

# **Downtown Parking Garage Study**

**City of Newark, Delaware**



Submitted To:  
**The City of Newark, DE**

Submitted By:

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A S S O C I A T E S

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## **1.0 INTRODUCTION**

DESMAN Associates has been retained by the City of Newark to prepare a Parking Needs Assessment for the downtown area. The goal of this study is to document the current demand for parking along the Main Street Business District area and to examine the need and financial feasibility of developing a parking structure to serve the public, which includes the customers, residents, employees and institutions and various businesses in the downtown area.

As illustrated in Exhibit 1, the overall study area is bounded by Tyre Street to the East, Delaware Avenue to the South, Elkton Road to the West and the CSX Railroad tracks to the North. This study area was reconfirmed by the City during the project kick-off meeting on April 11, 2006 and represents the core business district in downtown Newark.

To achieve the goals of the study, the project methodology has been designed to be completed in four phases. They are:

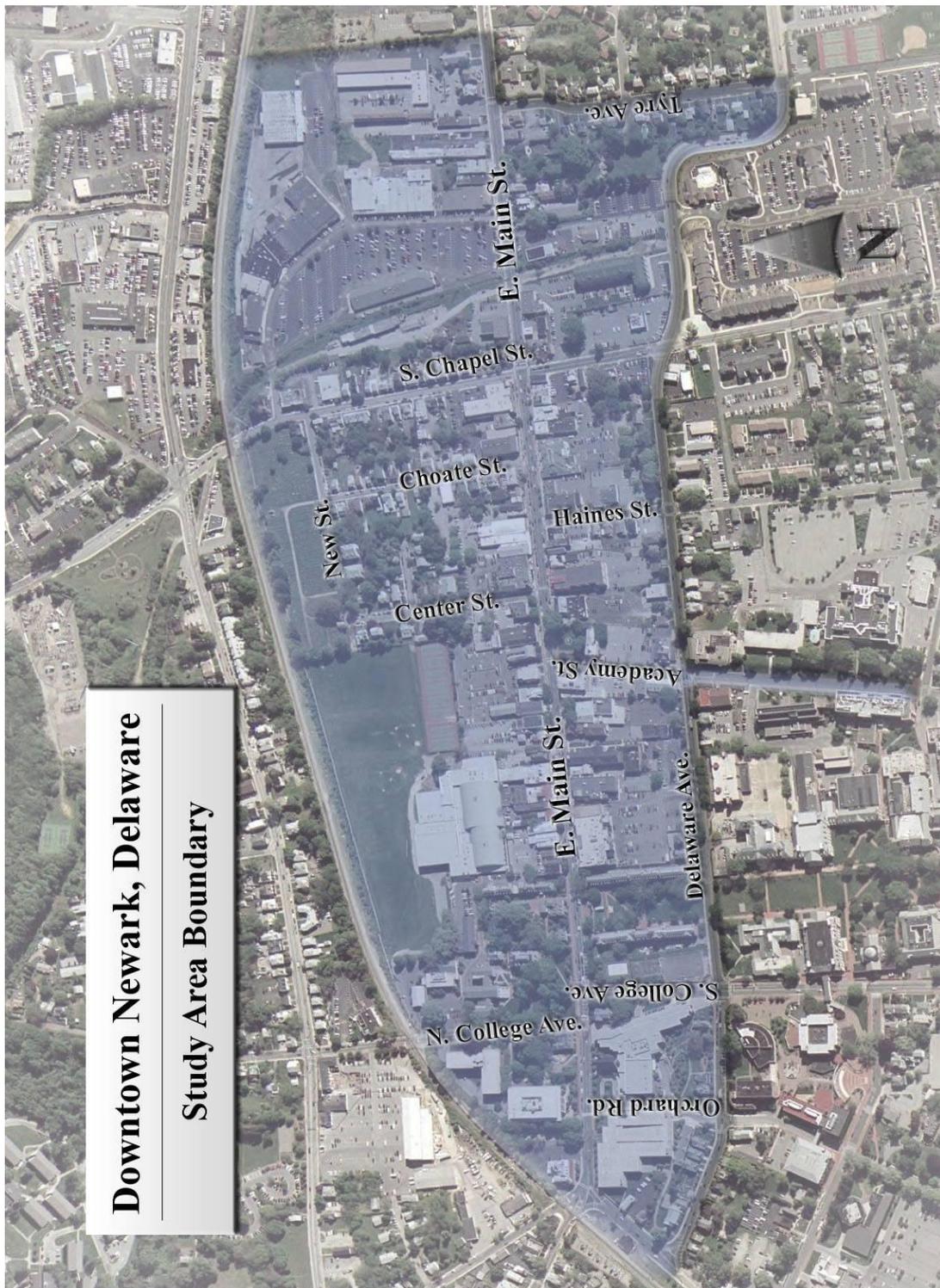
- Phase I - Parking Supply and Demand Study
- Phase II - Determination of Future Parking Demand
- Phase III - Parking Structure Conceptual Design
- Phase IV - Parking Structure Financial Feasibility Analysis

In discussion with staff from the City of Newark it was decided that Phase I and II shall be completed for the City to review and decide if Phase III and IV will be required.

Prior to the kick off meeting on April 11, 2006, the study team provided the City with a “Wish List” of data helpful in starting a project such as this. Parking data was provided by the Newark Planning Department, which included off-street parking inventory of public and private surface lots, as well as on-street parking inventory of all metered spaces along East Main Street, Academy, Center and Haines Streets. These inventories were confirmed by the study team data collection personnel.

DESMAN conducted parking occupancy surveys on Thursday April 27 from 8AM to 6PM and Friday April 28 from 10AM to 10PM. These data collection periods provide data from different demand times so that the study group can establish a peak, weekday utilization period for the downtown study area. Interviews with various stakeholders and city staff were also conducted in an effort to determine if there is any consensus in regards to the perspective of public parking in downtown Newark. The stakeholder interviews also helped determine if perceptions about parking are in line with the empirical realities.

*Exhibit 1: Study Area*



## 2.0 PARKING INVENTORY

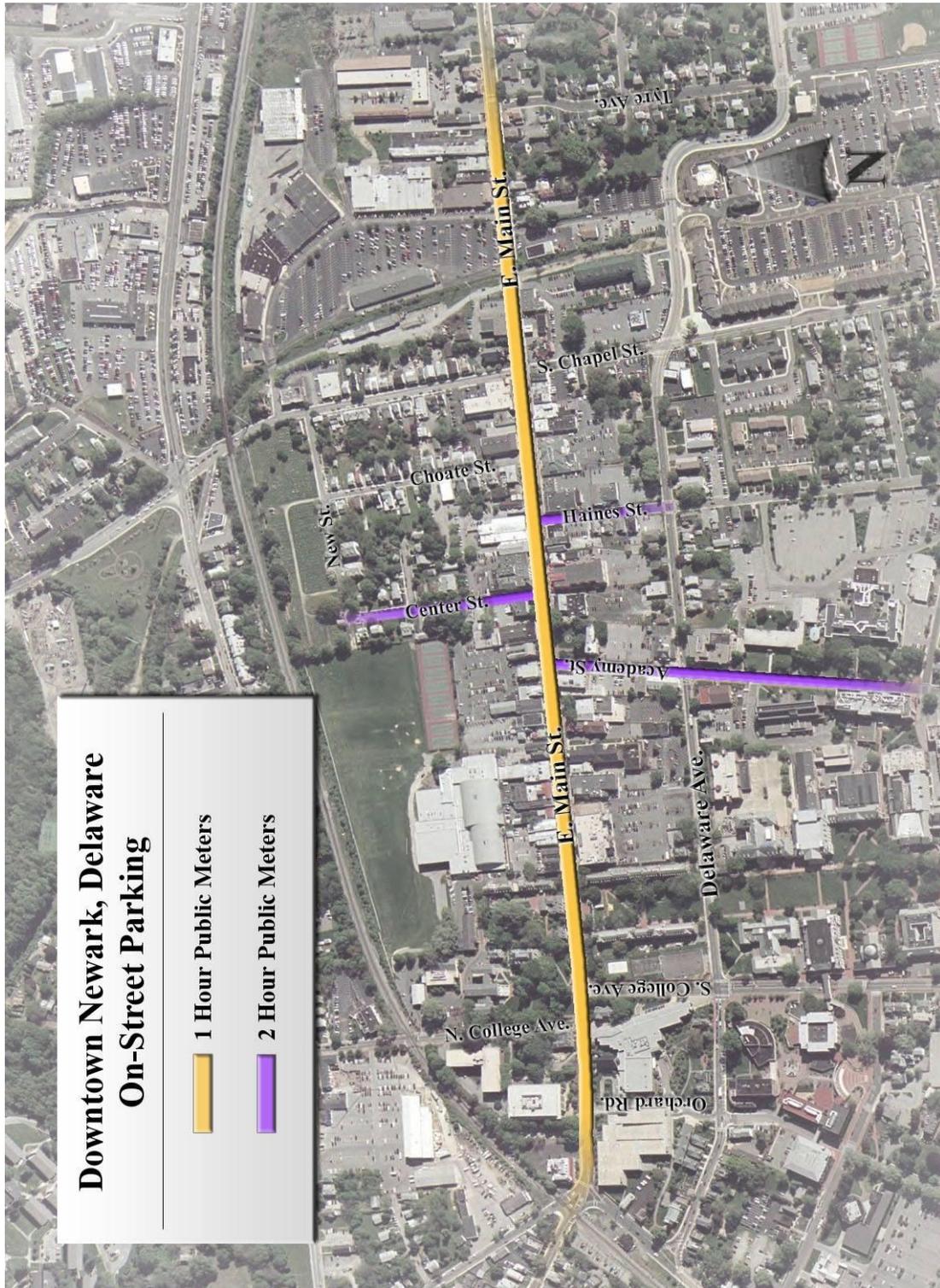
The parking inventory for downtown Newark includes on-street metered parking as well as off-street surface lots. Currently, there is no structured parking owned or operated by the City. The study zone includes City operated facilities that provide unrestricted public parking for monthly and hourly/daily users, as well as privately operated locations that provide public parking for employees and customers. Off-street parking facilities include public (city-operated) daily lots, public (city-operated) monthly permit lots, and private (customer parking) surface lots.

On-street parking consists of 1-hour on-street meters located along the Main Street corridor and 2-hour meters, which can be found on Academy, Center, and Haines Streets. Table 1a presents the detailed inventory of on-street parking, while Exhibit 2 illustrates the location of all meters within the study area. System wide, 139 (70%) of the 198 total meters have a 1-hour time restriction, while 59 (30%) have a 2-hour restriction.

*Table 1a:*  
**On-Street Parking Inventory**

<b>On-Street Parking</b>	<b>Parking Capacity</b>
<b>Main Street (1 Hr. Meters)</b>	
North	80
South	59
<b>Main Street Subtotal</b>	<b>139</b>
<b>Side Streets (2 Hr. Meters)</b>	
Center Street	3
Haines Street	11
Academy (Main-Del)	15
Academy (Del-Lovett)	30
<b>Side Streets Subtotal</b>	<b>59</b>
<b>On-Street Total</b>	<b>198</b>

Exhibit 2: On-Street Parking

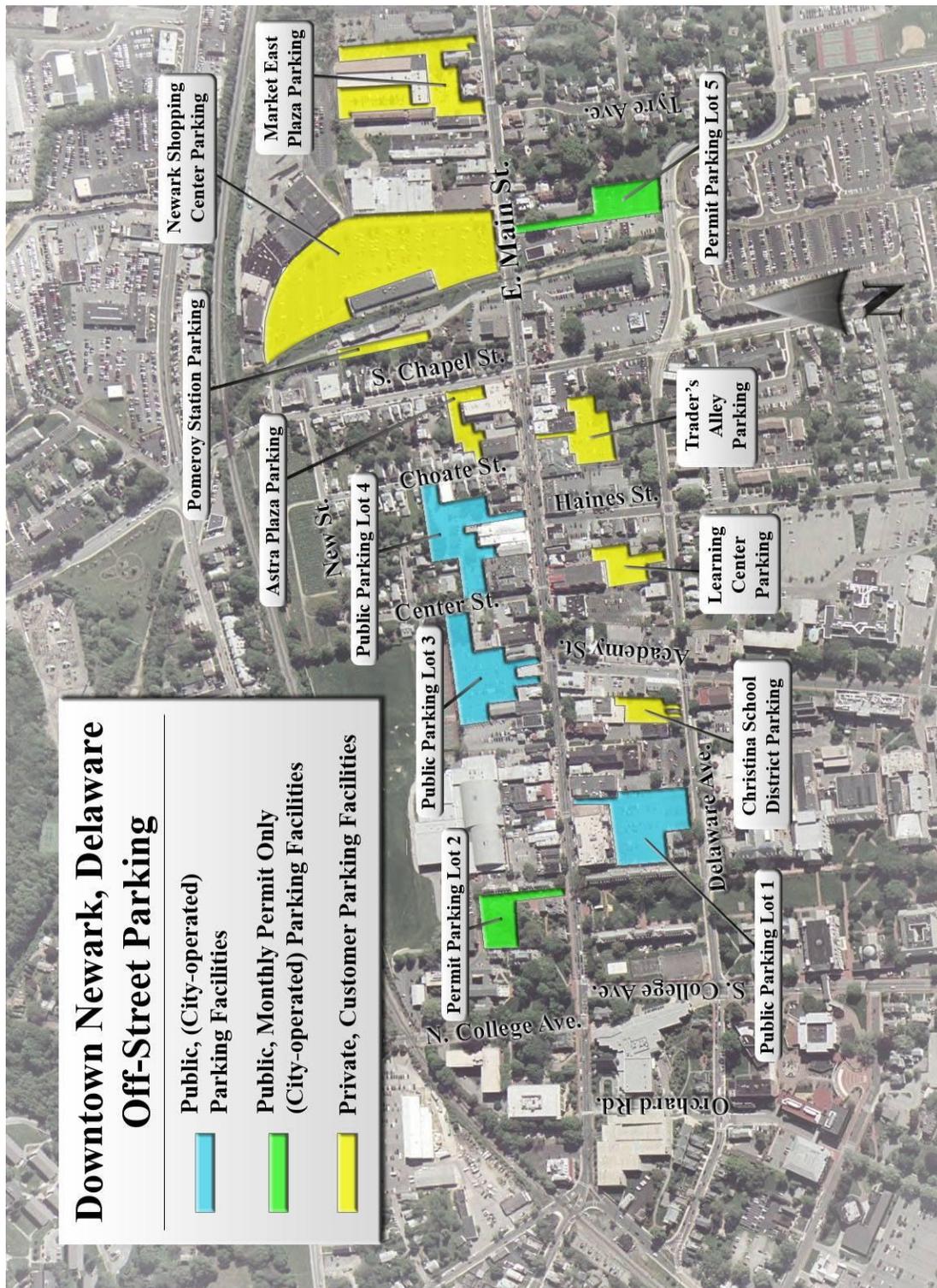


Downtown Newark also contains 3 publicly available, daily/hourly parking facilities and 2 “Permit-Only” surface lots. In addition, there are a number of private facilities designated for customer parking. For the purposes of this study and based on information provided by the Planning Department, the study team collected occupancy data on five private facilities: Market East Plaza, Newark Shopping Center, Trader’s Alley, 123 East Main Street, and Christina School District surface lots. Peak occupancy data for surface lots servicing the Astra Plaza and Pomeroy Station was also provided by the Planning Department. Table 1b summarizes the parking inventory of off-street facilities while Exhibit 3 illustrates their location within the study area. Of the 1,651 available spaces, 538 (33%) are located within Lots 1-3, 117 (7%) within permit Lots 2 and 5, and remaining 996 (60%) within privately owned parking lots. Within the study area there are 1,849 available parking spaces in downtown Newark of which 198 (11%) consist of on-street meters and 1,651 (89%) are located in off-street surface lots.

*Table 1b:*  
**Off-Street Parking Inventory**

Facility Name	Parking Capacity
<b>Public (City-Operated) Lots</b>	
Lot 1	191
Lot 3	204
Lot 4	143
<b>Public Lots Subtotal</b>	<b>538</b>
<b>Public Monthly Permit Lots</b>	
Lot 2	37
Lot 5	80
<b>Monthly Permit Subtotal</b>	<b>117</b>
<b>Private Customer Parking Lots</b>	
Market East Plaza	170
Newark Shopping Center	536
Trader's Alley	65
Learning Center	54
Christina School District	64
Astra Plaza	32
Pomeroy Station	75
<b>Customer Parking Subtotal</b>	<b>996</b>
<b>Off-Street Total</b>	<b>1,651</b>

Exhibit 3: Off-Street Parking



### 3.0 PARKING UTILIZATION

Occupancy surveys were conducted on Thursday, April 27<sup>th</sup> and Friday, April 28<sup>th</sup> 2006 for the designated downtown parking system. The average hourly counts for on-street parking, off-street parking and system-wide parking are summarized in Tables 2a-c, respectively.

On-street occupancy levels reached their peak at 12PM, where 157 of the 198 total spaces (72%) were occupied. 1-hour metered spaces along the Main Street corridor experienced 80% peak occupancy, while the 2-hour spaces on Center Street were only 33% full. The remaining 2-hour meters on Haines and Academy Streets were 82% and 77% occupied respectively during the peak hour (see Table 2a). Although the occupancy surveys determined 12PM to be the peak hour for average weekday use, it also revealed a second peak in on-street utilization. This occurred in the evening at 8PM, where 133 of the available 198 spaces (67%) became occupied. Such trends, as shown in the chart below, can be mainly attributed to the number of restaurants and retail establishments located along Main Street. Many of the establishments remain open late into the evening.

*Graph 1: On-Street Utilization*

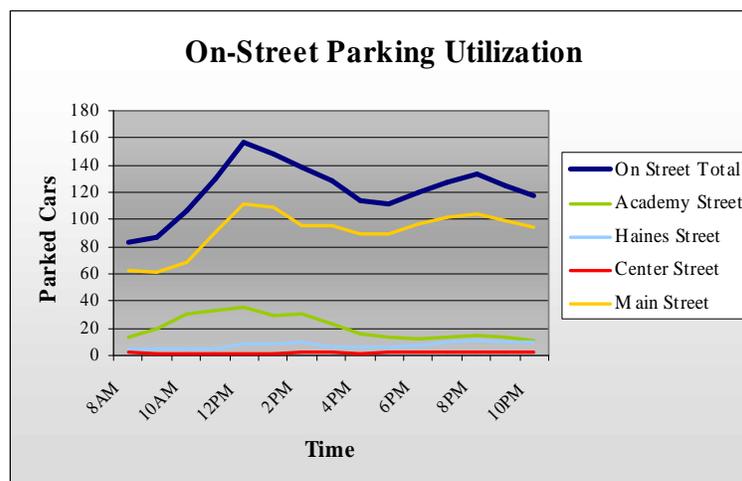


Table 2a:  
Average On-Street Parking Utilization

	8AM	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM	Parking Capacity
Average On-Street Utilization *																
DeerPark - College North	5	7	8	8	8	8	8	7	8	8	8	8	8	7	8	8
DeerPark - College South	0															0
DeerPark - College Subtotal	5	7	8	8	8	8	8	7	8	8	8	8	8	7	8	8
College - Blinking Light North	11	8	15	17	17	17	15	15	16	15	16	16	12	10	8	17
College - Blinking Light South	3	5	6	6	7	6	5	5	5	5	6	6	6	5	5	6
College - Blinking Light Subtotal	14	13	21	23	24	23	20	20	21	20	22	22	18	15	13	23
Blinking Light - Academy North	5	7	8	7	6	8	9	9	9	8	9	9	9	8	9	13
Blinking Light - Academy South	5	9	7	10	14	12	10	13	10	10	11	13	12	11	11	22
Blinking Light - Academy Subtotal	10	16	14	16	20	20	19	22	19	17	19	22	21	19	20	35
Academy - Center North	3	0	2	4	3	5	5	2	1	4	4	5	5	5	4	5
Academy - Center South	0															0
Academy - Center Subtotal	3	0	2	4	3	5	5	2	1	4	4	5	5	5	4	5
Academy - Haines North	0															0
Academy - Haines South	6	7	1	7	14	7	8	9	7	6	5	10	11	11	10	11
Academy - Haines Subtotal	6	7	1	7	14	7	8	9	7	6	5	10	11	11	10	11
Center - Chapel North	9	8	14	18	25	26	21	20	21	22	24	18	26	24	22	27
Center - Chapel South	0															0
Center - Chapel Subtotal	9	8	14	18	25	26	21	20	21	22	24	18	26	24	22	27
Haines - Chapel North	0															0
Haines - Chapel South	7	6	5	10	10	12	10	10	9	8	9	11	10	11	11	11
Haines - Chapel Subtotal	7	6	5	10	10	12	10	10	9	8	9	11	10	11	11	11
Chapel - E Plaza North	6	3	3	3	4	2	4	4	3	4	4	4	3	6	5	14
Chapel - E Plaza South	0															0
Chapel - E Plaza Subtotal	6	3	3	3	4	2	4	4	3	4	4	4	3	6	5	14
Chapel - Tyre North	0															0
Chapel - Tyre South	3	1	3	4	5	8	3	4	3	4	4	2	2	1	1	18
Chapel - Tyre Subtotal	3	1	3	4	5	8	3	4	3	4	4	2	2	1	1	18
Main Street Subtotal	139	63	69	91	112	109	96	96	90	90	97	102	104	99	94	139
Center Street Main - New	2	1	1	1	1	2	2	3	2	3	3	2	3	3	3	3
Center Street Subtotal	3	2	1	1	1	2	2	3	2	3	3	2	3	3	3	3
Haines Street Main - Delaware	5	5	5	6	9	8	10	6	7	7	8	10	11	10	10	11
Haines Street Subtotal	11	5	5	6	9	8	10	6	7	7	8	10	11	10	10	11
Academy Street Main - Delaware	1	3	8	8	12	8	8	8	5	7	9	12	13	9	8	15
Academy Street Subtotal	15	3	8	8	12	8	8	8	5	7	9	12	13	9	8	15
Delaware - Lovett	12	17	23	26	24	22	23	16	12	7	4	1	2	4	3	30
Academy Street Subtotal	45	13	20	31	35	30	31	24	16	14	13	15	15	13	11	45
On-Street Total	198	83	87	106	130	157	149	138	114	112	120	127	133	125	118	198
Percent	42%	44%	54%	66%	79%	75%	70%	65%	58%	57%	60%	64%	67%	63%	60%	42%
Peak Hour																

\* Includes occupancy surveys from 4/27/06 and 4/28/06

Off-Street parking utilization for downtown Newark experienced a very similar trend as it also peaked at 12pm. System-wide, 1,188 of the available 1,651 off-street spaces (72%) were occupied during the peak hour. Public lots were 88% full while permit lots experienced a much lower utilization rate of only 53%. Private surface lots also experienced a lower 65% peak occupancy rate (see Table 2b). It should be noted that Lots 1, 4, 2 and the Christina School District lot were nearly full with peak occupancy levels reaching 98, 96, 100 and 91%, respectively.

As with on-street parking, occupancy surveys also revealed a smaller second peak in utilization in the evening. 940 of the available 1,651 off-street spaces (57%) were occupied at 8PM as parking demand associated with Main Street’s restaurants and bars increased after regular business hours (see chart below). Table 2c on the following page presents the summary of on and off-street parking utilization where 1,344 (73%) of the 1,849 total spaces were occupied at the peak hour of 12PM. Exhibit 4 categorizes the occupancy figures into 4 groups by color coding all surface lots and metered spaces to visually illustrate the stress on Newark’s parking system during the peak period of 12PM.

*Graph 2: Off-Street Utilization*

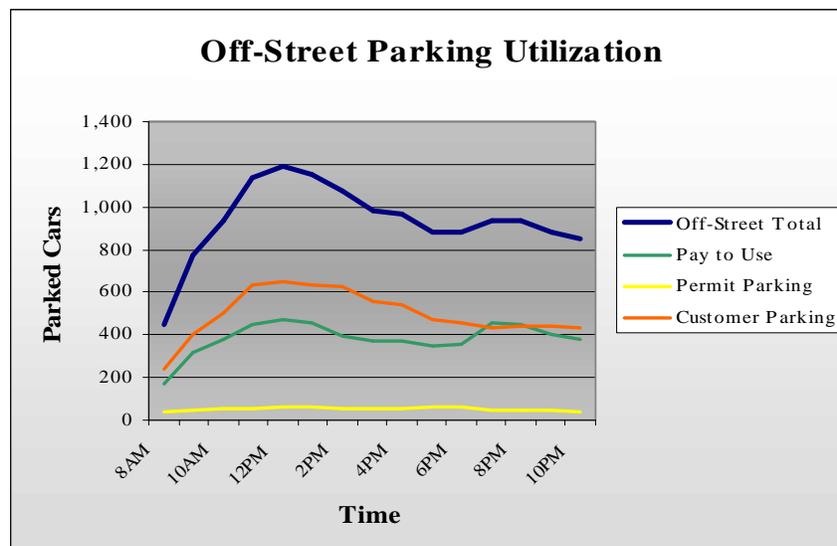


Table 2b:  
Average Off-Street Parking Utilization

	Parking Capacity	8AM	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM
<b>Average Off-Street Utilization *</b>																
<b>Public (City-Operated) Lots</b>																
Lot 1	191	53	118	170	187	187	186	175	148	124	120	138	187	179	163	152
Lot 3	204	60	116	119	140	151	142	108	106	137	115	87	128	127	110	102
Lot 4	143	57	85	92	119	138	127	110	120	114	114	131	140	141	128	122
<b>Public Lots Subtotal</b>	<b>538</b>	<b>170</b>	<b>319</b>	<b>380</b>	<b>446</b>	<b>476</b>	<b>455</b>	<b>392</b>	<b>373</b>	<b>374</b>	<b>348</b>	<b>355</b>	<b>455</b>	<b>447</b>	<b>401</b>	<b>376</b>
<b>Public Monthly Permit Lots</b>																
Lot 2	37	17	23	32	33	37	35	33	31	30	36	36	22	23	18	14
Lot 5	80	23	24	24	23	25	30	24	21	23	24	30	26	26	25	25
<b>Monthly Permit Subtotal</b>	<b>117</b>	<b>40</b>	<b>47</b>	<b>56</b>	<b>56</b>	<b>62</b>	<b>65</b>	<b>57</b>	<b>52</b>	<b>52</b>	<b>60</b>	<b>65</b>	<b>48</b>	<b>49</b>	<b>43</b>	<b>39</b>
<b>Private Customer Parking Lots</b>																
Market East Plaza	170	20	43	67	75	88	95	97	80	84	78	73	47	43	29	22
Newark Shopping Center	536	109	198	249	351	326	300	306	266	261	232	223	218	223	238	244
Trader's Alley	65	29	37	37	50	52	58	58	55	59	58	59	61	62	63	63
Learning Center	54	13	18	32	30	41	47	42	40	33	23	27	17	20	18	18
Christina School District	64	40	62	61	62	58	62	56	55	45	28	25	36	38	37	35
<b>Customer Parking Subtotal</b>	<b>889</b>	<b>211</b>	<b>358</b>	<b>445</b>	<b>567</b>	<b>565</b>	<b>562</b>	<b>558</b>	<b>495</b>	<b>481</b>	<b>418</b>	<b>406</b>	<b>379</b>	<b>386</b>	<b>385</b>	<b>382</b>
<b>Off-Street Total</b>	<b>1,544</b>	<b>421</b>	<b>724</b>	<b>880</b>	<b>1,068</b>	<b>1,103</b>	<b>1,081</b>	<b>1,007</b>	<b>919</b>	<b>907</b>	<b>826</b>	<b>826</b>	<b>882</b>	<b>882</b>	<b>829</b>	<b>797</b>
Percent		27%	47%	57%	69%	71%	70%	65%	59%	59%	53%	53%	57%	57%	54%	52%
* Includes occupancy surveys from 4/27/06 and 4/28/06																

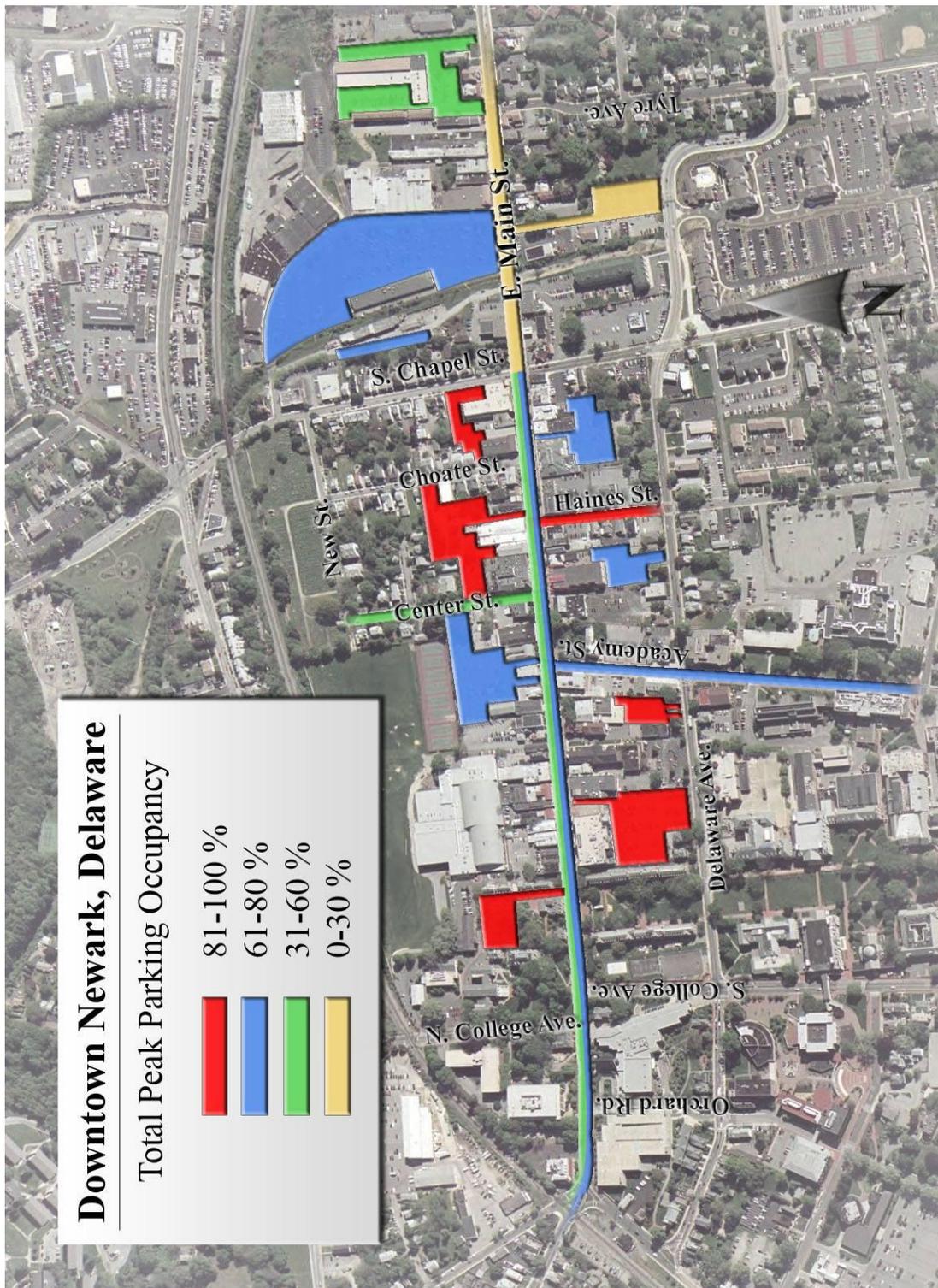
Note: Permit Lot 5, although only experiencing 31% peak occupancy, did provide 68 daily permits and theoretically, could have been 85% occupied.

Table 2c:  
Average System-Wide Parking Utilization

	Parking Capacity	8AM	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM	9PM	10PM
<b>Total Parking Utilization*</b>																
<b>Average Off-Street Utilization</b>	1,544	421	724	880	1,068	1,103	1,081	1,007	919	907	826	826	882	882	829	797
<b>Average On-Street Utilization</b>	198	83	87	106	130	157	149	138	128	114	112	120	127	133	125	118
<b>Downtown Newark Total</b>	<b>1,742</b>	<b>504</b>	<b>811</b>	<b>986</b>	<b>1,198</b>	<b>1,259</b>	<b>1,229</b>	<b>1,145</b>	<b>1,047</b>	<b>1,021</b>	<b>938</b>	<b>946</b>	<b>1,009</b>	<b>1,015</b>	<b>954</b>	<b>915</b>
Percent		29%	47%	57%	69%	72%	71%	66%	60%	59%	54%	54%	58%	58%	55%	53%
* Includes occupancy surveys from 4/27/06 and 4/28/06																

Note: Permit Lot 5, although only experiencing 31% peak occupancy, did provide 68 daily permits and theoretically, could have been 85% occupied.

Exhibit 4: Total Peak Parking Occupancy



#### 4.0 CURRENT “PRACTICAL” SURPLUS AND DEFICIT CONDITIONS

Peak occupancy should be expressed in terms of “practical capacity” when analyzing existing parking conditions. This term relates to the overall efficiency of a parking facility and is also used as another measure of stress on the system’s supply. A parking facility is perceived by its users to be full when occupancy levels reach 85-95%. Once this level is exceeded potential parkers find it difficult to find an available space. As a result, those individuals must continue to search for parking creating traffic flow issues and increasing the potential for a vehicle/vehicle and vehicle/pedestrian conflict. The effective and efficient turnover of convenient parking spaces is most successful when the supply of spaces exceeds the parking demand for those spaces by 5-15%. For the purpose of this study, a 90% practical capacity will be used for all the parking facilities in downtown Newark.

Table 3a identifies the current surplus and deficit conditions for on-street parking, while Table 3b presents the off-street conditions. The parking data indicates a relatively small practical surplus of 22 metered spaces in downtown Newark. Off-Street parking facilities experienced a much larger surplus of 299 spaces, with a majority (156) located in the Newark Shopping Center. Parking deficits seem to exist in Public lots 1, 4 and Permit Lot 2 with shortages of 15, 9 and 4 spaces respectively (see Table 3b).

*Table 3a:*  
**Current On-Street Surplus/Deficit Conditions**

On-Street Parking	Parking Capacity	Practical Capacity	Peak (12pm) Occupancy	Percent	Surplus/Deficit
<b>Main Street (1 Hr. Meters)</b>					
North	80	72	62	78%	10
South	59	53	50	84%	4
<b>Main Street Subtotal</b>	<b>139</b>	<b>125</b>	<b>112</b>	<b>80%</b>	<b>14</b>
<b>Side Streets (2 Hr. Meters)</b>					
Center Street	3	3	1	33%	2
Haines Street	11	10	9	82%	1
Academy (Main-Del)	15	14	12	77%	3
Academy (Del-Lovett)	30	27	24	78%	4
<b>Side Streets Subtotal</b>	<b>59</b>	<b>53</b>	<b>45</b>	<b>76%</b>	<b>8</b>
<b>On-Street Total</b>	<b>198</b>	<b>178</b>	<b>157</b>	<b>79%</b>	<b>22</b>

*Table 3b:*  
**Current Off-Street Surplus/Deficit Conditions**

Facility Name	Parking Capacity	Practical Capacity	Peak (12pm) Occupancy	Percent	Surplus/Deficit
<b>Public (City-Operated) Lots</b>					
Lot 1	191	172	187	98%	-15
Lot 3	204	184	151	74%	33
Lot 4	143	129	138	96%	-9
<b>Public Lots Subtotal</b>	<b>538</b>	<b>484</b>	<b>476</b>	<b>88%</b>	<b>9</b>
<b>Public Monthly Permit Lots</b>		0			
Lot 2	37	33	37	100%	-4
Lot 5	80	72	25	31%	47
<b>Monthly Permit Subtotal</b>	<b>117</b>	<b>105</b>	<b>62</b>	<b>53%</b>	<b>43</b>
<b>Private Customer Parking Lots</b>					
Market East Plaza	170	153	88	52%	65
Newark Shopping Center	536	482	326	61%	156
Trader's Alley	65	59	52	80%	7
Learning Center	54	49	41	76%	8
Christina School District	64	58	58	91%	0
Astra Plaza	32	29	29	91%	0
Pomeroy Station	75	68	56	75%	12
<b>Customer Parking Subtotal</b>	<b>996</b>	<b>896</b>	<b>650</b>	<b>65%</b>	<b>246</b>
<b>Off-Street Total</b>	<b>1,651</b>	<b>1,486</b>	<b>1,188</b>	<b>72%</b>	<b>299</b>

Table 3c summarizes the surplus/deficit conditions for the entire study area. Although system-wide, downtown Newark indicates a practical parking surplus of 320 spaces, 221 (69%) of those are located on the periphery of the study area within the Market East Plaza and Newark Shopping Center Lots. Based on our observations, it appears the available parking in those facilities will not satisfy the high demand associated with the businesses located on Main Street west of Chapel Street. In addition, the extensive waiting list (100 people) for available monthly permits only further stresses the parking system and relatively increases the demand beyond what the occupancy figures indicate.

Therefore, based on discussions with the Parking Division Administrator, the study team has divided the study area into two geographic districts. This may better help us to understand the current parking supply and demand conditions, especially as they apply to the “core businesses” in the CBD.

*Table 3c:*  
**Current On and Off-Street Surplus/Deficit Conditions**

	<b>Parking Capacity</b>	<b>Practical Capacity</b>	<b>Peak (12pm) Occupancy</b>	<b>Percent</b>	<b>Surplus/Deficit</b>
Main Street (1 Hr. Meters)	139	125	112	80%	14
Side Streets (2 Hr. Meters)	59	53	45	76%	8
<b>On-Street Total</b>	<b>198</b>	<b>178</b>	<b>157</b>	<b>79%</b>	<b>22</b>
<b>Public (City-Operated) Lots</b>	538	484	476	88%	9
<b>Public Monthly Permit Only Lots</b>	117	105	62	53%	43
<b>Private Customer Parking Lots</b>	996	896	650	65%	246
<b>Off-Street Total</b>	<b>1,651</b>	<b>1,486</b>	<b>1,188</b>	<b>72%</b>	<b>298</b>
<b>Study Area TOTAL</b>	<b>1,849</b>	<b>1,664</b>	<b>1,344</b>	<b>73%</b>	<b>320</b>

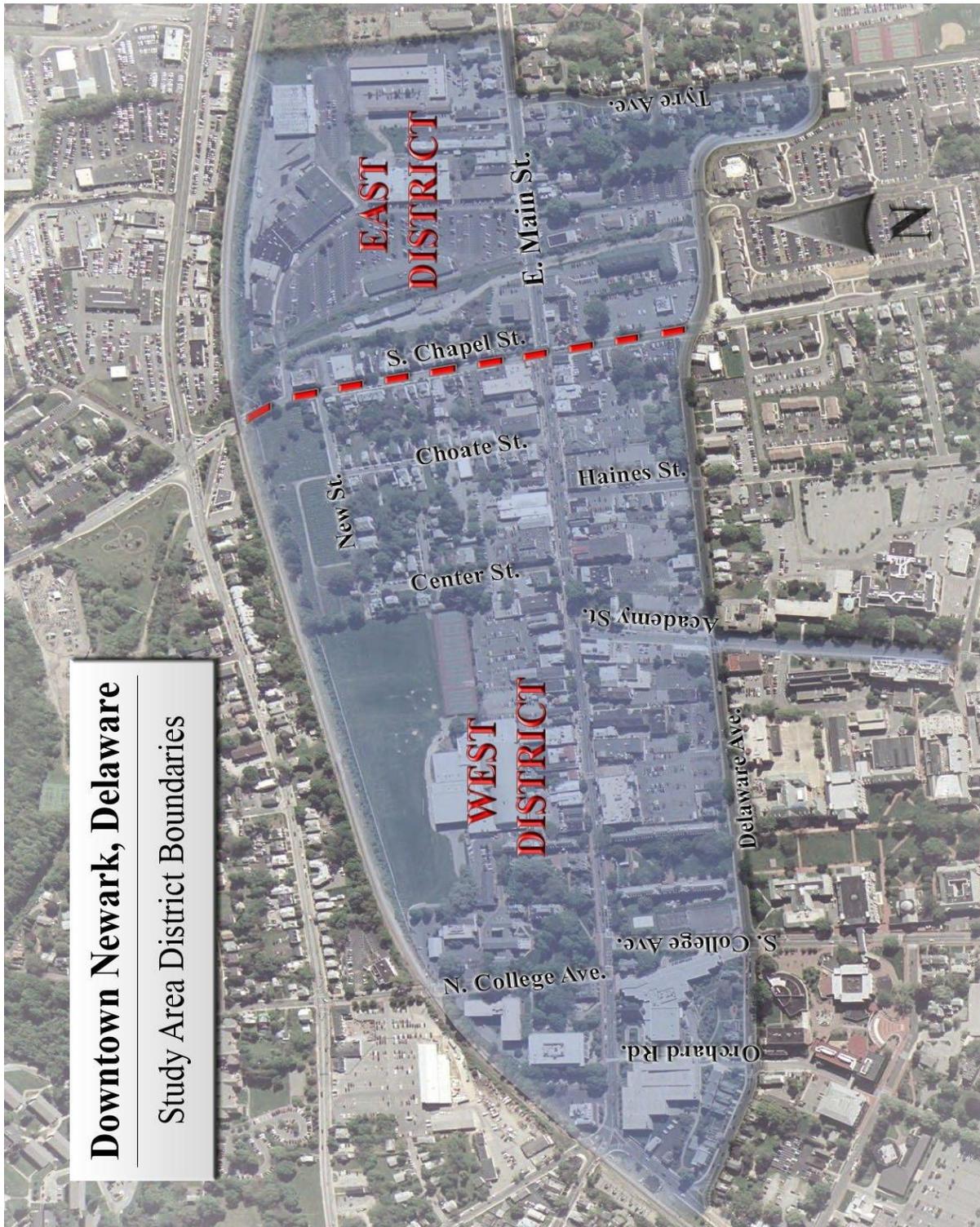
## 5.0 EAST AND WEST DISTRICT CONDITIONS

For further examination, the study team has separated downtown Newark into two districts along Chapel Street. The East District includes parking generators such as the Newark Shopping Center and Market East Plaza while the West District includes numerous small businesses and the Galleria along the Main St. Corridor, between Chapel Street and Elkton Road. Exhibit 5 illustrates these boundaries.

Tables 4a and 4b present the distribution of current parking surplus and deficit conditions as they relate to each district. The East District is clearly under-utilized as the peak occupancy for the parking facilities located in this area only reaches 55% at 12PM. Metered parking on Main Street along with Permit Lot 5 average a 30% occupancy rate. Overall, the East District maintains a practical surplus of 288 spaces (see Table 4a) at peak occupancy.

As summarized in Table 4b, the West District is much more utilized during the peak hour (83% occupancy) and actually contains a number of facilities that are experiencing practical parking deficits. Lots 1, 4, Permit Lot 2 and the Christina School District have a combined 96% peak occupancy at 12PM with a combined 28 space shortage.

Exhibit 5: Study Area Subdivision



**Downtown Newark, Delaware**  
Study Area District Boundaries

*Table 4a:*  
**Current Surplus/Deficit Conditions within the East District**

<b>EAST DISTRICT Facility Name</b>	<b>Parking Capacity</b>	<b>90% Practical Capacity</b>	<b>Peak (12pm) Occupancy</b>	<b>Percent</b>	<b>Surplus/ Deficit</b>
<b>Public Monthly Permit Lots</b>					
Permit Lot 5	80	72	25	31%	47
<b>Permit Lot Subtotal</b>	<b>80</b>	<b>72</b>	<b>25</b>	<b>31%</b>	<b>47</b>
<b>Private Customer Parking Lots</b>					
Market East Plaza	170	153	88	52%	65
Newark Shopping Center	536	482	326	61%	156
Pomeroy Station	75	68	56	75%	12
<b>Private Parking Subtotal</b>	<b>781</b>	<b>703</b>	<b>470</b>	<b>60%</b>	<b>233</b>
<b>Off-Street Total</b>	<b>861</b>	<b>775</b>	<b>495</b>	<b>57%</b>	<b>280</b>
<b>Main St. Metered Parking</b>					
North	14	13	4	29%	9
South	18	16	5	28%	11
<b>Main St. Parking Subtotal</b>	<b>32</b>	<b>29</b>	<b>9</b>	<b>28%</b>	<b>20</b>
<b>On-Street Total</b>	<b>32</b>	<b>29</b>	<b>9</b>	<b>28%</b>	<b>20</b>
<b>East District Total</b>	<b>893</b>	<b>804</b>	<b>504</b>	<b>56%</b>	<b>300</b>

*Table 4b:*  
**Current Surplus/Deficit Conditions within the West District**

WEST DISTRICT Facility Name	Parking Capacity	90% Practical Capacity	Peak (12pm) Occupancy	Percent	Surplus/ Deficit
<b>Public (City-Operated) Lots</b>					
Lot 1	191	172	187	98%	-15
Lot 3	204	184	151	74%	33
Lot 4	143	129	138	96%	-9
<b>Public Lots Subtotal</b>	<b>538</b>	<b>484</b>	<b>476</b>	<b>88%</b>	<b>9</b>
<b>Public, Monthly Permit Lots</b>					
Lot 2	37	33	37	100%	-4
<b>Monthly Permit Lots Subtotal</b>	<b>37</b>	<b>33</b>	<b>37</b>	<b>100%</b>	<b>-4</b>
<b>Private Customer Parking Lots</b>					
Trader's Alley	65	59	52	80%	7
Learning Center	54	49	41	76%	8
Christina School District	64	58	58	91%	0
Astra Plaza	32	29	29	91%	0
<b>Customer Parking Subtotal</b>	<b>215</b>	<b>194</b>	<b>180</b>	<b>84%</b>	<b>14</b>
<b>Off-Street Total</b>	<b>790</b>	<b>711</b>	<b>693</b>	<b>88%</b>	<b>19</b>
<b>Main St. Metered Parking</b>					
North	66	59	30	45%	29
South	41	37	27	66%	10
<b>Main St. Parking Subtotal</b>	<b>107</b>	<b>96</b>	<b>57</b>	<b>53%</b>	<b>39</b>
<b>Side Streets Metered Parking</b>					
Center Street	3	3	1	33%	2
Haines Street	11	10	9	82%	1
Academy (Main-Del)	15	14	12	77%	2
Academy (Del-Lovett)	30	27	24	78%	4
<b>Side Streets Parking Subtotal</b>	<b>59</b>	<b>53</b>	<b>45</b>	<b>76%</b>	<b>8</b>
<b>On-Street Total</b>	<b>166</b>	<b>149</b>	<b>102</b>	<b>61%</b>	<b>47</b>
<b>West District Total</b>	<b>956</b>	<b>860</b>	<b>795</b>	<b>83%</b>	<b>66</b>

## 6.0 STAKEHOLDER INTERVIEWS

Stakeholder interviews were completed on April 24 and 26, 2006. The City of Newark scheduled various business, municipal, political and university stakeholders with the study project manager to discuss their perspective of parking in the downtown area. The interviews were held in a conference room in the municipal office building.

The following is a summary, by group, of the perspectives on parking:

### **Business:**

- The majority of business owners believe that there is a perception that Newark has a lack of parking and as a result it is a deterrent to economic development in the downtown area.
- Most of the business owners believe there is an actual shortage of parking.
- In attempting to quantify perceived parking space shortages, business owners identified parking deficits ranging from 300 to 1,200 spaces.
- Business owners who “own” parcels of land in the study area appear to be willing to negotiate with the City concerning land to build a parking structure on.
- Some businesses use the validation system and several do not thinking that the City should provide free parking
- Many of the business owners see students as a small percentage of their business. A few of the business owners see the students as negatively affecting their ability to attract non-student professional customers.

**Municipal:**

- Municipal representatives are concerned about the cost of a parking structure and whether the parking revenues would be able to off-set the annual debt service.
- There appears to be *no* preconceived notion as to whether a parking structure is justified.

**Political:**

- Political leaders are in favor of a garage in order to stimulate economic growth and overcome the perception that there is inadequate parking in downtown Newark.
- The development goal of the politicians appears to be to create a downtown that has a vibrant night life for middle ages professionals, with a mix of restaurants, bars, and shops.
- Private Citizen Representatives are concerned that if needed, a garage would have to be supported by general tax payers and not users.

**University:**

- The University of Delaware has built several parking structures over the past 10 years to meet the needs of a growing university.
- University perspective is that the City needs additional parking and needs to start building parking structures to provide the necessary infrastructure to support growth.

## 7.0 STUDY AREA BACKGROUND & REVIEWED INFORMATION

The City of Newark provided the study team with several previous studies and/or surveys addressing parking in the downtown area. The primary studies reviewed are:

- 2004 Newark Delaware Resident Survey (Includes CBD Parking Questions)
- 2001 Transit Hub & Parking Garage Needs & Site Analysis
- 2001 Internal Parking Needs Assessment & Interview Survey

In addition to this information, land use information and plans were reviewed. Among the documents provided by the City were:

- 2003 Comprehensive Plan (on land use)
- March 30, 2006 Current Development Projects & Proposals
- City Zoning Requirements for Off-Street Parking

Based on the review of the available studies & data, stakeholder interviews and general observations made in the field, the study team has drawn the following conclusions:

- Municipal parking in the central business district is on land that for the most part is leased by the City. The City owns some small parcels of land but nothing large enough to support the development of structured parking.
- Study area parking is significantly impacted by the University of Delaware since the City of Newark's Main Street is adjacent to the campus. One could make the argument that the central business district and the campus are essentially

integrated. Based on the interviews completed in 2001, 40% + of the parkers in Municipal Lot #1 may be University employees/students.

- Previous studies have found that parking demand does not exceed the supply in the downtown area. However, it was noted that this could change over time based on development.
- The development patterns in the downtown area primarily include the use of small parcels that have a minimal impact on parking generation.
- A partnership between the Downtown Newark Partnership and the City's Planning Department has led to many improvements over the past five years to enhance the user friendliness of parking in downtown.
- Residents in the study area appeared to be mostly satisfied (59%) with the parking conditions in downtown Newark based on the 2004 survey. This figure has fluctuated in the last decade with only 45% expressing satisfaction in 1999, and 61% in 1993. It also seems the public, if given a choice, would prefer to see a new parking garage built (42% approval) as opposed to another surface lot (39%).

The following tables summarize the data from the survey:

**2004 Resident Survey Data**

<b>Downtown Parking Satisfaction</b>	<b>Percent</b>
Very Satisfied	9.2%
Satisfied	45.5%
Dis-satisfied	25.3%
Very Dis-satisfied	12.3%
No Answer	7.7%

<b>Summary</b>	<b>Percent</b>
Satisfied	58.6%
Dis-satisfied	41.5%

<b>What should be built?</b>	<b>Percent</b>
Surface Lot	38.7%
Parking Garage	42.3%
Nothing	19.0%

## 8.0 OPERATIONAL REVIEW

The City of Newark's Parking Department operates five off-street surface lots in the downtown area. These lots are not directly owned by the City and are leased from local business owners. The city does own small portions of the land that makes of some of the lots. Organizationally, parking part of the City's Planning Department.

On-street parking is managed by both the Finance Department and the Police Department. The Finance Department provides revenue collection services and maintenance while the Police Department provides parking enforcement responsibilities. Based on accepted parking industry standards for parking management, parking management in Newark is very fragmented with different departments having authority over different sections of the parking program.

The operations methodology for the surface lots vary. Lot 1 has a pay-on-foot system with two pay stations. One pay station is located in the middle of the lot with another pay station located in the lobby of the Galleria Building. Observations made during field data collection surveys indicates that there are times when pay-on-foot station pedestrian traffic backs up as does the vehicular traffic at the single exit lane.

*Image 1: Waiting In Line to Pay at the POF Unit in lot 1*



*Image 2: Vehicle Back-up at Lot #1 Exit*



Appropriate signage for the pay-on-foot device used in Lot 1 has been installed. However, the signs may be too small and there may not be enough of them to adequately serve the lot. As a result, parkers who are not familiar with the system decrease the intended flow of traffic.

*Image 3: Sample of POF Sign in lot 1*



Lots two and five are permit only lots. Permits are sold through the Parking office. Lots three and four are transient lots with exit cashiering systems. Both lots have available parking inventory during the peak period indicating a possible need for the additional marketing of the lots and/or the need to increase the oversell on monthly permits.

Operationally, it appears the Parking Department has made significant strides over the past few years in making parking more user-friendly. As the Parking Department moves forward, there are three major initiatives that are required to take the parking program to the next level of effectiveness.

First, organizationally all the elements of parking should be combined under a single source responsibility center (consolidated). Since a Parking Department already exists with an able manager, all the elements referenced that are outside the Parking Department should be placed within the Parking Department.

Second, the City should develop a comprehensive parking plan. This may include utilizing existing spaces more effectively (possibly shared parking), improving way finding, marketing of parking (especially web based), controlling the volume of spaces so the “area” is a destination (not a single building) and considerations of impact on traffic, transit and pedestrian flows.

Third, the City should invest in technological improvements to both the on-street and the off street systems. The following narrative provides some options the City could evaluate for investment in parking technology.

## **Enforcement**

Nationally the 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 that 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. 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 can also provide the City with information regarding the performance of its parking enforcement staff. It is capable of tracking the number and type 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. Operational recommendations are included in the appendix section.

## 9.0 FUTURE CONDITIONS

There are a number of potential developments and issues which will affect the available parking supply and demand in the near future. Currently, there are two redevelopment projects in the study zone that are moving forward. One project is on the old CVS Pharmacy site at 108 East Main Street. Based on data provided by the City, 10 apartments and 8,500 square feet of retail space are proposed for this site

The second project is located on 115 East Main Street, which is the site of the old “Stone Balloon” bar. Based on data provided by the City, the currently vacant location is scheduled to be redeveloped with 54 condominiums and 5,000 square feet of commercial/retail space. This development was approved by the City in August 2005.

Table 5 presents the demand created by both projects as well as the resulting surplus/deficit conditions. The redevelopment on 115 E. Main Street, for example, will require 138 spaces (to be provided by the developer), but will also displace 50 existing spaces on its footprint, thus leaving a parking deficit of -50.

*Table 5:*

**Current Planned Development Parking Demand**

<b>Proposed Development</b>	<b>Residential Units (1)</b>	<b>Parking Required</b>	<b>Retail Sq. Ft. (2)</b>	<b>Parking Required (3)</b>	<b>Parking Provided</b>	<b>Parking Displaced</b>	<b>Resulting Surplus/Deficit</b>
108 E. Main Street	10	20	8,500	50	0	N/A	<b>-70</b>
115 E. Main Street	54	108	5,000	30	138	50	<b>-50</b>
<b>Total</b>	<b>64</b>	<b>128</b>	<b>13,500</b>	<b>80</b>	<b>138</b>	<b>50</b>	<b>-120</b>

(1) Two off-street parking spaces per dwelling unit

(2) One off-street space per 200 sq.ft. plus one off-street parking per employee

(3) Assumes 1 Employee/1,000 sq. ft. of retail

In theory, if these redevelopment projects are completed with no additional parking being built, the West District of the downtown area (where the greatest concentration of businesses are located) will have a peak parking deficit of approximately 202 spaces. The actual number will be a deficit of 64 spaces once the “Stone Balloon” development builds 138 parking spaces for the condominium portion of the development.

In addition to current planned development, potential vacant retail spaces should be considered as part of the future parking demand in Newark. Table 6 summarizes the current vacancies, as provided by the City, and estimates the parking demand generated by their re-development. Based on the size and zoning requirement of each vacancy, their total impact on future parking demand could be an additional 63 spaces.

*Table 6:*  
**Impact of Current Vacancies on Future Parking Demand**

<b>Address</b>	<b>Use</b>	<b>Square Feet</b>	<b>Zoning Requirement</b>	<b>Potential Demand</b>
46 East Main Street	retail	3,000	1 per 200 sf	15
48 East Main Street	retail	2,000	1 per 200 sf	10
138 East Main Street	retail	7,600	1 per 200 sf	38
<b>Total</b>	---	<b>12,600</b>	---	<b>63</b>

As these developments take place, the history of providing waivers to developers should also be discussed. Based on the provided data, throughout the last ten years, the City of Newark has waived over 820 spaces for 20 different projects. This unsustainable trend has produced a significant amount of stress on available municipal parking and may result in the need for a new parking structure if it persists. Additionally, the displacement of existing surface lots, such as the 64 space Christiana School District Lot, due to future

development will only increase parking demand, which will not be satisfied in the West District of the downtown area.

Future parking demand may also be affected by increasing residential parking in the downtown area. It is assumed that much of the residential growth will include complexes with students as tenants. Therefore a more appropriate measure for determining potential parking demand is beds, since students will often share a unit.

As additional apartment complexes come on line and request more reserved spaces, overall supply and demand will be negatively impacted throughout the study area. To this end, Table 7 presents the number of spaces reserved for sizable residential apartment complexes as well as the number of beds included in each complex. Based on ITE figures, between .25 and .4 cars can be generated by each bed. Using this ratio, it can be estimated that the total number of spaces generated by these complexes can range from 123 to 197. We are of the opinion that this demand was captured in the occupancy surveys discussed earlier in this report.

*Table 7:*  
**Residential Parking Generators**

<b>Complex Name (1)</b>	<b># of Units</b>	<b>Beds (2)</b>	<b>Spaces reserved</b>
Astra Plaza	12	48	12
Capano Apartments	6	24	6
Iron Hill Apartments	4	16	8
Main Street Court	48	192	96
Main Street Plaza	20	80	0
Abby Court	4	16	0
Center Square	14	56	0
Pomeroy Station	15	60	30
<b>Total</b>	<b>123</b>	<b>492</b>	<b>152</b>

(1) Data provided by the City of Newark Parking Division

(2) Each complex is zoned for a density of 4 beds/unit

In looking at long-term potential for development, the City Planning Department indicates residential development with some limited retail/commercial use to be the primary, long-term development in the downtown area. There are no empirical long-term projections to develop a 25 year forecast for parking demand. However, using the assumptions that the same level of development as identified in Table 5 may occur every five years, the 25 year potential demand for new parking could be as high as 650 spaces.

## 10.0 CONCLUSIONS & RECOMMENDATIONS

Based on the occupancy surveys, despite the current public perception, there is currently adequate parking in downtown Newark. The West District of the downtown area, where many of the restaurants are located, has significantly less available parking (a 66 space surplus) at peak occupancy than the East District.

There are two developments underway that have the potential to completely negate the parking space surplus in the west side and create a deficit of -54 parking spaces. With the loss of 64 spaces in the Christiana School District Lot due to development and if other parcels (Table 6) that are currently unoccupied were developed the deficit could grow to as high as -181 spaces.

Therefore, while downtown Newark currently has an adequate supply of parking, the city should move quickly to increase the supply to avoid a near term deficit in the west district.

There appear to be three options available to the City to address the potential parking deficit:

1. Issue a moratorium on any future parking space ordinance waiver and require businesses to build to code:

The potential advantage to this is there would be no direct financial investment in parking required by the city. The primary disadvantage is the cost of parking can sometimes prevent a private development from being built.

2. Better utilize the available parking in the east section of downtown combined with a main street shuttle:

The potential advantage of this is, other than the shuttle, there would be no parking investment required by the city. It is doubtful, that customers using establishments downtown would find this option acceptable from a level of service and convenience perspective.

3. Expand current surface parking:

The advantage to this is that surface parking is the most cost effective way to provide municipal parking. The trouble with this is that the city leases much of its current municipal parking, and has not banked any land over the years. It also appears that there is limited land availability around existing surface parking areas to expand surface parking

4. Build structured parking:

The advantage of structured parking is that it is a more effective use of land. The primary disadvantage is the cost to build it. This is compounded by the fact the City owns very little land, however in the final analysis, building at least a 250 space net parking garage would accomplish the following:

- Help the City to over come the perception of inadequate parking with a visible investment in parking infrastructure.
- Provide adequate parking for the new developments due to come on line in the next two years
- Provide enough parking to stimulate economic development of “undeveloped” parcels of property in the downtown area
- Send a message to the business community that the city is a willing partner and wants businesses to succeed in Newark

Moreover, the City of Newark is at a crucial point regarding how it approaches parking in the downtown area. The City needs to determine if it wants to control its own destiny and develop parking to facilitate economic growth or require the private sector to provide parking based on the needs of the land uses according to its parking zoning requirements. If the City's decision is to make an investment in parking then it should consider the following recommendations:

1. Consolidate all the elements of parking to include on-street, off-street and parking enforcement within the Parking Department. This would include creating an Enterprise fund where all revenues would stay in the Parking Department to create a financially self-sufficient program.
2. Create a comprehensive long range parking plan for the downtown area.
3. Begin land banking (purchasing) designated for future parking development.
4. Continue to invest in technology and automation of parking to improve user friendliness, enhance revenue and reduce operating costs
5. Planning for the development of a 250 space (net) parking structure

## **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

## OPERATIONAL RECOMMENDATIONS

### On-Street

With the move toward a “cashless society” 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 had to offer a variety of technology options. These options include debit card, credit card (for multi-space parking meters), token technology, and cellular phone payment technologies.

Multi-space parking meters come in two varieties, *Pay-By-Space* and *Pay-And-Display*. Each electronic meter option is discussed below.

1. *Electronic Single Space Parking Meters* - The traditional approach would be to install single space state-of-the-art electronic parking meters that accept various media such as debit, credit and chip cards.
2. *Multi-Space Parking Meters* - Recently, multi-space parking meters have become increasingly popular. Multi-Space parking meters come in two varieties *Pay-By-Space* and *Pay-And-Display*. Multi-space parking meters have some distinct advantages. Primarily, they provide a comprehensive 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

it's financial and change 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. Some users also find multi-space meters more aesthetically appealing since fewer devices are required reducing the clutter associated with single space meters.

- a. *Pay-By-Space* – In an on-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. Parking enforcement is performed by receiving a printout from each *Pay-By-Space* parking meter and issuing a ticket to each vehicle that occupies an unpaid parking space.
  
- 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 do not require a 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, a smart card, or credit card. After payment is completed, a receipt is issued that boldly displays the expiration time and date and it is the patron's responsibility to display the receipt on the dashboard of the vehicle.

- c. Cellular Payment systems - Cashless drivers pull into any metered spot in the location and then call a phone number listed on the parking meter. They register personal information — a credit card number and the car's license plate number — and enter the meter's number using the phone's keypad. Computers, equipped with an electronic record of the parking fee schedules associated with that meter, then charge the correct amount to the driver's credit card.

To pay for more time a driver simply calls the meter phone number again. The system uses Caller ID to identify the driver and the appropriate spot. When the driver is finally ready to leave, another call ends the billing and generates an electronic receipt that can be sent to the driver's cell phone or to a pre-registered e-mail address.

*Pay-And-Display* parking meters have been a growing part of the on-street parking market that has gained and enjoyed user acceptance. Aspen, Colorado was one of the first municipal jurisdictions to abandon traditional on-street single space parking meters and replace them with *Pay-And-Display* parking meters. What started as an experiment nearly 10 years ago has turned into a successful national model for this payment option. Aspen started with a few test patches of *Pay-And-Display* central parking meters and expanded the program to the entire City.

In off-street applications, it is recommended that lighted canopies be installed with these devices to allow patrons to use the multi-space meters while remaining out of weather conditions. The payment area should also be well-lit with signage indicating the hours and rates associated with the use of each facility.

## Off-street

Over the past decade there has been a significant public and private investment in “intelligent transportation” technologies. These technologies can be integrated to form a seamless intelligent transportation system that includes transit, parking, way finding and traffic elements. The following are elements of the intelligent parking and transportation systems that could be applied to the system in Newark.

### Element one - Parking Guidance System with Variable Message Signs (Way finding)

- Count system for parking that can be communicated to patrons for ease of finding available parking.
- Make space allocation decisions based on good data.
- Reduce traffic circulation, congestion, illegal parking and associated frustration.
- Reduce pollution from vehicles searching for parking.
- Make parking more “user friendly” for those not familiar with Newark and/or new members of the Newark community.
- A professional looking electronic signs system to promote Newark and/or University of Delaware activities, athletic events, etc. during off peak traffic periods.

### Element two – Parking access and revenue control (PARCS)

- Use of AVI technology to expedite lane throughput of monthly parkers.
- Intelligent messaging of parking status, alarms, etc.
- Control for car pool programs and issuance of multiple permits to enhance transportation demand management.

### Element three – Traffic control

- Coordinated downtown area signal system.
- AVI technology to facilitate transit through intersections and enhance headways/service.
- Timing patterns for varied load.
- Timing patterns varied based on vehicle flow (time of day and/or events).