

**Borough of Westwood**  
**Westwood, New Jersey**  
**Parking Supply, Demand, Operational Analysis**

Submitted To:  
Borough of Westwood  
Parking Authority  
101 Washington Avenue  
Westwood, NJ 07675



Submitted by:

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## Phase 1 – Existing Conditions

DESMAN Associates has been retained by the Borough of Westwood Parking Authority to prepare a Parking Needs Assessment for the downtown area surrounding Westwood Avenue (Figure 1). The goal of the Phase I Task is to document the existing conditions for parking in the downtown business district area.

To achieve the goals of this phase, the project methodology has been designed to be completed in eight tasks. They are:

- Task I.1 – Organizational Kick-Off Meeting
- Task I.2 – Review and Evaluate Existing Data
- Task I.3 – Confirm Public and Private Parking Inventory in Study Area
- Task I.4 – Develop and Implement Data Collection Plan
- Task I.5 – Conduct Leadership Interviews
- Task I.6 – Analyze Existing Parking Supply and Demand
- Task I.7 – Parking Model Conclusions
- Task I.8 – Review/Evaluate Planning and Programmed Developments

### ***TASK I.1 – Organizational Kick-Off Meeting***

A project kick-off meeting was held on January 30, 2007. During the kick-off meeting the study area was defined by:

- Irvington Street to the north
- St. Nicholas Street to the West
- Kinderkamack to the East
- Park and Jefferson Avenues to the South

This study area was meant to encompass the entire downtown area proximate to Westwood Avenue.

Figure 1: Project Study Area



### ***TASK I.2 - Review and Evaluate Existing Data***

To determine existing conditions and a base scenario for the Project Study Area (PSA), a review and evaluation of existing parking data and reports was conducted. Several reports were provided including budgetary information, parking enforcement protocols and general tax map/property information.

Also supplied by the City was the Westwood Handy Guide. This flyer was used to determine the boundaries of the PSA and understand the commercial character of Westwood Avenue and the surrounding streets. This data was used to develop graphics and tables that better articulate the current and projected parking scenario in downtown Westwood.

### ***TASK I.3 - Confirm Public Parking Inventory in Study Area***

As a result of reviewing the provided reports, it was determined that additional field observations would be necessary to properly evaluate existing conditions. An inventory of both public and private parking facilities was needed to better ascertain the level of available parking in the PSA (see Appendix A). This included all on-street parking spaces and off-street lots.

To complete this task, field counts confirming parking inventory were taken on May 23 and May 25, 2007 to document both on-street and off-street parking opportunities.

### ***TASK I.4 - Develop and Implement Data Collection Plan***

To better understand parking demand in the PSA, it was determined that parking occupancy and turnover surveys would need to be conducted. These surveys required that license plate numbers be recorded to determine a vehicle's length of stay in a particular space.

The Scope of Work dictated that counts be conducted for five days in the PSA. The schedule for the counts was as follows:

- Wednesday, June 6 – 7:00 am – 7:00 pm
- Thursday, June 7 – 7:00 am – 7:00 pm
- Friday, June 8 – 10:00 am – 9:00 pm
- Saturday, June 9 – 10:00 am – 9:00 pm
- Sunday, June 10 – 12:00 noon – 7:00 pm

Counts for both on-street and off-street public facilities were taken at two-hour intervals each day. During the field counts, parking occupancy, regulations and observed issued violations were recorded for each facility.

Counts were scheduled to capture peak utilization associated with both daytime use and nighttime/weekend rushes. Also, counts were taken on a Sunday when a flea market was occurring to demonstrate the impact of event parking in the park.

Due to the PSA's size, the study area was broken down into sections for further study. First, the PSA was broken down into four quadrants in order to simplify data collection. Then, within those quadrants, each block was analyzed to determine the parking control devices in place (meters, parking rules, etc.) the status of the control devices, and the proximity of parking to popular destinations. As each meter was independently numbered, statistics for individual block faces could be generated (see Figures 2 and 3).

Figure 2: Project Study Area: Quadrants



Figure 3: Project Study Area: Blocks



## On-Street Inventory and Utilization

On-street parking inventory was collected and organized to reflect the block face summaries for each city block and quadrant within the study area. Although presented for review, individual city blocks and even larger groupings represented by quadrants may indicate misleading scenarios as each block face is comprised of unique land use and parking conditions. Hence, this report will focus on a detailed block face analysis, required to accurately assess the existing conditions in Westwood, NJ. Table 1a presents the current inventory for on street parking, as well as the peak daily parking utilization surveyed on each block face.

**Table 1a: On-Street Parking Inventory and Peak Daily Utilization**

On Street	Inventory	Peak Utilization				
		Wednesday	Thursday	Friday	Saturday	Sunday
<b>Quadrant 1</b>						
<b>Block 1</b>						
North	---	0	0	0	0	0
South	11	2	1	2	2	2
East	24	10	12	15	8	24
West	---	0	0	0	0	0
Block 1 Total	<b>35</b>	<b>12</b>	<b>13</b>	<b>17</b>	<b>10</b>	<b>26</b>
<b>Block 2</b>						
North	---	0	0	0	0	0
South	7	7	5	7	6	6
East	24	24	24	22	21	23
West	---	0	0	0	0	0
Block 2 Total	<b>31</b>	<b>31</b>	<b>29</b>	<b>29</b>	<b>27</b>	<b>29</b>
<b>Block 3</b>						
North	---	0	0	0	0	0
South	9	8	9	9	8	9
East	14	12	12	13	13	12
West	9	9	8	6	4	9
Block 3 Total	<b>32</b>	<b>29</b>	<b>29</b>	<b>28</b>	<b>25</b>	<b>30</b>
<b>Quad 1 Total</b>	<b>98</b>	<b>72</b>	<b>71</b>	<b>74</b>	<b>62</b>	<b>85</b>
<b>Quadrant 2</b>						
<b>Block 4</b>						
North	---	0	0	0	0	0
South	10	10	9	10	10	5
East	13	11	13	12	13	1
West	14	13	13	14	10	12
Block 4 Total	<b>37</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>33</b>	<b>18</b>
<b>Block 5</b>						
North	---	0	0	0	0	0
South	10	9	9	10	10	5
East	7	4	7	6	3	0
West	11	9	9	11	11	1
Block 5 Total	<b>28</b>	<b>22</b>	<b>25</b>	<b>27</b>	<b>24</b>	<b>6</b>
<b>Quad 2 Total</b>	<b>65</b>	<b>56</b>	<b>60</b>	<b>63</b>	<b>57</b>	<b>24</b>

**Table 1a: On-Street Parking Inventory and Peak Daily Utilization (Continued)**

On Street	Inventory	Peak Utilization				
		Wednesday	Thursday	Friday	Saturday	Sunday
<b>Quadrant 3</b>						
<b>Block 11</b>						
North	10	10	10	9	10	9
South	---	0	0	0	0	0
East	8	8	6	7	7	2
West	12	12	10	10	12	11
<b>Block 11 Total</b>	<b>30</b>	<b>30</b>	<b>26</b>	<b>26</b>	<b>29</b>	<b>22</b>
<b>Block 12</b>						
North	9	7	7	9	10	1
South	---	0	0	0	0	0
East	8	5	6	4	8	4
West	12	6	8	9	10	4
<b>Block 12 Total</b>	<b>29</b>	<b>18</b>	<b>21</b>	<b>22</b>	<b>28</b>	<b>9</b>
<b>Block 13</b>						
North	7	4	7	4	7	7
South	19	4	7	1	17	4
East	21	6	0	0	6	5
West	---	0	0	0	0	0
<b>Block 13 Total</b>	<b>47</b>	<b>14</b>	<b>14</b>	<b>5</b>	<b>30</b>	<b>16</b>
<b>Block 14</b>						
North	3	2	0	1	3	0
South	---	0	0	0	0	0
East	---	0	0	0	0	0
West	20	3	3	1	5	4
<b>Block 14 Total</b>	<b>23</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>8</b>	<b>4</b>
<b>Quad 3 Total</b>	<b>129</b>	<b>67</b>	<b>64</b>	<b>55</b>	<b>95</b>	<b>51</b>
<b>Quadrant 4</b>						
<b>Block 6</b>						
North	---	0	0	0	0	0
South	---	0	0	0	0	0
East	5	5	3	5	0	5
West	---	0	0	0	0	0
<b>Block 6 Total</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>5</b>	<b>0</b>	<b>5</b>
<b>Block 7</b>						
North	2	2	1	1	1	2
South	6	6	3	6	3	6
East	7	6	5	7	6	7
West	5	4	5	2	1	3
<b>Block 7 Total</b>	<b>20</b>	<b>18</b>	<b>14</b>	<b>16</b>	<b>11</b>	<b>18</b>
<b>Block 8</b>						
North	---	0	0	0	0	0
South	---	0	0	0	0	0
East	---	0	0	0	0	0
West	7	7	6	7	6	6
<b>Block 8 Total</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>6</b>
<b>Block 9</b>						
North	---	0	0	0	0	0
South	---	0	0	0	0	0
East	27	25	27	24	20	24
West	---	0	0	0	0	0
<b>Block 9 Total</b>	<b>27</b>	<b>25</b>	<b>27</b>	<b>24</b>	<b>20</b>	<b>24</b>
<b>Block 10</b>						
North	10	10	10	10	9	10
South	14	5	13	14	14	14
East	9	9	8	6	9	8
West	5	5	5	5	5	4
<b>Block 10 Total</b>	<b>38</b>	<b>29</b>	<b>36</b>	<b>35</b>	<b>37</b>	<b>36</b>
<b>Quad 4 Total</b>	<b>97</b>	<b>84</b>	<b>86</b>	<b>87</b>	<b>74</b>	<b>89</b>
<b>OnStreet Total</b>	<b>389</b>	<b>279</b>	<b>281</b>	<b>279</b>	<b>288</b>	<b>249</b>

## Off-Street Inventory and Occupancy

In addition to on-street parking utilization, five (5) off-street parking facilities were surveyed during the data collection period. Their inventory and peak utilization is presented in Table 1b. Finally, Table 1c presents the summaries of both on-street and off-street parking inventories and peak daily utilization for the entire Westwood study area.

**Table 1b: Off-Street Parking Inventory and Peak Daily Utilization**

OffStreet	Inventory	Peak Utilization				
		Wednesday	Thursday	Friday	Saturday	Sunday
A Cen. Ave. N	99	88	90	93	71	94
B Cen. Sq.	53	44	43	32	43	20
C Fairview	54	52	53	50	38	3
D Cen. Ave. S	68	55	64	49	66	68
E Borough Hall	104	99	99	80	11	82
<b>OffStreet Total</b>	<b>378</b>	<b>338</b>	<b>349</b>	<b>304</b>	<b>229</b>	<b>267</b>

**Table 1c: On and Off-Street Parking Inventory and Peak Daily Utilization**

	Inventory	Peak Utilization				
		Wednesday	Thursday	Friday	Saturday	Sunday
<b>On-Street</b>	389	279	281	279	288	249
<b>Off-Street</b>	378	338	349	304	229	267
<b>System Total</b>	<b>767</b>	<b>617</b>	<b>630</b>	<b>583</b>	<b>517</b>	<b>516</b>

System wide, the peak utilization period for both on and off-street parking occurred between 1:00 pm and 2:00 pm. On an average, weekday peak occupancy reached 80%, while the weekend experienced slightly lower peak occupancy of 67%. To further demonstrate the characteristics of each block face and the location of highly utilized parking areas, Figures 4-8 graphically illustrate the peak occupancy associated with each of the five days when parking data was collected. For purposes of clarity, parking occupancy was grouped into four categories, each represented by a different color. For example, block faces which experienced the lowest parking utilization (0-25%) are shown in green, while the highest utilization group (86-100%) is highlighted in red. Additionally, off-street parking facilities were identified by letter, where A represents Center Avenue North Lot and E represents Lot 4b (see Table 1b).

Figure 4: Wednesday Peak Parking Utilization by Block Face



Figure 5: Thursday Peak Parking Utilization by Block Face



Figure 6: Friday Peak Parking Utilization by Block Face



Figure 7: Saturday Peak Parking Utilization by Block Face



Figure 8: Sunday Peak Parking Utilization by Block Face



It would appear, from Tables 1a-c and Figures 5-8 that certain portions of the study area experienced higher parking utilization than others throughout the week. Particularly well utilized were retail dominated block faces located along Westwood Ave. and its neighboring block faces, as well as Broadway. With the exception of Sunday's data, the following Block faces were continually utilized (between 86%-100%) during the peak hour\*:

- 2 East and 2 South
- 3 West and 3 South
- 4 East and 4 South
- 5 West and 5 South
- 8 West
- 10 East, 10 West and 10 North
- 11 West and 11 North
- 12 East and 12 North

*\*see Figure 3*

A more detailed look into the utilization of parking will be presented in Task I.6 where turnover data along with surplus/deficit conditions will be presented and analyzed for each block face.

### ***TASK I.5 - Leadership Interviews***

A meeting was held on July 25, 2007 with the Westwood Parking Authority and invited guests. The purpose of the meeting was to present the occupancy data that was collected during the multiple field visits, and to gather input from the project's main stakeholders. The presentation reviewed the approved scope of work and provided insight as to the existing parking conditions in the downtown central business district.

Comments at the meeting largely centered on the output of the study and how the information will be used. It was the desire of many stakeholders that the data presented at the end of the study would help support or negate the following:

- Future development based on parking availability
- Modified daily and monthly parking rate and citation fees
- Needs for enforcement policy changes
- Recommendations for redistribution of existing parking assets

In addition, several stakeholders indicated that the scope of the study was well balanced and that the results would eventually improve parking efficiency and allow for more patrons to have direct access to the local businesses located in the central business district.

## TASK I.6 – Analyze Existing Parking Supply and Demand

In addition to peak utilization characteristics of each block face, DESMAN also completed a license plate survey, recording the turnover of all public spaces within the study area. The purpose of this effort was to observe the average length of time each vehicle occupied a single parking space, and how many different vehicles actually utilized that single space throughout the day. Tables 2a and 2b present this information, summarized by block face as well as individual day of the week. Based on the data, it is clear that a majority of parkers exceeded the 2-hour time restriction posted on most parking meters throughout the study area. The average length of stay for on-street parkers was 2.6 hours, while off-street patrons averaged an even higher 3.5 hours per space. It is also interesting to note, that the rate of parking tickets did not parallel the level of violations presented in these tables.

**Table 2a: Daily Turnover of Spaces and Average Length of Stay for On-Street Spaces**

OnStreet	Inventory	Wednesday		Thursday		Friday		Saturday		Sunday	
		Vehicles/ Space/ Day	Average Length Of Stay (Hrs)								
<b>Quadrant 1</b>											
<b>Block 1</b>											
North	---										
South	11	1.4	2.8	0.5	3.3	0.9	2.6	0.5	2	1	2
East	24	1.3	3.2	1.4	2.9	2.1	3.6	1.9	3.3	2	3.1
West	---										
Block 1 Total	<b>35</b>	<b>1.3</b>	<b>3.1</b>	<b>1.1</b>	<b>2.9</b>	<b>1.7</b>	<b>3.4</b>	<b>1.5</b>	<b>3.2</b>	<b>1.7</b>	<b>2.9</b>
<b>Block 2</b>											
North	---										
South	7	3.7	2.5	2.7	2.5	4.7	2.5	4	2.2	2.7	2.1
East	24	2.3	4.3	2.8	3.9	3.2	3.6	3.3	3.2	2.3	2.5
West	---										
Block 2 Total	<b>31</b>	<b>2.6</b>	<b>3.7</b>	<b>2.8</b>	<b>3.6</b>	<b>3.5</b>	<b>3.3</b>	<b>3.4</b>	<b>2.9</b>	<b>2.4</b>	<b>2.4</b>
<b>Block 3</b>											
North	---										
South	9	3.9	2.1	4.2	2.2	4.2	2.6	4.9	2.1	2.6	2.2
East	14	2.5	2.3	2.6	2.4	3.7	3.1	3.1	2.4	2	2.2
West	9	3.9	2.2	4.1	2.2	4.3	2.6	4.6	2.2	1.7	3.2
Block 3 Total	<b>32</b>	<b>3.3</b>	<b>2.2</b>	<b>3.5</b>	<b>2.3</b>	<b>4</b>	<b>2.8</b>	<b>4</b>	<b>2.3</b>	<b>1.9</b>	<b>2.6</b>
Quad 1 Total	<b>98</b>	<b>2.4</b>	<b>2.9</b>	<b>2.4</b>	<b>2.9</b>	<b>3.1</b>	<b>3.1</b>	<b>2.9</b>	<b>2.7</b>	<b>2</b>	<b>2.6</b>
<b>Quadrant 2</b>											
<b>Block 4</b>											
North	---										
South	10	5.2	2.2	4.8	2.4	5.5	2.3	5.3	2.1	2.1	2
East	13	3.2	3.6	2.7	4.4	3.5	3.5	3.5	2.7	0.7	2.9
West	14	2.7	2.8	3.1	2.3	4	2.9	4	2.2	1.6	3.3
Block 4 Total	<b>37</b>	<b>3.6</b>	<b>2.8</b>	<b>3.4</b>	<b>2.9</b>	<b>4.2</b>	<b>2.9</b>	<b>4.2</b>	<b>2.3</b>	<b>1.4</b>	<b>2.7</b>
<b>Block 5</b>											
North	---										
South	10	4.1	2.0	4.5	2.1	5.5	2.1	3.9	2.1	0.9	3.1
East	7	2.6	2.7	1	8	1	6.9	1.1	3.3	0	0
West	11	4.3	2.6	2.9	4.3	3.2	3.8	3	3.2	0.6	2.3
Block 5 Total	<b>28</b>	<b>3.8</b>	<b>2.4</b>	<b>3</b>	<b>3.6</b>	<b>3.5</b>	<b>3.1</b>	<b>2.9</b>	<b>2.7</b>	<b>0.6</b>	<b>2.8</b>
Quad 2 Total	<b>65</b>	<b>3.7</b>	<b>2.6</b>	<b>3.2</b>	<b>3.2</b>	<b>3.9</b>	<b>2.9</b>	<b>3.6</b>	<b>2.4</b>	<b>1</b>	<b>2.7</b>

**Table 2a: Daily Turnover of Spaces and Average Length of Stay for On-Street spaces (continued)**

OnStreet	Inventory	Wednesday		Thursday		Friday		Saturday		Sunday	
		Vehicles/ Space/ Day	Average Length Of Stay (Hrs)								
<b>Quadrant 3</b>											
<b>Block 11</b>											
North	10	5.1	2.1	4.9	2.1	5.9	2.1	5.3	2.1	2.7	2.2
South	---										
East	8	2.4	2.4	2	2.9	3.8	2.3	4.4	2.1	0.5	3.5
West	12	4.3	2.2	3.8	2.2	4.4	2.1	4.4	2.4	2.6	2.5
Block 11 Total	30	4.1	2.2	3.7	2.3	4.7	2.1	4.7	2.2	2.1	2.5
<b>Block 12</b>											
North	9	5.4	2.0	4.2	2.3	5.1	2	4	2.3	0.9	2
South	---										
East	8	3.8	2.1	3.1	2.3	3.5	2	3.8	2.1	1.6	2.2
West	12	2.3	2.1	2.8	2.3	3.5	2.1	3.7	2.2	0.7	3
Block 12 Total	29	3.7	2.1	3.3	2.3	4	2	3.8	2.2	1	2.3
<b>Block 13</b>											
North	7	2.4	2.4	3.1	2.1	4.1	2	4.4	2.5	2.4	2.7
South	19	2.6	2.3	1.4	2	1.6	2.2	2.7	2.3	0.6	3.3
East	21	0.5	3.5	0.3	4.3	0.7	2	1.4	2.3	0.4	4
West	---										
Block 13 Total	47	1.6	2.5	1.2	2.3	1.6	2.1	2.4	2.3	0.8	3.2
<b>Block 14</b>											
North	3	1	2.0	0.7	2	2	2	2.7	2	0	0
South	---										
East	---										
West	20	0.8	2.5	0.4	4	0.7	2.8	0.7	2	0.3	4
Block 14 Total	23	0.8	2.4	0.4	3.6	0.8	2.5	0.9	2	0.3	4
Quad 3 Total	129	1.4	2.5	0.9	2.5	1.3	2.2	1.9	2.3	0.6	3.3
<b>Quadrant 4</b>											
<b>Block 6</b>											
North	---										
South	---										
East	5	1.4	7.7	1.6	5.3	1.8	4.9	0.6	2.7	2.2	2.7
West	---										
Block 6 Total	5	1.4	7.7	1.6	5.3	1.8	4.9	0.6	2.7	2.2	2.7
<b>Block 7</b>											
North	2	3.5	2.6	3.5	2.6	4	2.3	4	2.5	3	2.7
South	6	1.8	4.4	2.8	2.5	4	2.7	3	2.1	2.5	3.1
East	7	3.6	2.2	3.4	2.1	3.7	2.2	4	2	2.3	3.5
West	5	1.8	5.6	1	10.8	0.6	6	0.4	2	1.6	3
Block 7 Total	20	2.6	3.3	2.7	3.1	3.1	2.6	2.8	2.1	2.3	3.2
<b>Block 8</b>											
North	---										
South	---										
East	---										
West	7	4.6	2.1	4.6	2.4	5.3	2.3	4.3	2.1	3.3	2.3
Block 8 Total	7	4.6	2.1	4.6	2.4	5.3	2.3	4.3	2.1	3.3	2.3
<b>Block 9</b>											
North	---										
South	---										
East	27	1.9	2.7	1.9	2.2	3.2	2.1	3.2	2.1	1.9	2.7
West	---										
Block 9 Total	27	1.9	2.7	1.9	2.2	3.2	2.1	3.2	2.1	1.9	2.7
<b>Block 10</b>											
North	10	4.6	2.3	5.5	2	5.4	2.2	5	2.2	3.5	2.2
South	14	4.2	2.3	3.7	2.5	4.4	2.4	4.1	2.5	3.1	2.4
East	9	3.4	2.6	3.4	2.3	3.8	2.7	3.8	2.8	2.9	2.9
West	5	3	2.1	4	2	3.4	2.6	5	2	1.4	2.6
Block 10 Total	38	4	2.3	4.2	2.2	4.4	2.4	4.4	2.4	2.9	2.4
Quad 4 Total	97	4.1	2.3	4.2	2.3	4.5	2.4	4.4	2.3	3	2.4
OnStreet Total	389	2.7	2.6	2.5	2.8	3.1	2.8	3.1	2.5	1.6	2.6

**Table 2b: Daily Turnover of Spaces and Average Length of Stay for Off-Street Facilities**

OffStreet	Inventory	Wednesday		Thursday		Friday		Saturday		Sunday	
		Vehicles/ Space/ Day	Average Length Of Stay (Hrs)								
Cen. Ave. N	99	2.2	3.5	2.1	3.9	3.3	3.2	3.2	2.5	2.4	2.7
Cen. Sq.	53	2.6	3.0	2.6	2.9	3.2	2.9	2.9	2.6	1.2	2.5
Fairview	54	1.4	6.6	1.4	6.3	1.4	6	1.5	4	0.1	4.7
Cen. Ave. S	68	1.4	4.9	1.2	6	2.4	3.8	3	3.2	2.2	2.6
<b>OffStreet Total</b>	<b>274</b>	<b>1.9</b>	<b>4.1</b>	<b>1.8</b>	<b>4.4</b>	<b>2.7</b>	<b>3.6</b>	<b>2.8</b>	<b>2.9</b>	<b>1.6</b>	<b>2.6</b>

In an attempt to best measure the current surplus/deficit conditions for both on and off-street parking, this analysis took into consideration the 80<sup>th</sup> percentile of parking utilization, which simply presents the current condition of parking that exists 80% of the time in Westwood, NJ. Hence, this report intends to focus on a “what if” condition that would assume a “worse than average” scenario. To this end, Tables 3a and 3b illustrate the number of available parking spaces that would exist, once the 80<sup>th</sup> percentile is realized. Detailed tables are also presented in Appendix B.

*Clearly, the same portions of the study area which experienced high utilization of parking during the peak period as a result, had the least amount of parking spaces available to the public. Once the 80<sup>th</sup> percentile was considered, the corridors located on Westwood Ave., Center Ave., and Broadway were all fully occupied or had only 1-2 spaces available per block face. In addition, Block 2 South, 5 West, and 12 East also experienced similar stress during the peak hour. It should be emphasized that these conditions typically occurred between Wednesday and Saturday, as most parking restrictions were lifted on Sunday and would potentially skew this analysis.*

*Overall, the parking system experienced a moderate surplus of parking, with roughly 30% of metered spaces available during Wednesday’s and Thursday’s peak period, while dropping to 20% on Friday and Saturday. Although appearing healthy, this surplus of parking was generally located on the periphery of the study area and away from the main generators of parking demand (ie. retail, restaurant, and theater). This unique distribution of available parking will be discussed in greater detail in Phase 2, where future parking conditions will be analyzed.*

**Table 3a: Supply of Available On-Street Parking using 80<sup>th</sup> Percentile of Occupancy**

<i>On Street</i>	<i>Inventory</i>	<b>Supply of Available Spaces after 80th Percentile of Occupancy</b>				
		<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Quadrant 1</b>						
<b>Block 1</b>						
North	---	0	0	0	0	0
South	11	8	9	7	9	5
East	24	12	10	6	1	1
West	---	0	0	0	0	0
<b>Block 1 Total</b>	<b>35</b>	<b>20</b>	<b>19</b>	<b>13</b>	<b>10</b>	<b>6</b>
<b>Block 2</b>						
North	---	0	0	0	0	0
South	7	0	2	0	0	0
East	24	4	0	1	2	5
West	---	0	0	0	0	0
<b>Block 2 Total</b>	<b>31</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>5</b>
<b>Block 3</b>						
North	---	0	0	0	0	0
South	9	1	0	0	0	1
East	14	5	6	1	3	5
West	9	2	1	1	0	1
<b>Block 3 Total</b>	<b>32</b>	<b>8</b>	<b>7</b>	<b>2</b>	<b>3</b>	<b>6</b>
<b>Quad 1 Total</b>	<b>98</b>	<b>32</b>	<b>28</b>	<b>16</b>	<b>15</b>	<b>16</b>
<b>Quadrant 2</b>						
<b>Block 4</b>						
North	---	0	0	0	0	0
South	10	0	0	0	0	4
East	13	0	0	0	0	8
West	14	4	6	0	3	3
<b>Block 4 Total</b>	<b>37</b>	<b>5</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>14</b>
<b>Block 5</b>						
North	---	0	0	0	0	0
South	10	1	0	0	0	6
East	7	1	0	1	4	7
West	11	1	0	0	0	8
<b>Block 5 Total</b>	<b>28</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>21</b>
<b>Quad 2 Total</b>	<b>65</b>	<b>8</b>	<b>7</b>	<b>1</b>	<b>7</b>	<b>35</b>

**Table 3a: Supply of Available On-Street Parking using 80<sup>th</sup> Percentile of Occupancy (Continued)**

On Street	Inventory	Supply of Available Spaces after 80th Percentile of Occupancy				
		Wednesday	Thursday	Friday	Saturday	Sunday
<b>Quadrant 3</b>						
<b>Block 11</b>						
North	10	0	1	0	0	1
South	---	0	0	0	0	0
East	8	2	3	1	1	5
West	12	1	2	2	0	1
<b>Block 11 Total</b>	<b>30</b>	<b>3</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>7</b>
<b>Block 12</b>						
North	9	0	0	0	-1	7
South	---	0	0	0	0	0
East	8	1	2	2	0	4
West	12	6	4	3	2	8
<b>Block 12 Total</b>	<b>29</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>18</b>
<b>Block 13</b>						
North	7	2	1	0	0	0
South	19	13	13	5	4	14
East	21	15	18	17	13	16
West	---	0	0	0	0	0
<b>Block 13 Total</b>	<b>47</b>	<b>30</b>	<b>31</b>	<b>22</b>	<b>17</b>	<b>29</b>
<b>Block 14</b>						
North	3	2	2	2	1	3
South	---	0	0	0	0	0
East	---	0	0	0	0	0
West	20	15	17	15	16	16
<b>Block 14 Total</b>	<b>23</b>	<b>18</b>	<b>19</b>	<b>17</b>	<b>17</b>	<b>19</b>
<b>Quad 3 Total</b>	<b>129</b>	<b>59</b>	<b>63</b>	<b>48</b>	<b>36</b>	<b>73</b>
<b>Quadrant 4</b>						
<b>Block 6</b>						
North	---	0	0	0	0	0
South	---	0	0	0	0	0
East	5	0	1	0	3	0
West	---	0	0	0	0	0
<b>Block 6 Total</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>0</b>
<b>Block 7</b>						
North	2	0	0	0	0	0
South	6	0	2	1	1	0
East	7	1	0	2	1	0
West	5	0	0	3	4	1
<b>Block 7 Total</b>	<b>20</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>6</b>	<b>1</b>
<b>Block 8</b>						
North	---	0	0	0	0	0
South	---	0	0	0	0	0
East	---	0	0	0	0	0
West	7	0	0	0	0	0
<b>Block 8 Total</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Block 9</b>						
North	---	0	0	0	0	0
South	---	0	0	0	0	0
East	27	16	18	4	7	4
West	---	0	0	0	0	0
<b>Block 9 Total</b>	<b>27</b>	<b>16</b>	<b>18</b>	<b>4</b>	<b>7</b>	<b>4</b>
<b>Block 10</b>						
North	10	0	0	0	0	0
South	14	8	2	0	0	0
East	9	1	2	0	0	0
West	5	1	0	0	0	1
<b>Block 10 Total</b>	<b>38</b>	<b>10</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>Quad 4 Total</b>	<b>97</b>	<b>28</b>	<b>26</b>	<b>10</b>	<b>16</b>	<b>6</b>
<b>OnStreet Total</b>	<b>389</b>	<b>127</b>	<b>124</b>	<b>75</b>	<b>74</b>	<b>131</b>

*Table 3b: Supply of Available Off-Street Parking using 80<sup>th</sup> Percentile of Occupancy*

<b>OffStreet</b>	<b>Inventory</b>	<b>Supply of Available Spaces after 80th Percentile of Occupancy</b>				
		<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>	<b>Sunday</b>
A Cen. Ave. N	99	31	19	5	27	6
B Cen. Sq.	53	16	11	11	14	31
C Fairview	54	1	2	2	16	52
D Cen. Ave. S	68	19	15	13	2	2
E Borough Hall	104	2	5	22	92	39
<b>OffStreet Total</b>	<b>378</b>	<b>68</b>	<b>51</b>	<b>53</b>	<b>151</b>	<b>130</b>

*Table 3c: Supply of All Available Parking using 80<sup>th</sup> Percentile of Occupancy*

	<b>Inventory</b>	<b>Supply of Available Spaces after 80th Percentile of Occupancy</b>				
		<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>On-Street</b>	389	127	124	75	74	131
<b>Off-Street</b>	378	68	51	53	151	130
<b>System Total</b>	<b>767</b>	<b>196</b>	<b>176</b>	<b>128</b>	<b>225</b>	<b>260</b>

### ***TASK I.7 – Parking Model Conclusions***

Results from the PSA parking inventory and surplus/deficit analysis indicate that, overall, there is a parking surplus in the central business district of Westwood. Logically, parking proximate to downtown shops and restaurants filled up first and stayed at capacity for the majority of the days surveyed. However, parking was frequently available on Fairview Avenue, Center Avenue and on-street spaces near the Municipal Complex. Though available parking is on the periphery of the PSA, it is rarely further than two blocks walk to downtown destinations.

Though, statistically there is not a shortage of available parking, there is still the perception that parking is unavailable in downtown Westwood. Field surveys showed that enforcement of 2-hour parking was not taking place and that violations were rarely distributed for expired meters. Also, there is anecdotal evidence that many business owners and employees are taking advantage of parking in front of their respective businesses, feeding the meters, and not making those spaces available to potential customers. These actions increase the perceptions that there is insufficient parking in Westwood.

The next sections address future parking conditions and recommendations for programmatic improvements to the Westwood parking program as well as suggestions for improved fee collection systems, parking regulations and enforcement protocols.

### ***TASK I.8 - Review/Evaluate Planned and Programmed Developments***

Discussions with Borough officials indicated that there are no approved development projects in the near future for the downtown business district. However, officials did indicate that there are several projects still in the conceptual phase that may come to fruition in the next five years. Those projects include the expansion of the New York Sports Club, the sale of the car dealership property along Madison Avenue and the relocation of the Westwood Community Center. None of these projects have been finalized or presented to the Borough planning or zoning boards at the time of this report.

## **Phase 2: Operational and Physical Improvements**

### ***TASK II.1 – Parking Policies & Regulations***

#### **Time Limits and Hours of Enforcement**

The majority of parking meter spaces in Westwood are two hours in duration. In addition to two-hour limit meters; there are also nine-hour meters along Broadway and the Jefferson and Center Avenue South Lots. Posted hours of enforcement are Monday through Saturday, 9:00 am until 6:00 pm.

In addition to the vehicle turnover data taken as part of this study, several test vehicles were placed in various locations in the study area to evaluate if time limits were enforced as designed. All test vehicles complied with payment of the meters but exceeded the time limit by as much as eight hours with no citation written.

#### **Handicapped Parking**

State of NJ Statute regulating handicapped parking requires users utilizing spaces located in surface lots and on-street locations that are managed by paid meters to pay the parking meter only once per parking occasion, within a maximum of 24 hour period. If the time required exceeds the time limit posted the maximum rate must be satisfied during the initial time the vehicle is parked.

This statute does not require the creation of on-street handicapped parking spaces since the statute essentially makes any space a handicapped space with proper credentials.

A review of the off-street facilities operated by the Parking Authority indicates that there are an insufficient number of dedicated handicapped parking spaces offered in its off-street facilities.

The following table indicates the requirement for handicapped parking spaces based on total per lot space counts.

**Figure 4a: Off-Street ADA Space Requirements**

Total Parking in Lot	Required Minimum Number of Accessible Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2% of total
1001 and over	20 plus 1 for each over 100 over 1000

The following table indicates the lots where there are an insufficient number of spaces and the number of spaces required to meet ADA requirements.

**Figure 4b: Westwood Off-Street ADA Space Surplus/Deficit Analysis**

<i>OffStreet</i>	<i>Inventory</i>	<i>HC</i>	<i>Required ADA</i>	<i>Surplus/Deficit</i>
A Cen. Ave. N	99	2	4	(2)
B Cen. Sq.	53	2	3	(1)
C Fairview	54	2	3	(1)
D Cen. Ave. S	68	2	3	(1)
E Borough Hall	104	3	5	(2)
<b>OffStreet Total</b>	<b>378</b>	<b>11</b>	<b>18</b>	<b>-7</b>

***Recommendations***

Two-hour time limits are the most widespread time limits found in most municipal parking on-street settings. This time limit allows for a quick shopping trip or leisurely meal and encourages turnover of this valuable asset a minimum of four times per business day. It is recommended that all on-street spaces along the Westwood Avenue business area remain at two hour time

limits. Nine hour meters on-street should be eliminated and converted to two hour meters. Long-term parking can be accommodated through the use of a permit system so that this type of demand can be tracked and adjustments to the program can be made based on factual data.

To accommodate long-term parking, all off-street facilities should be equipped with multi-space pay-by space meters to allow long-term users to purchase the amount of time required without the fear of receiving a citation or being required to move their vehicle after two hours.

Parking enforcement should occur during the posted hours each enforcement day. Parking enforcement officers should be present on-street from 9:00 am until 6:00 pm.

To prevent employee's from parking in an on-street space for two hours and moving to a different on-street space every two hours thereafter, the Borough of Westwood should adopt an ordinance that prevents this type of activity. This can be accomplished by establishing different parking zones (similar to those used for study data collection efforts, Figure 2) and if a vehicle is found to be parked in the same zone again during the course of an enforcement day it is issued a citation. This action prevents business owners and their employees from circumventing the program by simply moving their vehicle every two hours.

It is particularly important that time limits be enforced at all times. As parking enforcement is the foundation of any municipal parking program, without the proper enforcement of time limits all other parking program will fail. The resulting failure will be the public perception of insufficient parking levels.

## **Parking Rates**

Parking rates in Westwood are 2 hours for \$0.25, 1 hour for \$0.10, and 30 minutes for \$0.05. Resident commuter rates are \$1.00 per year. Table 5a below illustrates parking rates charged by other area municipalities.

**Table 5a: Comparative Parking Rates**

<b>Municipality</b>	<b>off-street hourly parking</b>	<b>on-street meter rates</b>	<b>commuter fees</b>
Ridgewood	\$0.25/hour	\$0.25/hour	n/a
Hackensack	\$0.25/hour	\$0.25/hour	\$55/month to \$75/month
Englewood		\$0.50/hour	
Westfield	\$0.50/hour	\$0.50/hour	\$576/year \$360/semi-annually
Red Bank	\$0.50/hour	\$0.50/hour	\$150/quarter, \$300/6-mo, \$600/year
New Brunswick	\$1.50/hour	\$2.00/hour	\$115/month
Westwood	\$0.10/hour	\$0.10/hour	\$1/year

Overtime parking citations in Westwood are assessed at \$17.00 with a \$10.00 penalty if not paid by the assigned court date. Table 5b illustrates a sampling of overtime parking fines assessed by other local municipal jurisdictions.

**Table 5b: Comparative Overtime Parking Fines in Other New Jersey Cities**

Bayonne Parking Authority	-	\$18.00 (OT) to \$47.00 Illegal Parking
Elizabeth Parking Authority	-	\$18.00 (OT)
Fort Lee Parking Authority	-	\$25.00 (OT)
Metuchen Parking Authority	-	\$17.00 (OT)
Princeton Parking Department	-	\$25.00 (OT)
New Brunswick Parking Authority	-	\$22.00 (OT)
Camden Parking Authority	-	\$22.00 (OT)
Morristown Parking Authority	-	\$10.00 (OT)
Newark Parking Authority	-	\$44.00 (OT)
City of Passaic	-	\$27.00 (OT)
<b>Westwood Parking Authority</b>	-	<b>\$17.00 (OT)</b>

***Recommendations***

Parking rates and fees in the Borough of Westwood are low when compared to other municipalities. In addition, parking rates have remained unchanged for sometime. The Parking Authority should be using a private-sector business model when it comes to parking operations. It is vital that the Parking Authority assess the annual cost to operate versus the fees that it charges. If the Borough of Westwood is to remain vibrant, it is imperative that improvements to the system be made and plans for future parking expansion and enhancements be properly

funded. In addition, the operation of parking should never be directly financially supported by the General Fund. The goal of any parking program should be financial independence that is supported by its users.

Based on the rates currently charged for parking in the Borough of Westwood, the following rate change recommendations are made:

1. Increase on-street metered parking rates from \$0.25 for two hours to \$0.50 per hour. Increase off-street rates to \$0.25 per hour.
2. Increase residential commuter rates from \$1.00 per year to \$20.00 per month. Institute a non resident permit program at \$40 per month.
3. Implement a \$10.00 per month employee parking program for low demand areas.
4. Increase Overtime Parking citation rate from \$17.00 to \$25.00
5. Adopt an ordinance developing a Prohibited Parking citation rate of \$25.00 for vehicles found in the same zone during the course of a day.

Another option available to the Parking Authority is to assess a price versus convenience approach to parking. As Westwood Avenue parking is the most heavily desired parking, this parking could be priced relatively higher than curbside parking found on side streets. Instead of \$0.50 cents per hour this parking could be assessed at \$0.50 per half hour or \$1.00 per hour.

Although the recommendation for rate adjustments equates to an almost 400% increase over current parking rates, the Borough has not raised rates for some time resulting in fees that are notably low. To achieve this increase in meter rates, it may be desirable to complete these increases gradually over a two or three year period.

## Parking Validation Program

To help address the concern of local business owners as it relates to increased parking rates, the Parking Authority may want to discuss the development of a “Merchant Validation” program to provide reduced rate parking for shoppers and restaurant goers. Under this scenario, the Parking Authority would collaborate with the local vendors and merchants to develop a Merchant Validation program that could provide up to two hours of free parking. Program specifics could include a preset purchase amount to receive two hours of free parking or simply require a validation token be given to the patron.

With the implementation of smart card and token technology at all metered locations, smart cards or tokens can be issued to the patron to buy down the cost of parking during their next visit to downtown in a denomination predetermined by the participating merchant. Each merchant or restaurant owner can decide on their own program parameters such as a purchase amount minimums required for eligibility. This will provide an enticement to the patron to return to the downtown area and help lessen the impact of parking rate increases.

Parking Authority participation in this program is optional. Should the Parking Authority decide to participate in this program, it is recommended that the merchant or restaurant owner does not receive more than a 20% discount for this parking. The greatest downfall to this program is the business owner who decides that they will pay for employee parking using this program. For this reason, the Parking Authority may want to limit the percentage they participate in this program to a predetermined dollar amount per month.

## **Parking Enforcement**

Without consistent and proper parking enforcement efforts, the public perception of readily available curbside parking will also be diminished. Parking enforcement is the foundation of any municipal parking program. Parking industry staffing guidelines dictate one dedicated parking enforcement officer per 200-300 parking meters.

### ***Recommendations***

Based on the size and character of the downtown study area, three full-time civilian enforcement officers should be responsible for the enforcement of parking regulations of downtown streets and ticketing of vehicles found parked in violation of parking meter time limits and/or other posted parking regulations. This number allows for one officer to perform enforcement duties should the others not report to work for any reason or cover routes during lunch breaks. Patrols should be conducted on foot with the lead officer or supervisor utilizing a motor vehicle to maximize mobility and to cover larger areas of enforcement. Zone schedules should be rotated so that enforcement staff does not become friendly with the parking public and begin to overlook potential violations.

Since it may not be financially feasible to maintain the salary and benefit packages of three parking enforcement officers, initially the Parking Authority may be able to achieve its goal of increased parking enforcement through the use of Special Police officers assigned to the Police Department until such time as the Parking Authority can properly fund these positions through increased revenue generation.

## **Employee Parking Program**

During the course of field observations and data collection efforts related to this project, it became clearly apparent that a large number of employees of the downtown are parking at valuable curbside metered parking locations. Curbside parking is the most valuable parking

asset that any municipality maintains to support a vibrant business district. Without the turnover of these valuable parking spaces, the perception of insufficient parking can easily be created. To help eliminate the problem of long-term employee parking at desirable curbside spaces, it is necessary to create an Employee Parking Program.

A properly designed Employee Parking program provides low or no cost parking to employees who are assigned to lesser used facilities usually located along the fringe of a downtown or business area. The fees assigned to this program are kept low to provide a financial incentive to potential users.

### ***Recommendations***

In an effort to reduce the use of valuable municipal parking inventory by employees that work within the study area, the development of low cost employee parking alternatives should be investigated. Lesser-used surface parking lots and on-street meters located on the fringe of the downtown area should be designated to serve this purpose and aggressively marketed. Signage indicating this use should be installed so that these spaces are available to the intended users during the course of various shifts during business and evening hours.

It is strongly recommended that employee parking occur in areas of least demand and that pricing strategies and enforcement measures be adopted to encourage this concept. Recommended areas for this type of parking include Fairview Avenue and Madison Avenue adjacent to the auto dealership.

## **Commuter Parking**

Presently, the Parking Authority accommodates residential commuter parking for the New Jersey Transit rail and bus line serving Westwood. This parking occurs at the Municipal Building and Center Square. Presently, only Westwood residents can obtain commuter parking in this area. However, with the placement of nine hour meters in the area, commuter parking is occurring at these locations as well. It is difficult to assess who these users may be since no type of permit is required at a nine hour meter.

### ***Recommendations***

The need for nine hour parking meters can be eliminated with the use of a permit parking system for all commuters. This is especially true if the use of nine hour meters is by non-resident commuters. This program will allow the Parking Authority to more accurately track commuter demand. In addition, this will also allow the Parking Authority to assess a higher permit fee for non resident users.

With the elimination of nine hour meters, the Parking Authority has two options open to it in managing commuter parking demand. Long-term parking should occur on a first come first serve basis with non resident demand in the old nine hour meter locations. Signage would be required in the old nine hour meter location to indicate commuter parking locations.

The greatest advantage to this approach is that non resident commuters are not required to pay a meter thereby reducing the cost to collect coins.

## Signage

An evaluation of the trailblazing and wayfinding signage program indicates that the signage program is inconsistent in regard to design and placement. The following photographs illustrate this point.



In addition, private-sector businesses in the study have developed their own signage system indicating to potential users that their area is for their patron's use based on their own perceived need. Signage in these areas is overstated, aesthetically unpleasing and confusing. A sample of this type of signage is illustrated below.



***Recommendations***

It is recommended that the Borough of Westwood adopt signage standards for informational and directional signage. Since off-street parking will become more popular it is important that these facilities can be found easily by infrequent visitors to the Borough. In addition, it may be beneficial to include the private-sector businesses who maintain parking lots as part of the parking program. This will allow valuable input in the decision making process and, as a result, a program could be developed that allows the participants to purchase signage at a municipal rate for their own facilities.

This process would require the Parking Authority to issue a Request for Proposal for signage design by qualified and experienced consultants. The final result will be a comprehensive signage program that will help limit vehicular congestion and provide a more aesthetically appealing appearance to the study area.

Although this program is included in the capital improvement program for the Parking Authority, the possibility of Federal or State grant dollars may be available to fund a portion of or the program in its entirety. This potential will have to be researched at the preliminary stages of the project.

## ***TASK II.2 – Parking Technologies***

### **Parking Meters**

Presently, the Westwood Parking Authority is utilizing two different levels of technology to manage its on-street and off-street parking program. On-street, the Westwood Parking Authority is using single space (dual mount) parking meters at all locations. Meters are older style, spring type meters with indication dials. Off-street parking facilities use single spaces meters and, as is the case with the Fairview Avenue and Center Avenue (theater) parking lots, pay by space multi-space meters.

As the Westwood Parking Authority does not currently maintain a smart card program, single space or multi-space meters do not maintain smart card capability.

#### ***Parking Meter Recommendations***

With the use of older mechanical style parking meters, as is the case in Westwood, it is more expensive for maintenance and repairs. It is also very difficult to account for revenues generated by each meter since existing mechanical parking meters do not maintain electronic memory chip technology.

With increased parking rates, it has become increasingly inconvenient to carry the number of coins needed to meet parking meter fees. To offset this demand for increased coins, parking meter manufacturers have begun to offer a variety of options to overcome this requirement. These options include smart card and credit card technology.

It is recommended that the Westwood Parking Authority replace existing mechanical parking meters with new parking meter technology and that smart card technology be adopted into the parking meter program to increase the level of customer service. This will also make the gradual increase in mater rates easier to achieve since rates can be changed quickly and easily using electronic meter technology.

Smart card technology consists of a card, much like a credit card, that is managed in-house. There is no affiliation with any major bank card and therefore no costs are paid to any outside entity for management of this program. A smart card is simply a decrementing card that is used instead of coins or cash. Users would purchase this card from the Parking Authority. The user then uses the card until the purchase limit is reached and there is no dollar value left on the card. The card can then be recharged or simply thrown away. Card values can vary based on the needs of the user or user groups, such as commuters and business owners. This approach allows the Parking Authority to receive parking revenues before services are rendered while also providing an increased level of customer service since coins no longer have to be carried to satisfy the meter.

### **Parking Meter with Smart Card Technology**



When using mechanical parking meters in an enforcement environment, there is a poor correlation between parking income and time parked. Some consultants refer to the poor correlation as the 70/70 rule. Although not an absolute number; however, generally correct in most municipal jurisdictions, approximately 30% of the time a parking metered space is occupied, the parking meter's time is expired. That's means that only 70% of the income for time parked is received. The other side of the 70/70 rule is that approximately 30% of parking patrons are able to park on coins deposited by a previous parking patron. That means that they

must only deposit coins for 70% of their actual parking time. This is highly unlike gated parking systems, which theoretically collect the actual parking charge for the actual time parked.

There are two primary parking meter options that can replace existing parking meters – individual single space electronic parking meters or multi-space parking meters. All individual parking meters are subject to the 70/70 rule, whereas multi-space parking meters are not. Multi-space parking meters come in two varieties, *Pay-By-Space* and *Pay-And-Display*. Each electronic meter option will be discussed.

1. *Electronic Single Space Parking Meters* - The traditional approach would be to replace mechanical parking meters with state-of-the-art electronic parking meters. This can be accomplished by the purchase of entirely new parking meters @ about \$450 each or by replacement of the internal mechanism of existing meter housings at approximately \$250 each. One such insert is pictured below.



Electronic parking meters change the way meter repairs and maintenance is performed. They require periodic battery changes (annual in most cases); and instead of repairing mechanical parts, meter maintenance is performed by merely replacing the entire insert with a new insert from inventory. Many users of electronic parking meters enter into contracts whereby defective inserts are routinely picked up and exchanged for repaired ones. Unlike the existing mechanical parking meters, the electronic parking meter's internal clocks are highly accurate and are not likely to incorrectly display time.

2. *Central Parking Meters* - Recently, multi-space parking meters have become increasingly popular. They come in two varieties *Pay-By-Space* and *Pay-And-Display*. Multi-space parking meters have some distinct advantages. Primarily, they provide a full audit trail of all transactions. In some more sophisticated installations, multi-space parking meters can even send messages to a host computer that performs diagnostics of each device and displays its financial and paper supply status. Depending on the location of the parking spaces that are intended to be covered, multi-space parking meters can replace between 10 and 20 traditional single space parking meters and accept cash, coins, tokens, smart card or credit card for payment. They are also more aesthetically appealing since less units are required.
  - a. *Pay-By-Space* –In an off-street application, each *Pay-By-Space* parking meter services 10-20 numbered parking spaces. Therefore, each parking space requires a sign, either painted on the pavement or posted. To render payment, the parking patron must remember the number of the parking space in which they parked. Once the space number is entered, the next step is to determine the length of stay and deposit or insert cash, coins, tokens, a smart cards, or credit card for payment. *Pay-By-Space* may be the best choice for off-street applications in Westwood as it does not require the user to return to the vehicle to display the receipt on the vehicle’s dashboard. Enforcement is performed by receiving a printout from each *Pay-By-Space* parking meter and issuing a citation to each vehicle that occupies an unpaid parking space.

*A Solar Powered Central Parking Meter*



- b. *Pay-And-Display* – Like its *Pay-By-Space* counterpart, *Pay-And-Display* parking meters can service between 10 - 20 parking spaces. The primary difference is that *Pay-And-Display* parking meters require fewer signs and no sign in front of each parking space. The payment process requires the patron to select the duration of time and render payment by depositing or inserting cash, coins, tokens, smart card or credit card. After a receipt is issued that boldly displays the expiration time and date, it is the patron's responsibility to display the receipt on the dashboard of the vehicle for viewing by the enforcement officer.

After considering the parking meter options presented herein, it is recommended that the Westwood Parking Authority replace all on-street parking meters with electronic parking meters that have smart card capability.

It is recommended that all off-street parking lots be converted to pay-by-space multi-space meter technology with smart card technology. It is also recommended that all units be supplied with a shelter to allow users to interact with the machine more easily during periods of inclement weather.

## **Ticket Issuance Devices (Handheld Ticket Writing)**

The Westwood Parking Authority currently issues parking citations manually. The national trend is to move away from handwritten parking citations and exclusively use handheld ticket issuance technology to the fullest degree possible. The latest generations of these devices are small lightweight (PDA style) machines, which each enforcement officer carries on their person that allows for automated ticket writing.

Information on each vehicle issued a citation is input into the handheld resulting in a ticket being dispensed automatically from the device. In addition, the latest generation of handhelds has the ability to take a picture(s) of the offending vehicle or infraction situation.

### **Sample Handheld Unit**



At the end of each patrol shift, each officer downloads their device into a personal computer. This information is then assigned the correct owners name based on the license plate number recorded with late notices being generated by the system on predetermined dates from the initial date of issuance. Hand-held ticket issuing devices also provides the administrator with information regarding the performance of its parking enforcement staff. It is capable of tracking the number of citations written during any period of day(s) specified and can identify areas where parking enforcement efforts may need to be stepped up based on issuance levels.

***Recommendations***

It is highly recommended that the Westwood Parking Authority issue parking citations via a handheld issuance system. This will allow the Westwood Parking Authority to streamline its parking citation system through complete automation while also providing important data on the parking programs performance.

The State of New Jersey maintains policy on the use of handheld devices. Specifically, it dictates the manufacturer of these devices. This information is available from the court system.

### **TASK II.3 – Revenues and Operational Costs**

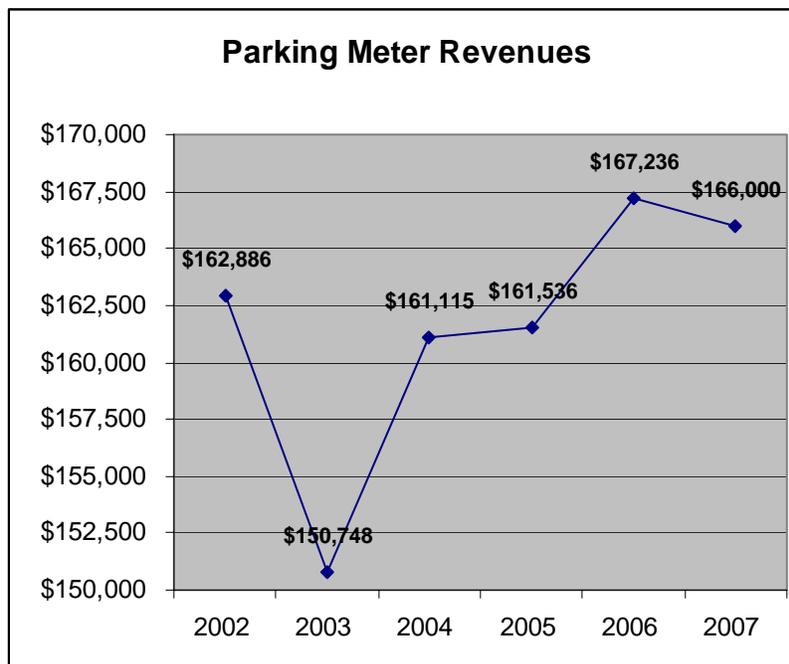
#### **Revenues**

Overall, parking revenues generated by the Parking Authority have remained consistent since 2002. Data supplied by the Parking Authority indicates that the following revenues were reported.

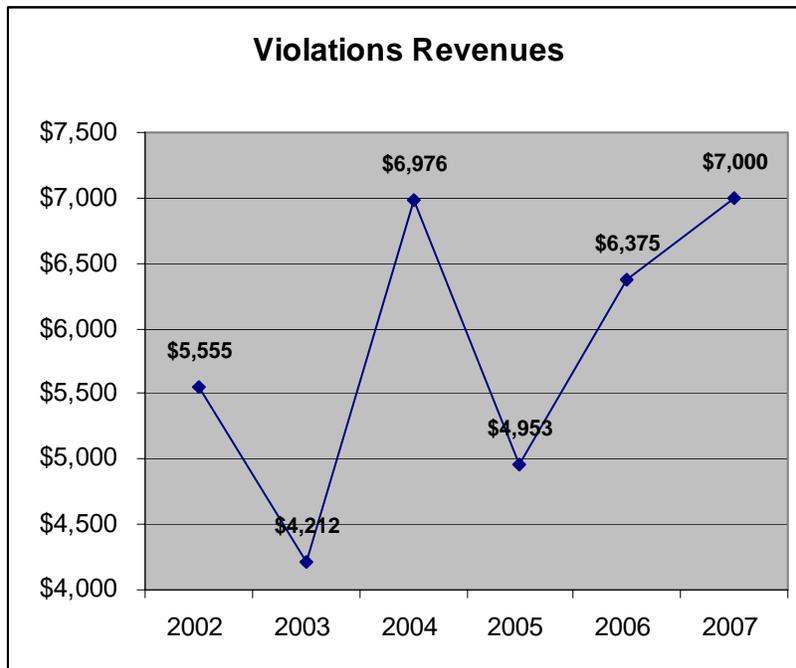
<u>Parking Meters</u>	<u>Parking Violations</u>	<u>Rental/Misc.</u>	<u>Total Revenues</u>
2002 - \$162,886	\$5,555	\$2,200/\$1,269	\$171,910
2003 - \$150,748	\$4,212	\$ 100/\$1,465	\$156,525
2004 - \$161,115	\$6,976	\$1,000/\$1,065	\$170,156
2005 - \$161,536	\$4,953	\$ 500/\$ 0	\$166,989
2006 - \$167,236	\$6,375	\$1.062/\$ 0	\$174,673

Based on the financial data supplied it appears that the Parking Authority will generate approximately the same revenues for fiscal year 2007 as it did in 2006.

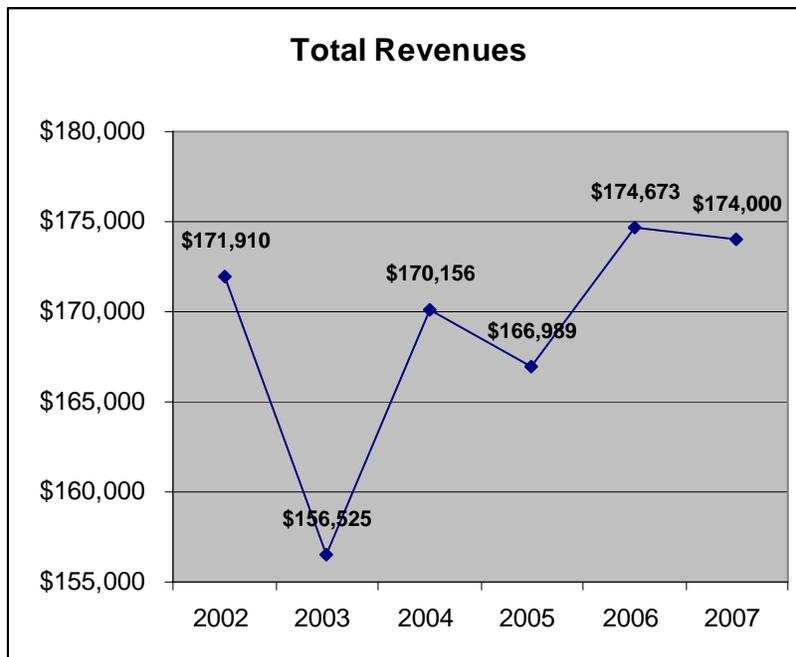
The following graph illustrates the parking meter revenues generated by the Parking Authority from 2002 through 2006 and also project the meter revenues for the current fiscal year.



The following graph illustrates the revenues generated through the issuance of parking citations from 2002 through 2006 and also projects the violation revenues for the current fiscal year.



The following graph illustrates the total revenues generated by the Parking Authority from 2002 through 2006 and also projects the total revenues for the current fiscal year.



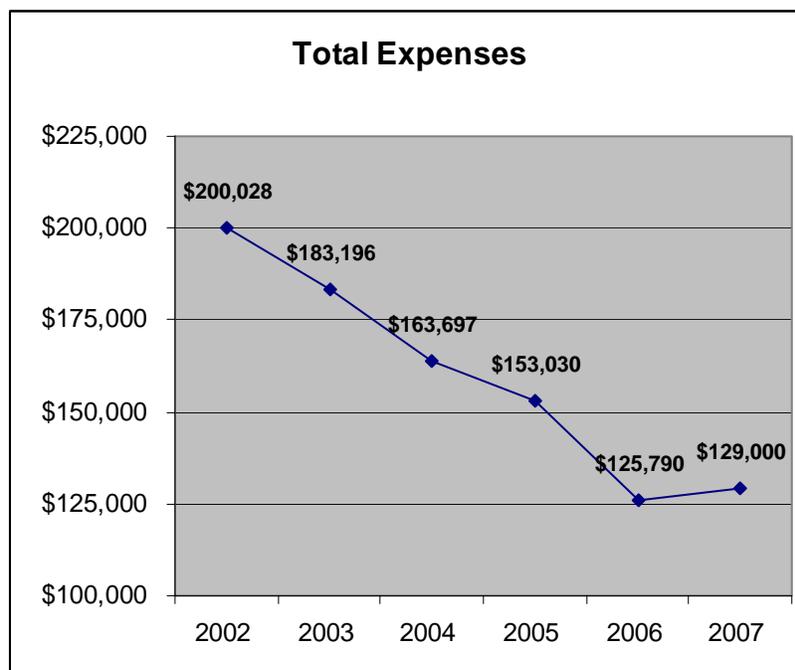
## Expenses

Parking Authority expenses have decreased annually. Data supplied by the Parking Authority indicates that the following expenses were recorded.

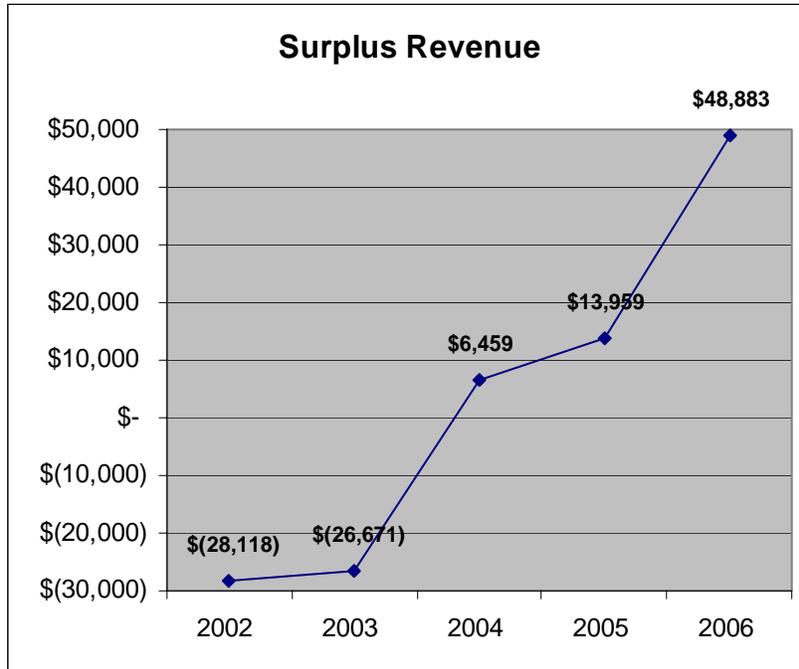
<u>Cost of Providing Services</u>	<u>Administration</u>	<u>Depreciation</u>	<u>Total Expenses</u>
2002- \$69,326	\$71,630	\$59,072	\$200,028
2003- \$82,755	\$74,527	\$25,914	\$183,196
2004- \$86,357	\$55,434	\$21,906	\$163,697
2005- \$82,015	\$53,075	\$17,940	\$153,030
2006- \$68,156	\$40,702	\$16,932	\$125,790

Expenses associated with the supply of parking services have consistently decreased since 2002. In discussions with Parking Authority officials, this reduction is attributed to a reduction in staffing levels.

The following graph illustrates this trend.



The following graph illustrates the variation between revenue and expenses on an annual basis from 2002 through 2006.



*Recommendations*

Based on the recommendations provided in this report for an increase in staffing levels to augment parking enforcement levels and upgrade and purchase new equipment, it will be necessary to increase parking rates to maintain a positive cash flow.

The following recommended changes in parking rates are listed with the potential increase in revenue associated with each recommendation based on usage (demand) documented as part of this report.

1. Increase on-street metered parking rates from \$0.25 for two hours to \$0.50 per hour. *Estimated annual revenue increase of \$35,000.* Increase off-street rates to \$0.25 per hour. *Estimated annual revenue increase of \$97,000.*
2. Increase residential commuter rates from \$1.00 per year to \$20.00 per month. *Estimated annual revenue increase of \$119,500.* (There are an estimated 500 permits presently issued.)  
Institute a non-resident permit commuter program at \$40 per month for Westwood Train Station patrons. *Estimated annual revenue increase of \$12,000.*
3. Implement a \$10.00 per month employee parking program for low demand areas. *Estimated annual revenue increase of \$500.*

There are no estimates provided for parking violation revenue increases as parking citation issuance varies and it is not common to include violation revenue when developing a capital improvement program. It is also expected that with increased levels of parking enforcement compliance with posted regulations will increase and parking citation issuance decreases.

## **TASK II.4 – Long-term Capital Improvement Program and Schedule**

Several capital improvement program items have been listed as a part of this report. The following table categorizes each item by the level of importance to the Parking Authority as it relates to improving customer service levels, ability to provide a greater level of accountability to its administrators and to reduce or control operational costs.

Time Frame	Tasks
<p><b>Immediate (0-12 months)</b></p>	<ul style="list-style-type: none"> <li>➤ Develop /adopt parking rate structures (on-street and off-street). <b>No Cost</b></li> <li>➤ Develop /adopt parking fines structure. <b>No Cost</b></li> <li>➤ Develop /adopt employee parking program. <b>No Cost</b></li> <li>➤ Discuss/ develop merchant validation program. <b>No Cost</b></li> <li>➤ Determine desired meter and enforcement technology. <b>No Cost</b></li> <li>➤ Develop meter bid specification and publicly bid. <b>\$15,000</b></li> <li>➤ Search, hire and train parking enforcement officer(s). <b>\$35,000</b></li> </ul>
<p><b>Near Term (12-24 months)</b></p>	<ul style="list-style-type: none"> <li>➤ Award parking meter bid/ installation of parking meter equipment. <b>\$175,000</b></li> <li>➤ Search, hire and train parking P/T meter collection &amp; repair personnel. <b>\$25,000</b></li> </ul>
<p><b>Long Term (24 months +)</b></p>	<ul style="list-style-type: none"> <li>➤ Develop signage program bid specification and publicly bid. <b>\$75,000</b></li> <li>➤ Award signage bid/installation. <b>\$175,000</b></li> </ul>

## **Center Avenue South Lot**

The Parking Authority presently leases this 68 space parking lot at the cost of \$1,000 per month based on a lease purchase agreement developed in 1999. The terms of this agreement sets the sale price at approximately \$325,000. To date, the Parking Authority has spent over \$100,000 or one-third the purchase price for the use of this property.

The Parking Authority is currently in negotiations to purchase this property from its present owner. It is highly recommended that the purchase of this property move forward as the Parking Authority should have direct control over this facility to prevent the loss of this valuable parking should the owner decide on a different land use for the property or sell the property to another entity. If the Parking Authority is to provide parking to the public, it should do so knowing that its facilities are not in jeopardy of suddenly being lost resulting in a large number of displaced users. This purchase has not been listed in the Capital Improvement Schedule since the process to purchase this facility has already begun.

## ***TASK II.5 – Financing Capital Improvement Program***

A municipal parking capital improvement program is designed to address near and long-term needs based on the program need and the financial performance of the parking agency involved. The majority of municipalities fund their parking capital improvement programs utilizing retained earnings from previous fiscal years. Communities with greater or immediate capital program needs frequently fund their capital improvement program through the issuance of parking revenue bonds. Although ultimately more costly, this approach allows the agency to achieve the goals of its capital improvement program more quickly, which often results in an increase in their respective revenue streams in a shorter timeframe. This increase in revenue can aid in meeting the debt service cost associated with the funding of the capital improvement program.

Based on the prior financial performance of the Westwood Parking Authority, the recommended changes to the fees and rates charged by the Parking Authority and on the items listed in the capital improvement program, it is recommended that the Westwood Parking Authority fund its capital improvement program identified through the use of retained earnings. This approach will allow the Parking Authority to achieve its goal of improving service within a reasonable period of time without the additional cost of issuing revenue bonds.

It is estimated that parking revenues would increase an estimated \$264,500 annually based on recommended changes in fees and programs. However, personnel costs will increase an estimated \$60,000 annually with the addition of an additional parking enforcement officer and the addition of a dedicated parking meter repair person. This results in a realized increase of \$200,000 in parking revenues after the funding of these additional positions.

As a result, the Parking Authority will have an estimated \$199,500 annually to pledge to the parking reserve fund, which will ultimately fund the capital improvement program.

Regardless of the recommendations adopted by the Borough of Westwood as a result of this study, serious financial investment in the parking infrastructure is required to maintain a successful parking operation and resulting business district. This investment should be the main concern of the Parking Authority as it moves forward to modernize and streamline its operation.

### ***TASK II.6 – Parking Organization and Administration***

The Borough of Westwood presently manages its parking utilizing a Parking Authority approach. As presently configured the Parking Authority maintains two full-time employees acting as parking enforcement officers and meter collection agents.

Organization and management of parking systems varies from municipality to municipality. Specific responsibilities and arrangements reflect local circumstances and needs. Major variables include the amount and location of the municipality-owned parking facilities, community size and resources, state enabling legislation, local statutes and the priorities, agenda and attitudes of the local community.

Municipal parking systems are typically comprised of on-street parking facilities (i.e. curbside parking meters and time zones) and off-street parking facilities (i.e. parking garages and surface parking lots). Because daily operations, maintenance, personnel and costs associated with the management of on and off-street parking facilities are quite different, the parking management structure municipalities have created is typically a reflection of their individual preferences.

Generally, organizational examples for managing municipal parking activities can be viewed as a “spectrum of alternatives.” On one end of the spectrum is the purely public sector or in-house structure for complete management of a municipality’s parking facilities. Typically, small cities having small parking systems or, larger cities that have opted to make a substantial commitment to properly staff and fund an in-house parking program in one or more departments, elect not to involve the private sector.

On the other end of the spectrum are cities that assigned the total responsibility for managing its parking facilities to one or more private entities. The rationale for such an arrangement often relates to the desire for professional and competent management, administrative savings, improved responsiveness, financing and/or contracting latitude, or other basic operational efficiencies that stem from having an autonomous private entity assume control of public parking facilities.

In the middle of the spectrum are various organizational structures that have public and private aspects. To lessen some of the public sector burden of selected roles, responsibilities can be assigned to the private sector. Municipalities may engage private sector entities with individual contracts to provide such services as facility operation, maintenance, meter collections, auditing or development of public parking facilities, while delegating the balance of the responsibilities to one or more city departments or agencies. In today's environment, organizational structures for managing public parking activities in most cities include some private sector involvement and thus as a result, fall into the middle of the spectrum.

Parking industry management experts generally agree that the parking management structure most often dictates what the parking system will look like. Conversely, the parking system and its operation most often reveal the nature of the management structure. There are some telltale signs of a poorly crafted management structure.

These telltale signs are usually readily evident and generally characterized by the parking system's inability to:

- Meet basic performance objectives
- Portray a good public image
- Respond to the user groups it serves
- Understand and apply large parking management strategies

Conversely, well crafted parking management structures most often have the ability to perform the following:

- Establish an adequate budget to address the operating requirements of the parking system
- Set rates that are sufficient to fund activity to meet the adopted goals and objectives of the parking system
- Manipulate and control the elements and processes associated with the management and operation of the parking system
- Set aside sufficient revenue for property acquisition and future development
- Set aside sufficient revenue for system maintenance and other future capital expenditures
- Direct and deliver services from a single source responsibility center

The most effective method of managing any municipal parking operation is through a sole source responsibility center. A majority of municipalities nationwide take a consolidated approach to parking management through the use of a Parking Authority, Parking Department, or a Parking Division, which is most often found under the direction of the Public Works Department.

### ***Recommendations***

Based on the size of the overall parking system and the revenues generated by parking in the Borough of Westwood, the best approach to parking management is the Parking Authority approach. This is further supported by the fact that the Parking Authority already exists and additional State and Borough legislation is not required to meet the need for the development of such an agency.

This approach empowers one individual the sole responsibility for all functions of daily parking management. This includes parking administration (policy setting), parking enforcement management and oversight, parking meter management and short and long-term maintenance responsibilities. In addition to these operational standards, the parking operation should be

financially self-sufficient and not rely on General Fund revenues for its daily operation or capital expenses.

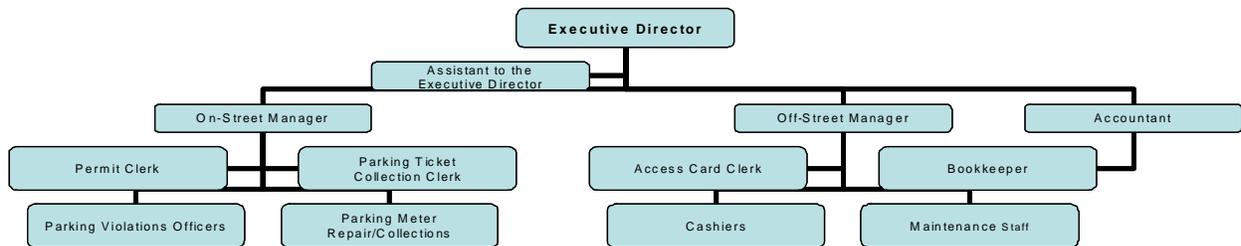
A parking authority is defined as an independent body politic of a municipality enabled under State legislation, and created by a city or county ordinance or resolution.

In New Jersey, parking authorities have the following powers and characteristics:

- The ability to acquire real property either through negotiation or its vested powers of eminent domain.
- A parking authority has a five-member board of directors. The mayor with the consent of a city or county commission appoints the board.
- The board is empowered to hire a director and any and all other employees that it deems necessary to manage and operate parking facilities, processes, and functions under its jurisdiction.
- It has the power to set rates for on and off-street parking, thus removing the rate setting process from the political arena.
- It has the power to create and approve its own budget. The budgets are generally intended to be revenue neutral.
- It may keep excess revenues from operation. This permits a parking authority to create reserves for future expansion and renewal/replacement.
- It has the power to issue “parking revenue” bonds. Although theoretically possible, because of much more favorable interest rates, parking authorities frequently work with the City/County in which they reside and seek its backing.

The Organizational Chart pictured in Figure 9 depicts a full service and self-operated parking authority. The executive director would answer to a five-member board that is appointed by City or County figurehead with the consent of the City or County Commission.

**Figure 9: Parking Authority Organizational Chart (Sample)**



There are many hybrids of the structure shown. A variety of outside contracts can replace and/or alter many of the functions. An enforcement contract, parking meter collection contract, ticket collection contract or parking management contract are examples of outside contracts.

Since the Westwood Parking Authority does not maintain a full-time executive director with a background in the parking industry and parking conditions do not directly support the need for a full-time director at this time, it is recommended that the Parking Authority contract with a qualified parking consultant on a retainer basis to help guide the Parking Authority on important operational issues.

In addition, it is recommended that the duties between parking enforcement and meter collection and repair be kept completely separate. At no time should the person(s) responsible for the issuance of citations have access to the revenues or mechanical section of the parking meter. It is recommended that an additional part-time individuals be hired to complete these tasks or that these duties be contracted with a private-sector firm specializing in these services.

Should the Parking Authority adopt an increase in parking rates and as a result parking revenues increase, it is important that the level of attention to maintenance at its facilities increase. This includes striping, sealing and sweeping of pavement surfaces as well as improvements to landscaping and signage systems. The following photograph illustrates the need for enhanced landscape maintenance.



Although the Borough of Westwood takes the best approach to the management of its parking assets, it is important that it also be empowered and funded to provided parking in a Class A manner appropriate to the Borough of Westwood.

## **STATEMENT OF GENERAL ASSUMPTIONS AND LIMITING CONDITIONS**

This report is subject to the following limiting conditions:

1. This report is based on assumptions outside the control of DESMAN Associates (“DESMAN”) and/or our client. Therefore, DESMAN cannot guarantee the results discussed in this study.
2. The results and conclusions presented in this report may be dependent on future assumptions regarding the local, national, or international economy. These assumptions and resultant conclusions may be invalid in the event of war, terrorism, economic recession, rationing, or other events that may cause a significant change in economic conditions.
3. DESMAN assumes no responsibility for any events or circumstances that take place or change subsequent to the date of our field inspections.
4. Sketches, photographs, maps and other exhibits included herein may not be of engineering quality or to a consistent scale, and should not be relied upon as such.
5. All information, estimates, and opinions obtained from parties not employed by DESMAN, are assumed to be accurate. We assume no liability resulting from information presented by the client or client’s representatives, or received from third-party sources.
6. This report is to be used in whole and not in part. None of the contents of this report may be reproduced or disseminated in any form for external use by anyone other than our client without written permission.
7. The projections presented in the analysis assume responsible ownership and competent management. Any departure from this assumption may have a negative impact on the conclusions.

**APPENDIX A**  
**Project Study Area Inventory Sheets**

**Quad 1**

<b>On-Street</b>		<b>Count-Type A</b>	<b>Count-Type B</b>	<b>Count-ADA</b>	<b>Meter #</b>	<b>Meter Rules</b>	<b>Notes</b>
<i>Center</i>							
Between Irvington & Westwood	SB	14			CW2-CW15		
<i>Westwood</i>							
Between Center & Broadway	WB	9			WN50-WN58	2hr @ \$0.10/hr	
<i>Washington</i>							
Between Broadway & 3rd	WB	7			WA1-WA7	2hr @ \$0.10/hr	
Between 3rd & 4th	WB	5			WA20-WA23A	2hr @ \$0.10/hr	
Between 4th & St. Nicholas	WB	6			WA24-WA29	9hr @ \$0.25/2 hrs	
<i>Broadway</i>							
Between Irvington & Washington	NB	3	6		BE12-BE14 / BE14-BE19	15min @ 15min/\$0.05 / 2hr @ \$0.10/hr	
	SB	8	16		BW1-BW8 / BW9-BW24	9hr @ \$0.25/2hrs / 2hr @ \$0.10/hr	
<i>Madison</i>							
Between Irvington & Washington	NB	24			M1-M24	2hr @ \$0.10/hr	
<b>Off-Street</b>		<b>Count-Type A</b>	<b>Count-Type B</b>	<b>Count-ADA</b>	<b>Lot Name/Rules</b>		<b>Notes</b>
<i>Washington-Irvington-Madison</i>	Public	15		1			
<i>Broadway-Irvington-Center-Westwood</i>	Public	99		2			
	Private	25			Broadway Pediatrics @ 336 Center Street		

**Quad 2**

<b>On-Street</b>		<b>Count-Type A</b>	<b>Count-Type B</b>	<b>Count-ADA</b>	<b>Meter #</b>	<b>Meter Rules</b>	<b>Notes</b>
<i>Kinderkamack</i>							
Between Irvington & Westwood	SB	7			KK1-KK7	9hr @ \$0.25/2hrs	
<i>Westwood</i>							
Between Kinderkamack & Fairview	WB	10			WN30-WN39	2hr @ \$0.10/hr	
Between Fairview & Center	WB	10			WN40-WN49	2hr @ \$0.10/hr	
<i>Fairview</i>							
Between Westwood & Irvington	NB	6	5		FE14A-FE19 / FE20-FE24	2hr @ \$0.10/hr / 9hr @ \$0.25/2 hrs	
	SB	8	4		FW8-FW15 / FW4-FW7	2hr @ \$0.10/hr / 9hr @ \$0.25/2 hrs	
<i>Center</i>							
Between Westwood & Irvington	NB	14			CE14-CE27	2hr @ \$0.10/hr	
<b>Off-Street</b>		<b>Count-Type A</b>	<b>Count-Type B</b>	<b>Count-ADA</b>	<b>Lot Name/Rules</b>		<b>Notes</b>
<i>Center-Irvington-Fairview-Westwood</i>							
	Private	21			Tenant Parking		Center Plaza
	Public	46		2	Meter	2hr @ \$0.10/hr	
	Public	28			Residential Permit		
<i>Fairview-Irvington-Kinderkamack-Westwood</i>							
	Private	20			Westwood Fitness		
	Public	84			Residential Permit		

<b>On-Street</b>		<b>Count-Type A</b>	<b>Count-Type B</b>	<b>Count-ADA</b>	<b>Meter #</b>	<b>Meter Rules</b>	<b>Notes</b>
<i>Westwood</i>							
Between Center & Fairview	EB	10			WS11-WS20	2hr @ \$0.10/hr	
Between Fairview & Kinderkamack	EB	9			WS21-WS29	2hr @ \$0.10/hr	
<i>Kinderkamack</i>							
Between Westwood & Bergen	SB	8			KK8-KK15 (meters 12-13 missing)	2hr @ \$0.10/hr	
<i>Jefferson</i>							
Between Kinderkamack & Fairview	EB	6?			N/A	2hr, no meters	
Between Fairview & Center	EB	9	5		JF10-JF18	2hr @ \$0.10/hr / no parking rules, community ctr	
	WB	10			JF21-JF30	2hr @ \$0.10/hr	
<i>Center</i>							
Between Bergen & Westwood	NB	12			CW1-CE12	2hr @ \$0.10/hr	
<i>Fairview</i>							
Between Westwood & Bergen	NB	12			FE2-FE13	2hr @ \$0.10/hr	
	SB	8			FW16-FW23	2hr @ \$0.10/hr	
Between Bergen & Jefferson	NB	20			FE45-FE64	9hr @ \$0.25/2hrs	
	SB	21			FW24-FW44	9hr @ \$0.25/2hrs	
<i>Bergen</i>							
Between Center & Fairview	EB	7			BE1-BE7	2hr @ \$0.10/hr	
Between Fairview & Kinderkamack	EB	6?				no meters - church business only	
	WB	3			GERG3, others unmarked	2hr @ \$0.10/hr	
<b>Off-Street</b>		<b>Count-Type A</b>	<b>Count-Type B</b>	<b>Count-ADA</b>	<b>Lot Name/Rules</b>		<b>Notes</b>
<i>Center-Westwood-Fairview-Bergen</i>							
	Private	55			Small Commercial/Retail businesses		
	Public	53		2	Residential Permit		
<i>Fairview-Westwood-Kinderkamack-Bergen</i>							
	Private	19	3	2	PNC Bank (Patrons/Staff/ADA)		
	Private	16			44 Bergen Street		
	Private	4		1	187 Fairview		
	Private	25			312 Kinderkamack, Huntington-Bailey		
	Private	48			5 Corner Stores		
	Private	19			126 Fairview		
<i>Fairview-Bergen-Kinderkamack-Jefferson</i>							
	Private	14			270 Kinderkamack		
	Private	12		1	250 Kinderkamack		
<i>Center-Bergen-Fairview-Jefferson</i>							
	Private	9		1	Firehouse		
	Private	9			64 Fairview		
	Private	12			10 Fairview		
	Private	15		1	Plaza 1		

**Quad 4**

<i>On-Street</i>		<i>Count-Type A</i>	<i>Count-Type B</i>	<i>Count-ADA</i>	<i>Meter #</i>	<i>Meter Rules</i>	<i>Notes</i>
<i>Washington</i>							
Between 4th & 3rd	EB	2			WA1-WA1A	2hr @ \$0.10/hr	
<i>Westwood</i>							
Between Broadway & Center	EB	10			WS1-WS10	2hr @ \$0.10/hr	
<i>Center</i>							
Between Westwood & Jefferson	SB	9			CW17-CW25	2hr @ \$0.10/hr	
<i>Jefferson</i>							
Between Center & Broadway	EB	4	3 - 1		JF1-JF4 /	15min @ 15min/\$0.05 / 2hr @ \$0.10/hr / no meter	
	WB	6			JF1-JF6	2hr @ \$0.10/hr	
<i>Park</i>							
Between Broadway & Madison	EB	0				no meters, no striping	
	WB	0				Res Permit, no striping	
Between Madison & 3rd	WB	12	13			Res Permit / Library Parking	
Between 3rd & 4th	WB	5			P1-P5	2hr @ \$0.10/hr	
<i>Broadway</i>							
Between Jefferson & Washington	NB	5			BW3-BW7	2hr @ \$0.10/hr	
	SB	27			BW25-BW51	2hr @ \$0.10/hr	
<i>Madison</i>							
Between 3rd & Park	NB	28				Res Permit	
<i>3rd</i>							
Between Park & Washington	NB	7			TE1-TE7	2hr @ \$0.10/hr	
	SB	7			TW24-TW30	2hr @ \$0.10/hr	
<i>4th</i>							
Between Park & Washington	NB	5			FO6-FO10	9hr @ \$0.25/2hrs	
	SB	5			FO1-FO5	9hr @ \$0.25/2hrs	

Quad 4

<b>Off-Street</b>		<b>Count-Type A</b>	<b>Count-Type B</b>	<b>Count-ADA</b>	<b>Lot Name/Rules</b>		<b>Notes</b>
<i>St. Nicholas-Washington-4th-Park</i>	Private	25			Borough Hall - Police Only		
	Private	23			Borough Hall - Employees Only		
	Private	7		2	Borough Hall - Visitors		
	Private	4			Borough Hall - Ambulance Corps		
	Public	104			Borough Hall - Residential Permit Commuter Lot		
<i>4th-Washington-3rd-Park</i>	Private	14			274 3rd Avenue		
<i>3rd-Madison-Park</i>	Public	31			Residential Permit Commuter Spaces		
<i>Madison-Washington-Broadway-Park</i>	Public			6	Residential Permit Commuter Lot		
<i>Broadway-Westwood-Center-Jefferson</i>	Private	78		3	Seville Diner		
	Private	8			Mezzaluna Day Spa		
	Private	6			Jack's Café		
	Private	18			Vanick Properties		
	Private	26		2	Bank of America		
	Private	16			Resident		
	Private	3			Heck Realty		
<i>St. Nicholas-Park-4th</i>	Private	14	6	1	542 4th Street, Resident Only/Garages		
<i>3rd-Park-2nd</i>	Private	11		1	Library Parking		

**APPENDIX B**  
**Utilization Tables (80<sup>th</sup> percentile)**

<i>On Street</i>	<i>Inventory</i>	<b>Supply of Available Spaces after 80th Percentile of Occupancy</b>				
		<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Quadrant 1</b>						
<b>Block 1</b>						
North	---	0	0	0	0	0
South	11	8	9	7	9	5
East	24	12	10	6	1	1
West	---	0	0	0	0	0
<b>Block 1 Total</b>	<b>35</b>	<b>20</b>	<b>19</b>	<b>13</b>	<b>10</b>	<b>6</b>
<b>Block 2</b>						
North	---	0	0	0	0	0
South	7	0	2	0	0	0
East	24	4	0	1	2	5
West	---	0	0	0	0	0
<b>Block 2 Total</b>	<b>31</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>5</b>
<b>Block 3</b>						
North	---	0	0	0	0	0
South	9	1	0	0	0	1
East	14	5	6	1	3	5
West	9	2	1	1	0	1
<b>Block 3 Total</b>	<b>32</b>	<b>8</b>	<b>7</b>	<b>2</b>	<b>3</b>	<b>6</b>
<b>Quad 1 Total</b>	<b>98</b>	<b>32</b>	<b>28</b>	<b>16</b>	<b>15</b>	<b>16</b>
<b>Quadrant 2</b>						
<b>Block 4</b>						
North	---	0	0	0	0	0
South	10	0	0	0	0	4
East	13	0	0	0	0	8
West	14	4	6	0	3	3
<b>Block 4 Total</b>	<b>37</b>	<b>5</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>14</b>
<b>Block 5</b>						
North	---	0	0	0	0	0
South	10	1	0	0	0	6
East	7	1	0	1	4	7
West	11	1	0	0	0	8
<b>Block 5 Total</b>	<b>28</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>21</b>
<b>Quad 2 Total</b>	<b>65</b>	<b>8</b>	<b>7</b>	<b>1</b>	<b>7</b>	<b>35</b>

		<b>Supply of Available Spaces after 80th Percentile of Occupancy</b>				
<b>On Street</b>	<b>Inventory</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Quadrant 3</b>						
<b>Block 11</b>						
North	10	0	1	0	0	1
South	---	0	0	0	0	0
East	8	2	3	1	1	5
West	12	1	2	2	0	1
<b>Block 11 Total</b>	<b>30</b>	<b>3</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>7</b>
<b>Block 12</b>						
North	9	0	0	0	-1	7
South	---	0	0	0	0	0
East	8	1	2	2	0	4
West	12	6	4	3	2	8
<b>Block 12 Total</b>	<b>29</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>18</b>
<b>Block 13</b>						
North	7	2	1	0	0	0
South	19	13	13	5	4	14
East	21	15	18	17	13	16
West	---	0	0	0	0	0
<b>Block 13 Total</b>	<b>47</b>	<b>30</b>	<b>31</b>	<b>22</b>	<b>17</b>	<b>29</b>
<b>Block 14</b>						
North	3	2	2	2	1	3
South	---	0	0	0	0	0
East	---	0	0	0	0	0
West	20	15	17	15	16	16
<b>Block 14 Total</b>	<b>23</b>	<b>18</b>	<b>19</b>	<b>17</b>	<b>17</b>	<b>19</b>
<b>Quad 3 Total</b>	<b>129</b>	<b>59</b>	<b>63</b>	<b>48</b>	<b>36</b>	<b>73</b>

		Supply of Available Spaces after 80th Percentile of Occupancy				
<i>On Street</i>	<i>Inventory</i>	Wednesday	Thursday	Friday	Saturday	Sunday
<b>Quadrant 4</b>						
<b>Block 6</b>						
North	---	0	0	0	0	0
South	---	0	0	0	0	0
East	5	0	1	0	3	0
West	---	0	0	0	0	0
Block 6 Total	<b>5</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>0</b>
<b>Block 7</b>						
North	2	0	0	0	0	0
South	6	0	2	1	1	0
East	7	1	0	2	1	0
West	5	0	0	3	4	1
Block 7 Total	<b>20</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>6</b>	<b>1</b>
<b>Block 8</b>						
North	---	0	0	0	0	0
South	---	0	0	0	0	0
East	---	0	0	0	0	0
West	7	0	0	0	0	0
Block 8 Total	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Block 9</b>						
North	---	0	0	0	0	0
South	---	0	0	0	0	0
East	27	16	18	4	7	4
West	---	0	0	0	0	0
Block 9 Total	<b>27</b>	<b>16</b>	<b>18</b>	<b>4</b>	<b>7</b>	<b>4</b>
<b>Block 10</b>						
North	10	0	0	0	0	0
South	14	8	2	0	0	0
East	9	1	2	0	0	0
West	5	1	0	0	0	1
Block 10 Total	<b>38</b>	<b>10</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>1</b>
Quad 4 Total	<b>97</b>	<b>28</b>	<b>26</b>	<b>10</b>	<b>16</b>	<b>6</b>
<b>OnStreet Total</b>	<b>389</b>	<b>127</b>	<b>124</b>	<b>75</b>	<b>74</b>	<b>131</b>

		Supply of Available Spaces after 80th Percentile of Occupancy				
<i>OffStreet</i>	<i>Inventory</i>	Wednesday	Thursday	Friday	Saturday	Sunday
A Cen. Ave. N	99	31	19	5	27	6
B Cen. Sq.	53	16	11	11	14	31
C Fairview	54	1	2	2	16	52
D Cen. Ave. S	68	19	15	13	2	2
E Borough Hall	104	2	5	22	92	39
<b>OffStreet Total</b>	<b>378</b>	<b>68</b>	<b>51</b>	<b>53</b>	<b>151</b>	<b>130</b>

<b>System Total</b>		767		195.6		175.6		128.4		225		260.4
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	<b>Supply of Available Spaces after 80th Percentile of Occupancy</b>					
	<i>Inventory</i>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>On-Street</b>	389	127	124	75	74	131
<b>Off-Street</b>	378	68	51	53	151	130
<b>System Total</b>	<b>767</b>	<b>196</b>	<b>176</b>	<b>128</b>	<b>225</b>	<b>260</b>