



Business Zones Study

Borough of Chatham
Morris County, New Jersey

FINAL Submission
October 2009



Prepared For:

Borough of Chatham Planning Board

Mayor V. Nelson Vaughan, III
Joseph Mikulewicz, Council President
Richard E. Crater, Jr., Chairman
John Bitar, Vice Chair and Secretary to Environmental Commission
Vince DeNave, P.E., Municipal Official
Donna Cali-Charles, Secretary
Susan Favate
H.H. Montague
Alan Pfeil
James Mitchell (1st Alternate)
Liz Holler (Recording Secretary)
Anne Marie Rizzuto, Esq. (Attorney)

Prepared by:



Planning
Landscape Architecture
Streetscape Design
Park Planning & Design
Planning Board Consultation
Economic Redevelopment

Taylor Design Group, Inc.
100 Technology Way, Suite 125
Mount Laurel, NJ 08054
tdgplanning.com

A handwritten signature in black ink that reads "Cheryl Bergailo".

Cheryl Bergailo, P.P., AICP
NJ PP License #5427

TABLE OF CONTENTS

| | |
|---|----|
| INTRODUCTION | 1 |
| LOT INVENTORY | 1 |
| PARKING UTILIZATION ANALYSIS..... | 1 |
| PUBLIC PARKING LOTS AND ON-STREET PARKING | 1 |
| <i>Railroad Lots</i> | 1 |
| <i>Bowers Lane Lot</i> | 2 |
| <i>Division Avenue Lot</i> | 2 |
| <i>Center Street East</i> | 3 |
| <i>Center Street West</i> | 3 |
| <i>Firehouse Plaza</i> | 4 |
| <i>Post Office Plaza</i> | 4 |
| <i>On-Street Parking</i> | 5 |
| <i>Library Parking</i> | 5 |
| <i>Parking Violations</i> | 5 |
| PRIVATE PARCELS | 5 |
| MASTER PLAN EVALUATION..... | 6 |
| ZONING ORDINANCE EVALUATION | 6 |
| PERMITTED NUMBER OF STORIES..... | 7 |
| <i>Overview</i> | 7 |
| <i>B-1, B-2, B-3 and B-5 Zones</i> | 7 |
| <i>B-4 Zone</i> | 8 |
| BUILDING HEIGHT | 8 |
| LOT COVERAGE | 9 |
| <i>Overview</i> | 9 |
| <i>B-1 Zone</i> | 10 |
| <i>B-2 Zone</i> | 11 |
| <i>B-3 Zone</i> | 11 |
| <i>B-4 Zone</i> | 12 |
| <i>B-5 Zone</i> | 12 |
| RE-ZONING RECOMMENDATIONS | 12 |
| OFF-STREET PARKING REQUIREMENTS | 12 |
| <i>Overview</i> | 12 |
| <i>Banks</i> | 12 |
| <i>Retail Sales and Service</i> | 13 |
| <i>Office</i> | 13 |
| <i>Apartments</i> | 14 |
| <i>B-4 Zone</i> | 14 |
| <i>Properties Located within ¼ Mile of Public Parking</i> | 15 |
| <i>Off-street Parking Site Planning</i> | 15 |
| <i>Off-street Loading</i> | 15 |
| LIGHTING | 16 |
| SIGNS AND AWNINGS..... | 16 |
| EATING AND DRINKING ESTABLISHMENTS..... | 16 |
| <i>Fast Food Restaurants</i> | 16 |
| <i>Outdoor Dining</i> | 16 |
| <i>Drive-Throughs</i> | 17 |
| SUMMARY OF RECOMMENDATIONS | 17 |
| APPENDIX | |

INTRODUCTION

The Planning Board has concerns regarding the development in Downtown, including the permitted number of building stories, the provision of off-street parking, permitted total impervious coverage, as well as usage of municipal parking lots. The Planning Board has contracted TDG to prepare an analysis of these issues as well as to evaluate the current Master Plan and Land Development Regulations as they apply to the Business Zones, with particular focus on lot coverage, number of building stories, and parking and suggest alternatives to the current requirements. The B-1, B-2, B-3, B-4 and B-5 Zones were studied.

LOT INVENTORY

TDG has conducted an inventory of non-residential lots in the B-1 through B-5 Zones that includes zoning district, lot area, building square-footage, building coverage, estimated total lot coverage, number of stories and number of off-street parking spaces, based on property records, aerial photography and visual inspections. The comprehensive list is attached as an Appendix.

PARKING UTILIZATION ANALYSIS

In 2009, TDG conducted a study of parking availability on private non-residential lots and public parking lots on a Saturday (June 6th), a Friday (June 19th) and a Wednesday (September 9th). Saturday and Friday were fair and sunny, and the Wednesday was partially overcast but mild. The purpose of the utilization study is to understand how parking is utilized in town, where there are surpluses and deficits and also whether the current system can accommodate peak parking demand. Details pertaining to the parking utilization study by day of study are located in the Appendix of this document.

Public Parking Lots and On-Street Parking

There are a number of municipally-owned parking lots in the Borough that are intended for use by railroad commuters and Downtown merchants, apartment tenants and shoppers. Permit fees are charged to commuters, merchants and apartment tenants. Shopper parking in municipal lots is free, and there is also free one-hour on-street parking in Downtown.

Railroad Lots

There are two municipal lots on either side of the train station that are available to rail commuters Monday through Friday and to rail commuters and shoppers on Saturday and Sunday, although the availability of Saturday and Sunday shoppers parking could be made more obvious through additional signage. The northern lot contains 110 spaces and the southern lot contains 282 spaces (total 392). According to Ms. Cheri Morris of the Borough Finance Department, 360 annual permits have been issued to Borough residents for the lots which can be used in non-metered spaces. There is currently a waiting list of 30. The 67 metered spaces in the northern lot can be used by out-of-town as well as Borough residents, and are typically fully utilized by 6:30am. Out-of-town as well as Borough residents can purchase daily permits for the lots at the municipal building the day before or the day of their use. Approximately 20 day-permit passes are sold per week.

On the days of the parking utilization study there were spaces available, generally in the southern lot. The lots were more fully utilized in September than in June. On the Friday, the

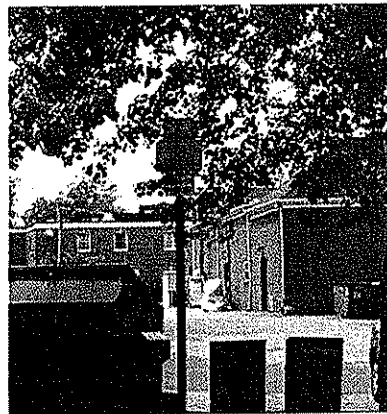
peak utilization of the northern lot was 95 percent and peak utilization of the southern lot was 88 percent versus 100 percent and 98 percent, respectively.

NJTransit recently prepared parking space demand calculations for train stations along the Morris & Essex Line including Chatham Station in conjunction with its planning for the new rail tunnel to Manhattan which when completed is anticipated to increase overall demand for train service in the region. The study separates resident demand for parking spaces from non-resident demand. NJTransit determined that Chatham Station has a 264-space parking capacity for residents, and that in 2005 the 264 spaces provided a more than adequate supply (a surplus of 134 spaces). In 2030, NJTransit estimates that there will be an increase in demand for only 20 resident spaces, which can be accommodated by the current supply. Therefore, at this point in time it does not appear to be necessary to plan for additional resident parking space supply at Chatham Station.

In terms of non-residents, NJTransit estimated in 2005 that there is a supply of 216 spaces for non-residents, and that there is a shortfall of 54 spaces based on demand. In 2030, non-resident demand will increase, and there will be a demand deficit of 124 spaces.

Bowers Lane Lot

This lot is located on Bowers Lane between the rail line and the Post Office sorting building. The lot contains 68 spaces and is primarily a permit lot; 59 permits for apartment tenants and merchants have been issued for this lot. A row of 6 spaces is available for 2-hour shoppers parking; the signage for the lot is confusing, however, as the entrance sign reads "Permit Parking Only," and the shoppers parking sign is small and obscured by tree limbs. On the days of the parking utilization study, the peak usage on Friday was 66 percent and 46 percent on Wednesday and Saturday. The Parking Enforcement Officer reports that this lot is



*Signage at
Bowers Lane lot.*



rarely if ever utilized to capacity. The Borough may want to consider issuing commuter parking permits for this lot as it does for the Center Street lots to increase revenue and utilization. Due to its remote location, the shoppers parking hours could be increased from 2 hours to 3 to encourage shoppers to linger over a meal or shopping.

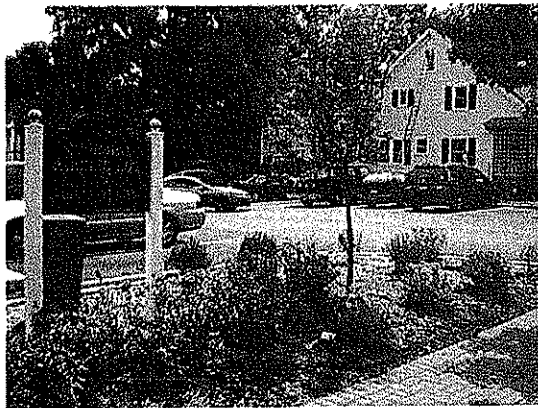
Division Avenue Lot

This is a gravel lot located on Main Street at Division Avenue that is leased by the Borough from PSE&G. Permits are issued for this lot for merchants in this vicinity, and also for bus riders.

Seventeen permits have been issued for this lot, and there is no waiting list. This lot was not officially charted on the days of the parking utilization study, but observationally it was not heavily utilized. On the Wednesday of the study, peak usage was 10 vehicles. The Parking Enforcement Officer reports that this lot generally does not operate at capacity.

Center Street East

This parking lot contains 48 spaces and is located behind the Community Theater and



Center Street East parking lot on Wednesday September 9, 2009 at midday.

Emergency Services Building. Permits are issued for this lot for merchants in this vicinity, and also for apartment tenants. Thirty-six permits are currently issued for this lot. The lot is also open to shoppers parking with a 3-hour limit.

On the days of the parking utilization study, peak utilization of the lot on Saturday was 67 percent which occurred between 11:15am and noon. Peak utilization of the lot on Friday was 75 percent which occurred between 9:15 and 10:15am, and on Wednesday was 56 percent which occurred between 9 and 10am. The Parking Enforcement Officer reports that this lot generally operates with excess capacity.

Center Street West

This parking lot contains 42 spaces and is located between the Presbyterian Church and Café Beethoven. Permits are issued for this lot for merchants in this vicinity, and also for apartment tenants. Fifteen (15) permits are currently issued for this lot. The lot is also open to shoppers parking with a 3-hour limit. Spaces were formerly reserved for Bank of America merchant parking, however the permits were not renewed and the signage was removed. New signage should be posted at the entrance to the lot that indicates the lot is available for 3-hour shoppers parking so that the new parking arrangement can be clarified. Two (2) rail commuter permits have also been issued for this lot.

On the days of the parking utilization study, peak utilization of the lot on Saturday was 38 percent which occurred consistently during the morning hours. Peak utilization of the lot on Friday was 50 percent which occurred in the early morning and afternoon, and on Wednesday was 93 percent between 9 and 10am. This lot was much more fully utilized on Wednesday than it was on either Friday or Saturday; average utilization on Wednesday was 74 percent.

The Parking Enforcement Officer reports that this lot usually has parking spaces available. This lot, as well as the Center Street



Center Street West parking lot on Friday June 16, 2009 at midday.



Center Street West parking lot on Wednesday September 9, 2009 at midday.

East lot, are not easily accessible from Main Street eastbound due to the left-turn restriction. Additional directional/wayfinding signage to the lots could serve to better alert shoppers to the presence of these lots, and more merchants from the south side of Main Street could be directed to use these lots instead of the Bowers Lane lot. This would allow for the creation of more shoppers spaces in the Bowers Lane lot.

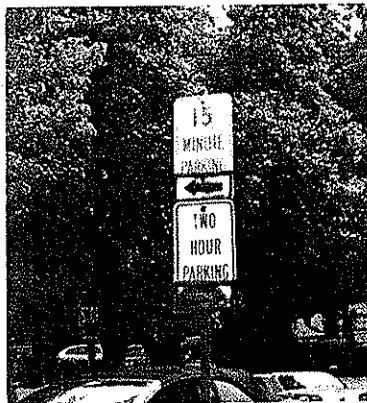
The Borough may also want to consider issuing commuter parking permits for this lot at a lesser price than the Railroad lots to increase revenue and utilization of this lot.

Firehouse Plaza

This parking lot contains 19 spaces and is located between Bank of America and the firehouse. One-hour shopper parking is permitted in this lot. This lot is extremely well-utilized. On the days of the parking utilization study, this lot was at full capacity during the morning hours of Saturday and 89-95 percent full thereafter. On Friday, the lot was 89-95 percent full during the morning and at full capacity in the afternoon. On Wednesday, the lot reached 100 percent capacity between the hours of 1 and 2pm, with an average utilization of 78 percent. This observation is consistent with the Parking Enforcement Officer's experience. It is recommended that a handicapped space be added in the vicinity of the Bank of America's parking lot egress to accommodate the handicapped in this area.

Post Office Plaza

This parking lot contains 54 spaces and is located off South Passaic Avenue in front of the Post Office sorting building. Two-hour shopper parking is permitted in this lot and two spaces are reserved for 15-minute parking. This lot is well-utilized, particularly on Saturdays. Average utilization of the lot on the Friday it was studied was 64 percent, with a peak of 93 percent between the hours of 1:15 and 2:15pm. On the Wednesday studied, average utilization was 76 percent with a peak of 96 percent between 1 and 3 pm. On the Saturday studied, average utilization was 89 percent, with a peak 100 percent between 11:15am and noon. This is consistent with observations of the Parking Enforcement Officer.



Our office examined this general area to see whether there would be an increase in the number of off-street parking spaces if private properties were combined and joined with the Post Office Plaza lot. It is estimated that 30 spaces could be laid out on private property behind the

Main Street businesses and 42 spaces could be located on the deli property as well as the very rear portion of the adjacent automotive business. This does not appear to net the property owners a significant number of additional parking spaces, however would provide more public parking if made into public lots. Consolidation of these properties (by easement) could also make the area more attractive if additional landscaping were



Deli parking area next to Post Office Plaza—an area of potential future public parking re-configuration.

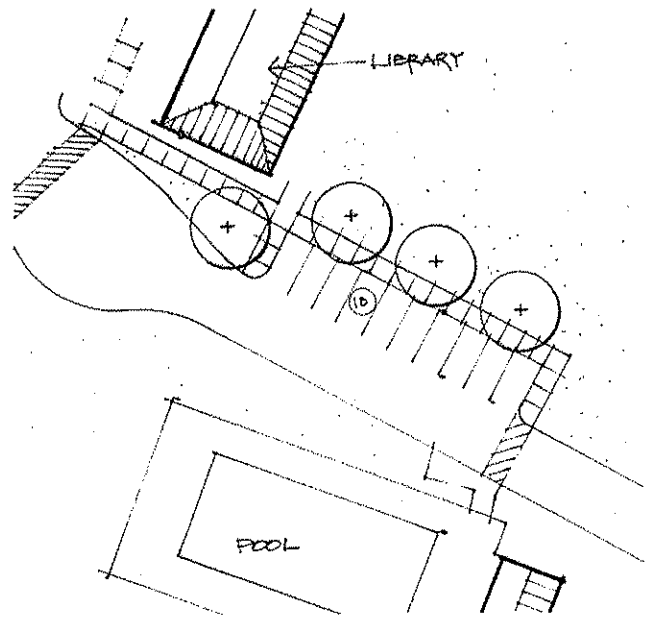
installed in planting islands. If demand for spaces in the Post Office Plaza lot increases significantly in the future, the Borough may want to consider obtaining easements on private property and creating more municipal parking.

On-Street Parking

One-hour on-street parking is located in the core Downtown area of Main Street and along side streets in the core Downtown. It runs between Coleman Avenue and Liberty Drug (east of Bowers Lane). On-street parking is well-utilized, although it does appear to turn over and provide openings for shoppers.

Library Parking

Parking behind the library is provided on municipal property as well as adjacent church property. Expansion opportunities of the parking area are limited in this area due to restrictions on what the open space areas can be used for. TDG has prepared a concept plan for 10 potential parking spaces along the access driveway between the library and the September 11, 2001 Memorial. Assuming that this land could be developed with parking, these spaces could be reserved for senior citizens, families with small children, etc.



Library parking concept plan.

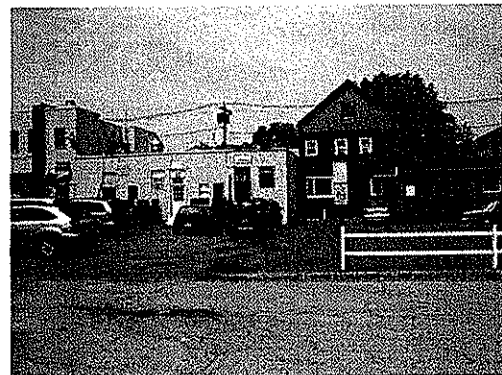
Parking Violations

The Borough's Parking Enforcement Officer was interviewed to determine whether there are any trends or patterns with respect to parking violations. Most of the violations issued are for parking without a permit in the permit areas, particularly the train station lots. Other typical violations include exceeding time limits in 1-hour parking areas such as the Firehouse Plaza spaces, and parking on side streets. No chronic conditions that warrant solutions were identified.

Private Parcels

Parking utilization was observed on privately-owned lots in hourly increments, and in general it appears that supply meets peak demand, and that there is an over-supply of parking spaces for non-residential uses based on current tenancies. See the Appendix for lot by lot utilizations, and the Comparison with Zoning Standards section, following, for additional analyses.

- On the Saturday studied, most parking areas associated with office uses including medical and dental offices, were not in use and therefore were not documented in terms of usage. Utilization of gas stations was also not



Tandem parking behind Main Street businesses.

specifically documented because most of the spaces are not striped, although observationally there were no under-supply issues at any of the gas stations. Banks and retail uses were in operation and parking utilization was documented.

The only area that experienced tandem or double-parking on Saturday was on the western half of the Townsquare property at 70 Main Street and Roosevelt Avenue, which experienced a parking shortage between 11:15am and noon, but which leveled off thereafter. The dental office at 287 Main Street was double-parked between the hours of 9:30am-1pm, however was closed thereafter. The Bank of America parking lot next to the Firehouse Plaza lot was also at capacity during the morning but was never double-parked and was only 50-percent occupied by 1pm. The tandem-parked locations all have alternative parking located near them that could be utilized if necessary. The peak period for Downtown was between 11am and 2pm, with demand for parking dropping significantly after 2pm.

- On the Friday studied, the only areas that exhibited tandem-parking included the unstriped areas behind the Main Street and South Passaic Avenue retail shops north of Post Office Plaza, the small office buildings north of the Center Street West parking lot (Block 63, Lots 6 and 7) and the small parking area behind Block 57, Lot 18 on the northwestern corner of Main Street and North Passaic Avenue. Liberty Drug on Bowers Lane also double-parks what appear to be employee vehicles in order to provide more spaces for customers, however the parking lot was never completely full.

The office building on Block 63, Lots 6 and 7 was over-parked with 3 spaces; the parking ratio for these buildings is only 1.41 spaces per 1,000 SF of space where 4 spaces per 1,000 SF is required. These areas are located near public and on-street parking which could be utilized if necessary and therefore are not cause for immediate concern.

- On the Wednesday studied, double-parking occurred again behind the Main Street businesses on the southeastern corner of South Passaic Avenue and on the Liberty Drug property. All other parcels had unparked spaces available for additional vehicles.

MASTER PLAN EVALUATION

The 2000 Master Plan and the 2006 Master Plan Re-exam are not detailed in their analyses of the Business Zones. There are a number of goals and objectives in the Re-exam that seek to retain the historic character of the downtown. The following goals and objectives are applicable, however, and have been considered when making recommendations for modifications:

1. Promote continuity of established commercial, industrial and residential neighborhoods that contribute to the current character of the Borough and the well-being of its citizens.
2. Encourage the development of business districts that have a look and feel compatible with the predominant historic period represented by their structures.

ZONING ORDINANCE EVALUATION

TDG evaluated the current Land Development Regulations as they apply to the B Zones, with particular focus on lot coverage, number of stories and parking. There are several modifications that can be made to improve the built environment in the B Zones while continuing to provide

business owners economic opportunity. Data pertaining to each individual lot is located in the Appendix of this document. The evaluation is as follows:

Permitted Number of Stories

Overview

In terms of number of building stories, only 3 buildings studied do not comply with the zoning requirement, and they are located in the B-3 Zone.

- In the B-1 Zone, 12 buildings (50 percent of all buildings) are 1-story, 3 (12.5 percent) are 1.5 stories and 9 (37.5 percent) are 2 stories.
- In the B-2 Zone, 17 buildings (68 percent) are 2 stories, 7 (28 percent) are 1-story and 1 (4 percent) are 1.5 stories.
- In the B-3 Zone, 17 buildings (61 percent) are 2 stories, 7 (25 percent) are 1-story, 3 (11 percent) are 2.5 stories, and 1 (3 percent) are 1-story.
- In the B-4 Zone, 18 buildings (50 percent) are 1-story, 15 (42 percent) are 2 stories, 2 (6 percent) are 3 stories and 1 (3 percent) is 2.5 stories.
- In the B-5 Zone, 2 buildings (50 percent) are 2 stories and 2 (50 percent) are 3 stories.

| Zone | # Building Stories | | |
|------|--------------------|----------|---------------|
| | Avg. (%) | Standard | % Lots Comply |
| B-1 | 1.5 | 2 | 100 |
| B-2 | 2 | 2 | 100 |
| B-3 | 2 | 2 | 89 |
| B-4 | 1 | 3 | 100 |
| B-5 | 3 | 3 | 100 |

B-1, B-2, B-3 and B-5 Zones

In the B-1, B-2 and B-3 Zones, permitted building height is 2 stories. The Borough may want to consider increasing the number of stories to 2.5 in order to better-accommodate pitched roofs.



Pitched roof over front portion of building in B-2 Zone.

Because these zones have maximum impervious coverage, floor-area-ratio and off-street parking standards which control the amount of development on sites, the number of building stories does not appear to be an issue in terms of site over-development. The 2-story buildings also contribute positively to the Main Street streetscape.

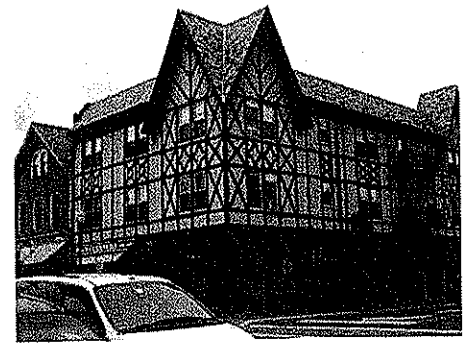
The B-5 Zone has larger lots than the other B Zones, which are able to accommodate taller buildings while still providing for off-street parking within impervious

coverage limits. Building stories in this zone therefore do not appear to be a negative issue.

B-4 Zone

In the B-4 Zone, permitted building height is 3 stories, whereas there are only 2 buildings in the zone that are 3 stories. Most buildings (50 percent) in this downtown core area are in fact 1-story buildings. Because a majority of lots in the B-4 Zone are not able to provide off-street parking and must be served by public parking that is nearing capacity in particular areas, the permitted number of stories and the uses permitted per story requires further review.

The current zoning ordinance permits 3-story buildings in which only the ground floor can be used for retail sales and personal services, while the 2nd and 3rd floors can be used for business services, office and residential apartments. In order to maintain proper scale of the core downtown, the number of permitted stories should not fall below 2. Because it may not be financially feasible for 1-story building owners to add only one additional story, it is recommended that the story limit remain at 3. It is recommended, however, that office and personal services be restricted to 2nd floor only, and not be permitted on the 3rd story, as these uses most likely generate a higher parking demand during peak hours than apartment units. Apartments can continue to be permitted on 2nd and 3rd floors.



Three-story building in B-4 Zone.

Building Height

Because the Borough has restrictions on the number of permitted stories, the permitted building height is somewhat of a supplemental standard that should be calibrated to accommodate the number of stories permitted, different roof types and modern roof-top-mounted mechanical equipment.

Desired first floor ceiling heights vary based on type of use and tenants, and typically range from 12-16'. Second and higher floors are usually shorter, and there is usually a 1' joist between stories. Therefore, total building height is typically driven by the desired first floor ceiling height. In the example below, when 2nd and 3rd floor ceiling heights are kept at a constant 10', building height on a flat-roofed building will range from 35-39' based on variations in first floor ceiling height. If 3-story gable roofs are desired, the permitted ridge height should be increased to 53' to accommodate a 36' eave height and a 16' eave-to-ridge height.

Building Height Analysis of 3-story Building with Fixed Upper Floors

| | Ceiling Height | | | | |
|-------------------|----------------|-----|-----|-----|-----|
| First floor | 12' | 13' | 14' | 15' | 16' |
| joist | 1' | 1' | 1' | 1' | 1' |
| 2nd floor | 10' | 10' | 10' | 10' | 10' |
| joist | 1' | 1' | 1' | 1' | 1' |
| 3rd floor | 10' | 10' | 10' | 10' | 10' |
| joist | 1' | 1' | 1' | 1' | 1' |
| 3 stories (total) | 35' | 36' | 37' | 38' | 39' |

Second and higher stories are often some fixed percentage of the first floor height in order to make the building more proportional. In the following example of 2-story buildings, the 2nd floor is 80 percent of the first floor, which also results in a variety of building heights.

Building Height Analysis of 2-story Building with 80% Upper Floors

| | Ceiling Height | | | | |
|----------------------|----------------|-----|-----|-----|-----|
| First floor | 12' | 13' | 14' | 15' | 16' |
| joist | 1' | 1' | 1' | 1' | 1' |
| 2nd floor (80%) | 10' | 11' | 11' | 12' | 13' |
| joist | 1' | 1' | 1' | 1' | 1' |
| 2 stories (total) | 24' | 26' | 27' | 29' | 31' |

As currently defined in the Borough's ordinance, "Building Height" includes the height of any roof-top-mounted equipment. As such, the ordinance should be modified to exclude cornices and parapet walls that serve to screen roof-top equipment from the height limitation and should also exclude mechanicals and elevator shafts provided that a minimum 42" parapet wall screens views to the equipment. Rooftop equipment should be set back at least 10' from street or ally walls and should be limited to 10' in height. If equipment is set back 20', its height can be increased up to 20'. Rooftop equipment should not consume more than 15 percent of the rooftop area.

In the zones that permit only 2 stories, 35' is not sufficient to permit modern floor heights while still providing a gable roof. If gable roofs are desired, the Borough should consider amending the way non-residential building height is measured, from the mid-point of the gable roof to the eave, which will allow for more proportional roofs.

Lot Coverage

Overview

Lot coverage is comprised of 3 aspects including building coverage, total lot coverage and floor-area-ratio (FAR). The Borough does not have a building coverage standard, however it was reviewed. In terms of lot coverage of non-residential uses:

- In the B-1 Zone, the average lot coverage is 61 percent where the requirement is 50 percent. 16 out of the 25 lots (64 percent) studied exceed 50 percent coverage. The average FAR is 26 percent where 22.4 percent is permitted. 52 percent of lots comply with the standard.
- In the B-2 Zone, the average lot coverage is 78 percent where 75 percent is permitted. 10 out of the 26 lots (38 percent) studied exceed the permitted coverage. The average FAR is 31 percent where 30 is permitted. 62 percent of lots comply with the standard.

- In the B-3 Zone, the average lot coverage is 75 percent where 75 percent is permitted. 10 out of the 26 lots (38 percent) studied exceed the permitted coverage. The average FAR is 34 percent where 25 percent is permitted. 62 percent of lots comply with the standard.
- In the B-4 Zone, the average lot coverage is 90 percent where 100 percent is permitted. The average FAR is 79 percent.
- In the B-5 Zone, the average lot coverage is 68 percent where 65 percent is permitted. One out of the 3 lots (33 percent) studied exceed the permitted coverage. The average FAR is 31 percent where 30 percent is permitted. 33 percent of lots comply with the standard.

| Zone | Building Coverage | | | Lot Coverage | | | Floor-Area-Ratio (%) | | |
|------|-------------------|----------|---------------|--------------|----------|---------------|----------------------|----------|---------------|
| | Avg. (%) | Standard | % Lots Comply | Avg. (%) | Standard | % Lots Comply | Avg. (%) | Standard | % Lots Comply |
| B-1 | 19 | None | NA | 61 | 50 | 36 | 26 | 22.4 | 52 |
| B-2 | 18 | None | NA | 78 | 75 | 62 | 31 | 30 | 62 |
| B-3 | 20 | None | NA | 75 | 75 | 62 | 34 | 25 | 62 |
| B-4 | 58 | None | NA | 90 | 100 | 100 | 79 | None | 100 |
| B-5 | 15 | None | NA | 68 | 65 | 67 | 31 | 30 | 33 |

B-1 Zone

In the B-1 Zone, permitted lot coverage is 50 percent, and an estimated 36 percent of all lots comply with the standard. When creating bulk standards, the character of the lots should be considered and the standards should be reasonable. A 50-percent limitation appears to be too low in this instance. The highest residential coverage limitation in the Borough is 42 percent, while the next highest Business Zone coverage limitation is 75 percent in the B-2 Zone. Because the character of the B-2 Zone and B-1 Zone are not significantly different, the Borough should consider increasing the permitted lot coverage in the B-1 Zone to 70 percent. At 70 percent, approximately 72 percent of all lots would conform. At 60-percent impervious coverage 56 percent of all lots would conform.

In terms of FAR, 52 percent of lots comply with the standard. It is suggested that the Borough consider utilizing a building coverage standard instead of an FAR standard so that lots that do not comply with the standard require bulk variances for deviations rather than use variances, which can be considered by the Planning Board rather than the Zoning Board of Adjustment and require less stringent legal burdens of proof. The building coverage, lot coverage, restriction on number of stories and off-street parking standards all work together to control building size and mass without relying upon an FAR standard. If a 25-percent building coverage standard were enacted, 80 percent of existing lots would comply with the standard; if 20-percent were enacted 60 percent of lots would comply.

B-2 Zone

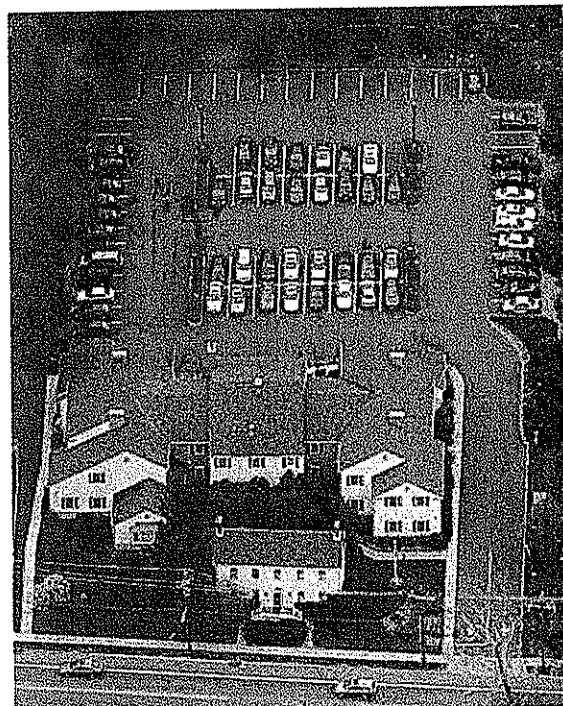
In the B-2 Zone, permitted lot coverage is 75 percent, and an estimated 62 percent of all lots comply with the standard. Like the B-2 Zone, lots that comply with the 75 percent standard appear to adequately accommodate a reasonably-sized building as well as off-street parking. 62 percent of lots also comply with the 30-percent FAR standard. A building coverage standard is recommended for this zone as it was for the B-1 Zone; a standard of 18 percent is located on Block 85, Lot 7, which appears to accommodate a generous building, landscaping and adequate parking. If the building coverage standard is 18 percent, 58 percent of lots comply.

B-3 Zone

In the B-3 Zone, permitted lot coverage is 75 percent, and an estimated 62 percent of all lots comply with the standard. Lots that comply with the 75 percent standard appear to adequately accommodate a reasonably-sized building as well as off-street parking. 62 percent of lots also comply with the 25-percent FAR standard. A building coverage standard is recommended for this zone as it was for the B-1 and B-2 Zones; a standard of 13 percent is located on Block 124, Lot 35 which is an attractive site. The building coverage on this lot is slightly low considering that parking on this lot exceeds the ordinance standard, therefore a 15-percent standard is recommended, which if enacted would make 77 lots compliant.



Block 85, Lot 7 (127 Main Street): 18 percent building coverage.



Block 124, Lot 35 (323 Main Street): 13 percent building coverage.

B-4 Zone

In the B-4 Zone, permitted lot coverage is 100 percent, and there is no FAR standard. The Board has expressed concern regarding the lot coverage standard; however the lot coverage is appropriate for a core downtown area. There are, however, valid reasons for decreasing building coverage in order to provide space behind buildings for service areas including stair landings, a second point of egress, trash areas and the like. Therefore it is recommended that a 10' rear yard be provided, and an 85 to 90 percent building coverage standard should be considered.

B-5 Zone

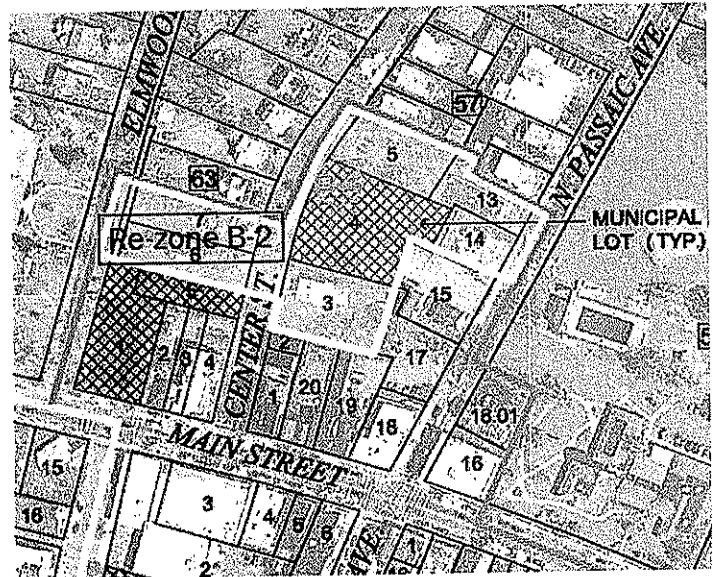
In the B-5 Zone, permitted lot coverage is 65 percent, and an estimated 67 percent of all lots comply with the standard. This standard appears to be adequate for the Zone. The FAR for the zone, however, appears to be too low, as 67 percent of lots do not meet the standard. Of those lots, only one has excess lot coverage and both have a reasonable amount of parking. If the FAR is increased to 40 percent, 67 percent of lots would comply. In any event, we recommend that the FAR standard be replaced by a building coverage standard of 20 percent, with which 67 percent of lots would comply.

Re-zoning Recommendations

There are several lots in the B-4 Zone that, although they are contiguous to the core downtown area are not appropriate for higher density development. The lots are recommended to be re-zoned to B-2, which permits essentially the same uses, however has more stringent controls on lot coverage and building size. The lots recommended for re-zoning include:

- Block 57, Lots 3-5, 13-14
- Block 63, Lots 6 and 7

Lots 6 and 7 currently contain office uses, Lot 13 contains the EMS building, Lots 3 and 14 contain single-family or two-family residential uses, Lot 4 contains the Center Street East public parking lot and Lot 5 contains the vacant lot that is currently used by Bank of America for employee parking.



Off-street Parking Requirements

Overview

The adequacy of required parking-space-to-building square-footage ratios was analyzed based upon the parking utilization study. Recommendations for ordinance modifications are as follows:

Banks

Bank parking ratios range from 0.96 spaces per 1,000 SF of building area (Chase Bank in B-4 Zone) to 9.3 spaces per 1,000 SF of building area (Valley National Bank in B-2 Zone). The ordinance parking standard for banks is based on the number of tellers, drive-up windows, etc.,

and is part of the Conditional Use requirements in Section 165-144, deviations from which require a use variance from the Zoning Board of Adjustment. Based on the parking utilization study, there appears to be an over supply of parking at banks. The highest utilization of parking occurred at TD Bank, which utilized 4.77 spaces per 1,000 SF of building area at its peak (82 percent of spaces were utilized). Typical usage by all banks was approximately 2.35 spaces per 1,000 SF of building area. Therefore, the parking standard for banks could conservatively be capped at 4.75 spaces per 1,000 SF of building area.

If the Borough's priority is to reduce the amount of on-site pavement, the standard can be capped at 4 spaces per 1,000 SF of building area. In the case of busy banks such as TD Bank, sites may be short a few parking spaces during a peak hour if the standard is 4 spaces per 1,000 SF and the bank does not provide excess spaces. It is also recommended that the parking standard for banks be treated as a bulk standard rather than a Conditional Use standard. The standard for drive-through queuing lane length can remain as a Conditional Use standard.

Retail Sales and Service

The Borough's current retail standard of 5 spaces per 1,000 SF of building area (1 space per 200 SF) is a typical standard. Most retail uses in the B Zones, however, do not meet this standard, but still appear to accommodate off-street parking needs. At one of the busiest retail centers in the Borough, the CVS center, the parking ratio is 3.69 spaces per 1,000 SF of building area. The center achieved a maximum utilization of 2.58 spaces per 1,000 SF of building area. Parking was never fully utilized at any 100-percent retail establishment with a parking standard of 4 spaces or less, therefore it is recommended that the Borough's standard be reduced to 4 spaces per 1,000 SF of building area, or 1 space per 250 SF.

Salon uses, however, may require more than 4 spaces per 1,000 SF of building area. Fine Lines Salon, a freestanding salon, achieved a peak utilization of 6.36 spaces per 1,000 SF on Saturday, or 100 percent of its parking area. Therefore, it is recommended that "Freestanding Salon" retain a standard of at least 5 spaces per 1,000 SF of building area. If these uses are located in a mixed-use building with other office or retail tenants, the parking standard could be reduced to 4 per 1,000 SF.

Office

- General office. The Borough's current office parking standard is 4 spaces per 1,000 SF of building area (1 space per 250 SF), which is a typical standard. Many general office properties in the Borough meet this standard; general office sites that have parking ranged from 1.63 to 9.09 spaces per 1,000 SF of building area. On the parking utilization study days, only one office (Block 79, Lot 17, 390 Main Street), exceeded 4 spaces per 1,000 SF of building area with 7.58 spaces per 1,000, although this site is somewhat anomalous because the building is only 660 SF in area. Average weekday utilization of all 100-percent general office buildings with parking was 2.20 spaces per 1,000 SF of building area on Wednesday, and 2.26 spaces per 1,000 SF on Friday.
- Professional office. The Borough's current office parking standard for professional office is also 4 spaces per 1,000 SF of building area (1 space per 250 SF). Professional office differs from general office in that it is occupied by recognized professions such as law, accounting, engineering, etc. The number of parking spaces on-site ranges from 2.02 to 9.88 spaces per 1,000 SF of building area. Utilization of professional office parking was somewhat higher than that of general office. On the days of the parking utilization study,

the peak utilization was 7.81 spaces per 1,000 at one particular financial consultant, however the averages were 2.51 and 2.23 spaces per 1,000 SF of building area on Wednesday and Friday, respectively.

- Real estate office. The Borough's current office parking standard for real estate offices is also 4 spaces per 1,000 SF of building area (1 space per 250 SF). The number of parking spaces on-site for real estate offices ranges from 3.28 to 8.62 spaces per 1,000 SF of building area. Utilization of real estate office parking was also somewhat higher than that of general office. On the days of the parking utilization study, the peak utilization was 7.39 spaces per 1,000 at Weichert Realtors and averaged 4.17 and 2.01 spaces per 1,000 SF of building area on Wednesday and Friday, respectively. The weekdays were busier than the Saturday analyzed.
- Medical office. The parking standard for medical and dental office in the ordinance is 6.67 spaces per 1,000 SF of building area (1 space per 150 SF). Parking ratios on sites with 100 percent medical office range from 2.42 to 6.75 spaces per 1,000 SF of building area; most medical offices do not comply with the standard. Offices with no spaces tend to be located proximate to public parking. On the days of the parking utilization study, peak parking utilization was 5.48 spaces per 1,000 SF of building area on one particular site where tandem parking occurs. Averages on Wednesday and Friday were 1.88 and 2.68 spaces per 1,000 SF of building area, respectively. Therefore, it appears that the medical office standard could be reduced to 4 spaces per 1,000 SF of building area.
- Dental office. The parking standard for dental office in the ordinance is 6.67 spaces per 1,000 SF of building area (1 space per 150 SF). Parking ratios on sites with 100 percent dental office range from 0.81 to 5.37 spaces per 1,000 SF of building area; none of the dental offices comply with the standard. On the days of the parking utilization study, peak parking utilization was 3.97 spaces per 1,000 SF of building area, and averages on Wednesday and Friday were 2.17 and 1.39 spaces per 1,000 SF of building area, respectively, which is similar to the outcomes for medical office. Therefore, it appears that the dental office standard could be reduced to 4 spaces per 1,000 SF of building area as well.

Apartments

The parking requirement of 1 space per residential unit should be moved from the Conditional Use standards section of the ordinance to the bulk parking standards at Section 165-25 so that use variances are not required for deviations.

B-4 Zone

Parking standards in the B-4 Zone generally recognize the limited opportunities for off-street parking by not requiring spaces for existing buildings. However, when building additions are proposed, then parking and loading spaces become required, and restaurants and eating establishments having more than 200 square feet devoted to customer service and dining area or more than 6 seats are required to provide 1 parking space per 50 square feet of customer service and dining area.

This is a significant disincentive for the creation of new building square-footage in the zone which could be hindering ground floor uses from modernizing and adding value to the properties. Due to the proximity of municipal lots and the availability of spaces in the lots, it is recommended that the Borough consider further relaxing the parking requirement for uses in this zone. Options

include not requiring spaces for apartment uses and exempting ground floor uses including building expansions.

Properties Located within ¼ Mile of Public Parking

Uses that are located within ¼ mile of a public shoppers parking lot or striped on-street parking, excluding professional and general office, should be able to benefit from the public parking by receiving reductions in their parking requirement. Parking studies typically recommend a reduction of at least 25 percent and up to 40 percent in such scenarios. The ordinance should be amended to permit reductions of parking standards for such properties that are so located.

Off-street Parking Site Planning

Because parking demand for particular tenants may vary within use categories, it is recommended that the land-banking of parking be permitted by ordinance. Standards for parking stall size, covered and uncovered bicycle racks, shared and tandem parking are also recommended.

Section 165-82.B, Off-street parking for non-residential uses, is recommended to be supplemented as follows:

- (8) A parking lot may be built with fewer spaces than the required minimum spaces in if the following standards are met.
 - (a) Adequate and appropriate space must be land-banked such that the full number of parking spaces required can be built on-site at a later date, should the need arise.
 - (b) The site plan must clearly indicate the land-banked area and shall indicate how landscaping would possibly be phased.
- (9) Parking stalls shall be sized at 9'x18'; hairpin striping is encouraged. Parking stalls for Supermarket or other use where shopping carts are typically utilized shall be sized at 10'x18'.
- (10) A bicycle rack shall be provided.
- (11) A group of adjacent properties may provide a shared parking area if the shared lot provides at least eighty percent (80%) of the total spaces required for each use, and a written reciprocal parking agreement is signed by all property owners involved which shall include agreements regarding maintenance, snow removal, ownership, and liability.



Bicycle rack.

Off-street Loading

Section 165-24, "Minimum off-street loading," sets forth the loading requirements for the B Zones. All activities in the B-1, B-2, B-3, B-5 and B-6 Zones require a 15'x40' loading space, and new buildings or additions in the B-4 Zone require a 15'x40' loading space. This requirement should be modified to permit all office, small-scale retail, restaurants, eating and drinking establishments, banks, child care centers and similar uses to provide a 10'x20' loading/delivery space if they only receive deliveries from box or smaller-sized trucks.

Lighting

Additional lighting standards are recommended to provide more comprehensive regulation of sites. A draft ordinance is included as an appendix.

Signs and Awnings

It is our understanding that a Sign Committee has been set up by the Governing Body to review and provide draft amendments to the sign ordinance. Included as an appendix to this study are some items that could be considered during the ordinance revision process.

Eating and Drinking Establishments

Issues related to eating and drinking establishments in the Borough include outdoor dining, fast food and drive-through facilities.

Fast Food Restaurants

Eating and Drinking Establishments were recently removed from the permitted uses of the B-2 and B-3 Zones, which has made several businesses non-conforming such as the bagel shop in the CVS retail center. Eating and Drinking Establishment is defined by the ordinance as "Retail establishments selling prepared food and drink within an enclosed building for immediate consumption on or off the premises, such as lunch counter, ice cream parlors, delicatessens, luncheonettes and pizzerias."

It is our understanding that the use was removed from the afore-mentioned zones in order to discourage fast food restaurants. "Fast food restaurant" is not currently separately defined in the ordinance and therefore the use falls under the Eating and Drinking Establishment definition. As a result, however, desirable uses such as local delicatessens and sandwich shops that can contribute to the local culture and character of the Borough also fall under that definition.

One possible way to better control fast food uses is to specifically define them as a sub-category of Eating and Drinking Establishment and permit them in specific locations, if any, where their impacts can be minimized. "Fast food restaurant" can be defined as "a business that sells food for consumption on and/or off the premises, has a limited menu, sells items prepared in advance or that may be heated quickly, dispenses food in disposable packaging, and provides no table service."

Fast food uses should also have a higher parking requirement than eating and drinking establishments. The parking utilization at Dunkin' Donuts, which can be considered a fast food restaurant, peaked at 5.97, 7.59 and 10.85 spaces per 1,000 SF of building area on the Wednesday, Friday and Saturday studied.

Outdoor Dining

Currently, outdoor dining is permitted as a Conditional Use only in the B-4 Zone. Conditional use standards include:

- A. The area used for outdoor dining shall be set back:
 - (1) At least six feet from any street, driveway, vehicle accessway or parking area.
 - (2) At least 25 feet from any residential zone boundary or use.
- B. Any outdoor dining in a rear or side yard shall be substantially screened from neighboring properties and parking areas by means of fences or vegetation.

- C. Outdoor lighting shall meet the requirements of § 165-78 of this chapter.
- D. No owner or occupant of any premises shall engage in or allow dining on any public sidewalk without having first obtained a sidewalk dining license, and such dining shall comply with the regulations contained in Chapter 221 of the Code of the Borough of Chatham.

In order to be more downtown-friendly, the Borough should consider making outdoor dining a permitted accessory use to restaurants and eating and drinking establishments, with the same standards as the conditional use standards, except that the 6' clear pedestrian way should pertain to Main Street and a 4'-clear pedestrian way should be provided for side streets. Trash receptacles should also be provided outdoors.

Drive-Throughs

Drive-through eating and drinking establishments or fast food restaurants are currently not specifically prohibited in the ordinance; however they should be defined in the Definitions section and only expressly permitted in certain zones. The B-2 Zone could be considered for this type of use because it abuts the railroad line for a majority of its length. Like banks, this use should be treated as a Conditional Use, which could have the following requirements:

- (a) Minimum street frontage of at least 100 feet.
- (b) Minimum lot area of at least 15,000 square feet.
- (c) No transaction window or speaker system shall be located closer than 50 feet to any property line of any residential use or any residential zone line.
- (d) Any transaction window shall be set back a minimum of twenty-five feet from any property line.
- (e) No drive-through window shall face any public right-of-way.
- (f) In the Historic District, drive-through windows shall be located on the rear façade only.
- (g) Minimum queuing length of 150 feet.
- (h) No more than 2 menu boards shall be provided, and total square-footage of menu boards shall not be more than 30 square feet.

Drive-throughs for retail uses such as pharmacies and dry cleaners should be similarly treated.

SUMMARY OF RECOMMENDATIONS

1. At the Bowers Lane Lot, the Borough may want to consider issuing commuter parking permits for this lot as it does for the Center Street lots to increase revenue and utilization. Also, the signage indicating the shopper parking spaces should be more prominent to increase awareness of the availability of the lot.
2. At the Center Street West Lot, new signage should be posted at the entrance to the lot that indicates the lot is available for 3-hour shoppers parking so that the new parking arrangement can be clarified. Additional directional/wayfinding signage to this lot and the Center Street East Lot could serve to better alert shoppers to the presence of these lots, and more merchants from the south side of Main Street could be directed to use these lots

instead of the Bowers Lane lot. This would allow for the creation of more shoppers spaces in the Bowers Lane lot. The Borough may also want to consider issuing commuter parking permits for this lot at a lesser price than the Railroad lots to increase revenue and utilization of this lot.

3. At the Firehouse Plaza Lot, it is recommended that a handicapped space be added in the vicinity of the Bank of America's parking lot egress to accommodate the handicapped in this area.
4. At the Post Office Plaza Lot, if demand for spaces increases significantly in the future, the Borough may want to consider obtaining easements on private property and creating more municipal parking. If the Post Office sorting building is vacated by the USPS, a more comprehensive analysis for future layout and use of the area should be undertaken.
5. There may be potential for approximately 10 additional spaces between the library and the September 11, 2001 Memorial which could be restricted for use by senior citizens, families with small children, etc.
6. In the B-4 Zone, it is recommended that office and personal services be restricted to 2nd floor only, and not be permitted on the 3rd story, as these uses most likely generate a higher parking demand during peak hours than apartment units. Apartments can continue to be permitted on 2nd and 3rd floors. The permitted number of building stories should remain at 3.
7. If 3-story gable roofs are desired in the B-4 Zone, the permitted ridge height should be increased to 53' to accommodate a 36' eave height and a 16' eave-to-ridge height.
8. As currently defined in the Borough's ordinance, "Building Height" includes the height of any roof-top-mounted equipment. As such, the ordinance should be modified to exclude cornices and parapet walls that serve to screen roof-top equipment from the height limitation and should also exclude mechanicals and elevator shafts provided that a minimum 42" parapet wall screens views to the equipment. Rooftop equipment should be set back at least 10' from street or ally walls and should be limited to 10' in height. If equipment is set back 20', its height can be increased up to 20'. Rooftop equipment should not consume more than 15 percent of the rooftop area.
9. In the zones that permit only 2 stories, 35' is not sufficient to permit modern floor heights while still providing a gable roof. If gable roofs are desired, the Borough should consider amending the way non-residential building height is measured, from the mid-point of the gable roof to the eave, which will allow for more proportional roofs.
10. In the B-1 Zone, the Borough should consider increasing the permitted lot coverage to 70 percent. At 70 percent, approximately 72 percent of all lots would conform. At 60-percent impervious coverage 56 percent of all lots would conform. It is suggested that the Borough consider utilizing a building coverage standard instead of an FAR standard. If a 25-percent building coverage standard were enacted, 80 percent of existing lots would comply with the standard; if 20-percent were enacted 60 percent of lots would comply.
11. In the B-2 Zone, a building coverage standard of 18 percent is recommended instead of an FAR.
12. In the B-3 Zone, a building coverage standard of 15 percent is recommended instead of an FAR.

13. In the B-4 Zone, permitted lot coverage is recommended to be decreased to 85 to 90 percent, and a 10' rear yard be provided.
14. In the B-5 Zone, a building coverage standard of 20 percent should be instated rather than an FAR. If the Borough chooses to retain an FAR, it should be increased to 40 percent.
15. There are several lots in the B-4 Zone that, although they are contiguous to the core downtown area are not appropriate for higher density development. The lots are recommended to be re-zoned to B-2, which permits essentially the same uses, however has more stringent controls on lot coverage and building size. The lots recommended for re-zoning include:
 - Block 57, Lots 3-5, 13-14
 - Block 63, Lots 6 and 7
16. It is recommended that the parking standard for banks be set at 4 to 4.75 spaces per 1,000 SF of building area depending upon the Borough's tolerances for deficient spaces during approximately one hour of the day. The parking standard should be treated as a bulk standard rather than a Conditional Use standard. The standard for drive-through queuing lane length can remain as a Conditional Use standard.
17. It is recommended that the retail sales and service parking standard for uses other than "Free-standing Salon" be reduced to 4 spaces per 1,000 SF of building area, or 1 space per 250 SF.
18. The parking standard for medical and dental office in the ordinance could be reduced from 6.67 spaces per 1,000 SF of building area (1 space per 150 SF) to 4 spaces per 1,000 SF.
19. The parking requirement of 1 space per residential unit should be moved from the Conditional Use standards section of the ordinance to the bulk parking standards at Section 165-25 so that use variances are not required for deviations.
20. Due to the proximity of municipal lots and the availability of spaces in the lots, it is recommended that the Borough consider further relaxing the parking requirement in the B-4 Zone. Options include not requiring spaces for apartment uses and exempting ground floor uses including building expansions.
21. Uses that are located within $\frac{1}{4}$ mile of a public shoppers parking lot or striped on-street parking, excluding professional and general office, should be able to benefit from the public parking by receiving reductions in their parking requirement. Parking studies typically recommend a reduction of at least 25 percent and up to 40 percent in such scenarios.
22. Because parking demand for particular tenants may vary within use categories, it is recommended that the land-banking of parking be permitted by ordinance. Standards for parking stall size, bicycle racks, shared and tandem parking are also recommended.
23. The off-street loading requirement should be modified to permit all office, small-scale retail, restaurants, eating and drinking establishments, banks, child care centers and similar uses to provide a 10'x20' loading/delivery space if they only receive deliveries from box or smaller trucks.
24. Additional lighting standards are recommended to provide more comprehensive regulation of sites. A draft ordinance is included as an appendix.

25. It is our understanding that a Sign Committee has been set up by the Governing Body to review and provide draft amendments to the sign ordinance. Included as an appendix to this study are some items that could be considered during the ordinance revision process.
26. Fast food uses should be re-defined as a sub-category of Eating and Drinking Establishment and permit them in specific locations, if any, where their impacts can be minimized. Eating and Drinking Establishment can then be re-instated in suitable zoning districts such as B-2 and B-3.
27. Fast food uses should have a higher parking requirement than eating and drinking establishments. The parking utilization at Dunkin' Donuts, which can be considered a fast food restaurant, peaked at 5.97, 7.59 and 10.85 spaces per 1,000 SF of building area on the Wednesday, Friday and Saturday studied.
28. In order to be more downtown-friendly, the Borough should consider making outdoor dining a permitted accessory use to restaurants and eating and drinking establishments, with the same standards as the conditional use standards, except that the 6' setback from the street should pertain to Main Street and a 4'-clear setback should be considered for side streets. Trash receptacles should also be provided outdoors.
29. Drive-through eating and drinking establishments or fast food restaurants are currently not specifically prohibited in the ordinance; however they should be defined in the Definitions section and only expressly permitted in certain zones. The B-2 Zone could be considered for this type of use because it abuts the railroad line for a majority of its length. Like banks, this use should be treated as a Conditional Use with requirements. Drive-throughs for retail uses such as pharmacies and dry cleaners should be similarly treated.



B Zones Study

Borough of Chatham, New Jersey

APPENDIX

Ordinance No. 200x-

An Ordinance Amending Section 165-78. Lighting.

A. Lighting. Purpose and Intent.

Light pollution contributes to glowing skies and is caused by light aimed up at the sky or by light reflected by the ground or objects. Floodlights, wall packs, and other unshielded luminaries contribute to light pollution. Use of fully shielded light fixtures or full cut-off light fixtures for site lighting is required to reduce light pollution effects.

Lighting shall comport to the standards of the Illuminating Engineering Society of North America while considering energy conservation, dark skies initiatives to reduce negative outdoor lighting impact to the natural environment for stargazing, wildlife, birds, and bird migration. No lighting shall shine directly into or reflect into windows or into streets and driveways in such a manner as to interfere with driver vision and negatively impact the public health or safety. The ordinance is intended to encourage reasonable outdoor lighting providing nighttime safety, security, and enjoyment while preserving the setting of the night. The purpose is to enhance the nighttime environment and:

- 1) Provide lighting in outdoor public places where public health, safety, and welfare are potential concerns.
- 2) Protect drivers and pedestrians from the glare of non-vehicular light sources that shine into their eyes and thereby impair safe traverse.
- 3) Protect neighbors and the night sky from nuisance glare and stray light from poorly aimed, placed, applied, or shielded light sources.
- 4) Promote conservation through efficient lighting design.

B. Applicability. Outdoor lighting shall be required for safety and personal security in areas of public assembly and traverse; including but not limited to the following: residential, commercial, industrial, public-recreational, and institutional uses. The board may require lighting be incorporated for other uses or locations, as they deem necessary. The glare-control requirements herein contained apply to lighting in all above mentioned uses as well as, but not limited to, sign, architectural, and landscape.

C. Criteria. Illumination Levels. Lighting, where required by this Ordinance shall have intensities and uniformity ratios in accordance with the current recommended practices of the Illuminating Engineering Society of North America (IESNA) as contained in the IESNA Lighting Handbook 9th Edition, as amended. Future amendments to aforementioned recommended practices shall become a part of this Ordinance without further action by the Township.

D. Uniformity ratios dictate that average illuminance values shall not exceed minimum values by more than the product of the minimum value and the specified ratio. For example: for commercial parking high activity, the average footcandles shall not be in excess of 3.6 (0.9 x 4).

E. Average to minimum uniformity shall be used to ensure adequate uniformity at site intersections along public rights of way in accordance with the following table:

Table II
Recommended Illuminance Uniformity Ratios for Streets and Walkways

| Application | Average to Minimum Ratio |
|----------------------------------|--------------------------|
| Expressways and Major Roadways | 3:1 |
| Collector Roadways | 4:1 |
| Local Roadways | 6:1 |
| Pedestrian Walkways and Bikeways | 4:1 |

- F. Maximum to minimum uniformity shall be used in site plan applications where lighting is planned to be continuous and/or cover large areas such as parking lots.

Table III
Recommended Illuminance Uniformity Ratios for On-site Applications

| Application | Maximum to Minimum Ratio |
|--|--------------------------|
| Parking Facilities (primarily daytime use) | 20:1 |
| Parking Facilities (night use) | 15:1 |

- G. Illumination levels for specialized uses. Maximum illumination levels shall be as follows:

Table I
Maximum Illumination Levels for Specific Tasks and Approaches

| | Horizontal Illuminance Maximum | Vertical Illuminance Maximum |
|---|-----------------------------------|---------------------------------|
| <i>Convenience Stores</i> | 30 lux or 3 fc | 30 lux or 3 fc |
| <i>Service Station Gasoline Station</i> | | |
| <i>Dark Surrounding</i> | | |
| Approach | 15 lux or 1.5 fc | 5 lux or 0.5 fc |
| Driveway | 15 lux or 1.5 fc | 5 lux or 0.5 fc |
| Pump Island Area | 30 lux or 3 fc | 30 lux or 3 fc |
| Building faces (exclusive of glass) | 20 lux or 2 fc | 5 lux or 0.5 fc |
| Service Areas | 20 lux or 2 fc | 5 lux or 0.5 fc |
| Landscape Highlights | 10 lux or 1 fc | 3 lux or 0.3 fc |
| <i>Light Surrounding</i> | | |
| Approach | 20 lux or 2 fc | 5 lux or 0.5 fc |
| Driveway | 20 lux or 2 fc | 5 lux or 0.5 fc |
| Pump Island Area | 50 lux or 5 fc | 30 lux or 3 fc |
| Building faces (exclusive of glass) | 30 lux or 3 fc | 30 lux or 3 fc |
| Service Areas | 30 lux or 3 fc | 30 lux or 3 fc |
| Landscape Highlights | 20 lux or 2 fc | 5 lux or 0.5 fc |

- H. Lighting in multi-family residential developments shall be provided in the following locations:

- 1) At all cul-de-sac bulb radii.
- 2) At all terminal ends of center median islands having concrete structure curbing, trees, and/or other fixed objects not having a breakaway design for speeds of twenty-five (25) m.p.h. or greater.

- 3) At any/all defined pedestrian crossings shown on the plans (or required by the Township) located within the development or along existing road abutting the development with said crossing located in areas other than lighted intersections.
 - 4) At any signalized intersection abutting the proposed development.
 - 5) At any new traffic signal installations abutting the proposed development.
- I. Fixture Design. Control of Nuisance and Disabling Glare. All outdoor lighting, whether or not required by this Ordinance; on private, residential, commercial, industrial, municipal, recreational, or institutional property; shall be aimed, located, designed, fitted, and maintained so as not to present a disabling glare hazard to drivers or pedestrians, or a nuisance glare concern to neighboring properties.
 - J. Directional fixtures such as flood lights and spot lights shall be installed or aimed at an angle no higher than forty-five (45) degrees above straight down (half-way between straight down and straight to the side) so that they do not shine directly into the window of a neighboring residence, directly into a roadway, or skyward. In no case shall these lights extend above the lowest eave line. These lighting fixtures are full-cutoff lighting fixtures.
 - K. The amount of illumination projected onto a residential use from another property shall not exceed 0.25 vertical foot candles at the property line. Demonstration of compliance shall be the burden of the owner of the light fixture.
 - L. Unless otherwise permitted by the Planning Board, lighting shall be controlled by automatic switching devices such as timers, motion detectors, and/or photocells, to extinguish offending sources between 11:00 p.m. to dawn, to mitigate glare and sky-lighting consequences.
 - M. Vegetation screens shall not be employed to serve as the primary means for controlling glare. Rather, such control shall be achieved primarily through the use of sharp cut-off fixtures, the appropriate application of mounting height, wattage, aiming angle, fixture placement, and fixture design, etc. and the additions of shields and baffles as necessary.
 - N. Externally illuminated signs shall be lighted by fixtures mounted at the top of the sign and aimed down rather than by fixtures mounted at the bottom of the sign and aimed up.
 - O. In and adjacent to residential areas, light should be shielded so that the lamp is not directly visible outside the property perimeter.
 - P. Exceptions to Control of Glare.
 - 1) Luminaries used for public-roadway illuminations may be installed at a maximum height of twenty-five (25) feet and may be positioned at that height up to the edge of any bordering property.
 - 2) All temporary emergency lighting needed by the Police or Fire Department or other emergency services, as well as all vehicular Light fixtures shall be exempt from the requirements of this article.
 - 3) Luminaries used primarily for sign illuminations may be mounted at any height to a maximum of twenty (20) feet or to the top of the sign, whichever is less.
 - Q. Law Governing Conflicts. Where any provision of federal, state, county, or town statutes, codes, or laws conflicts with any provision of this code, the most restrictive shall govern unless other wise regulated by law. Seasonal decorations using typical unshielded low-

wattage incandescent lamps shall be permitted in all lighting zones from Thanksgiving through January 15.

- R. Installation. Lighting fixtures shall be mounted at the top of a pole at heights suitable to provide the best overall lighting design, but in no case shall be mounted in excess of twenty-five (25) feet above grade, maintaining the uniformity and limiting the bulb wattages as follows:

Table IV
Light Standards

| Fixture Mounting Height | Maximum Bulb Watts |
|-------------------------|--------------------|
| Less than 18 feet | 175 watts Max. |
| 18 to 25 feet | 250 watts Max. |

- 1) Electrical feeds to lighting standards shall run underground, not overhead.
- 2) Lighting standards in parking areas shall be placed a minimum of five (5) feet outside the paved area, outside where vehicles may conflict with the placement of the fixture. Where the poles are five (5) feet outside the paved area, the base of the fixture shall be flush mounted with the ground.
- 3) Where, due to restrictions in light locations due to inadequate spacing between vehicle areas and light fixtures, lights may be placed on reinforced concrete pedestals at least thirty (30) inches high above the pavement, or by other acceptable protective means. Above-ground mounting of light pole foundations is not encouraged or desirable. Where due to space limitations, the concrete footing must extend above grade for protection of the poles, they shall be decoratively treated to complement the building materials.
- 4) Maintenance: Lighting fixtures shall be maintained so as to always meet the requirements of this Ordinance.
- 5) Recreational Facilities.
 - a) Any light source permitted by this Code may be used for lighting of outdoor recreational facilities (public or private), such as, but not limited to, football fields, soccer fields, baseball fields, softball fields, tennis courts, or show areas, provided all of the following conditions are met:
 - b) All fixtures used for event lighting shall be fully shielded or designed or provided with sharp cut-off capability, so as to minimized up-light, spill-light, and glare.

S. Plan Submission.

- 1) Lighting plans submitted to the municipality for review and approval shall include a layout of the proposed fixture locations; the average footcandles, minimum foot candles, and maximum footcandles, maintained with a Light Loss Factor (L.L.F.) of 0.75; the uniformity ratio; and the minimal illuminance levels for the activity as recommended by the Illuminating Engineering Society of North America (IESNA).
- 2) The horizontal illuminance of the site and the vertical light trespass around the site perimeter shall be provided.

- 3) All point method lighting plans shall include all canopy, interior and building lights as well as the site lighting proposed.
- 4) All site plans are required to provide a point method lighting plan according to light standards and illumination levels stated in this section.
- 5) The photometrics plans shall contain a plan identification symbol or abbreviation, fixture type, lamp type, lamp lumens, lamp degree Kelvin, fixture lens height above lowest adjacent finished grade, and total light loss factor utilized.

165-10 DEFINITIONS

The following definitions shall be added:

FOOTCANDLE – A measure of illuminance equal to one (1) lumen per square foot.

FULL CUT-OFF – A light fixture which cuts off all upward transmission of light.

GLARE – The sensation produced by luminances within the visual field that are sufficiently greater than the luminance to which the eyes are adapted, which causes annoyance, discomfort, or loss in visual performance and visibility.

HORIZONTAL ILLUMINANCE – The amount of light striking a horizontal plane.

IESNA – Illuminating Engineering Society of North America.

ILLUMINANCE – The areal density of the luminous flux incident at point on a surface.

ISOLUX or ISOFOOTCANDLE LINE – A line plotted on any appropriate set of coordinates to show all the points on a surface where the illuminance is the same.

LENS – A glass or plastic element used in luminaries to change the direction and control the distribution of light rays.

LIGHT – Radiant energy that is capable of exciting the retina and producing a visual sensation.

LIGHT FIXTURE or LUMINAIRE – A complete lighting unit consisting of a lamp or lamps and/or ballast(s) together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply.

LIGHT SOURCE – A bulb and lens, diffuser, or reflective enclosure.

LIGHT TRESPASS – Any light projected onto a property from a fixture not located on that property.

LUMENS – The measure of brightness of the illumination exiting a bulb.

LUX – A measurement of illuminance where one lux is one lumen per square meter.

POINT METHOD – A lighting design procedure for predetermining the illuminance at various locations in lighting installations by use of luminaire photometric data.

VERTICAL ILLUMINANCE – The amount of light striking a vertical plane.

VISIBILITY – The quality or state of being perceivable by the eye.

SIGN ORDINANCE SUGGESTIONS

A. Awnings.

- (1) Matte cotton and mixed fabrics should be used for building awnings, not plastic or lexan materials.
- (2) Matte cotton and mixed fabric awnings or canopy may be internally illuminated. Awnings and canopies are permitted to encroach upon the sidewalk up to six (6) feet; however the bottom of the awning or canopy shall be located seven (7) feet above surrounding adjacent grade level.
- (3) Awnings on the same building shall match or be consistent in terms of style and/or colors and patterns. If a storefront has an awning, then all storefronts in the same building on the same street frontage should have awnings.

B. Lighting.

- (1) Decorative light fixtures, such as gooseneck, hooded, historic reproduction, and alcove fixtures, are encouraged that are complimentary to the design of building, sign, or site. External fluorescent fixtures shall be discouraged. Signs should be evenly lit with no isolated bright or dark spots. No substantial light or glare may be directed or reflected onto adjacent streets or properties. Internally illuminated signs shall use LED lights to the extent feasible and lettering should be channel set.
- (2) Illuminated signs shall be arranged to reflect the light and glare away from adjoining lots and streets to prevent glare or blinding effects upon motor vehicle traffic and so as not to cause a nuisance to residents of the area. All exterior lighted signs shall be shielded or have translucent fixtures to prevent glare. The external light source shall be focused down when the initial output exceeds 200 lumens, not upwards towards the sky.
- (3) An application for an illuminated sign must include a lighting fixture catalogue cut or manufacturer's product description sheet with isolux or lumens specifications and mounting information. It shall indicate the lighting intensity (lumens) that would be generated by any lighting devices shining onto the sign and the rest of the property and neighboring properties and the lumens that would be projecting from any illuminated signs as part of the sign plan. (This information is part of the manufacturer's data sheet.) Externally illuminated signs consisting of three or fewer one-hundred-watt incandescent light bulbs, or compact fluorescent lights of comparable wattage, shall be exempt from submitting a lumens plan. In no instance shall the lighting intensity of any sign, whether resulting from internal illumination or external illumination, exceed 20 footcandles when measured with a standard light meter perpendicular to the face of the sign from a distance measured one foot from the face of the sign.
- (4) Energy Conservation. The energy efficiency of lighting and electrical power shall be considered for all sign designs and constructions.

C. Wall Signs.

- (1) Wall signs shall be located on the lintel of commercial buildings, which extends horizontally across the top of the storefront. No wall sign shall obscure important

architectural details of the building.

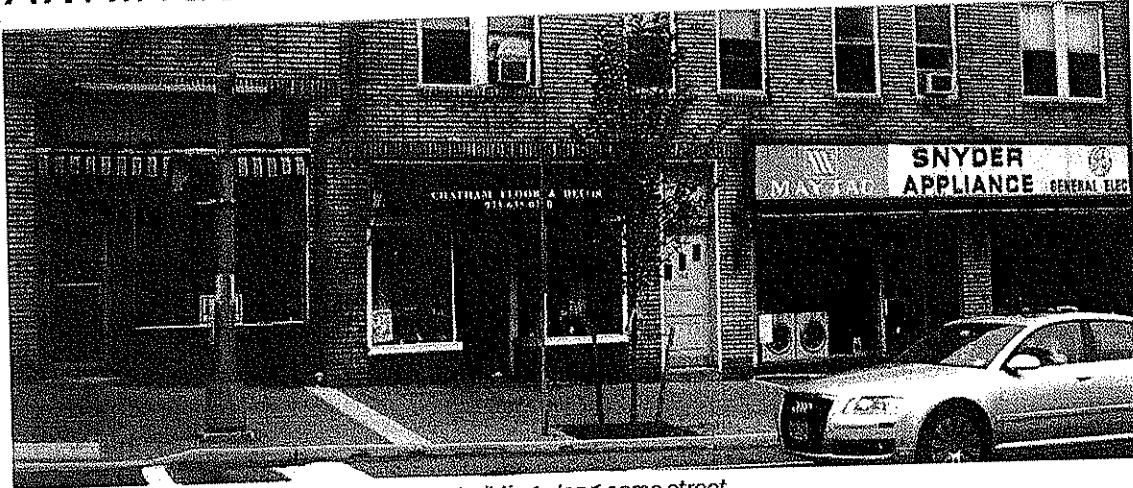
- (2) Wall signs on residential buildings which have been converted to commercial uses shall be located at the entrance to the building between the windows and door and shall not exceed four (4) square feet and shall be in proportion to the space between the window and door.
- (3) The minimum permitted letter height applying to the trading entity and its logo and not including taglines and mottoes shall be a minimum of four (4) inches and a maximum of ten (10) inches.
- (4) Attached wall signs shall be affixed parallel to the wall to which they are attached, and the face of the sign shall project no more than nine (9) inches from the surface of the wall.

D. Window Signs.

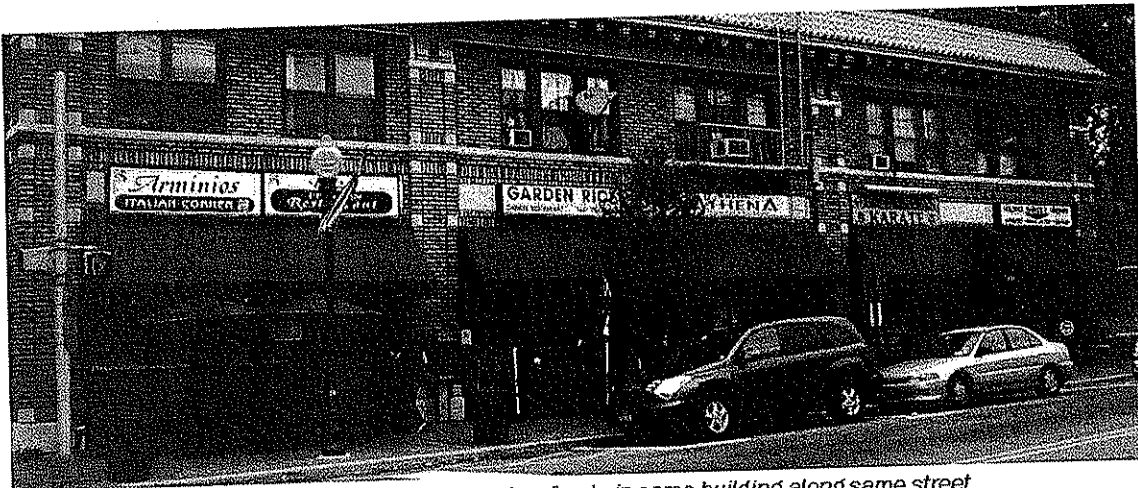
- (1) Window signs shall be limited to the name and function of the business.
- (2) One etched or painted permanent window signs shall be limited to 25% of the total glass area of the building front, but shall not exceed a maximum of four square feet.
- (3) Up to two (2) placard signs may be placed in any storefront window providing the area does not exceed three (3) percent of the window area.
- (4) Temporary window advertising signs shall be permitted to advertise temporary sales, products and prices. These signs shall be limited to 25% of the total glass area of the window in which the sign is located and are limited to a one-month time period.
- (5) The minimum permitted letter height applying to the trading entity and its logo and not including taglines and mottoes shall be a minimum of four (4) inches and a maximum of six (6) inches.
- (6) Color schemes should be kept simple, limited to two or three colors, and based on a host building's painted exterior detailing, such as window trim and cornices. Earth tones, primary colors, and pastels are appropriate and can be designed with subtle combinations and variations. Fluorescent, luminescent, and iridescent colors and tones should only be used for traffic safety signs. Signs with a strong color contrast are more legible. A sign with a dark background will make lighter lettering more visible with less glare. Because storefront windows usually appear dark, window signs should be done in light colored paint or gold leaf.
- (7) Neon or gas tubing signs are permitted and subject to the following conditions:
 - (a) Neon or gas tubing signs can be installed in windows but shall not exceed ten (10) percent of the total window area. The area of neon signs is calculated by creating a rectilinear area around the sign and calculating the sign area within the rectilinear space.
 - (b) No neon or gas tubing sign may revolve, flash, or display movement or the illusion of movement.
 - (c) Whenever a parcel in the commercial district is directly across the street from residential districts as shown on the official zoning map, neon and gas tubing signs are prohibited.

- (d) All neon or gas tubing signs are required to have an initial outlet of less than 200 lumens.
- E. Commercial vehicles or trailers displaying signage shall not be utilized as signage on a lot. Commercial vehicles or trailers displaying signage shall not be parked on a public street in front of the applicable business, or parked on-site in a front yard setback. In the event that there is parking located only in a front yard setback, the vehicles and/or trailers shall be parked in the spaces furthest from the street.
- F. Directory signs shall be permitted in relation to each building provided the directory is no more than six (6) square feet in area and four (4) feet in height. The sign shall not be located in the front yard set back. The commercial message letter height should be visible from drive aisles and sidewalks and shall be a minimum of two and a maximum of six (2-6) inches in height. Commercial tag-lines shall not have a minimum letter height requirement.
- G. Directional signs. Directional signage shall be permitted on sites where necessary to safely and effectively convey persons to their intended destination. The number of directional signs shall be limited to the number necessary to achieve this goal. Directional signs shall be consistent with each other and the site's other signage, and shall be limited to four (4) square feet in area and three (3) feet in height. The signs shall not be used for advertising purposes and may be internally illuminated.

AWNINGS



Example of inconsistent awnings on same building along same street.

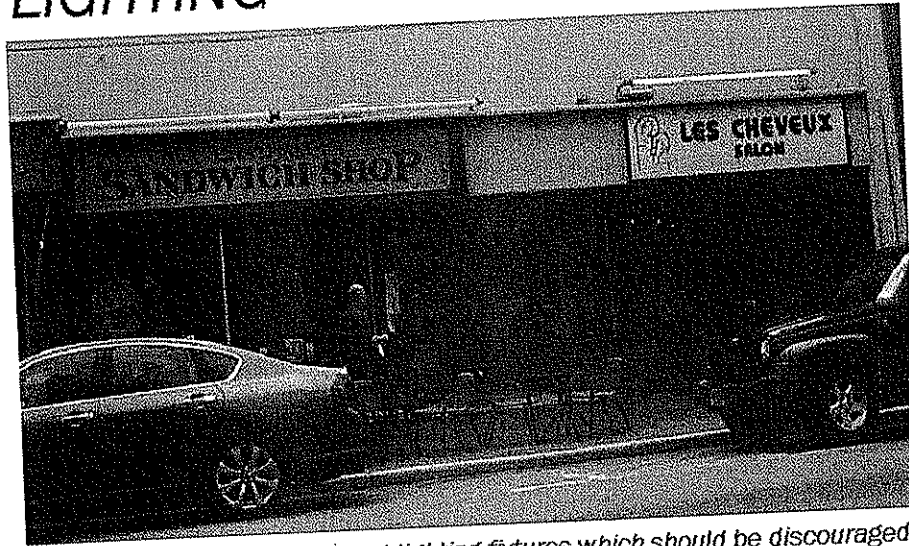


Example of matching awnings on five different storefronts in same building along same street.



Example of consistent awnings on two different storefronts in same building along same street.

LIGHTING



Example of external fluorescent lighting fixtures which should be discouraged.

SIGNAGE



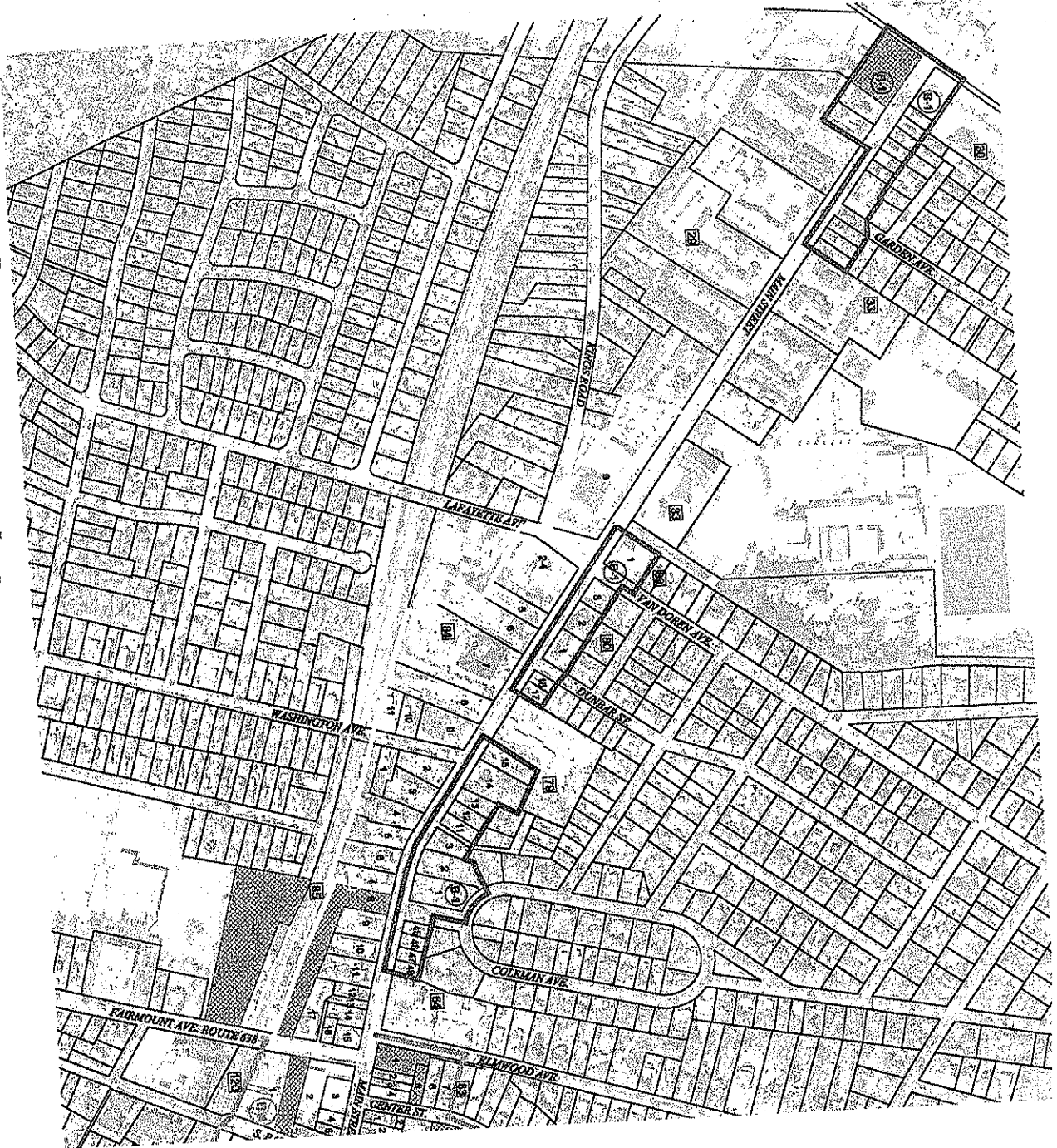
Example of a building sign obstructing an architectural detail.



Example of a building sign not obstructing architectural details.



MUNICIPAL PARKING LOTS



BUSINESS ZONES STUDY

BOROUGH OF CHATHAM, MORRIS COUNTY, NEW JERSEY