximity and relative walkability. Streets that are primarily residential, in particular those that are part of a residential parking permit area, show a wide range of utilization rates, with most falling between 1% and 60%. Exceptions to this are Piney Branch Road, Spruce Avenue, and portions of Tulip Avenue and Chicago Avenue, which show much higher utilization rates.

Saturday Utilization

Weekend curbside parking utilization within the study area is slightly lower than the weekday average, at around 50%. Saturdays show higher utilization rates within the residential neighborhoods, in particular along Maple Avenue, Willow Avenue, Park Avenue, Westmoreland Avenue, and Holly Avenue. Carroll Street shows lower utilization rates than Carroll Avenue, in particular on Carroll Avenue between Willow and Tulip Avenues. This shows an overall trend that visitor parking is more available than restricted or permitted parking during this time, and that the demand for parking downtown is less on Saturdays than on weekdays.

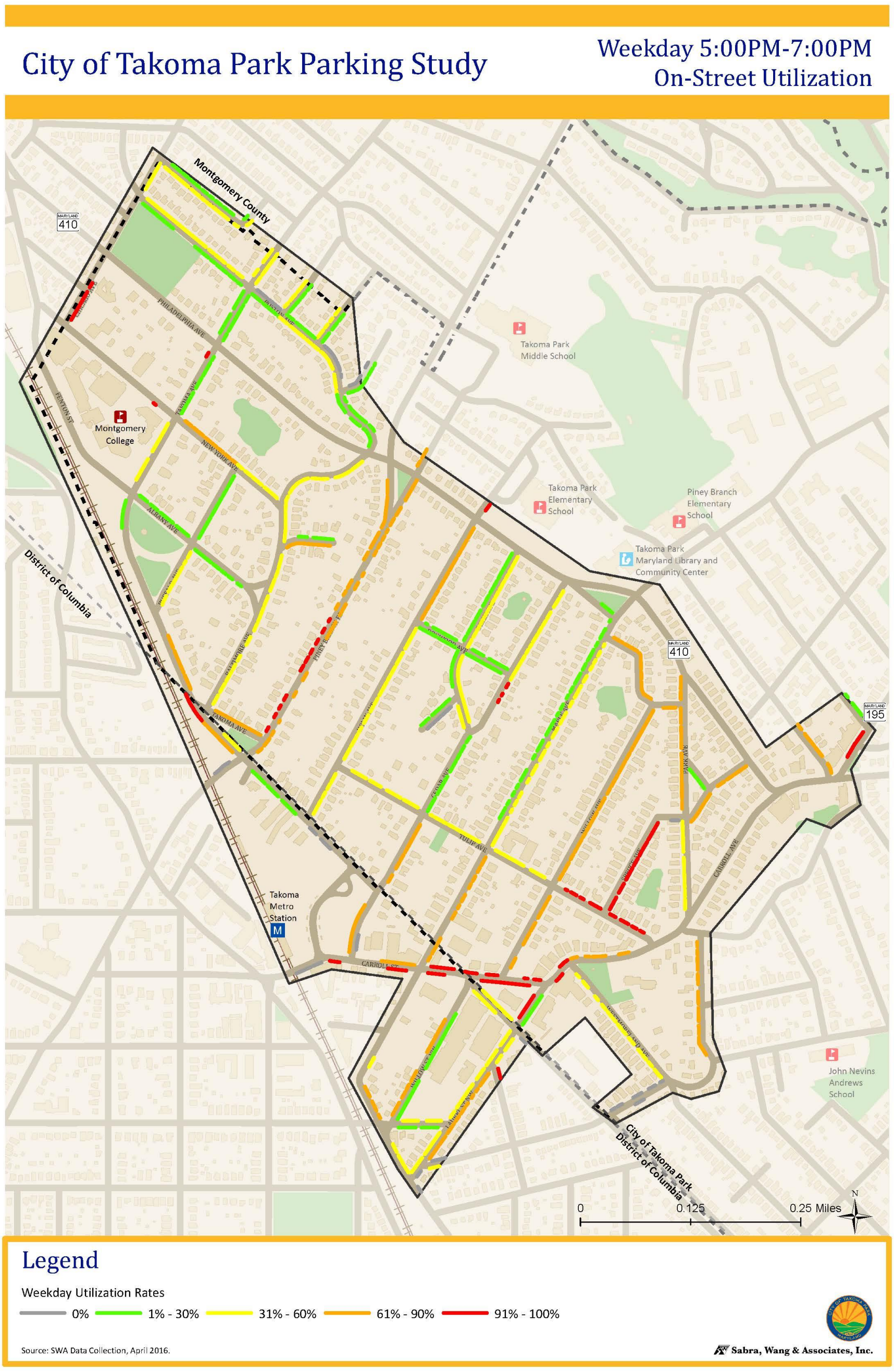


Figure 27: Weekday Curbside Utilization

Figure 28: Saturday Curbside Utilization

Off Street Parking Utilization

Weekday and Saturday off street parking utilization was collected in April 2016, during the peak hours of 5:00 PM and 7:00 PM by Sabra, Wang, & Associates, Inc., and can be seen in Figure 29 and Figure 30.

Weekday Utilization

The average weekday utilization rate of the off-street parking was 49%. The lot with the highest utilization rate (95%) was the surface parking at the Takoma Business Center, a lot that is accessible to visitors and is found in downtown Takoma. Other lots in this area showed moderate utilization rates, with the exception of the Bank of America lot which had a rate of 0% (data collection occurred after bank business hours). While it appears that there is a demand for parking during this peak period, many publicly-accessible lots do not show high utilization rates. This may be because those businesses which own lots do not have the same customer peak hours as other businesses in the downtown area. The two lots that are privately owned and inaccessible to visitors, on Willow Avenue and at the Seventh Day Adventist Church, show relatively low use. Montgomery College parking lots and garages showed moderate to high rates of utilization as well during this time; however these lots require a permit.

Saturday Utilization

Off-street parking utilization rates during the Saturday evening peak were relatively low, with an average of 36% utilized. It should be noted that this average does not include off-street parking at Montgomery College, for which no data was available. None of the surveyed parking lots had a utilization rate over 90%, and many were below 30% utilized; again, the surface parking at the Takoma Business Center had the highest utilization rate at 90%. The utilization rates in the two private permit only lots were very low, similar to their weekday utilization. There are many visitor parking lots, including the Laurel Ave parking lot and the City Lot at Takoma Junction, which appear to have ample parking, indicating that overall there is more of a need for parking on weeknights than on Saturdays.

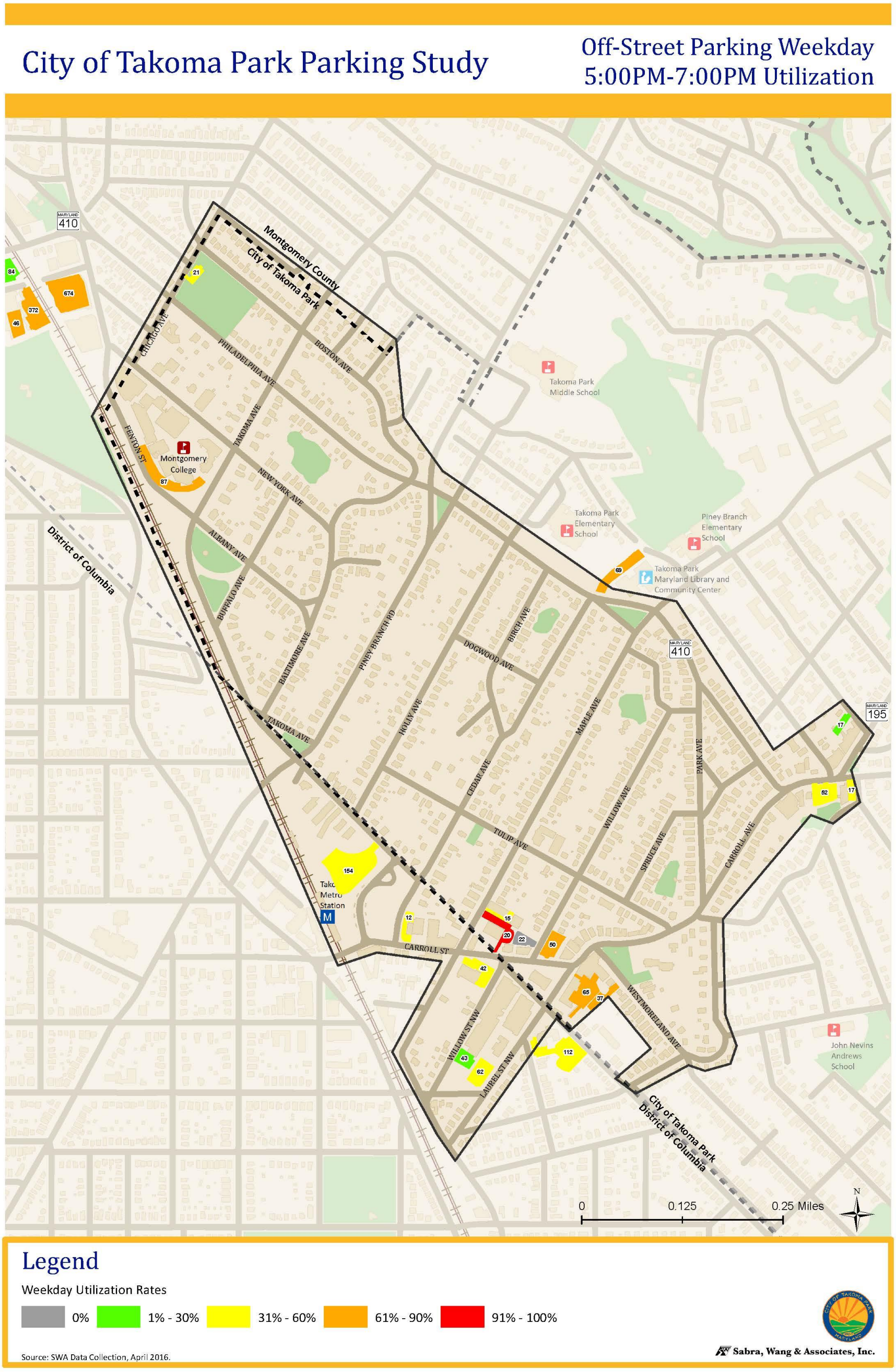


Figure 29: Weekday Curbside Utilization

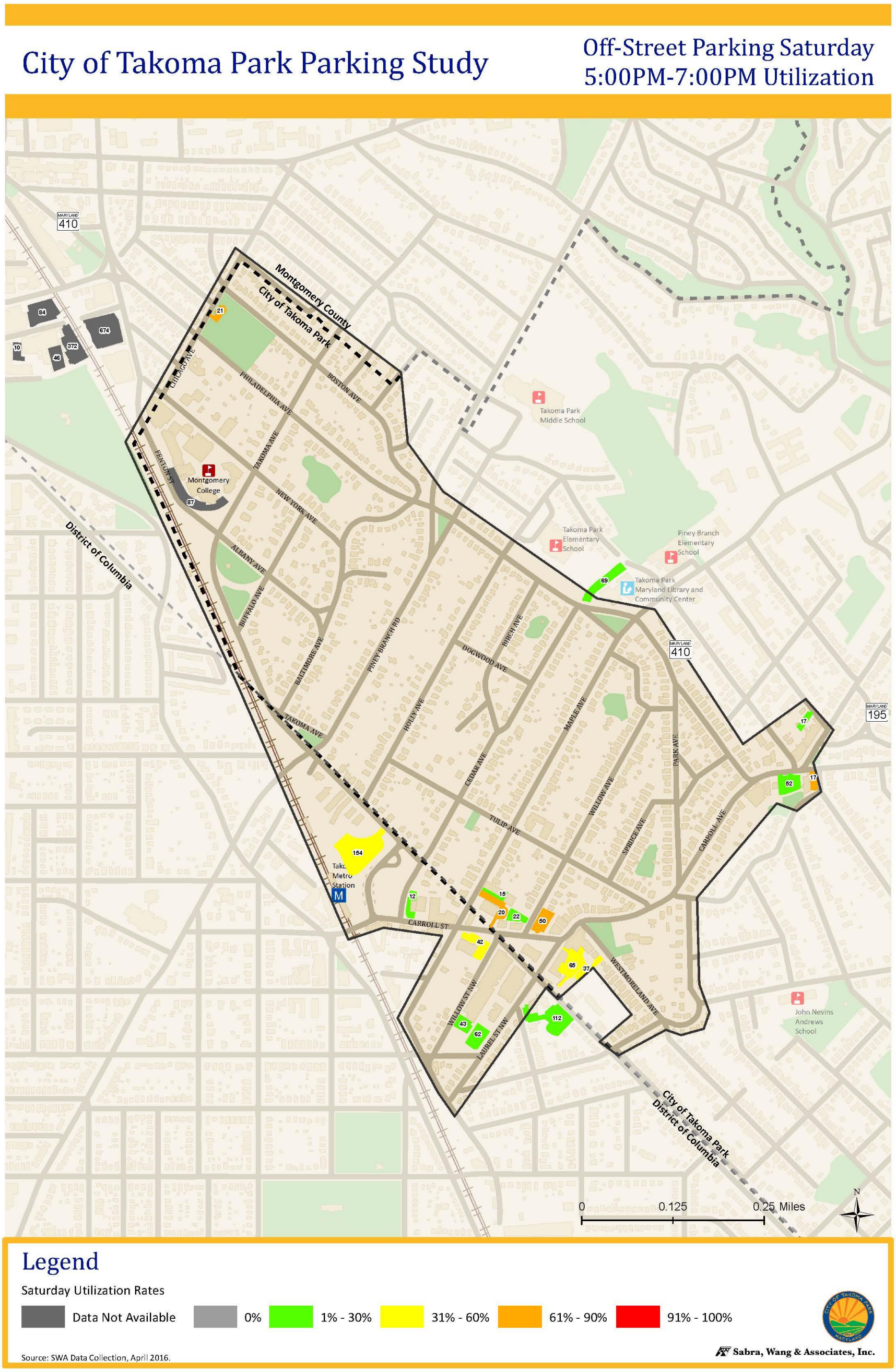


Figure 30: Saturday Curbside Utilization

Bicycle Parking Utilization

Bicycle parking utilization was collected in May 2016 by Sabra, Wang & Associates, Inc. between 5:00 PM and 7:00 PM for both weekday and Saturday. A total of 210 bicycle parking spaces were found within the study area and around the Takoma Community Center. Of this total, 102 spaces are found in the immediate area surrounding the Takoma Metro station. The majority of the available bicycle racks had a capacity of 2, although some privately maintained bicycle racks had a greater capacity.

On weekdays, 52 spaces, or 25% of the available bicycle parking were utilized, as seen in Figure 31. The majority of these occupied spaces (45 of 52) were found near the Takoma Metro station. None of the bicycle racks at Belle-Ziegler Park were utilized. Figure 32 shows Saturday utilization rates, which were much lower than on weekdays. Only ten (10) spaces, 5% of the available bicycle parking, were utilized. Eight (8) of the utilized spaces were near the Takoma Metro Station. The bicycle racks at Belle-Ziegler Park, the Takoma Park Community Center, and Takoma Junction were not utilized at the time of the data collection.

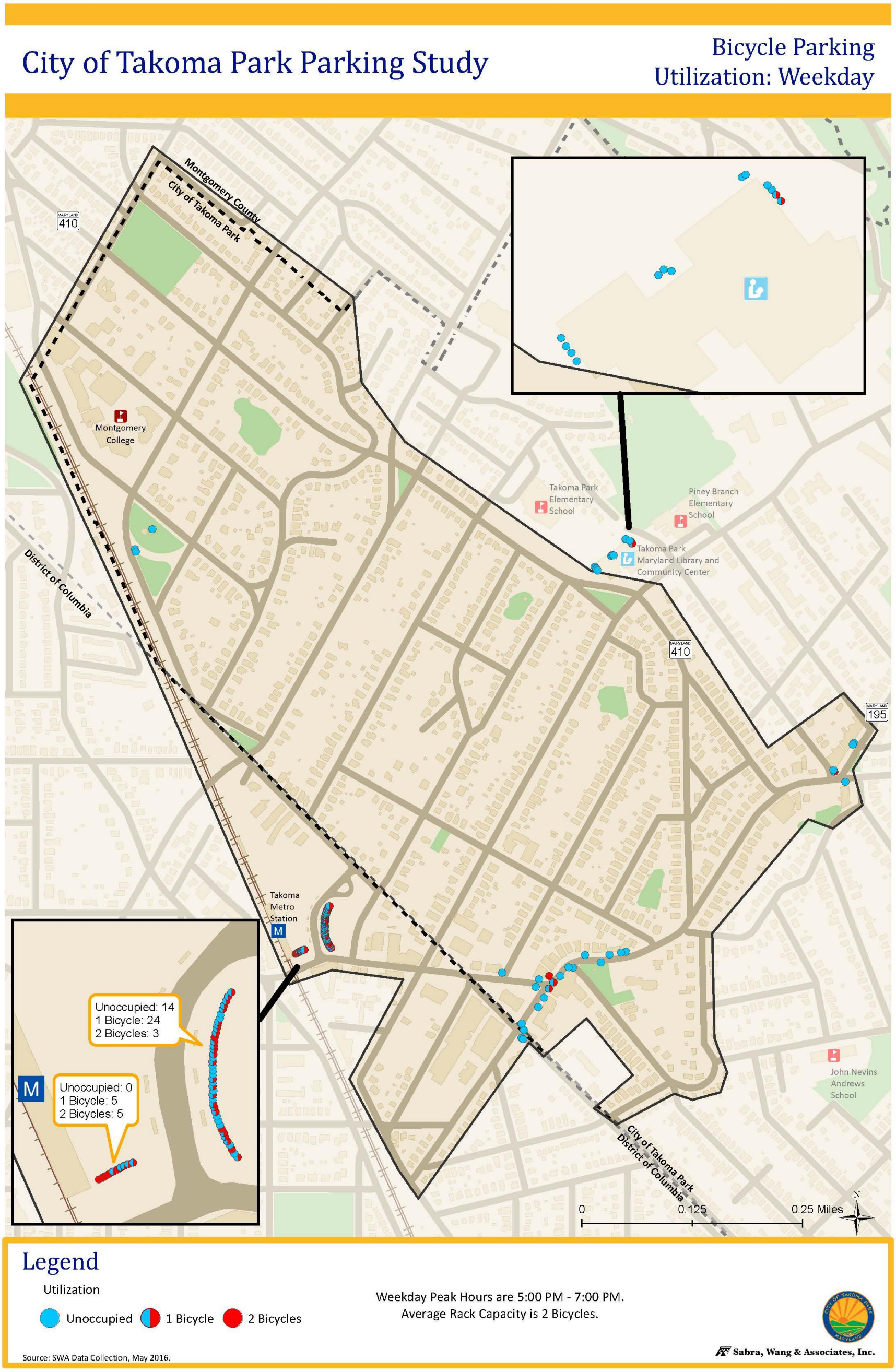


Figure 31: Weekday Bicycle Parking Utilization

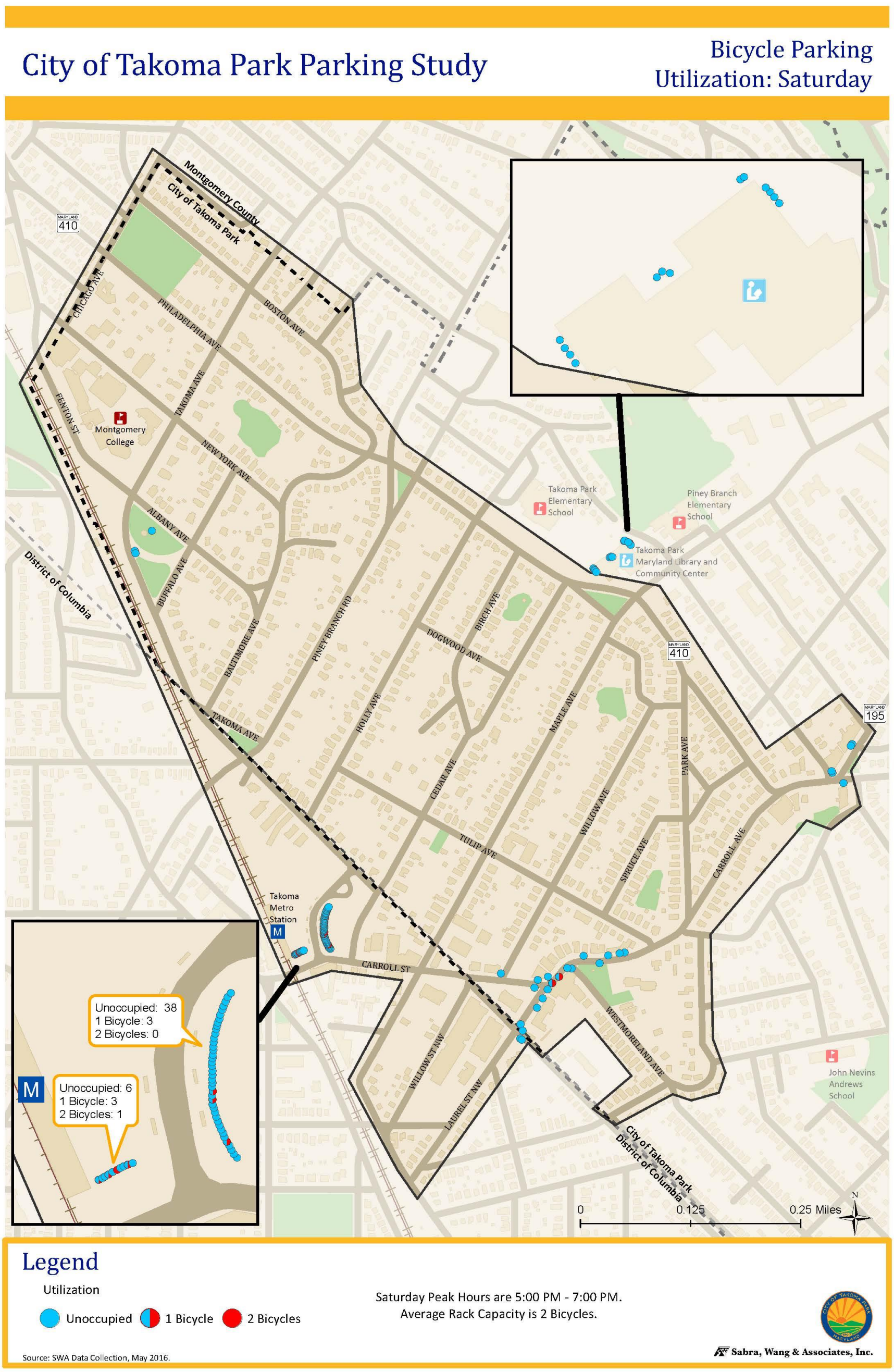


Figure 32: Saturday Bicycle Parking Utilization

Future Developments & Needs Assessment

Planned future development and transportation related infrastructure projects were assessed and mapped in Figure 33. While anecdotal information was received during the study period on future developments, including possible additional retail, this assessment only considers pipeline developments and improvement projects included in adopted planning documents.

Developments

Three developments are scheduled to come online in the near future and include the Metro Village apartments, the Takoma Station apartment, and the Willow & Maple apartments. The residential developments are located in the DC portion of the study area and within the ¼ mile walkshed of the Metro station and the intersection of Carroll & Maple. These will bring 515 dwelling units to the area with 279 parking spaces for residents.

A brief assessment on the parking provided by each complex compared to typical parking demand was conducted. A low to mid-rise apartment complex located within 1/3 mile of a transit station and less than 10 miles from a central business district, yields 0.8 to 1.2 vehicles per household[3]. This correlates well to the auto ownership per household for this block group of 1.25, as referenced in Figure 10. Metro Village apartments is providing 0.3 spaces per dwelling unit, Takoma Station is providing 0.7 spaces per dwelling unit, and Willow & Maple is providing 0.6 spaces per dwelling unit; all lower than typical and existing rates for vehicles per household. A lower bound assessment of 0.8 vehicles per household yields a need for 412 spaces resulting in deficit of 133 spaces. An upper bound assessment of 1.2 vehicles per household yields a need for 618 spaces resulting in deficit of 339 spaces. The additional parking demand placed on Takoma Park is estimated to be between 135 and 340 spaces. Factors such as bicycle infrastructure, close

[3] Institute of Transportation Engineers, Parking Generation Manual, 3rd Edition; reference page 50.

proximity to a Metro station, and cost of owning/parking a vehicle can influence the parking demand[4].

Infrastructure

DC's and Maryland's most recent *Transportation Improvement Program* as well as their *Constrained Long Range Plan* were reference to determine transportation related infrastructure improvements schedule for the Takoma Park area. Four improvements are highlighted in Figure 33 and described below.

- *The Metropolitan Branch Trail Expansion*: The trail traverses the study area long its eastern boundary, adjacent to the DC line. The expansion, scheduled for a 2018 completion, will connect Takoma Park to the Silver Spring Transit Center, a current gap of about 0.6 miles.

- *The Park Valley Road Bridge Maintenance***:** The existing Sligo Creek bridge along Park Valley Road is schedule for replacement by 2017. The bridge serves vehicles as well as pedestrian and bikes using the Anacostia Tributary Trail System, which is a shared use path running through Takoma Park.

- *The Flower Avenue Sidewalk Improvement:* Flower Avenue runs the north border of Takoma Park serving a residential community as well as the Washington Adventist University Campus. While a sidewalk currently runs along one side of Flower Avenue, it is schedule for replacement with an ADA compliant sidewalk by 2018.

- *Intersection improvements are 4th Street, Blair Street, and Cedar Street:* The Takoma Park Study results in a series of recommendations for this intersection including new traffic signals, sidewalks, and curb/gutter improvements.

[4] Note that his assessment does not account for local parking requirements; assessment based on industry standards. While local requirements provide a baseline for providing adequate parking, they may not reflect true demand. (Brian – I did a brief calculation for DC parking requirements. Without accounting for exceptions 387 are required)

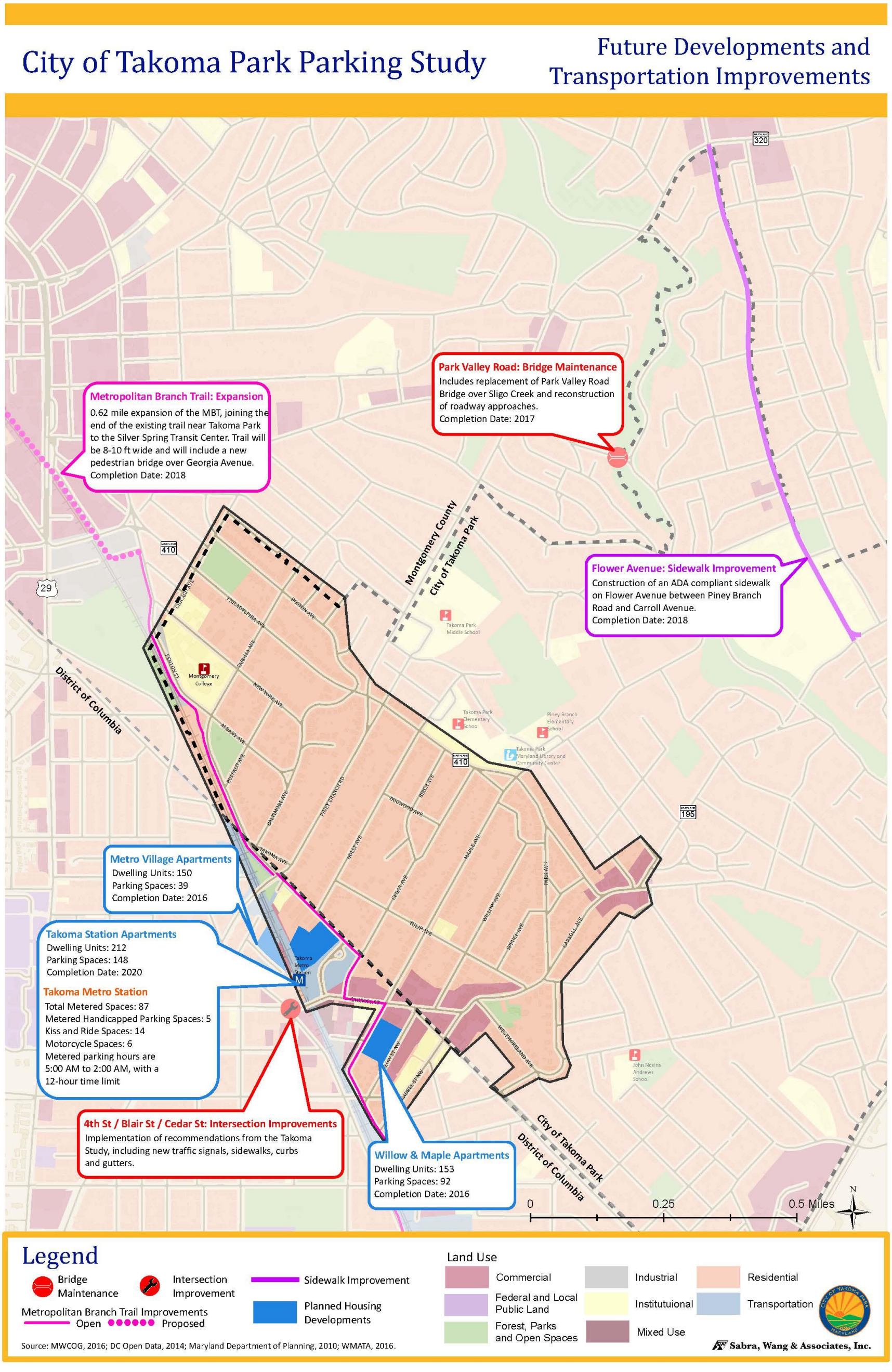


Figure 33: Planned Developments/Transportation Investments/Future Transit Changes

IV. Stakeholder Input & Key Findings

Stakeholder Input

Sabra, Wang and Associates, Inc. conducted stakeholder interviews with eleven (11) key representatives of the community in late February and Mid-March of 2016, including business owners, religious and educational institution representatives, and stakeholder agencies. All interviewees were willing to provide information, and to be contacted further if necessary. Details for each interview can be found in Appendix A.

The following representatives were interviewed:

- John Urciolo, Owner of Takoma Metro Shopping Center
- Zoe Stern, Property Manager of Takoma Metro Shopping Center
- Laura Barclay, Executive Director of the Old Takoma Business Association
- Sandra Filippi, Campus Planner for Montgomery College
- Mark Greiner, Pastor of Takoma Park Presbyterian Church
- Councilman Peter Kovar of the Takoma Park City Council
- Andrea Bachinski, Studio Manager for the Washington National Opera
- John Reed, Administrator for the Takoma Park Seventh Day Adventist Church
- Robin McElhenny, Program Manager of Station Area Planning, WMATA Office of Real Estate and Station Planning
- Evian Patterson, Citywide Parking Division Manager at DDOT
- Tom Kenney, Managing Partner of Immerman & Kenney Properties, LLC

Through the interviews, several general observations were made about parking within the study area. It was noted that the recent development trends, particularly on the DC side of downtown Takoma, placed strain on the existing local parking supply. Further tension is felt towards these developments due to DC's development practices, which allow for developments near Metrorail stations to reduce or eliminate parking requirements. Stakeholders felt that while this practice may be appropriate for new developments in central DC, it would create parking problem in Takoma Park.

The City's current parking meters were observed to be a problem, as the coin-operated meters were considered a nuisance that often led to non-payment. Suggestions to switch to meters that accept credit card or phone payments were made. Friday and Saturday evenings were considered to be the most critical periods where parking became scarce, due to increased restaurant patronage, although it was also noted that during other times parking is (generally) not difficult to find, and is mostly an issue of convenience.

The Seventh Day Adventist Church was considered to be a vital resource for parking within downtown Takoma. The parking lot is rented out to multiple businesses for staff parking, as well as Strayer University students on weekdays, utilized by Seventh Day Adventist Church members on Saturday, and by other churches and farmers' market customers on Sundays. Without the use of this parking lot, daily parking pressures in Takoma Park would increase.

Key Findings

- The predominant land use within the study area is residential with a concentration of retail and business establishments in the southeast corner of the study area.
- The pedestrian network is complete with above average connectivity and the City has four Capital Bikeshare stations within the study boundary.

Parking Supply

- There are 1,414 curbside parking spaces in the study area with 64% restricted for residential permit only parking and roughly 32% are publicly available.
- Over 24 off street locations there are 2,083 spaces, of which the majority (62%) are owned and managed by Montgomery College and require a permit to park.
- Unofficial shared parking is in effect at the Takoma Park Seventh Day Adventist Church Lot.
- Key destinations in Takoma Park that attract visitors and induce a parking demand include the Metro station, downtown Takoma specifically the intersection of Carroll &

Maple and Carroll & Laurel, as well as Montgomery College. The number of curbside spaces within a ¼ walkshed of downtown Takoma Park is twice that of the Metro station and the College. Within the walkshed of the Metro station and downtown Takoma, 35%-55% of the spaces are pay to park/unrestricted and 30% to 50% are residential restricted. A greater discrepancy occurs within the ¼ mile walkshed from the College where 88% of the curbside spaces are residential restricted.

Parking Demand

- Five of the eight residential permit parking zones cross the study area. Of the five, three issue an average of 20% more permits than there are spaces; indicating there is a higher demand for residential parking in these zones (1A, 2A, and 3) and a lower residential demand in zones 1 and 2.
- Utilization of curbside and off-street parking during the weekday evening period is greater than during the Saturday evening period.
- The walkshed analysis shows that there is an excess supply of parking (around 40%) during all peak times.
- Parking pressures from Montgomery College are a seasonal occurrence. There is a surge in parking demand during the first few weeks of each semester; however the demand tapers off and does not over extend the parking system during a majority of the year. Montgomery College also induces a surge in demand during the mid-day while classes are in session; however this is balanced by local residents being at work. It is also noted that there are a low number of permit violations near the campus.
- Demand on parking from Metro commuters is not a significant impact. The Station draws passengers from a radius of one to two miles. The mode share analysis shows that 8% of the commuters drive to the station; therefore, commuter parking is minimal. It should also be noted that parking violations are minimal near the Station.
- The study shows that parking is available in all study time periods, but availability may be a block or more from destination. Some available parking resources (on- or off-street) go unused at peak times.

Stakeholder Comments

- Concern about new development with reduced parking requirements is widespread.

- The public views older parking meters, which only accept quarters, as an inconvenience. The rate of meter usage would likely go up if additional payment options were available, and the rate of overtime infractions would likely go down.

IV. Recommendations

Although the pace of development in Old Town Takoma Park is on the increase, options to address parking supply through new facilities is hampered by the fact that relatively few parcels remain to be developed. In light of the limited options to provide parking supply, the common sense approach to manage parking in the area is to implement a variety of small changes aimed at maximizing the utility of existing parking supply. The recommendations included here focus on meeting the study objectives through the following approaches:

- Curbside Management
- Pricing Strategies
- Un-Bundled Parking
- Residential Parking Permit Program
- Develop Shared Lease Agreements
- Wayfinding and Information
- Bicycle Infrastructure Improvements

A common component of these strategies is an emphasis on integrating greater flexibility into the management of the overall parking supply. While the **demand** for parking fluctuates over the course of a day and/or a week, the parking **supply** remains largely static. Implementing flexibility into the parking supply through better management equates to a system that better meets the needs of all users and stakeholders.

Curbside Management

Revising the curbside parking regulations and meter technology is often a simple and cost effective method to improve parking experience and increase parking supply. A variety of curbside management improvements are recommended below.

- **Replace existing single space, coin operated meters with pay station, credit card operated machines.** Pay stations, which refers to a single payment location managing all spaces along a single block, has many advantages over single-space meters. Pay stations allow for multiple payment options including coins, bills, and credit/debit card which facilitate ease of use for patrons to utilize curbside parking as well as can increase compliance and parking meter revenue. By not defining a set number of parking spaces as is the case with individual parking meters, pay stations can increase the number of possible

parked vehicles by an estimated ten to fifteen percent. The 20-22 foot space length requirement for marked spaces is designed to accommodate the longest privately-owned vehicles, which represent only a small minority of vehicles in operation today. Pay stations also allow for flexible use of public realm providing more space for streetscaping.

- **Extend metered time to 8:00 PM in the Old Town District.** The span of parking meter periods should reflect the span of demand metered parking. A major draw to Old Town are the restaurants where many patrons are parked till eight or even later in the evening. Metering parking during high demand time periods more effectively manages parking, reducing circulation and increasing turnover.

- **Specify loading zone times.** Defining loading zone times is an efficient management of valuable curb space reserving space when it is needed for loading, and lifting restrictions when it is un-needed. For example, restricted loading only parking can be in effect when business more frequently receive their shipments such as between 5:00 AM -11:00 AM and/or 2:00 PM- 4:00 PM. Specified loading only times opens up parking spaces during prime meal times.

- **Consider re-instating the loading zone in front of Ace Hardware along Carroll Avenue.** In the absence of a loading zone here, deliveries are currently unloaded on the opposite side of Carroll Avenue (where no official loading zone exists) and carted across the street.

- **Designate curbside space for non-private vehicles.** Encouraging trip sharing reduces parking demand. It is recommended to specifically designate two to four spaces for ride share and one to two space for car share spaces in the restaurant corridor; suggested locations depicted in the graphic below. Possible locations for these spaces could include:
    - Three currently unrestricted spaces on the north side of Carroll Avenue at the Carroll/Willow/Eastern intersection.
    - Spaces on Maple Street NW to be replaced after construction of the Willow & Maple residential development is complete.

- The CVS parking lot at Carroll Street NW and Willow Street NW.
- The Kirchiro lot at Carroll Avenue and Willow Avenue.
- The Bank of America parking lot on Willow Avenue (likely only for rideshare outside of bank business hours)
- Spaces on the north side of Carroll Street NW at Cedar Street NW – if Cedar Street one-way configuration (below) is implemented.

Utilization of any of the private lots listed above for the purpose of designated ride share or car share spaces would require a memorandum of understanding with the property owners.

- **Install additional metered spaces at select locations.**
  - Convert unregulated spaces to metered spaces along Carroll Street NW/Carroll Avenue and Eastern Avenue.
  - Re-install metered spaces along Maple Street NW post construction completion**.**
  - Convert Cedar to one way traffic flow between Eastern and Carroll. This will provide the right of way to install back in angled parking and increase the number of spaces along this block from 14 to 35.

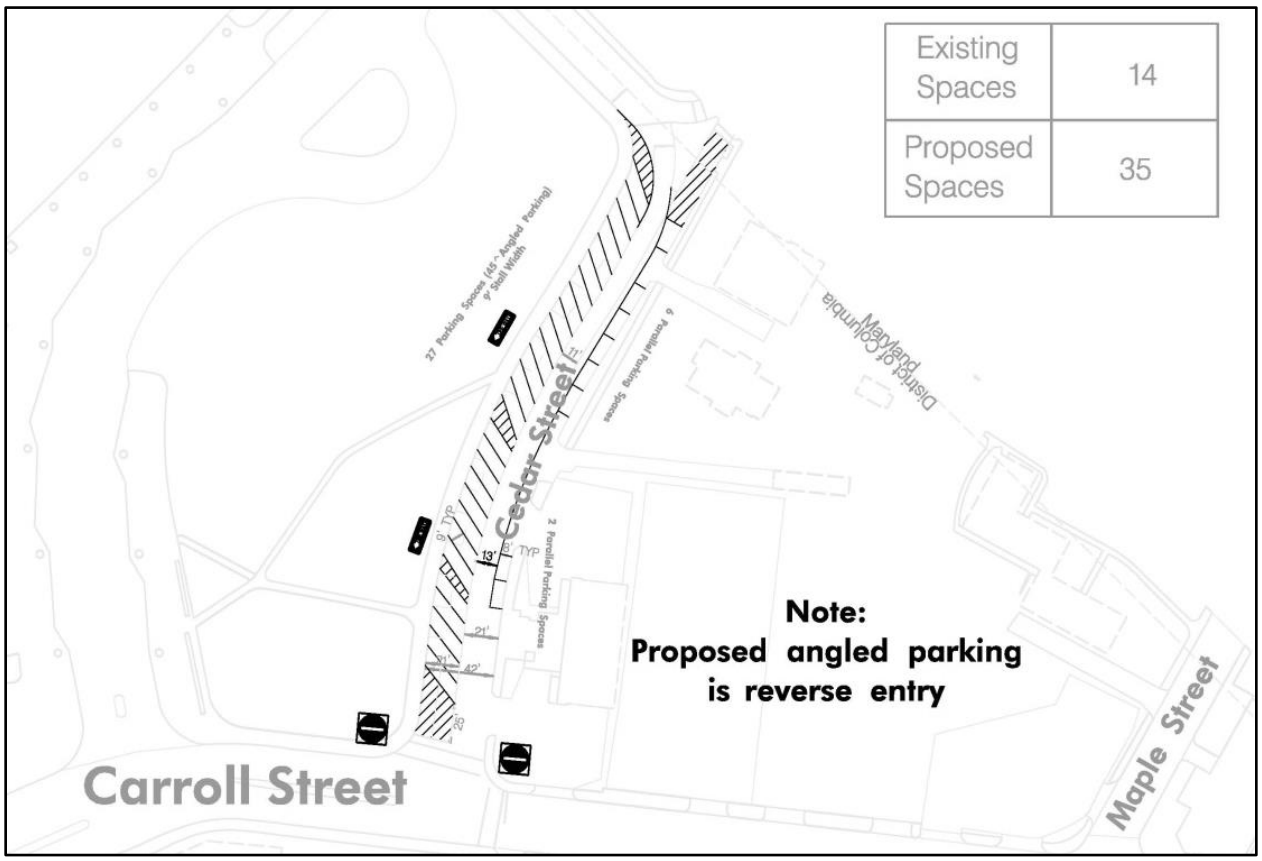


Figure 34: Possible one-way reconfiguration of Cedar Street NW with back-in angled parking.

Pricing Strategies

Pricing strategies are effective in regulating parking demand. Two pricing strategies improvements are recommended below.

- **Continue to establish a unified base rate.** As stated previously in the Existing Conditions section, 86% of the meters operate at $0.75 per hour rate. Field observations also reveal that signage at meters is inconsistent, and several meters may in fact beset to the standard $0.75 per hour rate, but are incorrectly signed.

- **Institute performance pricing.** Pricing is an effective tool to manage parking by increasing turn over during high demand times or in high demand areas. Peak parking demand hours in the study area are between 4:00 PM and 8:00 PM. It is recommended to institute rates along Carroll Avenue between 4:00 PM and 8:00 PM that achieves 90%

occupancy. The overall goal is to ensure that the most desirable parking locations are well used, but that visitors can also find parking at all times without needing to search for a long time to find it. Slowly cruising downtown streets in search of curbside parking adds significantly to overall traffic congestion in commercial areas around the country. Reducing the rates along the side streets during the same time period encourages patrons parking for longer durations to park there, leaving spaces in front of businesses open for patrons parking for shorter durations. The City can effectively utilize enforcement personnel to audit occupancy on a monthly or quarterly basis in order to reset prices.

Un-Bundled Parking

Removing the cost of parking from monthly rent for residential and office tenants would have two primary benefits. First, it sets the cost of parking to the market rate, allowing renters to base parking decisions on financial benefit. Trip making by alternative modes would be encouraged among those tenants who decide against paying for the parking space(s) that otherwise included in their rent. Secondly, un-bundling would allow remaining unreserved spaces to be made available for rent to the general public, either as short-term parking or monthly–rented spaces. Implementation of this recommendation would likely require adjustment to municipal zoning codes, as well as memorandums of understanding with property owners. Un-bundling could be applied to both existing properties and to new developments.

Residential Parking Permit Adjustments

A series of recommendation to the residential parking permit program are shared below.

- **Redraw residential parking permit zone boundaries.** Through a spatial analysis of the residential permit parking zone violations, it was determined that violations are concentrated in a few key areas. The recommended boundaries are shown in Figure 35, reflecting where parking demand is high enough to warrant a permit program for local residents, and removing permit requirements where demand is less.

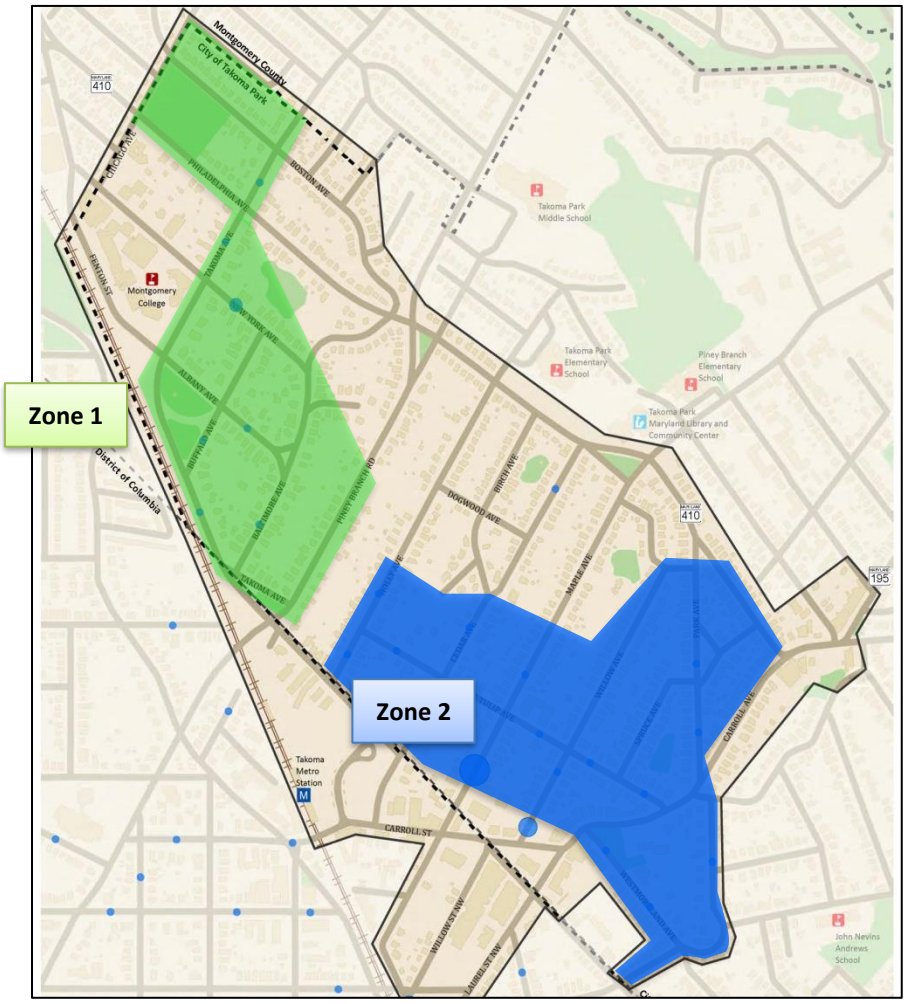


Figure 35: Recommended changes to permit parking zones

The five residential permit parking zones could be consolidated as two zones that are more directly focused on the areas surrounding the Montgomery College campus (Zone 1) and the Carroll Street commercial corridor.

- **Adjust permit parking-only times.** There are two locations where permit parking-only times could be adjusted to better reflect parking demand. These include 1) in Old Town, adjust the permit only parking times to 4:00 PM to 10:00 PM Monday through Saturday, and 2) in the vicinity of Montgomery College extend permit only parking times to 9:00AM to 4:00 PM, Monday through Friday. Additionally, allow two hour parking in the residential parking permit zones for the general public from 10:00 AM to 8:00 PM. The

City may also consider charging for non-permit holder parking in the permit zones through pay-by phone technology.

As with performance pricing, regular monitoring of curbside parking is an integral component of this recommendation. If abrupt changes in utilization rates, or the rate of violations, are noticed, boundaries and/or restricted time periods can be adjusted to ensure a desired condition that balances the needs of residential neighborhoods and adjacent land uses.

Develop Shared Leasing Agreements

- **Facilitate shared leasing agreements.** Share leasing agreements can make the most use of existing parking supply by connecting parking needs of distinct generators that have peak demands at different times during the day. For example, allowing use of bank parking lots after 5:00 PM for restaurant patrons. The City can facilitate the agreements between entities.

Wayfinding and Information

- **Install static wayfinding signs.** Communicating parking locations to visitors and patrons is a key element to achieving a high utilization rate of existing parking supply. Placement of signs should reflect typical travel patterns and gateways to Old Town Takoma Park. A signage program would serve the public best in the case of Takoma Park if it implemented on both sides of the Maryland/DC line, with a consistent set of signage that helps to establish a single identity, or "brand" for the area. Signage would not focus solely on providing direction to parking facilities, but would also point out significant landmarks. Such a wayfinding signage program could be implemented through the Old Town Business Association, which already coordinates civic improvement efforts among business owners on both sides of the line..

- **Establish a mobile friendly parking information website.** Websites are one of the

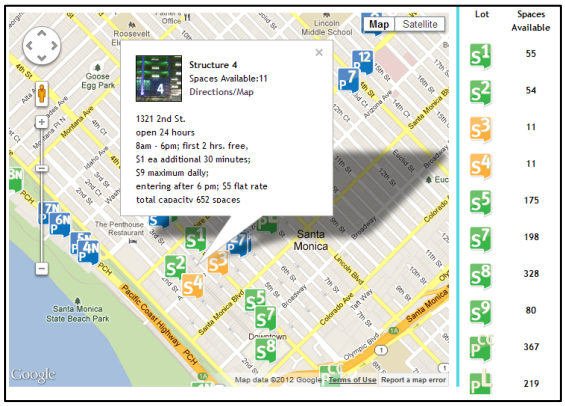


Figure 36: Example of mobile-friendly parking website.

most effective methods to communicate information to the general public. A parking website can contain an interactive mapping showing curbside and off-street parking locations as well as parking rates and permit times of each location. It is recommended to update at least quarterly, but monthly is preferred. To encourage alternative modes of transportaiton, it is also recommended to include information on bicycle and/or transit options on the website.

Bicycle Infrastructure Improvements

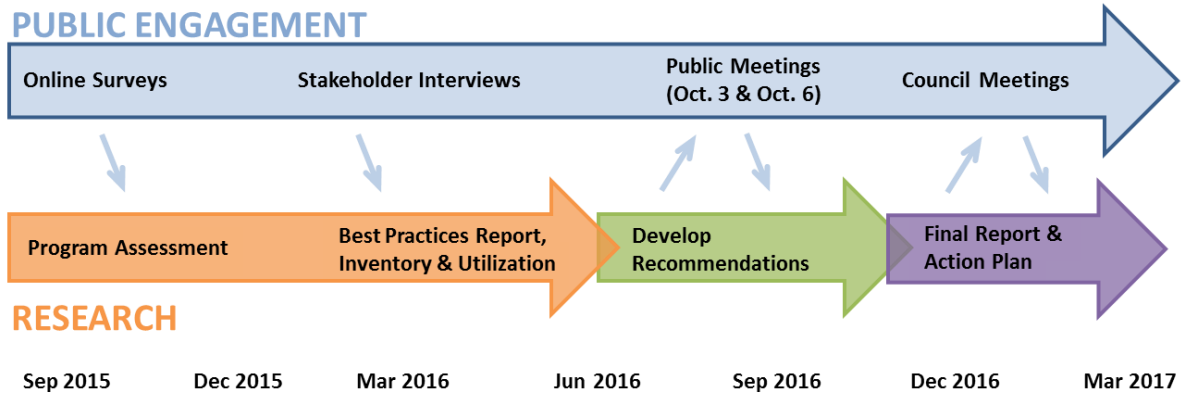
Old Town Takoma Park is already a highly bike-friendly area. Although there are only a handful of designated bike routes, in reality almost all of the streets in the study area are bike-friendly due to their low travel speeds. In addition, the area features the Metropolitan Branch trail, a primary link in the regional bicycle network, and five Capital Bikeshare stations. Nevertheless, the Old Town area can further encourage bicycle trips in place of driving by providing additional focus on bicycle parking.

- **Increase bicycle parking presence.** The study found that although existing bicycle parking supply is adequate, it is difficult to locate and is not well distributed throughout the study area, specifically along the primary corridors. It is recommended to 1) place attractive and distinctive bicycle racks at regularly spaced intervals along the Carroll corridor, and 2) convert a parking space to bicycle parking by installing a bike corrals at Carroll & Maple, Carroll & Laurel, Takoma Junction, and Montgomery College. While one parking space serves one vehicle, it can serve about 10-15 bikes.

Figure 37: Bike corral example

V. Next Steps

This parking management study represents a single phase of the City's ongoing review and revision of parking management policies city-wide. The recommendations included in this report will be further developed over the next several months, with additional input stemming from public meetings planned for October and additional City Council meetings at a later date. A final report and plan for overhauling parking management in the City of Takoma Park is expected in 2017.



Further detail on the City's parking management study can be found on the study website at: https://takomaparkmd.gov/initiatives/project-directory/parking-study/.