



AGENDA

COUNCIL OF THE TOWN OF WARRENTON

WORKSESSION

Tuesday, April 11, 2017

6:00 PM

1. Call to Order
2. Parking Study Presentation - Michael C. Connor, Senior Parking Consultant, Walker Parking Consultants
3. Adjourn



Town Council Work Session

April 11, 2017

Parking Study Presentation - Michael C. Connor, Senior Parking Consultant, Walker Parking Consultants

Agenda Memorandum

Submitted by: Brannon Godfrey, Town Manager

Discussion: Mike Connor will present a summary of the findings and recommendations of the Parking Study and will address questions of Council.

Town Manager

ATTACHMENTS:

Description

Parking Study

Type

Backup
Material

Upload Date

4/5/2017



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Haymarket, VA 20169

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April 4, 2017

Brannon Godfrey
Town Manager
Town of Warrenton
P.O. Drawer 341
Warrenton, Virginia 20188

Re: Final Report – Old Town Warrenton Parking Management Plan

Dear Mr. Godfrey:

Walker Parking Consultants is pleased to present our findings and recommendations related to the above referenced project. The attached report contains our analysis, assumptions, conclusions, and recommendations regarding parking in the Old Town.

Overall, our observations suggest that adequate parking is available in the study area, but it may not be perceived as convenient for some users given the required walking distances from some parked locations. Speculative development under a "worst case" scenario would warrant the need for additional parking but it certainly reinforces the need for maximize the performance to the Town's existing parking infrastructure today. The parking management plan identified opportunities to increase the efficiency and effectiveness of the existing on- and off-street public parking program through modifications to space allocation, time management, signage/wayfinding, and enforcement strategies.

Deferred maintenance issues and associated repair and rehabilitation costs were identified for two of the Town's off-street parking lots and recommendations for scheduled maintenance and resurfacing are included. Ultimately, the physical and operational improvements were summarized under a 10-year financial assessment to justify committed annual operating and maintenance funds.

Lastly, the report examines, in concept, alternative funding sources, namely a fee-based management program (aka, parking meters, gates, and related control equipment) and a special tax district. However, the fiscal and political capital required to implement either of these non-general fund strategies is significant and, given current parking market conditions, would likely prove unacceptable. Therefore, financial commitments from the general fund must be anticipated.

We appreciate and thank you for the opportunity to be of service to the Town of Warrenton. Please do call if there are any questions regarding our work.

Sincerely,

WALKER PARKING CONSULTANTS

A handwritten signature in blue ink, appearing to read "Michael C. Connor", is written over the printed name.

Michael C. Connor
Senior Parking Consultant



Ahead of the Curve
in creative parking solutions

PARKING NEEDS ASSESSMENT AND
OPERATIONAL RECOMMENDATIONS

OLD TOWN
WARRENTON PARKING
MANAGEMENT PLAN
WARRENTON, VIRGINIA

Prepared for:
TOWN OF WARRENTON

APRIL 4, 2017



WALKER
PARKING CONSULTANTS

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PROJECT # 14-4143-00

EXECUTIVE SUMMARY

To meet the varied and continually changing needs of the Town's downtown district, Warrenton must maximize the performance of its on- and off-street parking assets through improved operations and management.

A study area was determined by the Town staff and the consultants to encompass all of the Old Town district and potential development activity that could impact that area. In an effort to recognize acceptable walking distance differences between short-term parkers (shoppers, diners, visitors) and long-term parkers (employees and residents) the study area was subdivided in to "core" and "peripheral" areas with the core being bound by Ashby Street, Main Street, Lee Street, and 5th Street.

Following lot entry signage, it appears that the Town operates nine (9) public lots within the study area boundary using municipal lot designations A through I. However, upon further inquiry it was determined that one of the lots (Lot I) is on church property, one lot (Lot A2) is owned by Fauquier County, and another (Lot A1) is owned/operated jointly by the Town and County. This mixed ownership of public parking assets does not negate parking management strategies but it does complicate them.

In total, there are 611 "municipal" off-street parking spaces in the study area, 190 within the core area and an additional 421 in the periphery. In both the core and peripheral lots there are a large number of 1-hour, 2-hour, and 3-hour spaces. Typically, off-street parking is managed to meet the needs of long-term parkers like employees or residents given their more remote location in comparison to on-street parking spaces.

Fields surveys also recorded the inventory and restriction of all curbside spaces within the study area. A total of 561 publicly available on-street spaces were identified within the study area. Time restrictions noted for on-street inventory include 5-minute, 15-minute, 30-minute, 1-hour, 2-hour, all-day (i.e., unrestricted), police parking, ADA, and loading zones.

Occupancy counts were conducted on Thursday October 20th, a typical weekday. During the peak hour of parking activity 75% of the public off-street parking spaces and 55% of the on-street spaces were occupied.

There are considerable differences in utilization and operational surplus or deficit conditions between the core and peripheral area. The core area has an operational surplus of only six spaces which suggests frustration when trying to find an available space while peripheral facilities enjoy a surplus of 281 spaces. Much of the operational surplus in the periphery are found on-street in predominantly residential area.

Additionally, the peripheral operational surplus includes parking facilities that are owned/operated jointly by the Town and County (Lot A1), or owed/operated by the County (Lot A2). Given the importance of these peripheral facilities it is recommended that the Town obtain long-term commitments from the County and the church so that strategies to improve the value and use of these facilities do not end up being temporary solutions.

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Recommendations to improve the effectiveness, efficiency, and overall performance of the public parking system will need to anticipate changing conditions, particularly as it relates to additional parking demand. Town staff created a conceptual vision of future development. The quantity of parking space demand generated by potential development far exceed the current operational surplus that was recorded.

Under this vision, additional surface parking or a parking structure would be required. However, the scope of this parking management plan does not include the siting of such a facility. Costs associated with operating and maintaining additional parking, however, are included for purposes of a financial model.

Old Town Warrenton needs to simplify the on-street parking management program by replacing all one-hour parking spaces with two-hour durations. Two-hour durations meet the needs of a larger volume of short-term parkers. Conversely, the number of short-term parking spaces in peripheral parking lots need to be reduced as 20% of the peripheral lot spaces are two or three hour durations.

It would appear that the Town has made a number of efforts to address parking orientation and directional wayfinding, but the effort seems disjointed and incomplete. It is recommended that a comprehensive signage study be completed to present a unified and easy to understand and manage system.

Since 2011, the number of parking tickets issued by the Police and Parking Enforcement unit has declined. Parking enforcement must be balanced and consistent to be effective. It is recommended that the Town retain a part-time employee, or parking enforcement aid (PEA).

Fines for parking violations, when issued, may not have the desired effect of discouraging repeat offenders as they are quite modest. It is recommended that the fines for the overtime parking be increased to \$10 for the first violation, \$25 for the second, \$50 for the third and all subsequent violations received by a single vehicle within a one-year period.

In addition to personnel costs, the Town must invest in a handheld parking citation enforcement system and the following best management and operating practices are offered. Investing in these handheld ticket issuance devices would permit the creation of a first time warning which is ideal for a community with a high volume of "out of Town" visitors and tourists.

A visual condition survey of the Town's public parking lots was conducted and used to prepare the ten-year public parking lot repair plan. While the majority of the lots were in fair condition requiring only periodic resurfacing and restriping, Lot A1 and A2 (in FY2019), and Lot H (FY2017) required more significant and immediate remediation. To fund that repair program and using a ten-year term and a rate of interest of 4.0%, the Town should include in its annual budget \$121,100 per year.

On-going but potentially unrecognized costs for planning, management, maintenance, and enforcement are combined with cost estimates for recommended improvements. Presuming many of these improvements are implemented immediately, the FY2017 parking system O&M costs would equal \$264,050. Depending on the timing and acquisition of additional parking

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enforcement equipment and technology, those annual costs would vary between \$222,250 and \$276,950.

While \$144,550 in annual parking revenue could conceivably be generated by a core downtown fee-based parking management plan (aka meters), market forces and community support required for such a plan do not, at present, exist to the extent required to create this plan.

The increasing complexity of parking needs in Old Town requires that the Town elevate its parking management program to be as responsive and flexible as possible. This will require financial commitments from the Town's political leadership so as to avoid inefficiency and decay. While a cost neutral parking program would be ideal, the level of operational complexity or market forces behind parking demand are not so compelling in Old Town as to require fee-based management strategies.

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INTRODUCTION

Old Town Warrenton is the historic center of Warrenton. With its preserved historic buildings and brick sidewalks, the area is a thriving retail, office, residential, dining, and visitor destination. It's also the seat for Fauquier County, its Circuit Court, and related government offices. To support this activity, the Town operates and maintains curbside and off-street parking. Like roads, sewers, and sidewalks, parking is infrastructure that, in itself, does not generate revenue but rather supports economic viability and success of commercial and residential real estate. However, public parking facilities are quite often an underappreciated asset and annual funding for management, repair, maintenance, and expansion costs can be woefully insufficient.

In parallel with a discussion of parking as infrastructure is the municipality's responsibility to manage parking in an efficient and effective manner. The supply of parking is finite but the demand for parking is constantly growing and changing in response to changes in land use and development activity. A quiet bookstore becomes a popular restaurant, a vacant third-level of a building becomes loft apartments, and an undeveloped parcel becomes a boutique hotel. This activity can have a tremendous impact on parking demand both in volume and type. Restaurants generate high turnover activity and a need for safe parking for employees in the evening, offices generates traditional "9 to 5" activity by employees who will search for convenient spaces, and residential and hotel development generates long-duration parking needs within close proximity to their apartments/rooms. As a result, a municipality must offer a mix of different parking services; short-term spaces for shoppers, diners, and visitors, daytime long-term parking for office employees, and all-day and evening parking for residents and hotel guests.

The Town of Warrenton, Virginia ("Warrenton") engaged Walker Parking Consultants ("Walker") to conduct a comprehensive parking study for its Old Town area to include an analysis of existing parking supply/demand, a review of existing parking policies and practices, as well as a conditional appraisal and financial plan for its existing parking infrastructure. The purpose of the study was to assess the stress on the parking system now and in the near future, draft recommendations to improve the efficiency of this service infrastructure, and quantify the true cost to manage, maintain, operate, and enforce Town ordinances related to effective parking performance. With that understanding, and through this document, Town staff would have sufficient information to justify near- and long-term funding to ensure that the public parking system meets the needs of a changing economy yet does so in a fair and professional manner.

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PARKING INVENTORY AND OCCUPANCY

A study area was determined by the project team to encompass all of the Old Town district. The northern and southern boundaries were set at Horner St. and south of Franklin St. and the eastern and western boundary was set at 5th and 6th street with the western boundary following Keith, South Chestnut and Diagonal Streets. Exhibit 1 displays the study area boundary and block coding to be referenced throughout this report.

After the initial data collection effort was completed, and the results are presented in the following pages, Town staff were concerned that the size of the study area was too large and, when examined in aggregate, “watered down” the determination of parking shortfalls because peripheral parking lots and quiet residential streets were included. As a result, the study area was subdivided in to “core” and “peripheral” areas with the core (see red dashed lines) being bound by Ashby Street, Main Street, Lee Street, and 5th Street and being reminiscent of parking studies conducted in the 1980’s and 90’s.

Exhibit 1: Study Area Boundary & Block Coding



Source: Google Earth

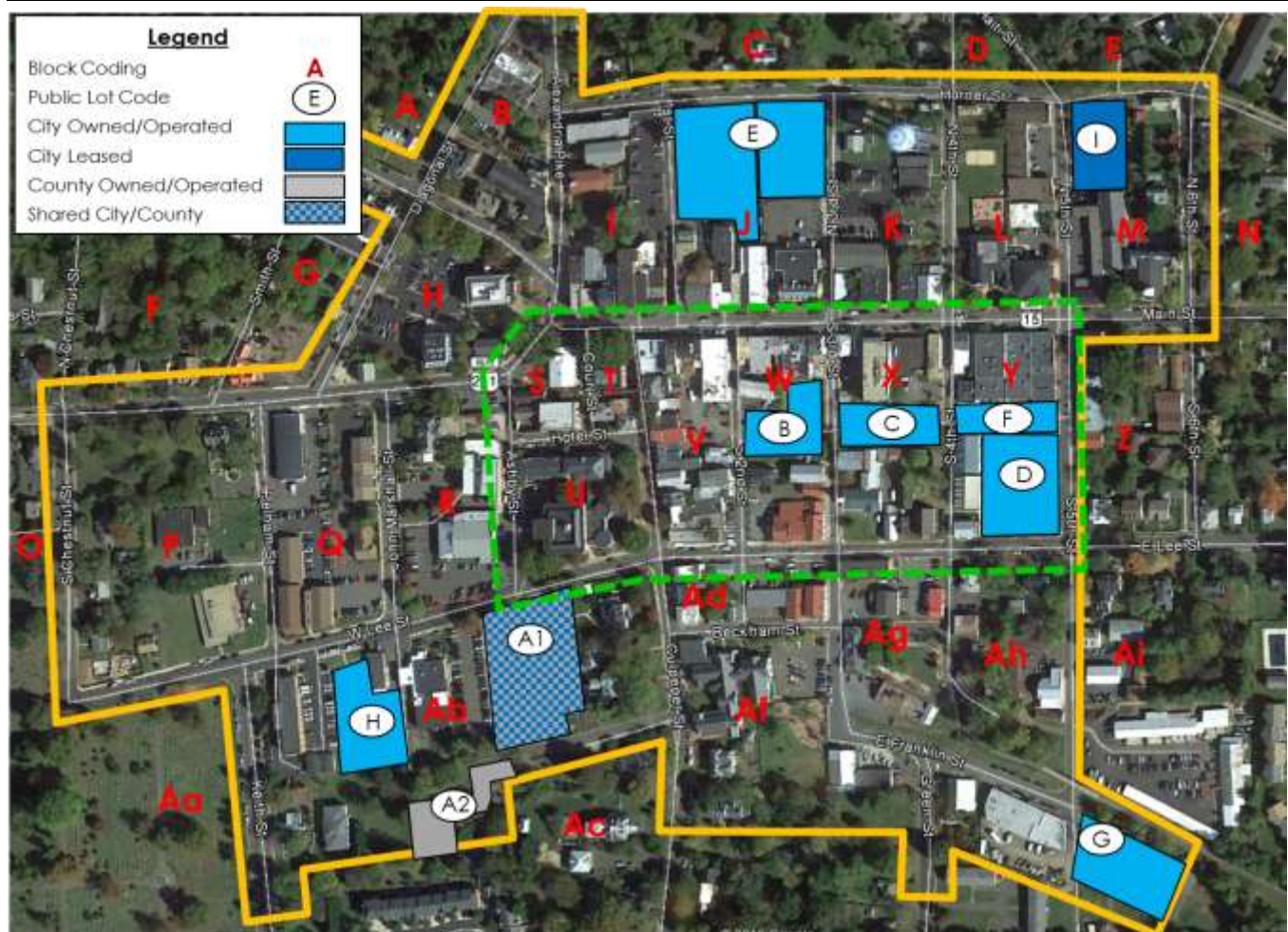
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INVENTORY OF PUBLIC OFF-STREET LOTS

The first step in the assessment of the Town's parking system is an inventory of existing spaces including publicly owned/operated off-street lots, on-street parking, and private/restricted off-street lots. Following lot entry signage, it appears that the Town operates nine (9) public lots within the study area boundary using municipal lot designations A through I. However, upon further inquiry it was determined that one of the lots (Lot I) is on church property, is maintained by the Town, and is operated on a year to year agreement, one lot, the rear portion of Lot A (now coded Lot A2), is owned by Fauquier County, and the front section of Lot A (now coded Lot A1) is owned/operated jointly by the Town and County. Exhibit 2 illustrates the location and ownership of the publicly available lots while Table 1 provides a numerical summary including posted parking restrictions.

Exhibit 2: Inventory of City, City Leased, County, and Shared City/County Off-Street Lots



Source: Google Earth & Walker Parking Consultants, 2017

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Table 1: Inventory of Publicly Accessible Parking Lots

Lot Code	Ownership	1-hr	2-hr	3-hr	All Day	ADA	Other	Total
Core								
Lot B	Town		20		9	3		32
Lot C	Town		15		20	3		38
Lot D	Town				84	3		87
Lot F	Town	12	19			2		33
Core Subtotal	----	12	54	0	113	11	0	190
Periphery								
Lot A1	Town/County		19		72	6		97
Lot A2	County				32			32
Lot E	Town		30	33	51	6		120
Lot G	Town				63	3	9	75
Lot H	Town				48	2		50
Lot I	Town Leased				45	2		47
Periphery Subtotal	----	0	49	33	311	19	9	421
Total	----	12	103	33	424	30	9	611

Source: Walker Parking Consultants, 2017

In total, there are 611 “municipal” off-street parking spaces in the study area, 190 within the core area and an additional 421 in the periphery. In both the core and peripheral lots there are a large number of 1-hour, 2-hour, and 3-hour spaces. Typically, off-street parking is managed to meet the needs of long-term parkers like employees or residents given their more remote location in comparison to on-street parking spaces.

Changes, if warranted, to the mix and location of one-hour, two-hour, and other parking durations/restrictions may be necessary to improve the systems performance. As such, the Appendix section to this report includes lot by lot aerial photos (see Exhibit A1 through A7) depicting through color coding the location and type of duration/restriction.

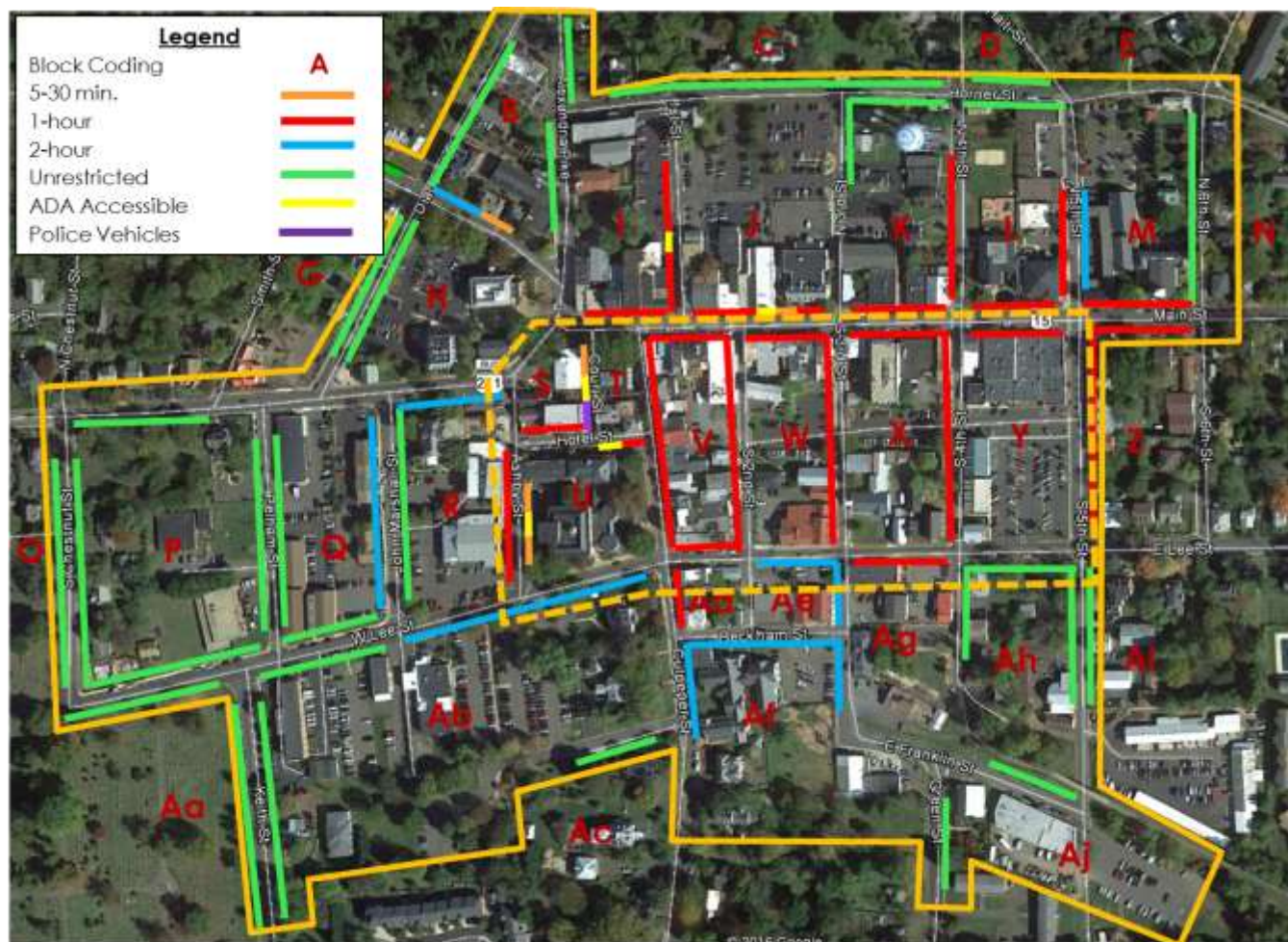
INVENTORY OF PUBLIC ON-STREET SPACES

Fields surveys also recorded the inventory and restriction of all curbside spaces within the study area. A total of 561 publicly available on-street spaces were identified within the study area. Time restrictions noted for on-street inventory include 5-minute, 15-minute, 30-minute, 1-hour, 2-hour, all-day (i.e., unrestricted), police parking, ADA, and loading zones. More than half of these spaces (324 spaces) are unrestricted. Exhibit 3 illustrates their relative location while Table 2 details on-street inventory by location (core vs. periphery), restriction, and duration. A block face by block face inventory is included under Appendix Exhibit C.

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Exhibit 3: On-Street Parking Restrictions by Type and Location



Source: Walker Parking Consultants, 2017

Table 2: Inventory of On-Street Parking Space by Restriction

Location	Inventory by Restriction/Duration									
	5 min.	15-min	30-min	1-hr	2-hr	All Day	ADA	Police	Loading	Total
Core	0	1	5	72	6	5	2	2	1	91
Periphery	4	0	0	74	61	319	3	5	1	470
Total	4	1	5	146	67	324	5	7	2	561

Source: Walker Parking Consultants, 2017

When the Town's on- and off-street parking inventory is examined in aggregate, we find an unusually high number of one-hour parking spaces (148) versus the number of two-hours spaces (170). In fact, 85% of the on-street spaces in the core are one hour or less. Short-term parking in an urban environment is generally managed using two-hour durations. Businesses often complain that one-hour parking is insufficient to support shopping, dining, and business meeting activities, and municipalities are hard pressed to enforce such short restrictions. With this

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understanding, the 74 one-hour spaces in the peripheral on-street areas is even more perplexing.

A principal of parking enforcement is patrols have to occur in accord with the posted restrictions. Therefore, a one-hour posted duration requires twice as much enforcement effort (and staff) as two-hour parking. Similarly, while there might be some logic behind 5, 15, and 30-minute on-street parking durations, these spaces will generally function like long-term parking spaces because the enforcement officer realistically patrols the area every few hours.

It is understood, based on conversations with Town staff, that the 5-minute spaces in front of the post office do function effectively due to the fact that post office staff and patrons often self-police that restriction. While that is certainly an advantage of living and working in a small, tightknit community where "everyone knows everyone else", the management of parking restrictions either on-street or off should not be dependent on such informal efforts.

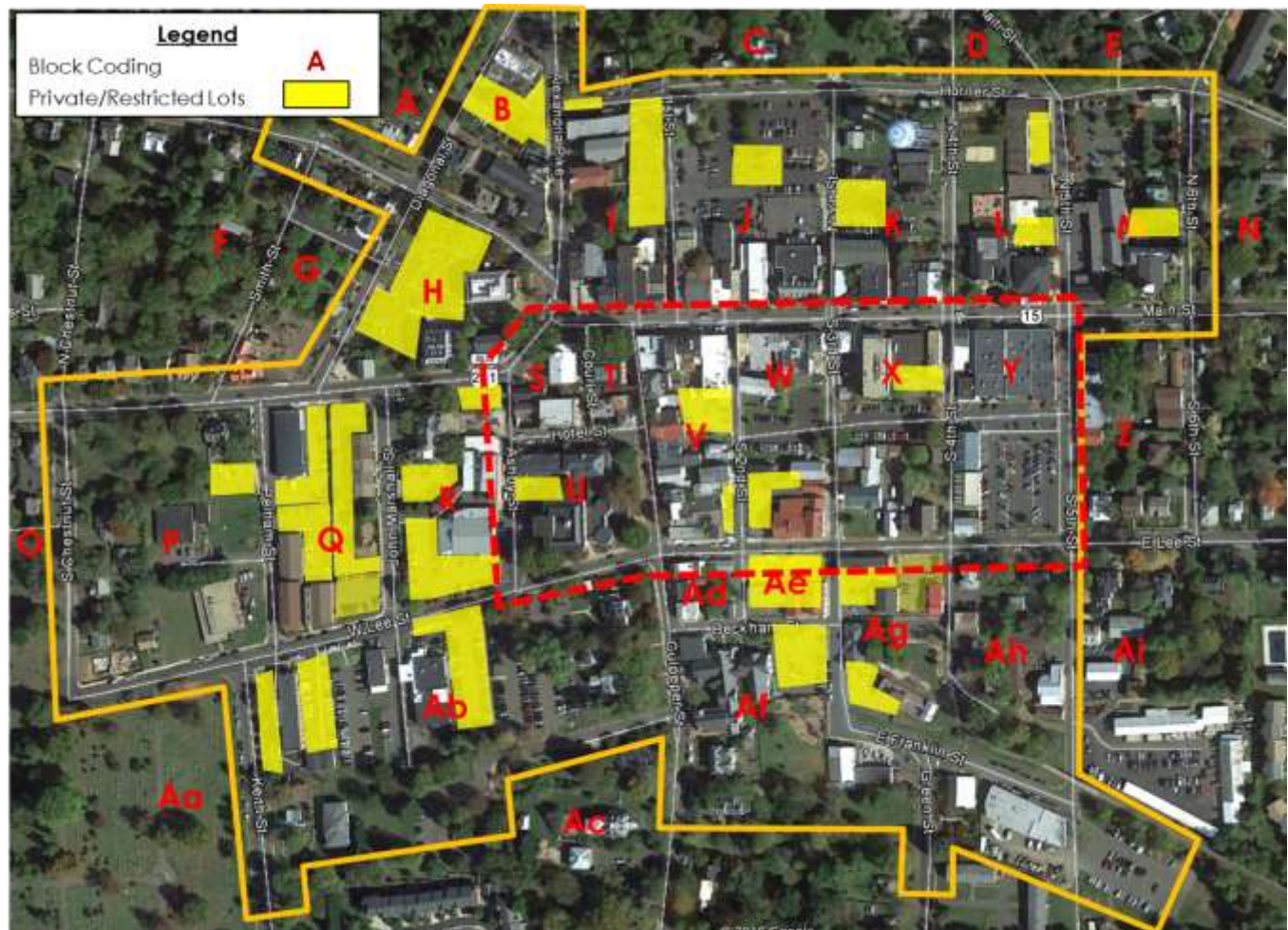
INVENTORY OF PRIVATE/ RESTRICTED OFF-STREET LOTS

The location and inventory of private restricted spaces were also identified (see Exhibit 4). There are 30 private/restricted lots located throughout the study area and they have a capacity for 650 spaces. While the inventory and peak daytime utilization of private/restricted parking spaces is included in this assessment, the focus is on the performance now and in the near future of public owned and operated on- and off-street facilities. Therefore, the lot by lot information on private/restricted spaces is included in Appendix Exhibit B and a simply narrative on inventory and occupancy is presented herein.

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Exhibit 4: Private/Restricted Off-Street Parking Lot



Source: Walker Parking Consultants, 2017

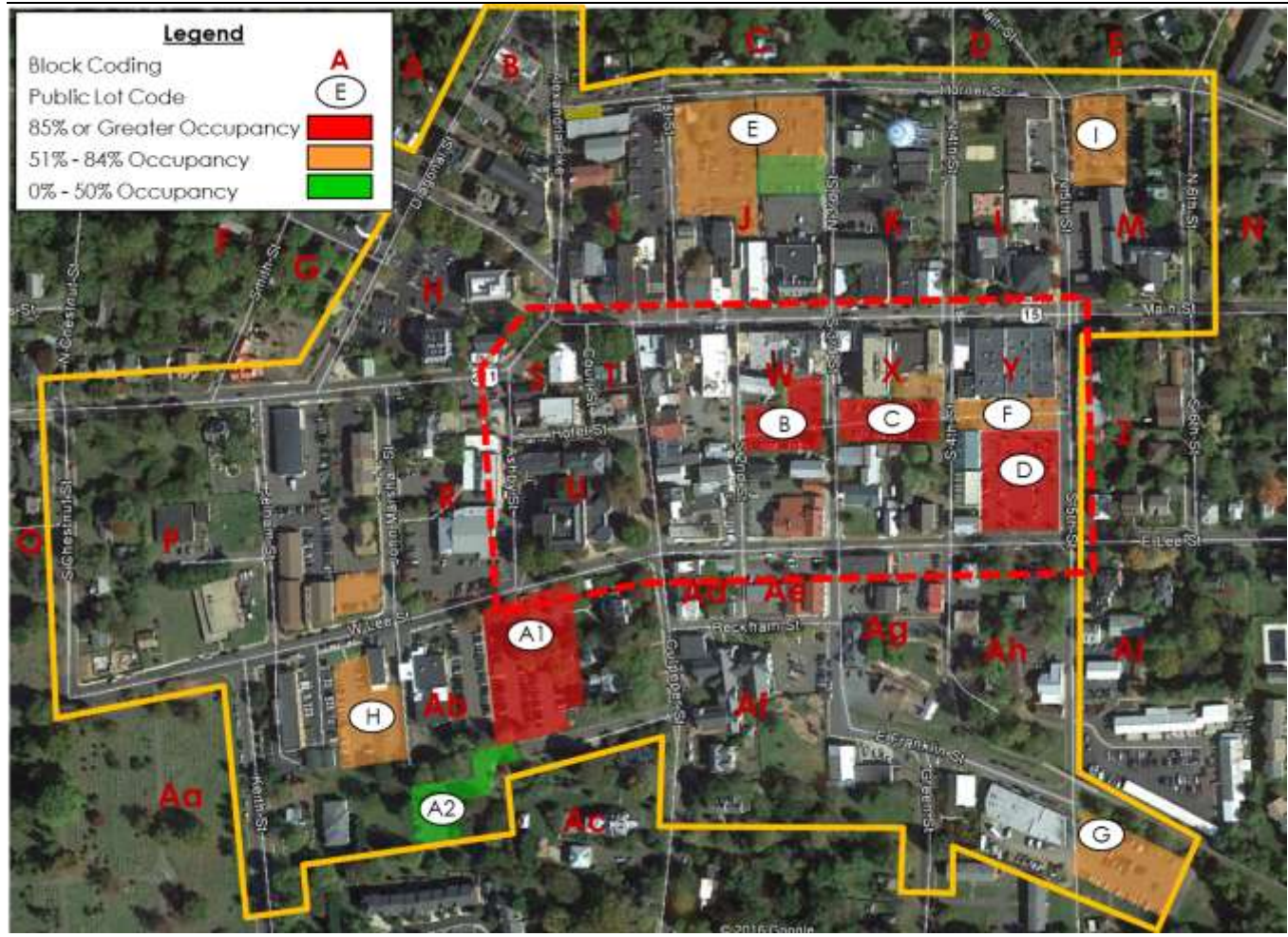
OCCUPANCY OF PUBLIC OFF-STREET SPACES

Occupancy counts were conducted on Thursday October 20th and are judged to represent a typical weekday. Four counts were performed; 9 AM to 10 AM, noon to 1 PM, 3 PM to 4 PM, and 6 PM to 7 PM. Exhibit 5 illustrates on a map peak period (noon to PM) occupancy as a percentage of spaces, with red indicating use between 85% and 100%, orange being 51% to 84%, and green being less than 51%. At that time, 461 of the total 661 public parking spaces within the overall study area were occupied (75%).

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Figure 5: Peak Weekday Occupancy of Core and Periphery Off-Street Spaces



Source: Walker Parking Consultants, 2017

Public off-street lots in the core exhibited much greater levels of utilization during the peak hour and Table 3a (core) and 3b (periphery) provide a break out of these differences. Of the 190 off-street spaces in the core, 167 (87%) were occupied. It is interesting to note that utilization of the all-day core spaces at 97% was greater than the use of 1-hour (75%) and 2-hour (81%) spaces. Based on discussion with Town staff and personal observations, it could be argued that many of the vehicles parked in the short-term spaces were, in fact, employees who not could find available spaces in the all-day spaces.

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Table 3a: Peak Weekday Parking Occupancy by Lot/Restriction in the Core

Lot Code	Restrictions	Inventory	12-1PM	
			Occupied	%
Lot B	2-hr.	20	20	100%
	Unrestricted	9	9	100%
	ADA	3	1	33%
	Subtotal	32	30	94%
Lot C	2-hr.	15	15	100%
	Unrestricted	20	20	100%
	ADA	3	0	0%
	Subtotal	38	35	92%
Lot D	Unrestricted	84	81	96%
	ADA	3	0	0%
	Subtotal	87	81	93%
Lot F	1-hr.	12	9	75%
	2-hr.	19	9	47%
	ADA	2	1	50%
	Subtotal	33	19	58%
Total Core	1-hr.	12	9	75%
	2-hr.	54	44	81%
	Unrestricted	113	110	97%
	ADA	11	2	18%
	Total	190	165	87%

Source: Walker Parking Consultants, 2017

When examining the peak utilization of peripheral parking lots (see Table 3b) the same pattern is found in Lot E where 96% of unrestricted spaces were occupied while only 63% and 79% of the two-hour and three-hour spaces were occupied respectively. Of the 129 spaces in "municipal Lot A" only 95 (74%) were occupied. However, when you differentiate between the upper section(s) of the lot (A1) and the lower section (A2) peak occupancy varies from over 90% in the upper and only 31% in the lower. Obviously, the topography and distance from the lower lot to employee and visitor destinations makes this lot less desirable.

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Table 3b: Peak Weekday Parking Occupancy by Lot/Restriction in the Periphery

Lot Code	Restrictions	Inventory	12-1PM	
			Occupied	%
Lot A1	2-hr.	19	18	95%
	Unrestricted	72	67	93%
	ADA	6	0	0%
Lot A2	Unrestricted	32	10	31%
	Total	129	95	74%
Lot E	2-hr.	30	19	63%
	3-hr.	33	26	79%
	Unrestricted	51	49	96%
	ADA	6	0	0%
	Total	120	94	78%
Lot G	Unrestricted	63	52	83%
	ADA	3	1	33%
	Other	9	0	0%
	Total	75	53	71%
Lot H	Unrestricted	48	29	60%
	ADA	2	0	0%
	Total	50	29	58%
Lot I	Unrestricted	45	25	56%
	ADA	2	0	0%
	Total	47	25	53%
Periphery Total	2-hr.	49	37	76%
	3-hr.	33	26	79%
	Unrestricted	311	232	75%
	ADA	19	1	5%
	Other	9	0	0%
	Total	421	296	70%

Source: Walker Parking Consultants, 2017

The analysis of occupancy in the core and peripheral off-street lots is quite straightforward. The core lots, Lots B, C, and D, and peripheral Lot A1 had occupancy levels above 90% which included short-term and long-term spaces and, presumably, short-term and long-term parkers. Occupancy of the most convenient long-term parking spaces is higher than in less convenient spaces. Like any parking user group, employees want access to the spaces closest to their destination. However, the demand for long-term parking isn't so high as to push occupancy levels in the most peripheral lots. Lot A2 peaked at 31% utilization and Lot I peak at 56% utilization. It is acknowledged that these spaces require a greater and more challenging walking distance but the spaces do exist and are reasonably maintained. With design and walkability improvements and appropriate parking management strategies these lots could be made more useful for long-term parkers. It could be argued that the parking surpluses in Lot G and H should also be referenced when discussing acceptable locations for long-term parkers. However, Lot G is a considerable distance from major employment centers and little pedestrian infrastructure exists to ensure a safe and efficient walking experience. Lot H is adjacent to the detention center, is in very poor condition, and major rehabilitation would be required to make it acceptable.

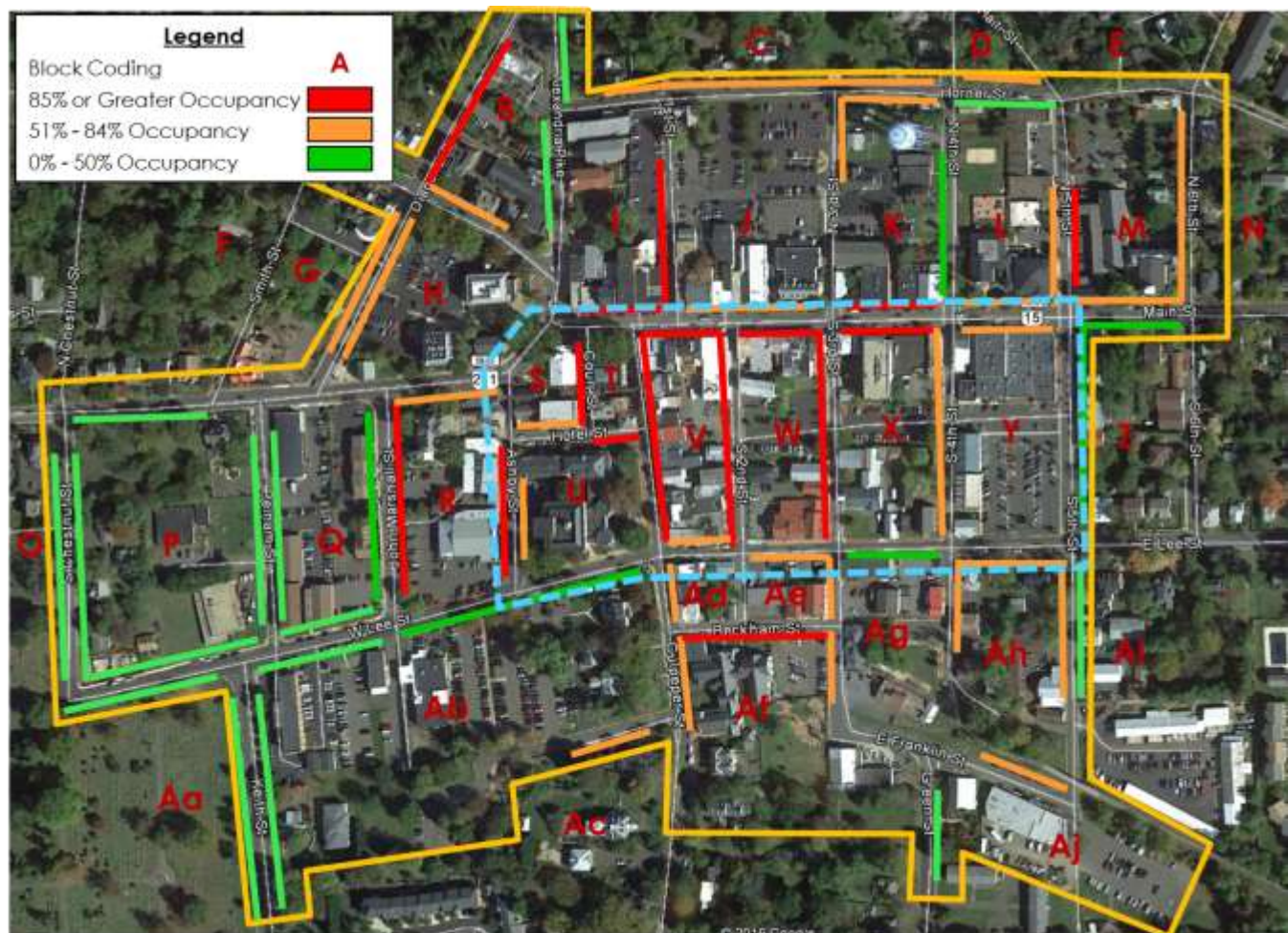
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OCCUPANCY OF PUBLIC ON-STREET SPACES

Walker also collected on-street parking occupancy at 9 AM, noon, 3 PM, and 6 PM. The study wide results indicate that the greatest demand for on-street occurs at noon when 307 (55%) of the 561 spaces were occupied. Figure 6 provides a block face by block face illustration of the observed utilization during this period with red indicated use between 85% and 100%, orange being 51% to 84%, and green being less than 51%.

Figure 6: Peak Weekday Occupancy of Core and Periphery On-Street Spaces



Source: Walker Parking Consultants, 2017

Table 4 then examines the inventory and peak occupancy differences between the core and periphery spaces. Of the 91 on-street spaces in the core, 82 (or 90%) were occupied while only 225 (48%) of the 470 periphery spaces were occupied. Given the size of the overall study area, certain blocks are exclusively or predominately residential. Ideally, curbside parking spaces in areas zoned residential should not be managed to meet the needs of employees and other long-term parkers. Like many cities/Towns, as parking pressure grows in Old Town Warrenton

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the Town may wish to consider the creation of residential parking permit programs where only residents and their temporary visitors are permitted to park.

Table 4: Peak Weekday Occupancy of Core and Periphery On-Street Spaces

Location	12-1PM		
	Total	Occupied	%
Core	91	82	90%
Periphery	470	225	48%
Total	561	307	55%

Source: Walker Parking Consultants, 2017

SUMMARY OF SUPPLY AND PEAK OCCUPANCY FINDINGS

Table 5 summarizes the on-street and public-off street parking inventory and peak occupancy data and includes the concept of operational capacity. Parkers become frustrated when trying to find an available space. At a certain level of occupancy, their level of frustration grows. To measure this frustration in terms of parking surplus or deficit conditions an operational capacity figure equal to 90% of the available spaces is applied. For example, a 100 space surface lot that is 90% occupied is considered to be operationally full. The 91st parker can find an available space but their search pattern may be longer and more trying.

Using that measure of frustration, the core parking facilities experienced an operational surplus of only six spaces while the peripheral spaces exhibited a surplus of 281 spaces. On the face of it, Old Town Warrenton does not have a system-wide supply and demand problem as long-term parkers in the core simply need to be "pushed" to available spaces in the periphery.

Table 5: Peak Weekday On- and Off-Street Operational Surplus or Deficit by Location

Location	Parking Inventory	Operational Capacity ⁽¹⁾	Peak Occupancy	Operational Surplus
Core				
Off-Street	190	171	165	6
On-Street	91	82	82	0
Subtotal	281	253	247	6
Periphery				
Off-Street	421	379	296	83
On-Street	470	423	225	198
Subtotal	891	802	521	281
Public Total				
Off-Street	611	550	461	89
On-Street	561	505	307	198
Total	1,172	1,055	768	287

(1) Operational capacity based on 90% of inventory

Source: Walker Parking Consultants, 2017

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However, those figures and that statement include ADA spaces which are restricted to persons with disabilities, remote off-street parking lots like Lot G and H which are challenging from a walkability perspective, Lot I that is on private (church) property, and on-street spaces on Chestnut Street which is in residential neighborhoods. Additionally, the peripheral operational surplus includes parking facilities that are owned/operated jointly by the Town and County (Lot A1), or owed/operated by the County (Lot A2). Therefore, in addition to management strategies which push long-term parkers from core areas and pull them to reasonable off-street lots in the periphery, the Town needs to obtain long-term commitments from the County and the church so that strategies to improve the value and use of these facilities do not end up being temporary solutions.

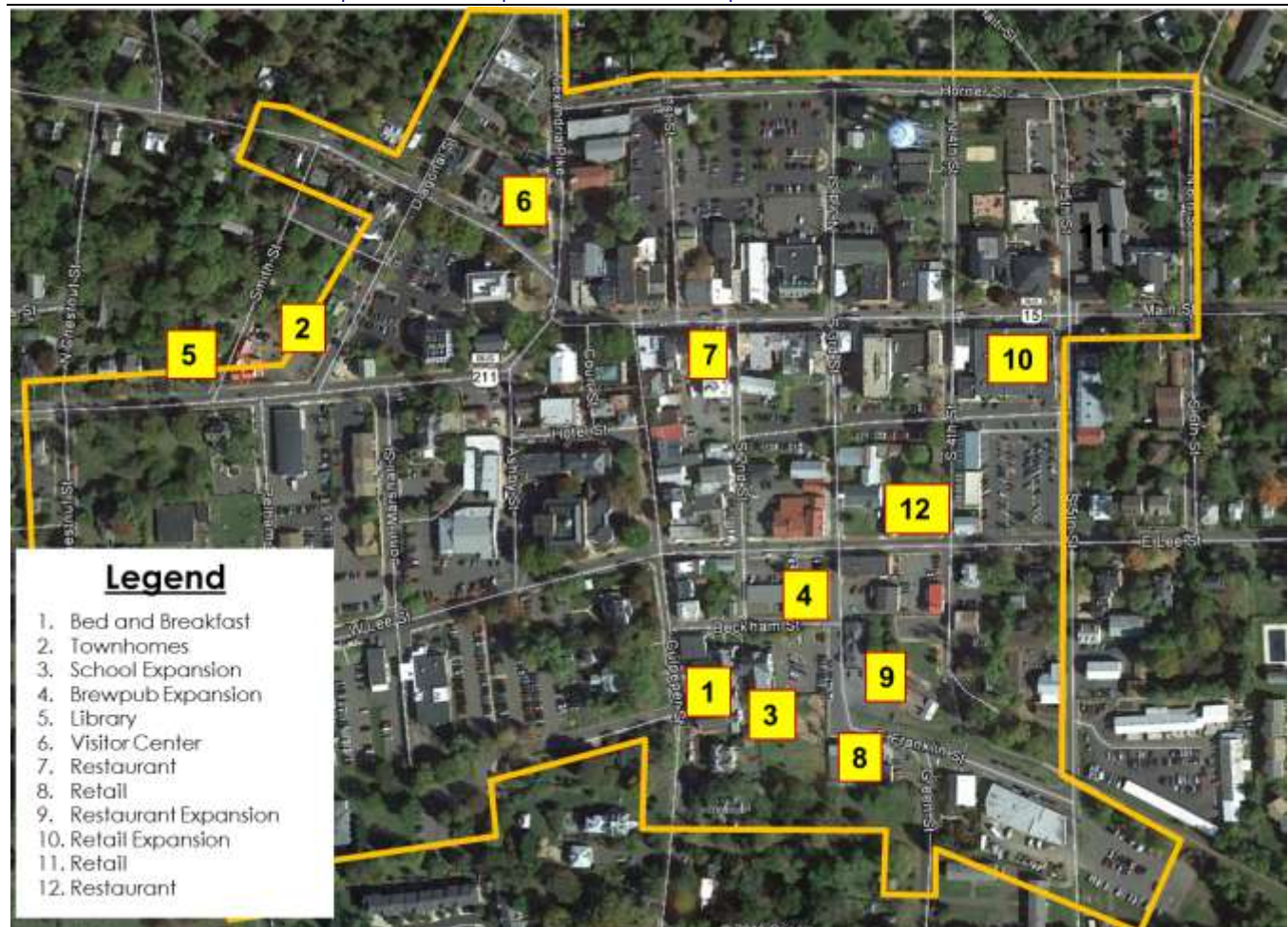
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FUTURE PARKING CONDITIONS

Recommendations to improve the effectiveness, efficiency, and overall performance of the public parking system will need to anticipate changing conditions, particularly as it relates to additional parking demand. In an effort to model a future with additional parking pressures, Town staff created a conceptual vision of future development which included the location, land use type, and density of new restaurants, shops, townhomes, a bed and breakfast inn, a new/expanded library, and school expansion. Exhibit 7 shows the location of known, proposed, and speculative future developments. It must be noted that this vision is purely speculative, as Town planners, administrators, and civic leaders have not committed to the vast majority of these projects, and their assessment is only for purposes of this parking study. Furthermore, as this is a study to recommended changes to parking operational and management and improve the parking system performance in the near term, any projections of future demand are simply in an effort to quantify, however roughly, increased stress on the Town's management program over time.

Exhibit 7: Site of Known, Proposed, and Speculative Developments



Source: Walker Parking Consultants, 2017

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ESTIMATES OF PARKING DEMAND FROM KNOWN, PROPOSED & SPECULATIVE DEVELOPMENT

The modelling of parking demand generated by future development activity is “tricky business” as a number of unknown conditions will ultimately determine the true impact. Those conditions include but are not limited to the speculative nature of development, timing or phasing, the actual number of tenants, employees, and/or visitors/shoppers, and the period when different land uses peak. Office land use activity peaks between 9AM to 5PM on a weekday, residential peaks between 5PM and 8AM when residents are home, and restaurants and retail activity generally see their greatest volume of patrons in the evenings and weekend. Therefore, a space used by an employee during the day could be used by residents and/or restaurant patrons in the evening. Ideally, estimates of future parking demand presented in this report would have been based on today’s relationship between current land use activity and field surveyed peak daytime parking occupancy. Unfortunately, there is, at present, no such database for Old Town Warrenton. Alternative, the parking demand estimate could have been based on ratios that are published by the Urban Land Institute (ULI) and/or Institute of Transportation Engineers (ITE). However, as opposed to using ULI or ITE ratios, which are based largely on suburban and auto-centric case studies, it was decided that the off-street parking requirements in the Town’s zoning ordinance should be used. Note that absent the land-use data and associated parking demand ratios, there is no evidence to suggest that the Town’s zoning requirements accurately predict parking demand. Therefore, it is recommended that the Town commit to an inventory of all existing buildings in Old Town to include density, land use type, and vacancy, and parcel location.

Table 4 shows how these developments were modeled. The quantity of parking space demand generated from the model is a suggested 553 spaces which far exceed the system-wide operational surplus of 287 spaces illustrated on Table 3. Note that this development impact analysis presumes that no on-site parking would be provided and that all land uses peak at the same time, between noon and 1PM on a weekday. Therefore, the operational parking deficit of 266 spaces (553 minus 287) as projected represents a “worst case scenario”.

Table 4: Peak Weekday Parking Demand based on Town Zoning

Map ID	Address	Land Use Type	Square Footage	Demand Ratio	Demand
1	97 Culpeper Street	Bed and Breakfast	4,157	1 per room plus 1 employee	8
2	67 Waterloo Street	Townhomes (10 units)	40,000	2.5 for each DU	25
3	73 Culpeper Street	Elementary School	10,000	1 per 25 seats plus 1 per employee	10
4	41 South 3rd Street	Brewpub Expansion	9,612	1 per 150 gsf	64
5	80-90 Waterloo Street	Library	30,000	1 per 2.5 patrons plus 1 per employee	85
6	11 Winchester Street	Visitor Center/ Admin Office	25,418	1 per 300 gsf	85
7	36 Main Street	Restaurant	9,072	1 per 150 gsf	60
8	60 Franklin Street	Retail	7,492	1 per 200 gsf	37
9	75 South 3rd Street	Restaurant	5,292	1 per 150 gsf	35
10	100 Main Street	Retail expansion	15,340	1 per 200 gsf	77
11	17 North 5th Street	Retail	4,706	1 per 200 gsf	24
12	79 East Lee Street	Restaurant	6,476	1 per 150 gsf	43
Total					553

Source: Walker Parking Consultants, 2017

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Under this vision, additional surface parking or a parking structure would be required. However, the scope of this parking management plan does not include the siting of such a facility. Cost associated with operating and maintaining parking is included and some discussion of design standards and structured parking operations follows.

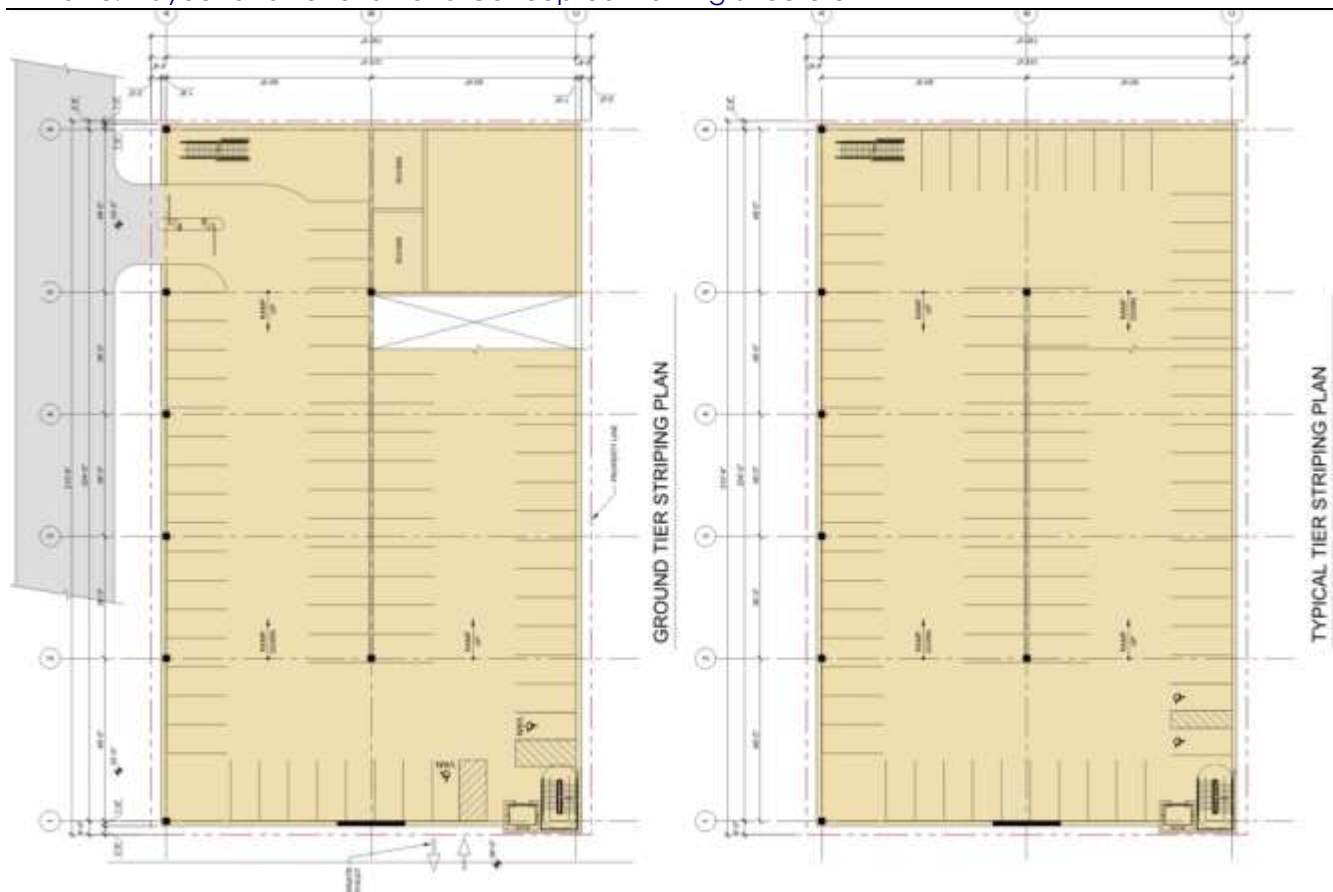
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STRUCTURED PARKING "101"

On a per space basis, and presuming some design efficiency, a parking structure could cost between \$20,000 and \$30,000 per space. Therefore, a modest 300-space structure could cost between \$6 million and \$9 million dollars, excluding land acquisition costs. Operationally, parking structures require much more attention than curbside or surface parking. In addition to utilities, cleaning/sweeping, access control equipment, and periodic maintenance, structured parking facilities require an annual sinking fund for long-term maintenance to ensure structural durability. That cost alone can be equal \$100 per space per year. Finally, parking structures demand a rather significant development footprint. A parking space should be 8.5 to 9.0 feet wide and 18 feet long, and the drive isle for two-way traffic requires 24-feet. This represents a 60-foot single bay of parking and two-bays are required for circulation and ramping. In terms of length, and again accounting for a ramp for access to supported levels, a parking structure wants to be, at minimum, 210 feet long. As a result, the development footprint and number of levels required for a 300-space parking structures is 130 feet wide (with retaining walls), 210 feet long, and 48 feet (four levels) tall. Exhibit 8 illustrates the function and layout of a parking structure that meets these dimensions.

Exhibit 8: Layout and Function of a Conceptual Parking Structure



Source: Walker Parking Consultants, 2017

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PARKING OPERATIONS, POLICIES & PROCEDURES REVIEW AND RECOMMENDATIONS

OVERVIEW OF EXISTING CONDITIONS

The following overview presents Walker's understanding of the Town of Warrenton's current role and approach to parking operations, management, enforcement, and adjudication. This understanding was gained through a review of available documentation and interviews with representatives from key departments. The following departments were involved in the discussions: Planning, Public Works, Police, and the Town Manager's office. From an organizational perspective, the Town's parking system responsibilities are decentralized and involve a range of departments. The enforcement of parking related codes and ordinances fall to the Police Department, Public Works is responsible for lot maintenance and signage fabrication/installation, and the Town Manager's office is involved in the development and promotion of parking policy. There is no single department or individual that is responsible for the coordination of all these activities.

PUBLIC PARKING MANAGEMENT "101"

From a demand management perspective, on-street parking spaces serve high-turnover and short duration-of-stay patrons given space visibility, convenience, and proximity to core destinations. Off-street facilities (lots and structures) should be managed to meet a variety of short-term and long-term parking needs depending on the land use activity that they serve. Long-term parkers, unlike short-term, are more willing to accept longer walking distances as long as that walking distance is safe and reasonable. Given the limited supply of on-street parking and their convenience for short-term and long-term users, many municipalities employ methods to discourage long-term parking on-street and promote the reasonableness of more peripheral off-street facilities for these users. In Warrenton, the Town uses posted durations of 5, 15, 30 minutes, 1 hour and 2 hours to encourage appropriate on-street parking behavior. But without fee-based strategies (meters, payment kiosks, pay-by-cell phone service, etc.), Warrenton's on-street management program is totally dependent on enforcement and compliance.

From a financial perspective, and in an ideal situation, a parking system is self-supporting either through user fees, special tax districts, or some combination of the two. The logic being that those that don't use this particular public infrastructure need not be taxed through the general fund to pay for this service. By applying natural market forces which recognize the demand for parking, particularly curbside parking, a stream of revenue could/would be generated to fund its planning, construction, management, and maintenance. Like tickets to a baseball game, where the value of "behind home plate" seats are far greater than those in the bleachers, a municipality should price its on-street and off-street parking assets in a similar fashion.

However, this perspective does not suggest that the Town of Warrenton needs to create a parking department and/or a parking manager position particular given the relative small size of the public parking system. Nor does this suggest that the Town needs introduce a fee-based approach to parking management. Again, given the size of the parking system, capital and operational cost to purchase the required equipment, and the lack of a known market value for parking, it cannot be assumed that fee-based parking would solve the Town's current and

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future management and financial challenges. However, subsequent sections of this report will examine recommended staffing levels, roles and responsibility, “only as necessary” parking equipment/technology, and alternative funding strategies (including fee-based management) so that Town staff, political leadership, and, most importantly Old Town stakeholders can appreciate the true cost of an effective and efficient parking program.

ON-STREET PARKING MANAGEMENT

Old Town Warrenton needs to simplify the on-street parking management program by replacing all one-hour parking spaces with two-hour durations. As noted previously, two-hour durations meet the needs of a larger volume of short-term diners, shoppers, business visitors, and tourists and it can be patrolled using a recommended parking enforcement aid (PEA) position. Unrestricted spaces on the east side of John Marshall Street should also be converted to two-hour durations so that they are in line with the two-hour restrictions on the west side of the street. The change on John Marshall Street would push what is likely long-term parkers (aka, employees) to Lot A2, which during the peak weekday period was only 31% occupied. The 5-, 15-, and 30-minute on-street spaces could remain for the time being. However, following the PEA's experience patrolling these spaces, the Town manager may choose to also replace these with two-hour durations.

Note that parking spaces with two-hour durations could serve 5-, 10-, and 30-minute lengths of stay without fuss or confusion. Ideally, effective enforcement will cause these two-hour spaces to turn over rapidly during the course of the day. Meaning, a driver who spots a cute shop or interesting café and who sees an available curbside space may choose to stop, park, and frequent that shop or restaurant. This is termed “opportunity parking” and it reinforces the importance of on-street parking for short-term availability.

OFF-STREET PARKING MANAGEMENT

Of the 611 public off-street parking spaces in Old Town Warrenton 115 are for one or two hour durations. When three-hour spaces are included that volume increases to 148. Therefore, nearly 25% of public off-street spaces are available for short durations of stay. While this might be appropriate for the three core parking lots B, C, and F just south of Main Street, it would not be for the more peripheral lots. For example, Lot E, with a capacity for 120 spaces and which has a mix of 2-hour (30 spaces), 3-hour (31 spaces), ADA (6), and unrestricted (51), the unrestricted spaces achieved 96% occupancy while the 2-hour and 3-hour achieved only 63% and 79%, respectively.

While not recommended at this time given the great administrative responsibility associated, the Town could consider as it converts some short-term off-street spaces to long-term (or unrestricted) an employee color coded permit program where each lot has a specific designation and employees obtain (or purchase) the applicable monthly hangtag or decal.

SIGNAGE AND WAYFINDING

Parking orientation and directional wayfinding is always a challenge in a historic environment and careful consideration must be applied when balancing the need to have an effective

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signage program with the character of a street or sidewalk. It would appear that the Town has made a number of efforts to address this issue, but the effort seems disjointed and incomplete. The photos under Exhibit 12 illustrate two different parking directional signs posted back to back on the same poll.

Exhibit 12: Existing Examples of Parking Directional Signage



Source: Walker Parking Consultants, 2017

Signage that orients the parker to their parked destination (see Exhibit 13 below), on the other hand, is consistent. However, it is overwhelming and somewhat uninviting.

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Exhibit 13: Existing Lot Orientation Signage



Source: Walker Parking Consultants, 2017

The Town need not create parking directional signage that is in contrast with the nature of the area but it need to have consistent color coding, font dimension, and placement. The signage greeting drivers to the off-street lots themselves must be redesigned to create a welcoming atmosphere, using little text but extensive orientation graphics and icons. Included in the parking operations and management budget will be a line item for the hiring of a signage and wayfinding consultant who would develop the specification and placement guidelines for both the directional and lot orientation sign program.

PARKING ENFORCEMENT

Since 2011, the number of parking tickets issued by the Police and Parking Enforcement unit has declined from 2,923 to 1,488. Parking enforcement has declined due to a variety of factors with the primary issues being 1) enforcement is not a high priority given the demands on the Police Department, 2) current parking enforcement ordinance is overly complicated and too lenient, 3) personnel do not have access to "cutting edge" enforcement and citation tracking hardware, and 4) at present, there is no staff position dedicated to this effort.

Parking enforcement must be fair and consistent and parking ordinances must be easy to understand and compliable. It is recommended that the Town retain a part-time employee, or parking enforcement aid (PEA), who would work 24 hours per week exclusively on parking patrols. The hours dedicated to this effort should vary to avoid over familiarity and complacency by parkers and the PEA, but would be sufficient to patrol the entire public parking system every two hours from 8 AM to 4 PM. Given their presence, the PEA would also perform other downtown community outreach functions and work in coordination with community service/policing efforts by alerting different Town departments on the condition of sidewalks and street signs, identify areas of litter, and generally serve as a parking ambassador by responding to citizens' questions about parking, office locations, and a "good place to eat".

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The PEA would be hired and directly supervised by the Police Department. But indirect supervision and advocacy would come from the Town Manager's office. Once a month, the Chief of Police, PEA, and Town Manager (or his/her representative) would meet to review past enforcement details, routes, and performance and modify those routes and details to address any issues that remain. For purposes of the financial analysis, a salary and benefits budget of \$30,000 will be referenced for this position.

Fines for parking violations, when issued, may not have the desired effect of discouraging repeat offenders (aka, scofflaws) as they are quite modest. The fine for overtime parking in Warrenton is only \$5.00 and second and third violations only increase to \$10 and \$25, respectively. Table 5 compares the fines for the most numerous parking violations in a number of comparable communities in Virginia. These communities were selected as 1) they're in the Commonwealth of Virginia, 2) are recognized historic districts, and 3) have high volumes of visitors/tourists.

Table 5: Fines for Parking Violations in Comparable Communities

Violation	Warrenton	Fredericksburg	Staunton	Williamsburg	Lynchburg
Overtime 1st Offense	\$5.00	Warning (1)	\$10.00	\$10.00	\$20.00
Overtime 2nd	\$10.00	\$15.00	\$25.00	\$30.00	\$20.00
Overtime 3rd	\$25.00	\$25.00	\$50.00	\$50.00	\$20.00
Overtime 4th	\$50.00	\$35.00	\$50.00	\$50.00	\$20.00
Overtime 5th	\$50.00	\$45.00	\$50.00	\$50.00	\$20.00
Prohibited Zone	\$10.00	\$25.00	\$20.00	\$10.00	\$30.00
Loading Zone	\$10.00	\$25.00	\$15.00	\$10.00	\$30.00
Handicapped Space	\$50.00	\$100.00	\$100.00	\$100.00	\$100.00

(1) Second overtime parking violation issued to same vehicle within six months results in issuance of a second offense. Overtime fine violations reset after six months.

Source: Walker Parking Consultants, 2017

Fredericksburg's fine structure for overtime parking includes a warning for first time offenders. A warning softens the negative impression that parking enforcement generally creates and it educates the parking "consumer" on appropriate parking behavior. Conversely, the second and subsequent fines for overtime parking become much more severe in an attempt to correct, once and for all, that behavior. Like an accelerated fine structure, the warning requires that the parking enforcement program records the violating vehicles license plate into a database for future reference. However, without appropriate field equipment and back office software, that effort becomes extremely cumbersome. For Warrenton, it is recommended that the fines for the overtime parking be increased \$10 for the first violations, \$25 for the second, \$50 for the third and all subsequent violations received by a single vehicle within a one-year period. After which the fine structure resets.

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In addition to personnel costs, the Town must invest in a handheld parking citation enforcement system and the following best management and operating practices are offered. Note that a detailed operating/performance specification or bidding document is not included in this assignment. Nonetheless, the Town will find the following valuable as it revisits this necessary technology. Key to this understanding is the fact that the enforcement devices themselves need not be expensive, heavy, and proprietary; as smartphones and associated software applications ("apps") can easily (and cheaply) be employed. Note that the cost associated with new devices and software is included in the financial section of this report.

Handheld electronic ticketing device with Bluetooth printer: The enforcement software shall be loaded onto an "Android" mobile phone. The application will be online with the Parking Management Software and will communicate in real-time. The application must be able to:

1. Scan barcode parking passes and verify validity.
2. Capture high-resolution color photos, verbal comments, and GPS coordinates and connect this data to the ticket issued.
3. Integrate in real-time with Pay-by-Phone, Multi-space meters, and on-line single space meters.
4. Repeat violators and "hot list" vehicles will be automatically flagged when entering another ticket.
5. Real-time electronic chalking for time zone enforcement.

Parking Management Software: The parking management software must track the life of the ticket from issuance to payment or adjudication. It will be held on the manufacturers server and accessed through a web portal. The software is fully configurable to the owner's choices: name, address and phone number of owner, fee rate, rate escalation, and time, etc.

1. Automated upload of mobile tickets.
2. Automated Permit Holder lookup.
3. Automatic fine escalation and late fees.
4. Electronic payment posting.
5. Repeat offender tracking.

Customer Web Portal: The Customer Web Portal is a self-service ecommerce module that connects in real-time to the Parking Management Software. Customers and violators can log in remotely from any browser, smartphone, or tablet and access their account or tickets.

1. Online violation payment.
2. Online violation appeal.
3. If parking permits are utilized, the customer can access their account, post payments, apply for permits, get on a waiting list, etc.

Estimated Costs:

1. Handheld application with Bluetooth printer: \$3,000 purchase per user with contract of \$750.00 per year.

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2. Parking Management Software: \$6,000 per user purchase and contract of \$1,200 per year.
 - a. \$10,000 one-time setup fee with annual contract of \$2,000.
3. Customer Web Portal: \$10,000 purchase.
 - a. \$3,000 one-time setup fee with annual contract of \$2,000.

Investing in these handheld ticket issuance devices would permit the Town to maintain its existing accelerated fine structure but also permit the creation of a first time warning which is ideal for a community with a high volume of "out of Town" visitors and tourists.

Finally, the Town should consider employing mobile license plate recognition (LPR) technology for parking enforcement. LPR has made the enforcement of parking restrictions and permit parking remarkably efficient and cost effective. Mobile LPR utilizes vehicle-mounted cameras that read and record license plate numbers as an enforcement vehicle is driven through the downtown streets, decks, and lots. The cameras are typically placed on the left and right side of the patrol vehicle and record the rear (and/or front) license plates of parked vehicles. The cameras use a series of algorithms to convert the photographic image of a license plate into text data. System software then compares the plate number to the previous enforcement session(s) and/or databases of paid or permitted license plates, to determine if the vehicle has overstayed the time limit, if it has paid, or otherwise has a right to park in that particular location at that particular time. Given that the cost to purchase and outfit a vehicle is approximately \$50,000, it is recommended that the Town delay the decision to purchase this technology until other improvements to the parking program have been initiated, measured, and formalized.

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EXISTING AND FUTURE PARKING SYSTEM COSTS

PARKING MAINTENANCE AND REPAIR

A visual condition survey of the Town's public parking lots was conducted and used to prepare the ten-year public parking lot repair plan (see Table 6 on the following page). While the majority of the lots were in fair condition requiring only periodic resurfacing and restriping, Lot A (in FY2019) and Lot H (FY2017) required more significant and immediate remediation (grading, milling, resurfacing, and restriping). Funding requirements by year vary from zero to \$264,600, with the total ten-year repair program equaling \$981,900. To fund that repair program and using a ten-year term and a rate of interest of 4.0%, the Town should include in its annual budget \$121,100 per year. This fund will be included in the overall financial analysis but would be in addition to estimates of annual per space operating and maintenance costs which would include utilities, signage installation/maintenance, sweeping, trash removal, and snow removal.

Table 6: Ten-Year Public Parking Lot Repair Plan

Lot	A	B	C	D	E	F	G	H	I	Total by Year
Spaces	129	32	38	87	120	33	75	50	47	611
Sq. Ft.	40,700	10,100	12,000	27,500	37,800	10,400	23,700	15,800	14,900	192,900
2017	\$0	\$6,600	\$7,800	\$17,900	\$0	\$6,800	\$0	\$102,700	\$9,700	\$151,500
2018	\$0	\$0	\$0	\$0	\$82,500	\$0	\$84,800	\$0	\$0	\$167,300
2019	\$264,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$264,600
2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2022	\$0	\$9,595	\$11,400	\$34,375	\$0	\$0	\$0	\$10,270	\$18,625	\$84,300
2023	\$26,455	\$0	\$0	\$0	\$0	\$67,600	\$84,800	\$0	\$0	\$178,900
2024	\$0	\$0	\$0	\$0	\$135,135	\$0	\$0	\$0	\$0	\$135,200
2025	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2026	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total by Lot	\$291,100	\$16,200	\$19,200	\$52,300	\$217,700	\$74,400	\$169,600	\$113,000	\$28,400	\$981,900

Source: Walker Parking Consultants, 2017

SYSTEM-WIDE OPERATIONS, MANAGEMENT & MAINTENANCE

With the exception of municipalities that have a consolidated parking department, parking enterprise fund, or parking authority, organizational structures that require a business like accounting of all related costs and revenues, most municipalities are unaware of the total cost to finance, maintain, manage, enforce, and adjudicate their parking program. Unlike hard unit costs associated with lot repair and rehabilitation or the capital cost to build a space or purchase equipment, costs associated with staff hours dedicated to parking planning, operations, and enforcement are difficult to predict. Using industry guidelines as a base and noting the relative operational simplicity of the Old Town's parking infrastructure, a general annual cost of \$50 per space for on-street parking and \$50 per space for off-street lots will be

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used to estimate the system's overall operating and maintenance (O&M) costs. These costs typically include those items mentioned previously, plus surface maintenance (separate from repair costs), landscaping, landscaping maintenance, storm water mitigation, parking enforcement, ticket appeals/adjudication, employee and residential parking permit administration, related planning and community outreach, and program promotion/education (website and online parking information). Based on the size of the public parking program it is estimated that the annual cost to provide the 561 curbside spaces and 611 off-street spaces equals \$58,600. Recommended annual O&M costs of surface parking is higher and can equal between \$100 and \$150 per space per year but the repair and rehabilitation cost presented on Table 6 covers all anticipated preventive maintenance.

Table 7 presents a ten-year system-wide operating and maintenance cost summary. On-going but potentially unrecognized costs for planning, management, maintenance, and enforcement are combined with cost estimates for recommended parking enforcement staff, enforcement hardware and software, and changes to on- and off-street parking regulations and related signage and wayfinding. Presuming many of these improvements are implemented immediately, the FY2017 parking system O&M costs would equal \$264,050. Depending on the timing and acquisition of additional parking enforcement equipment and technology, those annual costs would vary between \$222,250 and \$276,950.

Table 7: Ten-Year Parking Operations, Maintenance & Public Parking Lot Repair Plan

	Debt Payment & Annual O & M Costs					
	FY2017	FY2019	FY2021	FY2023	FY2025	FY2027
Capital / Equipment Amortization						
Surface Lot Repair and Rehab	\$121,100	\$121,100	\$121,100	\$121,100	\$121,100	\$121,100
Parking Signage Fabrication & Installation	\$20,000	\$0	\$0	\$0	\$0	\$0
Handheld Enforcement Device & Software	\$27,950	\$5,950	\$5,950	\$5,950	\$5,950	\$5,950
Enforcement Vehicle & License Plate Recognition	\$0	\$0	\$50,000	\$5,000	\$5,000	\$5,000
Total Capital / Equipment Amortization	\$169,050	\$127,050	\$177,050	\$132,050	\$132,050	\$132,050
Staffing and Benefits						
Public Service Aid (0.6 FTE)	\$30,000	\$30,000	\$31,500	\$33,100	\$33,100	\$36,500
Administrative Assistant (0.2 FTE)	\$6,400	\$6,400	\$6,700	\$7,000	\$7,000	\$7,800
Total Staffing and Benefits	\$36,400	\$36,400	\$38,200	\$40,100	\$40,100	\$44,300
Facility Operations & Maintenance Costs						
Surface Lots	\$30,550	\$43,650	\$45,800	\$48,100	\$48,100	\$53,000
Curbside Spaces	\$28,050	\$15,150	\$15,900	\$16,700	\$16,700	\$18,400
Total Facility Operations & Maintenance Costs	\$58,600	\$58,800	\$61,700	\$64,800	\$64,800	\$71,400
Total Parking Operating & Maintenance Costs	\$264,050	\$222,250	\$276,950	\$236,950	\$236,950	\$247,750
O&M Costs for a Conceptual 300-space Structure (\$25,000 per space)						
Old Town Parking Structure	\$0	\$0	\$150,000	\$154,500	\$159,100	\$168,800
Total O&M Cost with 300-space Structure	\$0	\$0	\$426,950	\$391,450	\$396,050	\$416,550

Source: Walker Parking Consultants, 2017

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Table 7 also includes annual operating and maintenance cost for a conceptual 300-space parking structure simply for purposes of a comprehensive parking O&M financial analysis. Using a recommended \$500 per space per year figure and a FY2021 operating data a new structure would increase O&M costs by \$150,000 with cost of living increases thereafter. Under this scenario, Warrenton's parking program would require annual fund of between \$391,450 and \$426,950. For illustration, the debt service costs for the new 300-space structure has been calculated. Using a \$7.5 million development cost, 4% interest rate, and 20-year term, the annual debt service payment for such a structure would equal \$551,900. Combined, the Old Town's parking program could cost nearly \$1 million annually to finance, operate, maintain, enforce, and adjudicate.

FINANCIAL SOURCES TO MAINTAIN PARKING PROGRAM

To ensure that the Old Town parking program will operate in an efficient, effective, and sustainable manner it is paramount that the Town recognize and then dedicate funding to support and maintain this program. A traditional strategy to improve the performance of public on- and off-street parking is also one which by default generates revenue. Fee-based parking management strategies, which include single and multi-space (kiosks) meters, pay-by-cell phone service, central pay stations, and access and revenue control gates and related equipment, when combined with effective planning and enforcement, have proven effective at achieving performance goals. Performance goals, as expressed earlier in the parking management "101" section, create high turnover, short-term activity on commercial streets by encouraging long-term parkers to utilize more peripheral off-street facilities. Conceptually, and using estimates of parking fees, vehicle per space turnover rates, and daily utilization percentages, Walker projected the parking revenue that could be generated by Old Town's core public parking facilities (see Table 8). At present, there are 91 on-street spaces and 190 off-street spaces and 113 of the off-street spaces are for all-day parking. Assuming that 33 spaces in Lot A2 and/or other peripheral facilities could be made "attractive" for long-term parkers then the supply of off-street core spaces would include 110 short-term, a.k.a. transient, and 80 long-term, a.k.a., monthly permit spaces. All periphery parking would remain complimentary.

Table 8: Estimated Parking Revenue Assuming a Fee-based Management Program in the Core

	Parking Inventory	Conceptual Performance			Annual Revenue
		Parking Rate	Veh./Space Turnover	10-hr. Utilization	
On-Street					
Transient	91	\$1.00 /hr.	5	80%	\$91,000
Off-Street					
Transient	110	\$0.50 /hr.	3	60%	\$24,750
Monthly	80	\$30.00 /mo.	1	100%	\$28,800
Subtotal	190	---	---	---	\$53,550
Total	281	---	---	---	\$144,550

Source: Walker Parking Consultants, 2017

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The \$144,550 annual revenue estimated below does not cover base O&M costs or cost including operating a new parking structure, but it does lessen the funding required from the general fund. More important is the fact that by pricing on- and off-street parking in the core, the spaces in the periphery would become more attractive.

It should be noted that the operating costs presented in Table 7 do not include the cost to purchase or maintain parking meters and/or off-street access and revenue control equipment. A multi-space meter which can manage eight to ten curbside spaces costs roughly \$9,000 each. In Warrenton, we estimate as many as sixty pieces of equipment would be required. Access and revenue control equipment (gates, ticket dispensers, payment stations) cost as much as \$50,000 per installation. That cost presumes full automation and, therefore, no cashiers or related staffing costs are included. Any program that collects coin and credit card revenue will also require staff and associated administrative cost for revenue collection, reconciliation, analysis, and reporting. Additionally, the Town would need to fund an annual equipment maintenance contract with a private equipment/service provider. In short, a full-time parking supervisor position, an 0.5 FTE for administrative assistant, and considerable time/effort from existing Public Works and Finance Department staff would be required. These are organizational changes, equipment acquisitions, and staffing expenditures that are not recommended at this time.

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CONCLUSION

Old Town Warrenton's public parking program has, at present, a surplus of parking spaces. However, certain lots, curbside areas, and blocks do exhibit levels of stress associated with operational capacity and the ease (or lack of) at finding an available space. The demand for and utilization of "core" on-street and Town owned/operated off-street is particularly significant as an operational surplus of only six spaces was observed versus an operational surplus 281 spaces in peripheral locations. Future known, proposed, and speculative development would increase that stress dramatically and a parking structure with a capacity of 300-spaces would be required.

As this report focuses on parking operational and management recommendations, a site feasibility analysis wasn't included. Instead, the report focused on how current and near-term parking stress could be mitigated through management as opposed to additional supply strategies. The report outlines a number of management and enforcement tasks that, when implemented in a concerted way, would improve the efficiency and effectiveness of the Town's on- and off-street parking program.

Those strategies include but are not limited to replacement of curbside one-hour parking restrictions with two-hours, reducing the number of long-term spaces in core lots, expanding and concentrating the supply of long-term (employee and resident) spaces in peripheral parking lots, unifying the parking directional and wayfinding program, making lot identification and orientation signage more welcoming, and making parking enforcement consistent, fair, but effective through staffing and technology changes.

As Fauquier County owns and operations Lot A2 and is a partner with the Town on the ownership and operation Lot A1, it is also recommended that the Town formalize this relationship into a long-term agreement. This is critical given the cost estimate to rehabilitate and maintain those lots. Similarly, the lease agreement with the church for Lot I should also be made more permanent.

Additionally, considering what appears to be deferred maintenance of some of the Town and County's surface lots, the report includes a ten-year surface lot rehabilitation and improvement program. In total, and for the first full year these recommendations are in place, the parking system would cost \$264,050, which is a considerable sum in any environment. However, much of this figure is associated with roles and responsibilities that the Town has been engage in for some time but never quantified in a meaningful way. In comparison to the cost to simply provide more parking (between \$6 and 9 million for a 300-space facility), this annual operating and maintenance cost is modest. More importantly, the increasing complexity of parking needs in Old Town, which includes employees, visitors, residents, delivery vehicles, etc., requires that the Town elevate its parking management program to be as responsive and flexible as possible. This will require financial commitments from the Town's political leadership so as to avoid inefficiency and decay. While a cost neutral parking program would be ideal, the level of operational complexity or market forces behind parking demand are not so compelling in Old Town as to require fee-based management strategies.

