

4.0 OPTIONS

During the peak hour, demand for parking spaces within the core is higher than the number of available spaces. The problem occurs most often on Friday evenings, but may also be an issue during the lunch hour on some days. This section of the study discusses the advantages and disadvantages of management strategies that could be employed to reduce overall demand or disperse parking demand to surrounding facilities during peak periods.

In addition, Appendix D contains several concept plans for improvements to existing parking facilities and layouts for new on- and off-street parking.

4.1 PARKING DEMAND MANAGEMENT STRATEGIES

Parking is one component of the overall transportation system and as such its function is to provide access to final destinations. When business owners and the general public express a desire for more parking, they are in fact asking for convenient, reliable access. The purpose of parking management is to use existing facilities more efficiently to reduce demand for parking spaces while at the same time maintaining access to businesses, services, and homes.

Some general benefits of parking management include:

- Facility cost savings – by reducing the number of parking spaces required, costs are reduced for governments, businesses, developers, and customers.
- Reduces land consumption – land not used for parking is available for tax base generating development, greenspace, or preservation of natural, historic, and cultural resources.
- Revenue generation – some strategies involve pricing which can generate revenues that can help pay for facilities or other transportation improvements
- Reduce stormwater management costs – reduced pavement area reduces stormwater run off and all of its environmental implications¹.

4.1.1 Current Parking Management Activities

Richmond village currently exhibits urban design characteristics that are the foundation of two important parking management strategies. The benefits of shared parking and a walkable community currently reduce demand for parking in Richmond, while providing a high level of access.

- **Shared Parking:** Shared parking reduces the total number of parking spaces because different land uses peak at different times of the day. If the businesses in the core were

¹ “Parking Management Strategies, Evaluation and Planning”; Todd Litman; Victoria Transport Policy Institute; April 25, 2006;
http://www.vtppi.org/park_man.pdf



located along a commercial strip on individual parcels with separate access to a roadway, their total parking demand would be approximately 15% higher, or about 10 spaces¹. This additional demand would require a parking lot almost as big as the Town Corner lot (which contains 11 official spaces).

- **Walkable Community:** The sidewalk system, in combination with diverse uses in close proximity, reduces parking demand. The sidewalk system makes it easier for village residents to walk to numerous destinations. Sidewalks also increase the benefits of shared parking by allowing people to walk to multiple destinations from one parking space. The Town has worked to expand and improve village sidewalks over recent years and has plans for additional improvements in the near term. Extending a sidewalk on Jericho Road to Southview for example, will encourage some people to walk, rather than drive, to the center of the village. Excess demand for parking spaces in the core could also be accommodated by improving walking connections to existing parking spaces on its edge. Specific recommendations are presented in Section 4.2.

4.1.2 Proposed Parking Management Strategies

The maps in Appendix B show the percent occupancy for all of the parking facilities in the study area during Friday evening from 4:00 to 8:00 p.m. The red and orange colors indicate near and over capacity conditions while yellow, green, and blue indicate excess capacity. The maps show that demand exceeds capacity in the core while several nearby parking facilities are under-utilized.

The management strategies described below could be employed to improve the utilization of parking facilities at the edge of the core:

- **Provide employee parking in surrounding lots.** Business owners in the core have an interest in keeping prime core parking spaces available for customers and should consider leasing spaces from surrounding lots for employees. There are several privately owned lots on the edge of the core that are essentially empty during the evening peak hours. Examples include: #104-Village Bike Shop/Ski Express, #114-Jameson Insurance Office Building, #103 – John’s Shoe Shop, and #106-Zachary’s Pizza. All of these are visible from US 2 or Jericho Road and are therefore somewhat safer than the informal lot on Depot Street.
- **Improve User Information.** Even people who frequent the village may not be aware of all of the parking options. A one page parking map could be developed and distributed by local businesses that identifies all of the parking spaces available for public use. This simple brochure could also be posted on the Town’s web site and could be distributed once a year as an insert in the Times Ink.

¹ Table 9 – Shopping center parking demand is 15% lower than demand for individual uses.



- **Formalize existing parking and improve pedestrian connections to the core.** Section 4.2 describes specific recommendations.

Provide Bicycle Parking. In addition to the management strategies described above, providing a space to park bicycles will make it more convenient for cyclists to access the village core and will therefore help reduce demand for vehicular parking. Bike racks should be provided on US 2 in front of Richmond Corner Market and on Bridge Street in front of the Bridge Street Commercial Block. Bicycle racks should be placed parallel to the street (Figure 12).

Figure 12: Bike Racks along a Sidewalk¹



Recruit businesses that do not have peak parking demand on Friday evenings. To further take advantage of shared parking, economic development recruitment efforts could focus on land uses that do not create peak parking demand during Friday evenings. The recruitment effort should focus on services (dry cleaners, bank, and health clinic), office uses and residential development which all have peak parking periods other than the evening (Table 10). The Town should also consider the suitability of some type of light industrial/manufacturing facility. Examples of light industrial uses include printing, material testing, and assembly of data processing equipment. The suitability of light industrial in a village center needs to be evaluated carefully, but from a parking perspective there are certainly advantages.

Table 10: Parking Peak Periods

Description	ITE Land Use Code	Peak Parking Periods
General office	710	<ul style="list-style-type: none"> ▪ 9:00 a.m.-noon ▪ 2:00-4:00 p.m.
Walk-in Bank	911	<ul style="list-style-type: none"> ▪ 9:00-11:00 a.m.

¹ “Bicycle Parking Guidelines, Association of Pedestrian and Bicycle Professionals; Spring 2002.
<http://www.bicyclinginfo.org/pdf/bikepark.pdf>



		<ul style="list-style-type: none"> ▪ 3:00-4:00 p.m.
Dry cleaners	960	<ul style="list-style-type: none"> ▪ 11:00 a.m.-2:00 p.m.
Clinic	630	<ul style="list-style-type: none"> ▪ 9:00-10:00 a.m.
Low/mid rise apartment	221	<ul style="list-style-type: none"> ▪ 12:00-5:00 a.m.
General Light Industrial	110	<ul style="list-style-type: none"> ▪ 7:00-9:00 a.m. ▪ 11:00 a.m.-12:00 p.m. ▪ 1:00-3:00 p.m.

Park and Shuttle: In the long-term, some demand could be intercepted in parking lots on the US 2, Huntington Road, and Jericho Road approaches to the village. These lots would be connected to the village with shuttle service or possibly regional transit service. This type of strategy is most effective when it targets employees of specific businesses or to support special events. For example, the Town could reduce parking requirements for a new business in the village if that business provides an employee shuttle to the Exit 11 park-and-ride lot.

The CCMPO classifies park-and-ride facilities as either:

- Intercept/Satellite Facility – Purpose is to provide a less expensive parking alternative to on-site locations within activity centers or the urban core area and reduce single occupancy vehicle use in activity centers. These facilities may capture outgoing as well as incoming activity center traffic; or
- Park and Ride Facility – Purpose is for car and vanpooling with potential for low frequency shuttle or transit service. It may serve multiple destinations and typically serves longer distance trips¹.

The Exit 11 lot is currently considered a park and ride facility because of its rural location and due to the fact that it serves commuters, and other travelers, with destinations beyond Richmond. It is frequently full and the CCMPO and VTrans have initiated a scoping process to look at options to address the need for more spaces. The potential of this lot to serve as an intercept facility for Richmond village should be included in the purpose and need statement that will guide development and selection of improvements. This will ensure that any design changes consider the long term needs of the village.

Satellite parking on the other approaches to the village (US 2 east, Jericho Road, and Huntington Road) should be more informal and would primarily serve special events. Parking for special events already happens to a certain degree on these approaches, especially on July 4th.

4.1.3 Applicability of Pricing

Even if nearby parking spaces are improved, parking in the core will still be the most desirable location because its spaces are closest to final destinations. Charging a fee for parking in the core (in combination with free or lower cost parking on the edge of the core) will help disperse demand. As

¹ “Chittenden County Park and Ride Facility Prioritization”; Adopted by CCMPO Board February 18, 2004.



noted by the Victoria Transport Policy Institute, much of the resistance to parking pricing from the general public is related to inconvenient payment methods:

- *Many require payment in specific denominations (coins or bills).*
- *Many require motorists to predict how long they will be parked, with no refund available if motorists leave earlier than predicted.*
- *Some payment systems cannot easily handle multiple price structures or discounts.*
- *Some are confusing or slow to use.*
- *Some have high equipment or enforcement costs.*
- *Enforcement often seems arbitrary or excessive.*

Better payment methods are available. Newer electronic systems are more convenient, accurate, flexible, and increasingly cost effective. They can accommodate various payment methods (coins, bills, credit and debit cards, and by cellular telephone or the Internet), charge only for the amount of time parked, incorporate multiple rates and discounts, automatically vary rates by day and time, and are convenient to use¹.

¹ Page 19, "Parking Management Strategies, Evaluation and Planning"; Todd Litman; Victoria Transport Policy Institute; April 25, 2006; http://www.vtpi.org/park_man.pdf



These capabilities are provided using a “Pay and Display” parking meter (Figure 13). A user purchases a ticket for a specific amount of time and displays the ticket on the top of their dashboard. The cost to purchase and install these meters ranges from \$6,500 to \$7,000 each².

The ability to charge different parking fees for different days and times would be useful in Richmond village. Higher prices could be in effect during peak periods (similar to electric and phone bills) when the need to disperse parking demand is the greatest.

The most logical locations for pricing are the Town Corner lot and on-street parking along Bridge and Depot Streets (total of 37 spaces³). Assuming a fee of \$0.50 per hour is charged throughout the day from Monday through Friday, these spaces would generate approximately \$25,000-30,000 per year in total revenue. This estimate also assumes an average parking duration of $\frac{3}{4}$ of an hour. The current average duration is about $1\frac{1}{4}$ hours. The duration would decrease because pricing would discourage long-term use of these spaces.

Pricing requires management, enforcement, and maintenance of equipment. Enforcement can be provided by parking violation officers or sworn police officers. Either way, enforcement requires additional labor hours and funds. The estimated revenue of \$25,000-\$30,000 per year could fund a part-time parking violation officer that may also be responsible for managing the system. Some maintenance responsibilities may spill over into the public works department. Additional funds beyond those generated by the parking fees would therefore be necessary. Additional funds could be generated by raising the parking fees or expanding pricing to other parking areas in the village (along US 2 and Jericho Road for example). The fees charged in these areas would need to be less than those charged in the core.

Pricing is not a common strategy in small towns and there are several potential obstacles and disadvantages to consider:

Figure 13: Pay and Display Parking Meter¹



¹ For more information, visit the City of Savannah, GA web site at <http://www.savannahga.gov/cityweb/webdatabase.nsf/9aca9e7d5a238aaa85256abe005893b0/d7462462d1fc7ce785256cc2006e4d62?OpenDocument> .

² “Smart Parking Meters Take over the West”; Ransford S. McCourt, DKS Associates; August 2006; http://www.dksassociates.com/admin/paperfile/Smart_Parking_Meters_Take_Over_the_West.pdf

³ Includes 101-Town Corner Lot (11 official spaces), 201-Bridge Street On-Street by Commercial Block (16 spaces), Bridge Street on-Street south of Depot (4 spaces), and Depot Street on-street (6 spaces).



- Small towns have small staffs that are often over burdened with multiple tasks. Even with part-time help, the additional administrative burden may be of concern.
- To avoid paying the fee, some people may choose to park in private lots that are not technically available for general public use resulting in potential conflicts.
- Business owners that rely on public parking will be concerned about losing customers to other areas of the County where parking is abundant and free.

Due to economies of scale, pricing of parking (including the cost of violations) may generate excess revenues in larger communities. That would not be the case in Richmond. With proper fees and management the pricing strategy may cover its own cost. As a parking management strategy, pricing will not be effective unless the parking facilities surrounding the core have been improved. If the core facilities continue to experience over capacity conditions, even after the surrounding facilities have been improved, the Town should consider using pricing.

4.2 CHANGES TO EXISTING AND NEW PARKING FACILITIES

Improvements to existing parking facilities are necessary to support the management strategies discussed above. Moreover, additional spaces are justified to accommodate existing and future demand within or near the village core. This section describes the concept plans contained in Appendix D for improving existing facilities and also includes recommendations for increasing the supply of parking in the village.

Cost estimates are based on unit costs applied to approximate quantities of construction items plus percentage allowances for right-of-way acquisition (0%–20% depending on location), traffic control during construction (10%–40%), storm water management and drainage (maximum of 30%), engineering design and permitting (25%), and a contingency factor (10-50%). Appendix E contains the detailed cost estimates.

4.2.1 Depot Street Off-Street Parking

(Appendix D Sheets 1-4) The triangular piece of land located between Bridge Street, Depot Street, and the railroad tracks contains lots #116 and #118 serving a dentist's office and an informal gravel lot (#117). Lots #116 and #118 are officially reserved for use by the dentist's employees and clients and contain a total of 17 spaces. Lot #117 contains approximately 20 spaces and is privately owned. Although this lot is currently used by the general public there is no formal agreement between the Town and landowner. In the past, the Town had considered options for this location.

The four following alternative conceptual designs are presented in Appendix D in sheets 1 through 4:



- **Alternative 1:** This design was prepared as part of the Richmond Downtown Streetscape study¹. It provides a net increase of 10 parking spaces. The layout includes two separate one-way entrances on Depot Street and a one-way exit on Bridge Street. The two parking lots that serve the dentists office remain as separate facilities with access from the general public lot.
- **Alternative 2:** This design is similar to Alternative 1 but has only one entrance from Depot Street. By closing one of the entrances, additional parking spaces are provided. This alternative provides a net increase of 14 parking spaces.
- **Alternative 3:** One entrance is provided on Depot Street and Lot #116 is combined with the public lot. Lot #118 remains a private-private facility that serves the dentist office. The dentist office would loose the three spaces in Lot #116 but its clients would be able to use the public lot. This configuration provides a net increase of 16 parking spaces.
- **Alternative 4:** One entrance is provided from Depot Street, Lot #118 is replaced by green space, and Lot #116 is combined with the public lot. The entrance to the dentist's office lot (#118) causes inefficiencies in the layout of the public parking lot. This alternative evaluates the benefits of combining all of the parking for the dentist office into the public lot. As a result, about 10 spaces would need to be reserved for the dentist office during typical weekday office hours. These spaces would be available for general public use in the evening and on weekends. This alternative depends on the willingness of the owner of the dentist's office building to trade the privately owned parking spaces for permanently leased spaces in a public lot. One advantage for the building's owner is that snow plowing and maintenance costs would be the Town's responsibility. This alternative provides a net increase of 10 parking spaces.

Figure 14:
Emergency Call
Box



Regardless of its final design, the Depot Street lot is well situated to serve parking demand in the core. It could provide long-term parking for employees that will make more spaces available for customers and other visitors in the Town Corner lot and the on-street parking in front of the Richmond Commercial Block. The location is darker and is set back from Bridge Street. It should include proper lighting and possibly an emergency call box (Figure 14) to make it feel safer at night.

All four alternatives would cost approximately \$180,000 (Table 11). Alternative 3 provides the largest net increase in parking spaces.

¹ “Richmond Downtown Streetscape”; Prepared by Kathleen Ryan – Landscape Architect for the Town of Richmond and the Richmond Business Association; September 28, 1998.



Table 11: Depot Street Lot Cost of Alternatives

Alternative	Cost	Net New Spaces	Cost per New Space
1	\$179,300	10	\$ 17,930
2	\$181,900	14	\$ 12,993
3	\$182,800	16	\$ 11,425
4	\$178,400	10	\$ 17,840

The costs for complete reconstruction of this lot are significant. The following incremental approach is recommended:

- **Short-term:** Develop a formal agreement with the landowner to make the lot officially available for public use. Provide lighting and signs and identify the lot on the Richmond village parking brochure suggested above. The signs (and brochure) would make people aware that the lot is available for general public use and the lighting would make people feel more secure. Parking directional signs (Figure 15) should be placed at the Depot Street intersection with Bridge Street and at the entrance to the lot on Depot Street. Security could be further enhanced with additional patrols by the Richmond Police through the area. The total cost is estimated at \$5,000.
- **Medium-term:** The lot could be constructed with a gravel surface. Its boundaries could be defined by delineating the entrances and exits and creating edges using green space. Some strategically placed curbing at entrances and exits would further define the lot. The cost for the gravel base and surface, three lights, a limited amount of granite curbing, and signs is approximately \$60,000.
- **Long-term:** Add pavement, additional lighting and landscaping, the emergency call box, and other amenities as described above for Alternatives 1 through 4.

Figure 15: Parking Directional Sign



4.2.2 Depot Street On-Street Parking

(Appendix D Sheet 5) One additional on-street parking space could be provided on the north side of Depot Street in front of Gifford Funeral Home. There is also room for an additional on-street space in front of the kitchen cabinet store. That space should be kept available as a loading zone (or should have a 15 minute time limit). No physical changes are necessary to accommodate these spaces. The cost will be approximately \$500.



4.2.3 East Main Street (US 2)

(Appendix D-Sheet 6) On-street spaces along East Main Street should be formalized to encourage parking in this section of the village. This improvement will not result in any additional spaces but should make the area more attractive and visible for people seeking a parking space. The striping could be implemented in the short term. A 15 minute time restriction should be placed on the spaces directly in front of the Richmond Corner Market to preserve their use for quick stops.

The US 2 driveway for the office building on the southeast corner of US 2 and Jericho Road should be closed to allow for one more parking space on that side of the street and a bulbout should be provided at the corner. The parking lot for that building is currently served with an access on Jericho Road. Closing the US 2 driveway is consistent with sound access management practices which discourage placing driveways too close to intersections while encouraging access on side streets, like Jericho Road, when possible. The Town should discuss this recommendation with the owner of the building.

The cost for the short-term improvements (striping and the bulbout) is approximately \$7,000. Because this work would occur within the state owned right-of-way along a state highway, approval from VTrans is necessary.

In the long term, the sidewalks should be upgraded as shown in Appendix D-Sheet 6 to provide enhanced connections to the village core. The costs for the long-term improvements depend on the extent of the sidewalk reconstruction. The existing sidewalks extend approximately 1,050 feet east of Jericho Road on each side of US 2. The cost to reconstruct the sidewalk for this entire length on one side of the road is approximately \$260,000.

4.2.4 Bridge Street Parking On-Street from Pleasant Street to Town Hall

(Appendix D-Sheet 7) Based on the high resolution orthophotos and the GIS parcel data, the Town's right of-way extends approximately 20-25 feet east of the pavement's edge along Bridge Street for most of the segment between Pleasant Street and the Town hall entrance. This right-of-way provides enough space to add on-street parking and a sidewalk on that side of the street. A sidewalk is recommended along with on-street parking to provide safe access to parked vehicles and to provide a connection to the village core, Town offices, library, and post office. This section is broken into the two following segments:

- **Pleasant Street to the railroad tracks:** This segment is approximately 160 feet long and could accommodate 5 new on-street parking spaces. This location is well situated to serve parking for the village core. There is a steep up-grade starting at the edge of pavement that would require construction of a retaining wall to create the space needed for the sidewalk and on-street parking (See cross-section A-A on Sheet 7 in Appendix D). The total estimated cost is \$90,000.



- **Railroad tracks to the Town Hall Entrance:** This section is approximately 520 feet long and would provide an additional 13 parking spaces. The estimated cost is \$120,000, including the sidewalk.

4.2.5 Bridge Street Alley Off-Street Parking

(Appendix D-Sheets 8-10) The planning commission noted that a parcel of land located behind Toscano's Restaurant between Bridge Street, Pleasant Street, and US 2 had in the past been considered for use as an off-street parking lot. This parcel contains a house that is currently being renovated and is not available at this time. However, the parcel has enough room to accommodate an 18-24 space parking lot while still maintaining a reasonable amount of green space and private parking for the house.

The parcel is currently accessible from Bridge Street through an alley between Banknorth and Toscano's Restaurant. The alley is wide enough to accommodate one-way traffic only. In order to provide adequate access to the street system, a second access point would have to be provided. The alternative designs presented in the Appendix assume the second access would be provided on US 2 through the Zachary's Pizza parking lot. Right-of-way would have to be purchased for that purpose. It is also physically possible to provide an access point to Pleasant Street between two homes. The access through Zachary's is more appropriate because it is located in a commercial area. The US 2 access point also has the advantage of removing some vehicles from the US 2-Bridge Street intersection.

Despite these challenges, the parcel is well situated to serve parking demand in the village core. Therefore, the following three alternative designs and uses are presented for consideration should the parcel become available:

- **Alternative 1:** The US 2 access would provide a one-way entrance and the Bridge Street alley would provide a one-way exit. A sidewalk would be provided through the lot from US 2 to Bridge Street to provide an additional connection from the US 2 on-street parking described in Section 4.2.3 to the village core. Eighteen spaces would be provided for a total cost of \$175,000 excluding right-of-way costs.
- **Alternative 2:** Two-way access is provided from US 2 along the east edge of the Zachary's Pizza's parking lot. The Bridge Street alley would provide a one-way exit. A sidewalk would be provided through the lot from US 2 to Bridge Street to provide an additional connection from the US 2 on-street parking described in Section 4.2.3 to the village core. Twenty-four new parking spaces would be provided for a total cost of \$167,000, excluding right-of-way costs.
- **Alternative 3:** This alternative preserves the green space as a park. A pedestrian path is provided to connect on-street parking along US 2 to the village core. There are no additional parking spaces provided. The cost of the path and park are approximately \$150,000.



4.2.6 Jericho Road On-street parking

(Appendix D-Sheet 11) On-street parking is currently provided along the west side (southbound direction) of Jericho Road near its intersection with US 2. These three spaces should be formalized with striping as shown in Sheet 11. The estimated cost is \$1,000.

Two additional on-street spaces should be provided on the same side of the street in front of the apartment buildings located just behind the Laundromat. Based on the high resolution orthophotos and GIS parcel boundaries, the existing sidewalk appears to be on the edge of right-of-way.

Therefore, to accommodate these two additional parking spaces and a sidewalk, additional right-of-way would have to be purchased from the owner of the apartment building. These spaces should be provided as part of a sidewalk reconstruction project. The cost to reconstruct a new sidewalk to the northern end of the apartment's parcel and widen the roadway to accommodate the parking lane is approximately \$61,000.

4.2.7 Lot Coverage Bonus for Private-Public Spaces

Although not itself a physical change, this regulatory change could increase the availability of private spaces for public use. To encourage private developers to allow public use of private off-street lots, the Town should consider providing a lot coverage bonus.

The Town zoning regulations allow maximum lot coverages of 40-50% within the village (depending on the zoning district). This dimensional requirement means that 40-50% of the land within a parcel may be covered by an impervious surface (building, roadways, walks, etc). In general, the balance of the lot must be a material (most often green space) that allows storm water to seep into the ground.

The maximum lot coverage is one of many dimensional requirements specified in the zoning regulations that limit the amount of development permitted on any given parcel. Developers may be willing to allow general public use of their private parking facilities (possibly in the evenings for example) in return for a higher lot coverage allowance. This option should be specified in the zoning regulations and could be implemented on a case by case basis through the development review process.

