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Executive Summary

The purpose of this Comprehensive Parking Master Plan is to guide Charlottesville through the process of mitigating present day parking shortages and to preemptively deploy techniques and strategies for developing future parking and parking alternatives that will compliment the community's long-term development goals. The report body summarizes the findings of an extensive analysis of the parking conditions present in downtown Charlottesville. Based upon the findings of this analysis, exhaustive interviews, broad community survey samplings and investigative research, a plan for evolving the quality and quantity of Charlottesville's parking was developed. The culmination of the efforts of a great number of individuals from the city and community, as well as professional consultants, are presented in this document.

The initial study involved subdividing Charlottesville's downtown into three districts or areas for analysis. Each area was felt to have unique characteristics that would influence the parking demand either seasonally or daily in a different manner from an adjacent zone. The first zone (Court Square) we classified as a Government/Court district. The primary characteristic of this zone is that demand fluctuated with the Court caseloads and overall occupancy was very high, especially on-street. The second zone (Main Downtown) consists primarily of business or commercial uses that have a continuously high demand during the day. This zones parking demand is partially driven by overflow from the Court Square area. The third zone (West Main Downtown) is influenced by the University of Virginia and its Hospital, which has a strong impact on the parking demand. This zone experiences increased demand during the day, which tapers off as evening approaches (please see the parking influences map on page 91.

Special consideration needs to be given to the parking needs of the West Main Downtown area. This zone experiences a great deal of demand influence from the University of Virginia and the University Hospital. The linear nature of this area and the fact that the demand related to the University Campus fluctuates throughout the year creates a unique situation. The best method of dealing with parking need in this area is by examining development on a case-by-case basis and using minimum requirements and incentives for parking development.

The recommendations presented in this report are intended to benefit the entire downtown. Some of the recommendations deal specifically with one area, however by dealing with the parking need of one area we can influence the need in an adjacent area. As the parking need of one area is met, an adjacent area will benefit through the trickle down effect. The operational recommendations are intended to optimize the use and availability of the existing parking supply in meeting current and future needs. All of the recommendations made in this report are intended to work together in creating an overall balance between parking need and supply.

What are the numbers of parking spaces required in downtown Charlottesville?

In determining the number of spaces required for the level of activity present in downtown Charlottesville, Rich and Associates employed two primary methods of analysis. The first method utilized, required a complete inventory of the buildings in the downtown and the uses present in those buildings. This information was then used to calculate a parking space demand for each individual use within each building.

The demands were then summed to reveal a block-by-block demand, which was then further expanded to reveal a zone-by-zone demand.

The second method used in determining demand, is the result of the turnover and occupancy studies that were undertaken. Essentially, we calculated a raw demand based on parking use and occupancy in the downtown. This demand was then factored to take into consideration occupancy of both on-street and off-street parking, as well as the turnover that was observed in key areas of the downtown. The demand was then further refined by including the economic effects of the cost of supply and the consumer's propensity to park further from their destination due to cost and length of stay.

Our conclusion from this modeling was that there is an overall current deficit of 4,656 parking spaces. This deficit grows over the ten-year projection to be 10,428 parking stalls. An important point to remember when looking at these deficit factors is that these are demand numbers, assuming free parking with minimum walking distance between parking stall and destination. The actual needed number of stalls can be reduced from this demand number depending on supply location and the price of parking. As the price goes up more people are willing to walk further. A need number is projected for new parking recommendations in section 8. When examining the overall parking and considering potential recommendations, the starting point is the demand number.

The alternative of not providing more parking in downtown Charlottesville is an option available to the City. However, this choice will have the repercussion of stifling further economic development and tourism initiatives. When considering economic development, parking is one of the most important considerations. The choice not to provide new parking could ultimately result in the degradation of Charlottesville's downtown area. Some small business owners indicated that the costs associated with providing parking for staff and customers were exceeding the benefits they associated with being located on the pedestrian mall.

Where should new parking be provided in downtown Charlottesville?

After examining the demand aspects of each zone and taking into consideration the effects of seasonality, we concluded that the Court Square Area should be the primary target of additional supply. By addressing the needs of this area, we can simultaneously address the needs of the Main Downtown. Although the recommended supply locations are not specified, we feel that new parking should be located along the perimeter of the Court Square demand area. The reason for not recommending specific sites at this time is to allow for the City to be able to approach landowners regarding the potential acquisition of their property for new parking. A separate addendum to this study will be issued once decisions regarding potential sites have been finalized.

How do alternative modes of transportation fit into the study?

Seeking alternative modes of transportation is an intrinsic part of developing a parking study. In Charlottesville's case we have the added dimension of needing to provide the alternatives, since building new parking alone will not meet the overall need. Conversely, alternative modes of transportation will not alone solve the parking shortage. So long as personal automotive transportation is popular and fuel relatively inexpensive, the inclination to use alternative modes such as mass transit will be restricted to user groups that value the economic benefits of the alternatives and user groups that participate out of social and environmental concerns. A strong alternative modes education and promotion program is essential to influence people to change modes.

It is difficult to predict with a high degree of accuracy the extent to which the use of alternative modes would benefit the parking situation in downtown Charlottesville. A separate transit study, to be completed within the next six months, should include more definitive information as to the extent to which alternative modes can be expected to influence parking demand. That study will also examine the merits of ridership verses cost. For the purpose of this study we have estimated net impacts, which are included in the recommendations section of the report. The overall net effects are not included in the demand projections since, when projecting parking demand, we need to have an unadjusted parking surplus or deficit from which to work. In Charlottesville's case we are suggesting shuttling efforts that are linked to existing alternative modes such as the Park and Ride system and CTS buses.

How should the City's new parking system be managed?

As outlined in the recommendation Section of this report, we are proposing that the city consider continuing to contract out parking management services to a private parking management company.

Recommendations Summary:

Implement A Short Run Downtown Shuttle System: Provides a net gain in parking (+/- 250 parking stalls) at a savings of approximately $300 per gained parking stall or a net gain of $250,000 per annum over building, operating and maintaining an equivalent parking structure.

Increase Overtime Parking Fine To $10 (now) And $15 (4 years): Creates incentive for avoiding improper parking practices and adds $93,750 per annum to parking related income.

Purchase Computerized Ticket Writers: Increases effectiveness of parking enforcement and automatically tracks two-hour shuffle problem in Court Square area.

Decrease On-Street Time-Limit Duration To One Hour: Increases turnover of on-street parking stalls resulting in an effective increase in short-term parking for visitors and patrons of the downtown.

Increase Loading Zone Surveillance: Elimination of abuse of loading-zone parking stalls by non-delivery/pickup vehicles or commercial carriers.

Implement Revisions To Zoning Ordinance: Some of Charlottesville's requirements for off-street parking are higher than necessary. Recommendations for specific occupancy types are offered on page 80.

Implement Downtown Parking Standards: Charlottesville currently exempts downtown development from off-street parking requirements. The City should consider implementing minimum parking standards for development in accordance with the revised zoning ordinance.

Revised Zoning Ordinance To Include Parking Requirements For The CBD: As a part of the parking subsidy recommendation, it would be necessary to have a requirement guide to determine how much parking a developer would need to provide. This recommendation is for the City's zoning to be that guide.

Initiate Development Incentive For Parking: A bonus to provide parking above and beyond the minimum needed for their own use. This recommendation aids in providing parking and benefits the City by reducing the amount of public parking needed.

Consider Continuing And Expanding Private Management of Off-Street Parking: As outlined previously, we are recommending that the city continue to contract out parking management services to a private company.

Develop A New Signage Package: Charlottesville's parking areas could benefit from the use of proper and complete signage, particularly when looking to promote downtown tourism. We recommend that a signage package be developed and that $50,000 be earmarked for purchasing and installing the new signage.

Re-Stripe On-street Parking Stalls: A number of Charlottesville's on-street parking stall lines are either faded or not marked. In order to maximize the number of cars that can be parked along a block face, clear stall lines are necessary. Charlottesville will need to budget $10 per stall or approximately $10,020.

Develop A Marketing Program For Businesses And On-Street Parking: A marketing piece that would inform business owners of the issues facing the City and their own business when parking is misused. Additionally, local businesses are updated regarding new parking arrangements and promotional opportunities through monthly publications. Budget approximately $5000 annually.

Develop A Marketing Piece For Visitors/Customers: This effort would be aimed at providing tourists or downtown patrons with some form of guide to the parking areas in the downtown. This recommendation works well with tourism efforts and can be in the form of a distribution map and/or an Internet web page. Budget $5,000 to $10,000 annually.

Develop New Parking: As outlined previously we are recommending that new parking be built in and around the Court Square and Main Downtown areas. The West Main Downtown area has unique conditions that require an ongoing analysis of opportunities for public/private initiatives to build new parking. Further analysis of specific sites and designs will be provided in the form of addendums to this report once potential property acquisition agreements have been negotiated.

Acknowledgement:

Extensive surveying and consultation was sought out in preparing this Master Parking Plan. The Parking Steering Committee held a number of meetings throughout the process in order to provide study guidance and feedback regarding study findings and parking need assumptions. Groups and individuals representing a large cross-section of Charlottesville's stakeholders were involved either directly in the Parking Plan by way of meetings and interviews, or indirectly through surveys or their community representatives.

Rich and Associates, Inc. would like to recognize and thank the elected representatives and departmental officials of the City of Charlottesville, the business managers of the downtown commercial establishments, citizens and non-profit organizations. Their invaluable assistance and cooperation have been instrumental in the development of this parking study.

On behalf of the Rich and Associates team, we hope that this master parking plan and the process that has led up to its compilation will guide the City of Charlottesville in expanding and improving its parking system. We remain committed to our work and to developing a long-term relationship with the City of Charlottesville. Additionally, we will endeavor to assist with issues that may arise from this report or with its implementation, wherever and whenever we can.

Sincerely,

Rich and Associates, Inc.

Richard A. Rich, Principal In Charge

John C. Revell, Project Manager

Participant and Interviewee List (alphabetical by last name)

City Staff Participants

Katy Clossin – Office of Economic Development

Bill Letteri – Public Works

Dan Painter - Neighborhood Planning and Development Services

Charles Petty - Charlottesville Transit Service

Helen Poore - Charlottesville Transit Service

Ronnie Roberts - Charlottesville Police Department

Rochelle Small-Toney - CMO

Jim Tolbert - Neighborhood Planning and Development Services

David Vanaman - Neighborhood Planning and Development Services

Aubrey Watts – Office of Economic Development

Downtown Stakeholders Interviewed

Glenn Branham - Real Estate Assessor's Office

Mike Caltrow - Martha Jefferson Hospital

Hunter Craig - Downtown Developer

Jeff Daniels - Steering Committee

Lee Danielson - Downtown Developer

Bettie Greiner - Wachovia Bank

Anne Hemenway - Community Representative

Blake Hunt - Downtown Developer

Oliver Kuttner - Downtown Property Owners Council

Paul Maher – OMNI Hotel

Lynn Merhib - North Downtown Residents Association

Bob Mincer - Community Representative

Bill Moore - Albemarle County

Sally Morris - Federal Court

Lisa Murphy - Downtown Property Owners Council

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Susan Payne - Downtown Property Owners Council

Donald Sandridge - Martha Jefferson Hospital

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Marshall Slayton - Steering Committee

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Bob Stroh - CPC, Inc.

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Roxanne White - Albemarle County

Steering Committee Members

Katy Clossin – Office of Economic Development

Jeff Daniels - Steering Committee

Anne Hemenway - Community Representative

Bill Letteri – Public Works

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Section 1 – Parking Study Overview

1.1 - Background

This study, prepared by Rich and Associates for the City of Charlottesville, serves to examine the City's existing parking system, both from a qualitative and quantitative standpoint. The City of Charlottesville contracted Rich and Associates to prepare a parking master plan which would coordinate the existing parking and make recommendations regarding the City's future parking. A number of issues were examined including operation, management, enforcement, current demand, development scenarios, and future needs.

For this study, we initiated the process with a field study, meetings and interviews. Data collected as background material was analyzed using proven methods established by Rich and Associates. Our study drew on standards developed by the Institute of Transportation Engineers and the Urban Land Institute, which were modified in accordance with the recommendations of our senior partners to suit the unique circumstances present in Charlottesville's CBD. Some considerations prevalent to this study included numerous development and redevelopment plans, the presence of the University of Virginia and Charlottesville's blossoming hi-technology industry. Additional provisions in this study, examined the feasibility of alternative modes of transportation and the needs and concerns of a broad spectrum of Charlottesville's citizenry.

1.2 - Purpose

The Charlottesville CBD parking study was undertaken to analyze the parking needs unique to the City and the forces that have created those needs. By examining existing parking operations, current situations and quantifying future needs, we have prepared a set of recommendations that will translate into a successful parking plan. Overall, this parking planning study answers many vital parking questions about the condition and adequacy of downtown parking in Charlottesville, such as:

- What is the nature and magnitude of the present parking situation throughout the downtown?
- Are there parking areas with sufficient capacities to satisfy University driven peak needs during the fall or summer tourism parking needs?
- Is it possible to manage the existing parking supply in Charlottesville more effectively?
- What affects, if any, would additional privately or publicly developed parking have on the economics of the parking system and the vitality of the downtown?
- What parking-improvements best suit Charlottesville's needs?
- How can any parking improvements be financed and when should such improvements be implemented?

1.3 - Study Area

The study area as determined by the City of Charlottesville is illustrated in Map #1, "City of Charlottesville - Study Area Map" located on page 3. The solid line represents the boundary of the study areas. Rich and Associates evaluated the parking conditions of the 100-block "primary" study area. Areas outside of the study were examined for supply analysis only. Consisting of three distinct areas, the study area contains a mixture of uses, which include commercial structures, government buildings, schools, hospitals, tourist attractions, light industrial uses, a rail terminal, parking areas, churches and some residential units.

The three areas found within the overall Central Business District are communally known as the Court Square area, the Main Downtown area and the West Main Downtown area. A brief overview of the characteristics and considerations of each area are as follows:

- The Court Square area is a historically oriented zone made up of older, two and three story structures. While this area was at one time predominately a residential neighborhood, the presence of the various City and County Courts and Martha Jefferson Hospital, have caused the gradual conversion of many homes into Professional Offices. Narrow streets and higher densities best characterize this area.

- The Main Downtown area is dominated by a pedestrian mall, which was created when Main Street was closed to vehicular traffic. The Main Downtown area has several components to it including a retail sector, commercial and office units and buildings, City Hall and ancillary government uses and some light industrial uses. There are currently several large parking structures and surface lots located in this area.

- The West Main Downtown is a relatively unique area of retail and commercial uses. The westerly end of this area is an area made up of restaurants and retail uses, which are oriented toward the University of Virginia. The West Main Downtown is linear in nature, unlike the rectangular grid pattern common to the other two areas. ***Linear demand areas have their own unique issues with regard to parking, as no single point source of parking supply can evenly satisfy a large area of need. While the parking need is less in this area, there remains a need for long and short-term parking, particularly near the University.*** The best method for dealing with parking shortage issues here, is to examine individual development projects on a case-by-case basis and to consider the use of the incentives and requirements for parking that are outlined in this report.

1.4 - Scope of Services

The scope of services performed by Rich and Associates for the City of Charlottesville is listed below. Services included studies and analyses that were conducted in order to develop answers and recommendations to the parking questions and issues listed previously in the purpose section.

- Turnover and occupancy studies were performed to evaluate the utilization of the on-street and off-street parking areas in each of the areas.
- A block-by-block evaluation of the land use type for the downtown core area was completed. Much of the information, in terms of square footage and usage of existing downtown structures was based on data provided by the City of Charlottesville. This information was used as a basis to calculate parking demand.
- Surveys of businesses through a manager survey and employees through an employee survey were completed.
- Existing enforcement policies and procedures were reviewed along with the staffing and routing of enforcement personnel.
- Site analysis and conceptual designs for parking solutions are pending.

1.5 - Methodologies

The parking study methodologies developed by Rich and Associates are effective and accurate tools for quantifying current and future parking characteristics exclusive to Charlottesville's CBD. Our methodology involves computer modeling of parking demand based on land-use. Specifically, an inventory of buildings and their uses is compiled and a demand factor is assigned to each use category. Drawing on research by the Institute of Transportation Engineers and the Urban Land Institute, a model for Charlottesville was developed. Modifications to the demand factors are based on experience with past municipal projects of similar scope and scale to that of Charlottesville. Additional modifications are made in accordance with the recommendations of Rich and Associates' senior partners, who take into consideration the unique characteristics and situations specific to the Central Business District. It has been the firms' experience that parking characteristics unique to a City can be best determined by collecting and analyzing data specific to the study area.

Once the block-by-block demand has been calculated, for both current and future circumstances, a comparison with the existing supply of parking is made. The resultant figures are parking surplus and demand estimates for each block. The methodologies applied by the firm include an analysis and examination of the previously mentioned parking space and land use inventories, as well as a parking utilization analysis.

The demand factors for each land-use type include an estimate for employees and patrons to that particular land use. In cases where a land use may have a tourism component, a portion of that demand factor is an estimate that is included to account for visitors. The overall effect is that each type of downtown visitor, whether an employee, tourist or patron, is accounted for in the demand model for Charlottesville.

On page 10, the figure entitled "Figure 1: Interrelationship of Parking Study Methodologies" graphically illustrates the interrelationships among the various parking methodologies employed to evaluate Charlottesville's parking system. The Methodology and Survey results section of this report offers an assessment of the results of the on-street and off-street parking space inventories and the on-street and off-street turnover and occupancy studies. The results of the studies, surveys and inventories are important to the determination of the City's current and future parking needs.

1.5.1 - Definitions

- *Turnover* - Turnover is the number of cars that occupied a parking space in a particular period. For example, if a parking lot has 100 spaces and during the course of the day 250 different vehicles occupied the lot, then the turnover is two and a half times (2.5).
- *Occupancy* - the length of time a parking space is occupied by a vehicle.
- *Circuit* - A circuit refers to the two-hour time period between observances of any one particular parking space. For the turnover and occupancy study, a defined route was developed for each survey vehicle. One circuit of the route took approximately 2 hours to complete and each space was observed once during that circuit.
- *Block Face* - A number was assigned to each block within the study area. Each block is then referenced by its block number and by a letter (A, B, C or D). The letter refers to the cardinal face of the block; with (A) being the north face, (B) the east face, (C) the south face and (D) the west face. Therefore, a block designated as 1A would refer to the north face of block 1.

1.6 - Parking Demand and Zone Analyses

Analyses were performed to determine the current and future parking demands and needs for the study area. The data collected and compiled by the firm to calculate the parking demand included:

1) An inventory of the study area's on and off-street parking supplies.
2) Turnover and occupancy studies for public and private on and off-street parking areas.
3) Block-by-block analysis of the square footage and use of every building in the study area.

The Parking Demand and Zone Analyses sections of the report contain two levels of parking analyses to determine the number of parking spaces **demanded** and **needed** in the study area. The number of parking spaces demanded for each block assumes that there are no parking limitations in the study area such as availability, use, location and price. Therefore, the number of parking spaces demanded for each block, are unadjusted and derived by several unrealistic assumptions (i.e. all parking is free and uncontrolled). For each block, the firm calculated parking demand to derive surplus or deficit parking space amounts.

The parking demands calculations are not adjusted for realistic market conditions and parking location preferences. To adjust for the effects of parking availability, use, location and price, a more detailed parking zone analysis was performed to determine the number of parking spaces needed. One zone, which is a contiguous geographic area, was formed to analyze all alternative parking-areas within a reasonable walking distance from several demand generators (i.e. group of buildings). The number of parking spaces needed for the zone is less than the number of parking spaces demanded since employees and customers of the study area are affected by realistic parking limitations and alternative parking supplies that are grouped and evaluated by a zone.

Needed parking is a more site-specific concept, as a potential parking source will generally only serve a specific area. Therefore, the needs assessment for each solution is examined on a case-by-case basis and is offered in the recommendations section of this report.

1.6.1 - Methodology

Parking demand was calculated for the current and future time periods. The future period is defined as the re-occupancy of vacant properties in one to ten years applied at a rate of 75% re-occupancy in five years and 95% re-occupancy in ten years. The current and future parking demands were calculated by applying a parking generation factor per 1,000 square feet of gross floor area, as categorized by land use. The land use types in Charlottesville include retail, service, restaurant, office, special use, residential, and mixed use. The firm carefully examined the daytime activity, parking characteristics and land use patterns to derive more accurate and realistic demand generation rates to apply to the calculation of the City's parking demand.

Rich and Associates has calculated the parking needs using demand characteristics resulting from the downtown analysis and standards developed by the Institute of Transportation Engineers and the Urban Land Institute. The parking demand parameters, which are listed below, were important to the development of the parking generation factors and to the zone analysis of the CBD. Zone analysis is a more detailed method of calculating the number of parking spaces needed.

1.6.2 - Parking Demand Parameters

- Building size, purpose and special use conditions.
- Socioeconomic characteristics of the downtown population and population expected to visit the downtown.
- Alternative modes of transportation, which includes availability, use attractiveness and policy impacts.
- Proportion of the downtown trips that are multiple use;
- Traffic accessibility.
- Cost of parking.
- Parking enforcement policies.

1.6.2 - Parking Demand Parameters (con't)

- Location, quality and congestion of parking areas.
- Pedestrian traffic patterns and way finding.
- Origin and destination data.

Table 1A "Parking Demand Generation Rates Comparison", provides a listing of the parking generation rates (per 1,000 square feet of gross floor area) by land use type. The Rich and Associates' calculated demand generation rates for Charlottesville (the Charlottesville Model) were derived from the fieldwork conducted during the study and from examination of similar scenarios from past studies, demand generation rates developed by the Institute of Transportation Engineers and shared use principals developed by the Urban Land Institute.

Table 1A: Parking Demand Generation Rates Comparison

Land Use	Charlottesville Model	Charlottesville Zoning	Institute of Transportation Engineers
Office	**3.20**	3.33	2.79
Retail	**2.61**	10.00	3.97
Service	**3.51**	5.00	4.17
Restaurant	**7.72**	13.33	12.49
Residential (per unit)	**1.70**	1.00 – 10.00 (varies)	1.21
Mixed	**3.77**	2.00	3.25
Government	**4.20**	3.33	3.84
Hotel (per room)	**0.88**	1.00	0.52
Light Industrial	**0.63**	N/a	0.36
Special 1 – Community Use	**0.45**	13.33	0.43
Personal/Medical Service	**4.00**	5.00	4.11

(Note: per 1000 s.f. of gross floor area)

Source: Rich and Associates Fieldwork, Fall 1999

Source: Charlottesville Zoning Ordinance, September 1998

Source: Institute of Transportation Engineers Parking Generation Manuel, 1987

Parking demand was computed for each block within the study area. The Charlottesville Model rates were multiplied by the total amount of gross square footage for each land use category to derive the number of parking spaces demanded for each block. The demand factor is a ratio of parking spaces needed per 1000 square feet of gross floor area. Tables within each section provide a listing of block by block gross square-footage and the calculated parking demand for the current and future scenarios can be found in the appendix section of this report

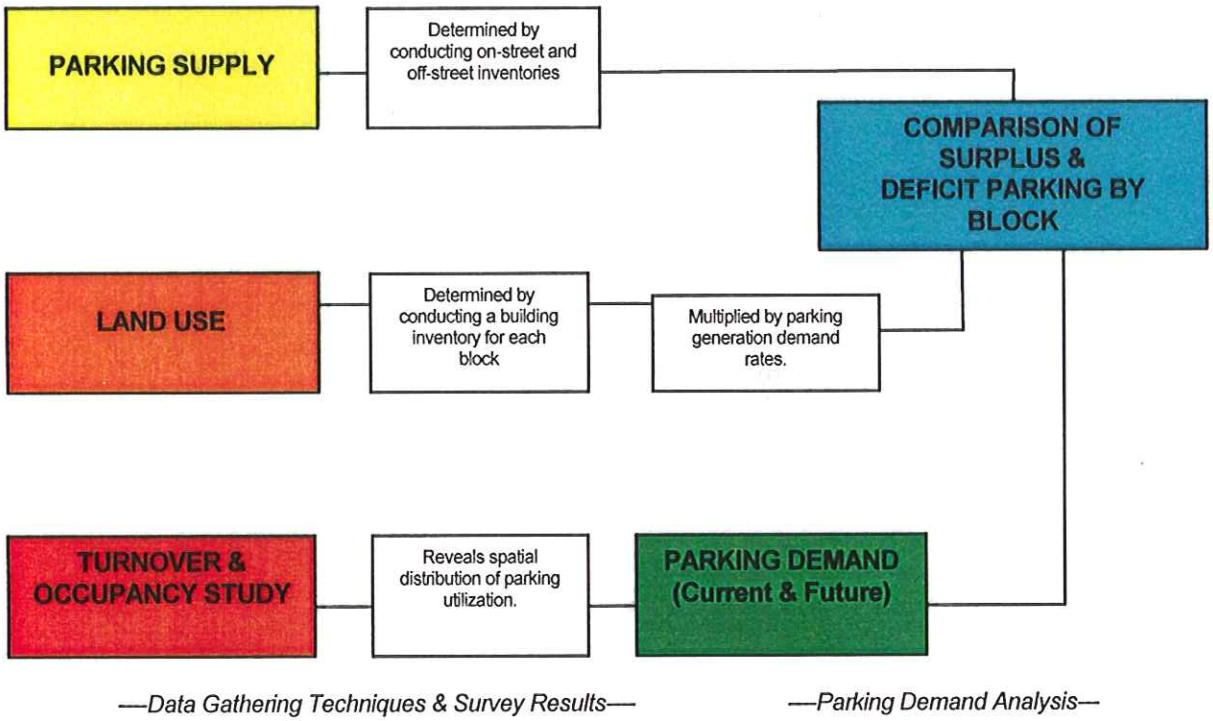
1.6.3 - Parking Demand Analysis Assumptions

- Assumption 1: It was assumed that parking demand per block was dependent on the gross floor area of the block. Parking demand computed for one block was not affected by the amount of gross floor area available on surrounding blocks. Therefore, a block with surplus parking supply was unavailable to a block with a deficit parking supply. This assumption was modified in the application of a more detailed and realistic model, which is discussed later in the zone analysis section of the report.

- Assumption 2: The parking demand calculations were derived under the assumption that currently occupied properties would remain occupied at existing, or higher than existing levels, into the future.

- Assumption 3: Parking demand is not affected by parking availability, use, location and price.

Figure 1: Interrelationship of Parking Study Methodologies



Section 2 – Court Square Area

The Court Square area is the subject of several simultaneous studies that revolve around the court facilities. Current plans are for an expansion of these facilities and a reworking of parking in order to accommodate current and future needs. Fieldwork for the Court Square area was undertaken from September 27 through October 1, 1999.

2.1 - Study Assessment

An assessment of the results of the on-street and off-street parking space inventories and the on-street and off-street turnover and occupancy studies for the Court Square area are offered in this section of the report. The results of the studies, surveys and inventories are important to the determination of the current and future parking needs.

Assessments of future development scenarios and potential redevelopment opportunities were also examined for parking impact. A specific future expansion analysis was undertaken for the court buildings of this area. The foundation for the phased parking demand projection was based on a facilities study prepared by Space Management Consultants, Inc. in August of 1998. This study provided long-range staffing level and caseload projections, from which parking needs were determined. A previous parking study prepared by Desmond and Associates had undertaken a parking demand analysis for the court facilities as well. However, the growth projection used by Desmond was much higher than that forecast by Space Management Consultants. Based on field observations, experience with previous court demand studies and information obtained form the City of Charlottesville, we selected the Space Management Consultants projection as the most accurate and developed a parking demand model from this data.

As outlined in Section One of this report, a two-part analysis takes place. The first part of the analysis is the net parking demand based on a building inventory and parking ratios per 1000 square feet of gross floor space. This demand is netted from the available supply and the resulting surplus or deficit is revealed on a block-by-block basis. The second part of the analysis involves comparing the parking surplus and deficit patterns to the turnover and occupancy data. This comparison offers a benchmark, by which the surplus and deficit data is compared and contrasted

A point to consider regarding parking supply and demand is that motorists in general perceive off-street and on-street spaces with occupancies greater than 85% to be at capacity, depending on the overall capacity. The greater the capacity, the less this perception is valid. When this occurs, motorists will begin to re-circulate to seek more parking, adding to downtown traffic congestion.

2.2 - Parking Inventory

Table 2A on the following page outlines the breakdown of existing parking in the Court Square area. There are a total of 3,788 parking spaces available in this area. These parking spaces consist of 609 on-street spaces and 3179 off-street spaces. While the on-street parking is considered to be public the off-street parking is both public and private. Only 26 spaces, (1%) of the off-street spaces, were public (no use restrictions). The parking is broken down in the table according to duration and user group (public, loading zone, handicap or barrier free, private). In most cases, the parking spaces were marked with stall lines. In cases where the parking stalls were not marked, the numbers of spaces were estimated.

The parking supply is indicated on the corresponding parking supply maps for each section, which follow the parking inventory summary tables (2A, 3A, 4A respectively for each section of the downtown). The parking supply inventory is accurate as of the date of fieldwork (September 27, 1999). As the type and quantity of parking changes over time a margin of error has been built into the demand model.

Table 2A: Court Square Parking Supply Summary

	On-Street									Off-Street				
Block	2-hour	1-hour	30-minute	15-minute	Reserved	Not Signed	Loading	Barrier Free	Total	Public	Private	Barrier Free	Total	Spaces
1-1					10	7			17		500	20	520	537
1-2	16					13			29				0	29
1-3							10		10		145		145	155
1-4	15								15		32		32	47
1-5	11							2	13		139		139	152
1-6	3				11		1	5	20		100		100	120
1-7									0		18		18	18
1-8	17					6			23		86		86	109
1-9					19				19		113		113	132
1-10						12		2	14				0	14
1-11	5					8			13		44	1	45	58
1-12	4								4		61	2	63	67
1-13	19		2		12		1	3	37		102		102	139
1-14			3		10		3		16		32		32	48
1-15	16			4					20		23		23	43
1-16	14				12				26				0	26
1-17					3	12			15	18	92		110	125
1-18	11				4		1	1	17		112	1	113	130
1-19	5								5		73	2	75	80
1-20	8								8		44		44	52
1-21	15		8	1				3	27				0	27
1-22	8			2			2		12		81	1	82	94
1-23					29	5	1		35		46		46	81
1-24	6			1					7		8		8	15
1-25	5								5		32	2	34	39
1-26	7								7				0	7
1-27	18								18		24		24	42
1-28	15					3		3	21		12		12	33
1-29									0	8	59	1	68	68
1-30						40			40		399	5	404	444
1-31					2	6			8		189	7	196	204
1-32									0		40	1	41	41
1-33						15			15		171	4	175	190
1-34	4					32		1	37		112	1	113	150
1-35	3		1	1		35		1	41		123	7	130	171
1-36	4							1	5		30	2	32	37
1-37	3					7			10		53	1	54	64
Sum	232	0	14	9	112	201	19	22	609	26	3095	58	3179	3788

Source: Rich and Associates Fieldwork, Fall 1999

LEGEND

- NO PARKING
- 2 HOUR
- 15 MINUTE
- 30 MINUTE
- NOT SIGNED
- RESERVED
- (#) SPACES OFF-STREET PARKING
- B/F - BARRIER FREE
- L/Z - LOADING ZONE
- P/V - PATIENT/VISITOR
- (#) BLOCK NO.
- STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

COURT SQUARE STUDY AREA

PARKING SUPPLY

15

MAP NOT TO SCALE

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2.3 – On-Street Turnover and Occupancy Study

A turnover and occupancy study was undertaken for the Court Square area on September 27, 1999. The intent of this analysis was to determine the number of times on-street spaces were "turning over", or being used by different vehicles, and the occupancy of on and off-street spaces by time of day. While this is only a "snap-shot" of actuality, it gives us an indication of utilization to benchmark. The results summary of the turnover and occupancy can be found below:

2.3.1 – On-Street Study Summary

- The daytime activity in the Court Square area remained consistently high between the hours of 10:00 a.m. to 6:00 p.m.
- All block faces experienced very high occupancy throughout the day (in some cases illegal parking caused occupancies to exceed 100%).
- Field staff noted a number of ticketed vehicles (12) and observed the parking enforcement people actively patrolling. (188 vehicles in violation, 12 ticketed = 6.4%)
- Our analysis revealed that 188 of the 519 vehicles analyzed were being moved every two-hours. This practice, known as the "two hour shuffle", is intended to avoid a fine for overtime parking.
- Some parkers (22) were simply parking in a spot for the entire day and risking the fine.
- Overall, on-street turnover is mediocre, averaging 2.29. The typical range for two-hour spaces should be between 3.0 and 4.0. This indicates that those vehicles parked within the Court Square area were generally remaining longer than the posted duration. This turnover may be somewhat misleading, as parkers faithfully practicing the two-hour shuffle help to maintain turnover.
- Close to half the vehicles parked in the Court Square area streets stalls are long-term parkers shuffling and as indicated by the turnover, a large portion of the remaining parkers are long-term parkers not bothering to move their vehicles.
- As is noted in the off-street summary, the peak occupancy occurs at noon. This peak is achieved earlier in the day than that of the Main Downtown, resulting in a shared use capacity with the Court Square area. (Shared use is the ability for two user groups to use a common parking area because the times of peak demand for either use do not occur simultaneously. An example maybe a church and a shopping mall sharing available parking).

Table 2B:
Court Square Overtime Parking Summary

Violation Summary	(Maximum Posted Duration of Two Hours)
Number of parking spaces in sample	229
Vehicles that remained less than 2 hours	371 (71.5%)
Vehicles that remained between 2 and 4 hours	85 (16.5%)
Vehicles that remained between 4 and 6 hours	41 (8.0%)
Vehicles that remained between 6 and 8 hours	22 (4.0%)
Total number of vehicles analyzed	519

2.4 – Off-Street Turnover and Occupancy Study

The highest occupancies in the Court Square area occurred in the private parking areas near Main Street and near Martha Jefferson Hospital. Several important elements add to the parking demand in the Court Square area, most important of which are the courts. Martha Jefferson Hospital does contribute to the demand load. For the purposes of this study, a demand estimate was included for the hospital.

The courts generate a need for long-term (employees) and short to medium-term need (two to four hours) for visitor/client parking near the court facilities. A demand estimate for the courts has been included in the model and is based on the facility projections report "Charlottesville – Albemarle County Court Facilities Study (Phase 1)", prepared by Space Management Consultants, Inc., (August 31, 1998). Rich consultants interpreted projected expansion from this report according to modeled parking ratios.

2.4.1 – Off-Street Study Summary

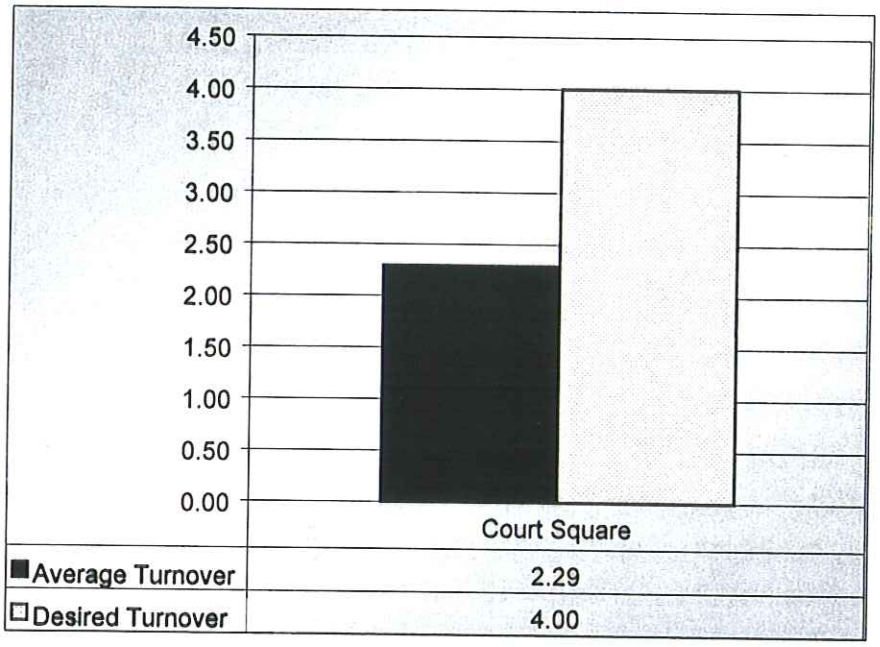
- The daytime activity in the study area was relatively constant between the hours of 10:00 a.m. to 6:00 p.m. Some lots saw low occupancies while others saw higher occupancies. This variation can be attributed to the fact that most of these lots are private and they actively undertake their own enforcement.

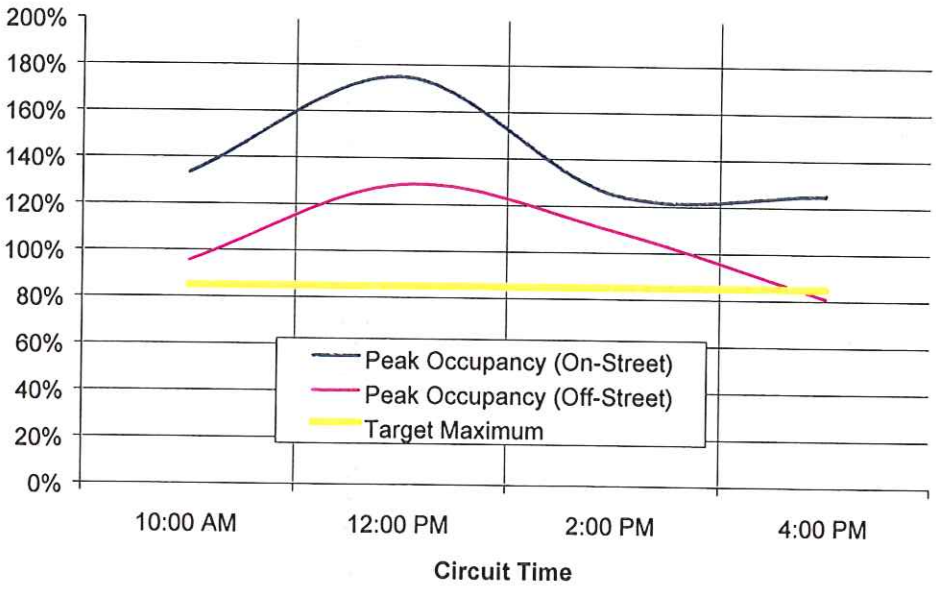
- Peak occupancy of off-street lots occurs at noon and decreased as the day wears on. The higher occupancy at midday corresponds with the court activity and is opposite of the peak occupancy found in the Main Downtown, which occurs in the afternoon. The effect of having two adjacent areas achieving peak occupancy at different times of the day, results in a shared use effect as previously discussed.

2.4.1 – Off-Street Study Summary (con't)

- Martha Jefferson Hospital provides parking for its main building and satellite offices throughout the Court Square area. However, our analysis revealed that current demand exceeds supply and the situation will become more pronounced as the hospital expands its outpatient services.

Figure 2: Court Square Turnover and Occupancy Summary





Source: Rich and Associates Fieldwork, Fall 1999

NOTE: A SAMPLE GROUP OF ON AND OFF STREET PARKING AREAS WERE RANDOMLY SELECTED FOR TURNOVER AND OCCUPANCY ANALYSIS

LEGEND

- 85% - 100%
- 70% - 85%
- 50% - 70%
- 0 - 50%

% (#) SPACES — OFF-STREET PARKING

(#) — BLOCK NO.

STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

COURT SQUARE STUDY AREA

PEAK OCCUPANCY ACHIEVED (FOR SAMPLE OCCUPANCY STUDY)

21

NORTH

MAP NOT TO SCALE

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2.5 - Comparison of Current and Future Parking Demands

Parking demand and parking need have entirely different meanings. The current and future parking demands, as shown in Table 2C represent the number of parkers who are and would be attracted to a given parking demand generator (i.e. single purpose building, multi-purpose building, group of buildings on a block or an outdoor amenity). Parking demand assumes that all parking is free, and no user restrictions, location factors or time limitations. Parking need represents the number of parkers who need to be accommodated in a given parking area after the uses of alternative parking areas, price, use, accessibility and location are considered. The parking demand and need definitions were obtained from the Urban Land Institute (1993).

As mentioned previously, the parking demand has been calculated for the future condition as well. These results are shown in the future demand and surplus/deficit columns of Table 2C, which detail the revised square footage of each block and the resulting parking demand using the Rich and Associates model.

Table 2C below, summarizes the results of the current and future number of parking spaces demanded using factors calculated for Charlottesville. A complete chart of the building inventories and parking supplies for the Court Square study area can be found in the appendix section of this report.

Table 2C:
Court Square
Surplus/Deficit Summary "Parking Demand"

Time Period	Current	Future (5yr)	Future (10yr)
Supply	3,788 spaces	3,788 spaces	3,788 spaces
Demand	5,216 spaces	5,992 spaces	6,040 spaces
Surplus/Deficit	-1,428 spaces	-2,204 spaces	-2,252 spaces

Source: Rich and Associates Fieldwork, Fall 1999

In determining the future parking needs, several important developments within the Court Square area were examined. These included the future demand and supply calculations for development projects and the two major influences outlined below. The future development scenarios are intentionally absent in this report at the request of the project owners, due to the sensitivity of property acquisition and the competitive nature of development projects. The future development projects were analyzed by both the consultants and City staff with regard to parking influences and these numerical findings are included in the Court Square demand and supply matrix.

Table 2D (below) is a summary of the key influences in the Court Square area. The current number indicates the existing condition. The future number is an additional parking demand that will be generated by new development/re-development projects and the expansion of the courts and Martha Jefferson Hospital. A complete breakdown of the block-by-block surpluses and deficits for the Court Square area can be found on the map on page 25 and in the surplus/deficit matrix in appendix (insert).

Table 2D:

Key Court Square Demand Influences

Demand Generator	Parking Demand Impact	
	Current	Future
Courts (Combined)	275 spaces	add 149 spaces
Martha Jefferson Hospital	750 spaces	add 74 spaces
Future Development	0 spaces	add 776 spaces
Summary	1025 spaces	add 999 spaces

Source: Rich and Associates Fieldwork, Fall 1999

2.5.1 – Court Demand

As the parking demand calculation presented a special consideration in this study, particular attention was given to the previous studies and on-going meetings revolving around the court facilities and future expansion potential. In order to aid that process, a demand projection specific to the courts is offered here as based on a combination of caseloads and expected construction of new facility space from the Space Management Consultants report of 1998.

We have calculated that 275 parking stalls should adequately meet the needs of the existing (current) needs of the combined courts facilities. The ten-year future projection is for an increase to 424 parking stalls and finally to 481 when all of the new court space has been constructed in twenty years. The block-by-block parking demand projection only includes the current need and a portion of the future (for the blocks where increased court activity is definitively identified in the Space Management Consultants Report). Further analysis into the specific locations and demand impacts of new court facilities will be taking place during the weeks following this presentation of this report.

2.5.2 – Martha Jefferson Hospital

During the initial fieldwork, an examination of the parking available to Martha Jefferson Hospital led our staff to the conclusion that the hospital was having a large impact on the surrounding parking supply. A separate calculation was undertaken that entailed our staff interviewing the Vice President of Administration and using admission counts, staffing levels, beds and outpatient services as a basis for projecting parking demand.

LEGEND

PARKING STALLS

- › - 50
- 0 - -50
- 50 - 0
- ‹ - 50

- # CURRENT
- (#) 10 YEARS
- # BLOCK NO.
- STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

COURT SQUARE STUDY AREA

SURPLUS / DEFECIT

25

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Section 3 – Main Downtown Area

The Main Downtown area contains commercial, residential, retail and governmental uses. Being adjacent to the Court Square area, the Main Downtown area is also subject to spillover parking demand. Currently, the City's existing parking structures and main lots are located within this district and future plans are for an expansion to the Water Street Deck. There are a number of potential redevelopment opportunities that were examined as a part of the overall demand study for this area.

3.1 - Study Assessment

An assessment of the results of the on-street and off-street parking space inventories and the on-street and off-street turnover and occupancy studies for the Main Downtown area are offered in this section of the report. The results of the studies, surveys and inventories are important to the determination of the current and future parking needs.

As outlined in "Section One" of this report, a two-part analysis takes place. The first part of the analysis is the net parking demand based on a building inventory and parking ratios per one thousand square feet of gross floor space. This demand is netted from the available supply and the resulting surplus or deficit is revealed on a block-by-block basis. The second part of the analysis involves comparing the parking surplus and deficit patterns to the turnover and occupancy data. This comparison offers a benchmark, by which the accuracy of the surplus and deficit data is determined.

A point to consider regarding parking supply and demand is that motorists in general perceive off-street and on-street spaces with occupancies greater than 85% to be at capacity. The perception varies based on capacity. When this occurs, motorists will begin to re-circulate to seek more parking, adding to downtown traffic congestion.

3.2 - Parking Inventory

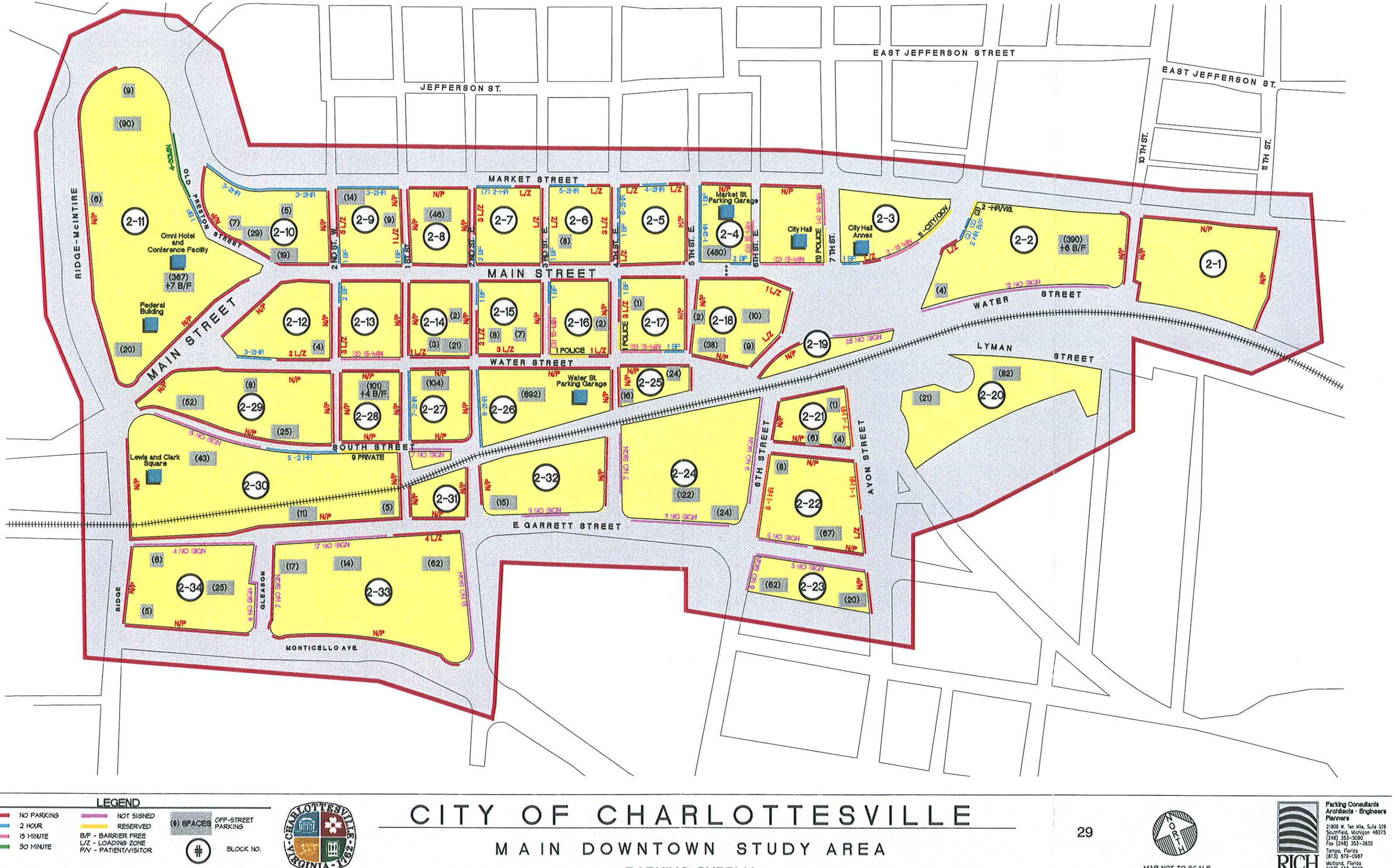
Table 3A , on the following page, outlines the breakdown of existing parking in the Main Downtown area. There are a total of 3,611 parking spaces available in this area. These parking spaces consist of 334 on-street spaces and 3277 off-street spaces. While the on-street parking is considered to be public the off-street parking is both public and private. Public spaces accounted for 42% (including Water and Market Street Decks and the CPC lots) of the off-street spaces. These spaces have no use restrictions. The parking is broken down in the chart according to duration and user group (public, loading zone, handicap or barrier free, private). In most cases, the parking spaces were marked with stall lines. In cases where the parking stalls were not marked, the numbers of spaces were estimated.

The parking supply is indicated on the corresponding parking supply map, which can be found in the appendix section of this report (there is a separate map for each zone within the downtown area). The parking supply inventory is accurate as of the date of fieldwork (January 11, 2000). As the type and quantity of parking changes over time a margin of error has been built into the demand model.

Table 3A: Main Downtown Parking Supply Summary

	On-Street									Off-Street				
Block	2-hour	1-hour	30-minute	15-minute	Reserved	Not Signed	Loading Zone	Barrier Free	Total	Public	Private	Barrier Free	Total	Spaces
2-1									0				0	0
2-2	2				3	12	1	2	20		394	6	400	420
2-3				2	11		1	1	15				0	15
2-4	1			10	1			3	15	480			480	495
2-5	10							1	11				0	11
2-6	5						7	1	13		8		8	21
2-7	7						7	1	15		8		8	23
2-8									0		46		46	46
2-9	3						6	2	11		23		23	34
2-10	6								6		60		60	66
2-11			4					1	5		492	7	499	504
2-12	3						2		5		4		4	9
2-13				2			3	2	7				0	7
2-14							1		1		26		26	27
2-15							5	1	6		15		15	21
2-16				3	1		1	1	6		2		2	8
2-17				3	1		3	2	9		1		1	10
2-18							1		1		59		53	60
2-19						25			25				0	25
2-20									0		103		103	103
2-21		7							7		11		11	18
2-22		9				5	2		16		75		75	91
2-23						11			11		82		82	93
2-24						27			27		146		146	173
2-25									0		40		40	40
2-26	8								8	692			692	700
2-27	7								7	104			104	111
2-28									0	101		4	105	105
2-29									0		85		85	85
2-30	5				9	15			29		59		59	88
2-31									0				0	0
2-32						5			5		15		15	20
2-33						37	4		41		93		93	134
2-34						12			12		36		36	48
Sum	57	16	4	20	26	149	44	18	334	1377	1883	17	3277	3611

Source: Rich and Associates Fieldwork, Fall 1999



LEGEND

- NO PARKING
- 2 HOUR
- 15 MINUTE
- 30 MINUTE
- NOT SIGNED
- RESERVED
- B/F - BARRIER FREE
- L/Z - LOADING ZONE
- P/V - PATIENT/VISITOR
- (#) SPACES OFF-STREET PARKING
- # BLOCK NO.
- STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

MAIN DOWNTOWN STUDY AREA

PARKING SUPPLY

29

MAP NOT TO SCALE

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3.3 – On-Street Turnover and Occupancy Study

A turnover and occupancy study was undertaken for the Main Downtown area during the October fieldwork. The intent of this analysis was to determine the number of times on-street spaces were "turning over", or being used by different vehicles, and the occupancy of on and off-street spaces by time of day. The turnover and occupancy count was undertaken from 10:00am to 6:00pm on October 20, 1999.

3.3.1 – Turnover and Occupancy Study Summary

- The daytime activity in the study area is relatively constant between the hours of 10:00 a.m. to 6:00 p.m. The level of activity along some of the block faces varied tremendously, with core blocks achieving at or near 100% occupancy throughout the day.
- The on-street occupancy peaked early in the morning and again in mid-afternoon, which correlates with the arrival of employees in the morning and increased shopping activity in the afternoon.
- Our analysis revealed that 34 of the 508 vehicles (6.7%) analyzed were being moved every two-hours. This practice, known as the "two hour shuffle", is intended to avoid a fine for overtime parking. Almost 16% of the on-street parkers were simply parking in a spot for the entire day on block faces where little or no enforcement was taking place.
- Almost one quarter (25.5%) of the vehicles noted were parked four hours or more and four (2.9%) had been ticketed.
- Overall, turnover is mediocre within the Main Downtown averaging 1.72. This indicates that those vehicles parked on-street within the study area were generally remaining much longer than the posted duration (please refer to Table 3B: Main Downtown Overtime Parking Summary). Again, this factor can be linked to enforcement and the need for stricter regulation.

Table 3B:
Main Downtown Overtime Parking Summary

Violation Summary	(Maximum Posted Duration of Two Hours)
Number of parking spaces in sample	323
Vehicles that remained less than 2 hours	337 (61.5%)
Vehicles that remained between 2 and 4 hours	73 (13.0%)
Vehicles that remained between 4 and 6 hours	53 (10.0%)
Vehicles that remained between 6 and 8 hours	86 (15.5%)
Total number of vehicles analyzed	549

Source: Rich and Associates Fieldwork, Winter 2000

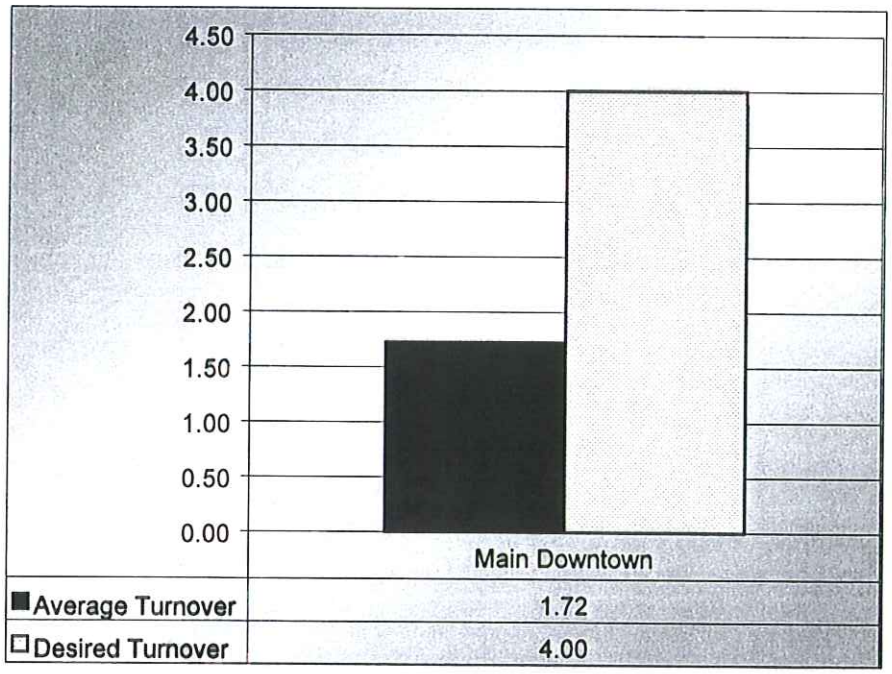
3.4 - Off-Street Turnover and Occupancy Study

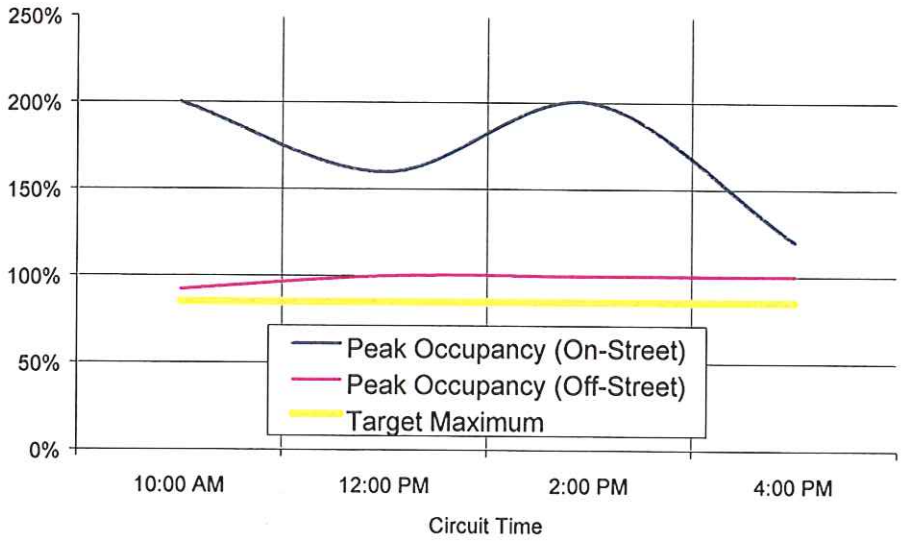
The highest occupancies in the Main Downtown area occurred in parking areas near Main Street and in on-street locations south of the railway tracks. Overall, high ccupancies could be found throughout the Main Downtown area with the exception of the far northwest corner (possible due to walking distance to Main Street). Several important elements add to the parking demand in the Main Downtown area, most important of which is the pedestrian mall. Additional demand generators include the commercial space in the area and the presence of several high technology firms.

3.4.1 – Off-Street Study Summary

- The daytime activity in the study area was consistent between the hours of 10:00 a.m. to 6:00 p.m. Some lots saw low occupancies while others saw higher occupancies.
- The higher occupancies can be attributed to spillover demand from the Court Square Area and from the high demand generated within this area.
- Parking near the OMNI hotel was experiencing a lower occupancy, even though it was accessible to the public. This may be attributed to the walking distance to the pedestrian mall and the relatively linear demand that occurs along Main Street. Additionally, the OMNI limits public parking on days when it has a high occupancy and increased occupancy in banquet/meeting rooms.

Figure 3: Main Downtown Turnover and Occupancy Summary





Source: Rich and Associates Fieldwork, Winter 2000

NOTE: A SAMPLE GROUP OF ON AND OFF STREET PARKING AREAS WERE RANDOMLY SELECTED FOR TURNOVER AND OCCUPANCY ANALYSIS

LEGEND

- 85% - 100%
- 70% - 85%
- 50% - 70%
- 0 - 50%

% (#) SPACES — OFF-STREET PARKING

(#) — BLOCK NO.

STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

MAIN DOWNTOWN STUDY AREA

PEAK OCCUPANCY ACHIEVED (FOR SAMPLE OCCUPANCY STUDY)

MAP NOT TO SCALE

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3.5 - Comparison of Current and Future Parking Demands

Parking demand and parking need have entirely different meanings. The current and future parking demands, as shown in Table 3C represent the number of parkers who are and would be attracted to a given parking demand generator (i.e. single purpose building, multi-purpose building, group of buildings on a block or an outdoor amenity). Parking demand assumes that all parking is free, and that there are no user restrictions, location factors or time limitations. Parking need represents the number of parkers who need to be accommodated in a given parking area after the uses of alternative parking areas, price, use, accessibility and location are considered. The parking demand and need definitions were obtained from the Urban Land Institute (1993).

As mentioned previously, the parking demand has been calculated for the future condition as well. These results are shown in the future demand and surplus/deficit columns of Tables 3C, which detail the revised square footage of each block and the resulting parking demand using the Rich and Associates model.

Table 3C below, summarizes the results of the current and future number of parking spaces demanded using factors calculated for Charlottesville. A complete chart of the building inventories and parking supplies for the Main Downtown study area can be found in the appendix section of this report.

Table 3C:
Main Downtown
Surplus/Deficit Summary "Parking Demand"

Time Period	Current	Future (5yr)	Future (10yr)
Supply	3,611 spaces	3,611 spaces	3,611 spaces
Demand	6,180 spaces	8,176 spaces	9,883 spaces
Surplus/Deficit	-2,569 spaces	-4,565 spaces	-6,272 spaces

Source: Rich and Associates Fieldwork, Winter 2000

In determining the future parking needs, several important developments within the Main Downtown area were examined. These included the future demand and supply calculations for development projects and the two major influences outlined below. The future development scenarios are intentionally absent in this report at the request of the project owners, due to the sensitivity of property acquisition and the competitive nature of development projects. The future development projects were however, analyzed by both the consultants and City staff with regard to parking influences and these numerical findings are included in the Main Downtown demand and supply matrix.

Table 3D (below) is a summary of the key influences in the Main Downtown area. The current number indicates the existing condition. The future number is an additional parking demand that will be generated by new development/re-development projects. A complete breakdown of the block-by-block surpluses and deficits for the Main Downtown area can be found in the appendix section of this report.

Table 3D:

Key Main Downtown Demand Influences

Demand Generator	Parking Demand Impact	
	Current	Future
City	496 spaces	add 0 spaces
OMNI Hotel	180 spaces	add 0 spaces
Wachovia Bank	840 spaces	Included below
Future Development	0 spaces	add 3,449 spaces
Summary	1025 spaces	add 3,449 spaces

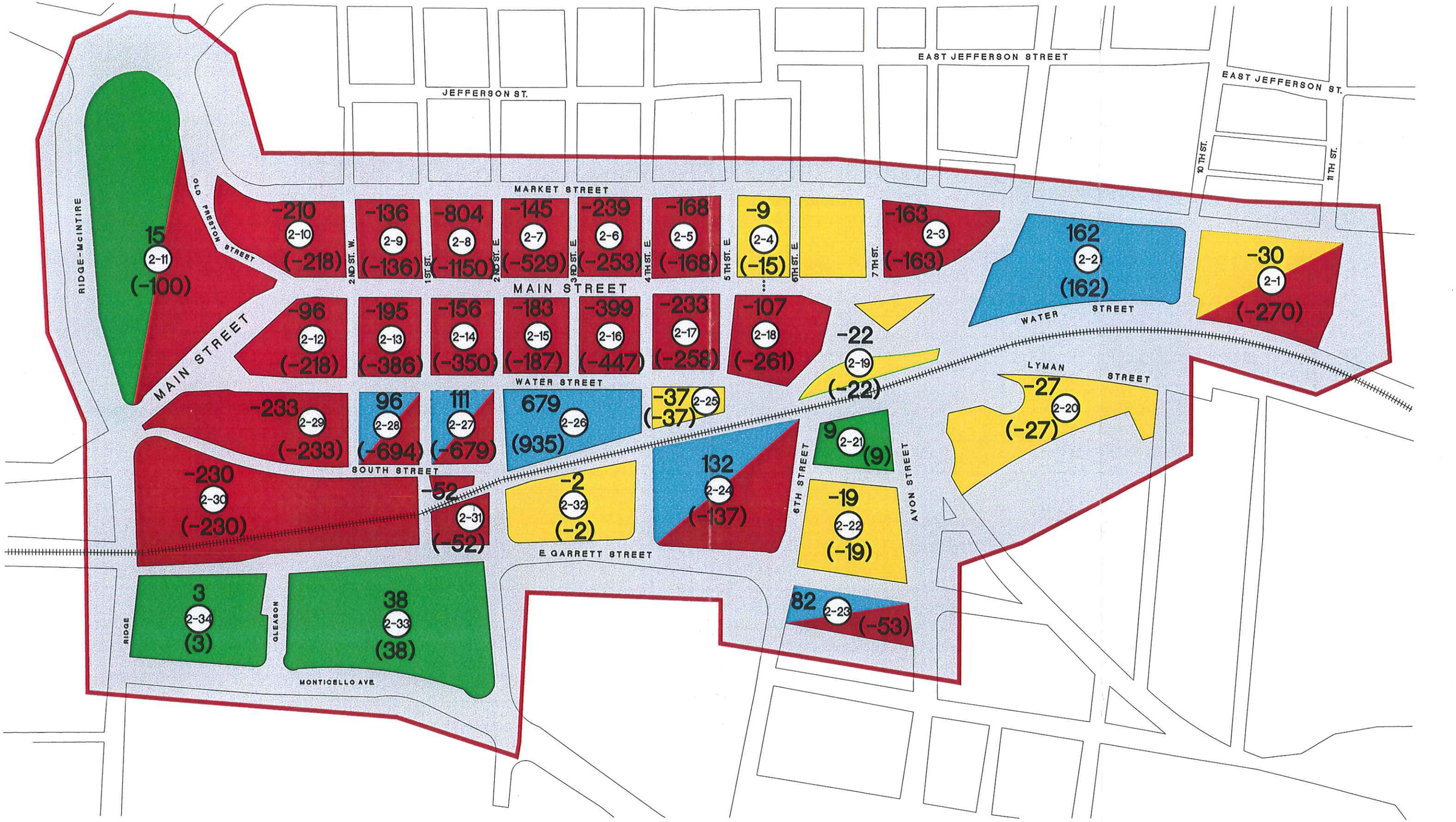
Source: Rich and Associates Fieldwork, Winter 2000

3.5.1 – OMNI Hotel

The OMNI Hotel demand indicated above is based on interviews with the facilities manager and on projected increases in occupancy using historical trends. Future plans for expansion of the facility depend on surrounding developments. However, the publicly available parking in the Hotels' parking structure is slowly being phased out as demand increases from the hotel and its conference facility increases.

3.5.2 – Wachovia Bank

The Wachovia Bank building is currently being renovated for re-occupancy. The use that is going into the building has a higher associated parking demand than the previous use as a bank and a separate projection for parking demand is offered above. The projection is based on interviews with building owners/developers and is phased to match a tentative construction schedule for the building.



LEGEND

PARKING STALLS

- \> - 50
- 0 - -50
- 50 - 0
- < - 50

\# CURRENT

(#) 10 YEARS

(#) BLOCK NO.

STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

MAIN DOWNTOWN STUDY AREA

SURPLUS / DEFICIT

39

MAP NOT TO SCALE

NORTH

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Section 4 – West Main Downtown Area

The West Main area has different parking demands from the other areas. The location of the University of Virginia impacts the local parking dynamics. Additionally, the linear nature of this area limits the area that any one point source parking solution can address. Development impacts were an important element in developing a parking demand model for the West Main Downtown area.

4.1 - Study Assessment

The West Main downtown area's parking need is partially derived from the presence of UVA's Hospital Health Services Center, which presents the single largest influence in this area. An exact determination of the impact on parking produced by the University and its hospital is not possible without a study specific to these facilities. However, we can generalize about the impact from these facilities, as we know the demand generated by the land uses in the study area and from field observations of parking turnover and occupancy in this area.

A conservative estimate of the parking demand placed on the West Main Downtown by the University of Virginia and the Health Services Center is approximately 475 parking stalls, which is expected to grow by 70 parking stalls in the 10-year projection to eventually be 545. Again however, this estimate is a conservative estimate based on field observations. A much higher influence may be possible, but a campus specific study would need to be undertaken in order to fully assess the impact that the University facilities are having on the West Main area.

4.2 - Parking Inventory

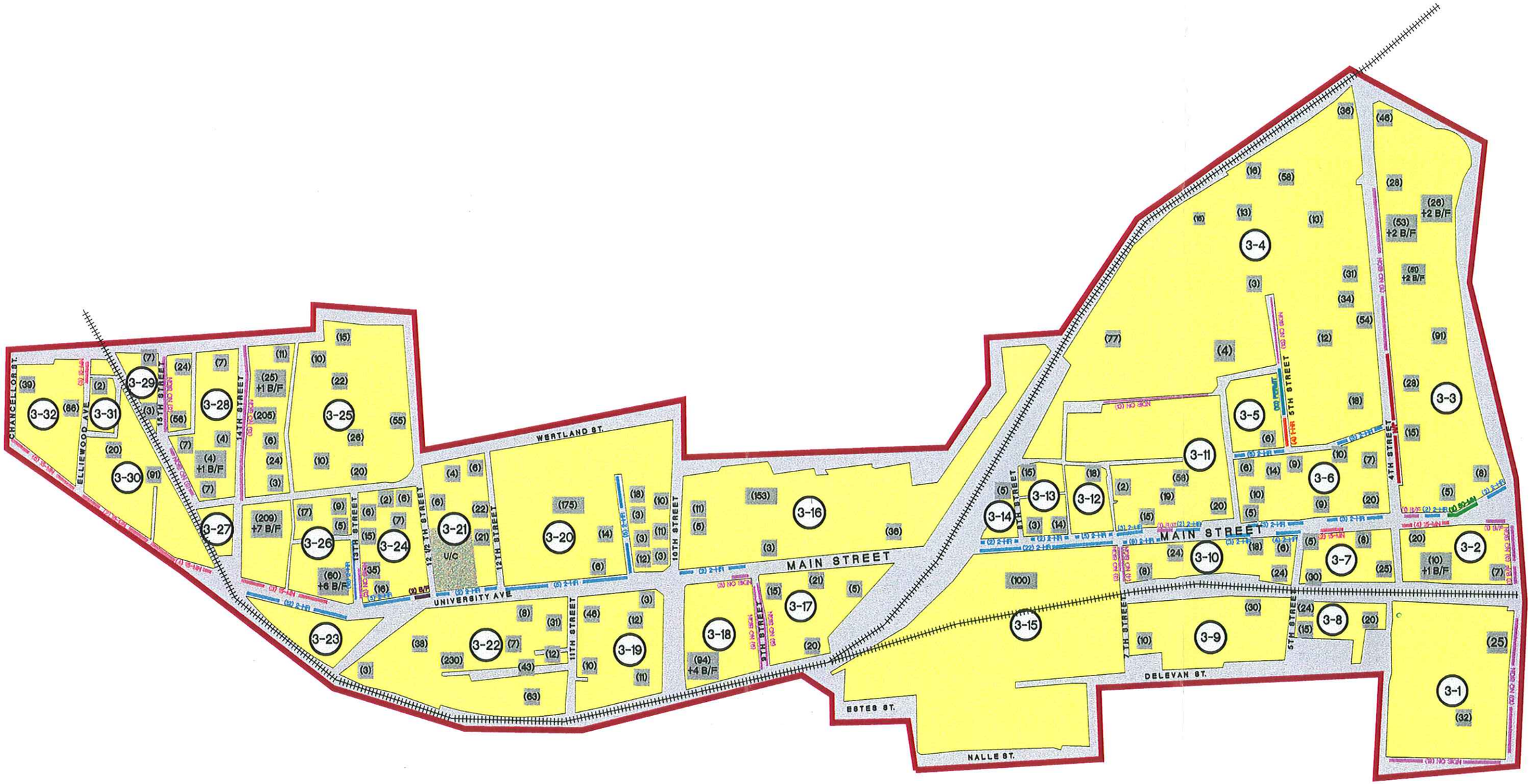
Table 4A, on the following page, outlines the breakdown of existing parking in the West Main Downtown area. There are a total of 3,947 parking spaces available in this area. These parking spaces consist of 102 on-street and 3,845 off-street spaces. While the on-street parking is considered to be public the off-street parking is both public and private. Public space accounted for approximately 10% of the off-street spaces. These spaces had no use restrictions. The parking is broken down in the chart according to duration and user group (public, loading zone, handicap or barrier free, private). In most cases, the parking spaces were marked with stall lines. In cases where the parking stalls were not marked, the numbers of spaces were estimated.

The parking supply is indicated on the corresponding parking supply map, which can be found on page 43. The parking supply inventory is accurate as of the date of fieldwork (February 8, 2000). As the type and quantity of parking changes over time a margin of error has been built into the demand model.

Table 4A: West Main Downtown Parking Supply Summary

	On-Street									Off-Street				
Block	2-hour	1-hour	30-minute	15-minute	Reserved	Not Signed	Loading Zone	Barrier Free	Total	Public	Private	Barrier Free	Total	Spaces
3-1						28			28		57		57	85
3-2				4		3		2	9		37	1	38	47
3-3	4		2			11		1	18		351	6	357	375
3-4		4			10	15			29		384		384	413
3-5									0		6		6	6
3-6	14								14		90		90	104
3-7				2					2		68		68	70
3-8									0		59		59	59
3-9									0		40		40	40
3-10									0		80		80	80
3-11									0		112		112	112
3-12									0		18		18	18
3-13									0		45		45	45
3-14									0		5		5	5
3-15									0		100		100	100
3-16									0		208		208	208
3-17									0		61		61	61
3-18									0		94	4	98	98
3-19									0		82		82	82
3-20									0		252		252	252
3-21									0		59		59	59
3-22									0		435		435	435
3-23									0				0	0
3-24									0		87		87	87
3-25									0		432	1	433	433
3-26							2		2	269	31	13	313	315
3-27									0				0	0
3-28									0		109	1	110	110
3-29									0		10		10	10
3-30									0	91	20		111	111
3-31									0		2		2	2
3-32									0	41	84		125	125
Sum	18	4	2	6	10	57	2	3	102	401	3418	26	3845	3947

Source: Rich and Associates Fieldwork, Winter 2000



LEGEND

- NO PARKING
- 2 HOUR
- 15 MINUTE
- 30 MINUTE
- NOT SIGNED
- RESERVED
- B/F - BARRIER FREE
- L/Z - LOADING ZONE
- P/V - PATIENT/VISITOR
- (#) SPACES OFF-STREET PARKING
- # BLOCK NO.
- STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

WEST MAIN DOWNTOWN STUDY AREA

PARKING SUPPLY

NORTH

MAP NOT TO SCALE

RICH AND ASSOCIATES
Parking Consultants
Architects · Engineers
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Tampa, Florida
(813) 879-0987
Maitland, Florida
(407) 667-8990
E-MAIL parking@RichAssoc.com

4.3 – On-Street Turnover and Occupancy Study

A turnover and occupancy study was undertaken for the West Main Downtown area on February 9, 2000. The intent of this analysis was to determine the number of times on-street spaces were "turning over", or being used by different vehicles, and the occupancy of on and off-street spaces by time of day. The results summary of the turnover and occupancy can be found below:

4.3.1 – On-Street Study Summary

- The daytime activity in the study area decreased between the hours of 10:00 a.m. to 6:00 p.m. The level of activity along some of the block faces varied tremendously, with blocks near the University being at or near 100% occupancy throughout the day.
- Off-street occupancy peaks in the morning and gradually tapers off throughout the day. This corresponds to University activity, with many students arriving in the morning for class and then activity lessening throughout the afternoon.
- Based on the decline in occupancy during the day, as many as twelve percent of the vehicles parked on-street are either students or visitors of the University.
- Field staff noted four ticketed vehicles, which is 16% of the overtime violations. Staff observed the parking enforcement people actively patrolling.
- Our analysis revealed that 22 of the 238 vehicles analyzed (9%) were being moved every two-hours. This practice, known as the "two hour shuffle", is intended to avoid a fine for overtime parking. Some parkers were simply parking in a spot for the entire day on block faces where no enforcement was taking place.
- Overall, on-street turnover is mediocre, averaging 2.14. This indicates that those vehicles parked within the West Main Downtown area were generally remaining longer than the posted duration (this factor may be linked to enforcement and the need for stricter regulation).

Table 4B:
West Main Downtown Overtime Parking Summary

Violation Summary	(Maximum Posted Duration of Two Hours)
Number of parking spaces in sample	122
Vehicles that remained less than 2 hours	181 (76.0%)
Vehicles that remained between 2 and 4 hours	32 (13.5%)
Vehicles that remained between 4 and 6 hours	9 (4.0%)
Vehicles that remained between 6 and 8 hours	16 (6.5%)
Total number of vehicles analyzed	238

Source: Rich and Associates Fieldwork, Winter 2000

4.4 – Off-Street Turnover and Occupancy Study

The highest occupancies in the West Main Downtown area occurred in the private parking areas centering on Main Street along its length within the study area. Several important elements add to the parking demand in the West Main Downtown area, most important of which is the University of Virginia. While the University itself does contribute to a demand load, the University's Hospital is the major influence. For the purposes of this study, a demand estimate was included in the analysis. However, an accurate estimate is not possible without a separate study examining the University Hospital exclusively.

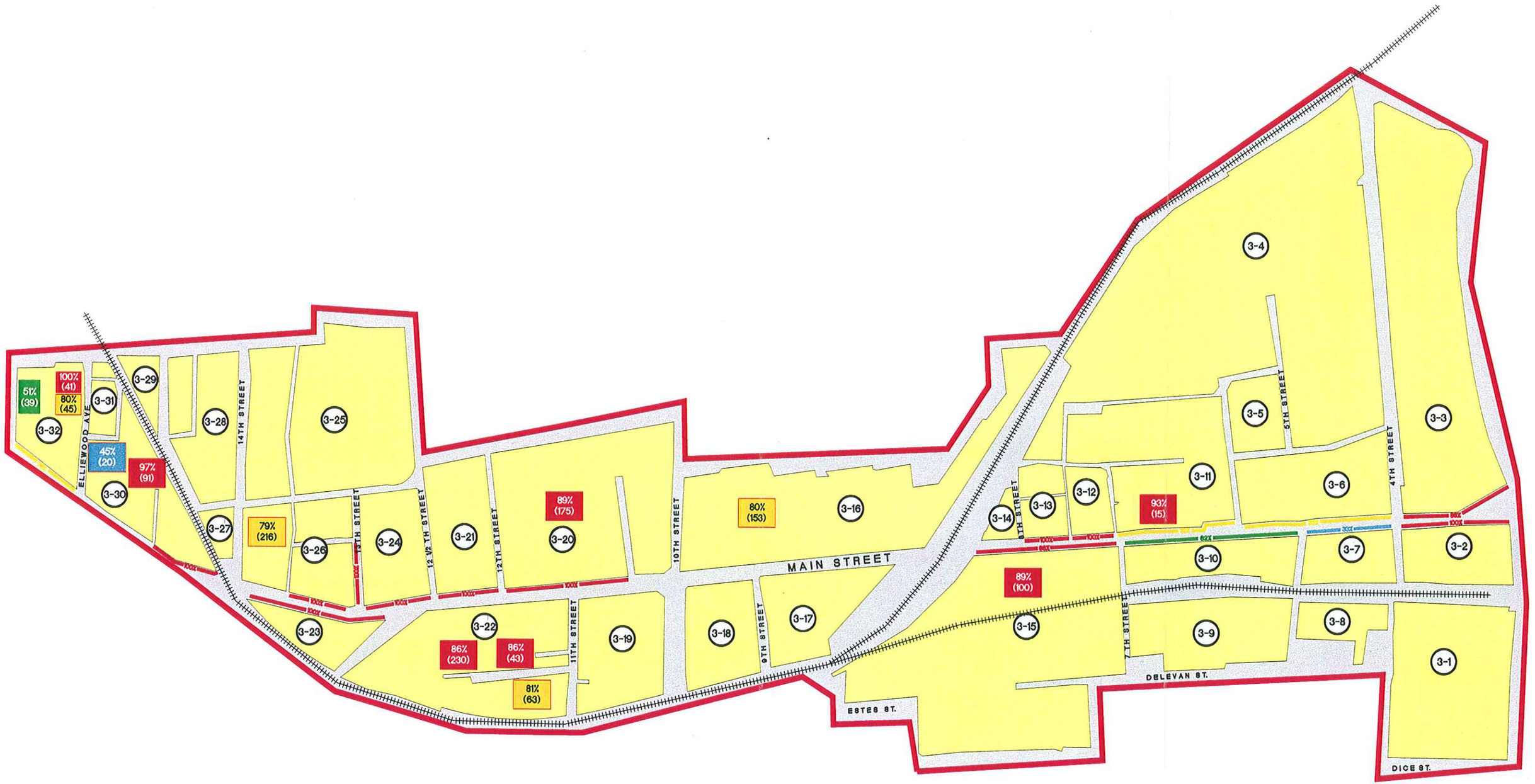
In order to help understand the impact that the University Campus has on the West end parking, we examined the peak occupancy data for trends. This examination revealed that the area west of 14th Street is the area most affected by the University Campus and that as many as twelve percent of the on-street vehicles belonged to students or visitors to the University. The actual percentage could be higher, as University Parking Officials felt that this was a conservative projection.

The University Hospital has a different parking impact than the University Campus. The parking demand is generated by the facility's staff and corresponds more closely with a typical business day. The area that is affected by the Hospital is east of 14th Street and south of Main Street extending as far as 7th Street.

An accurate estimate of the parking demand for the University of Virginia and The Universities Hospital is not possible without a complete parking study of these facilities. Overall, the West Main area does have a parking shortage and due to the complex and only partially known nature of parking demand here, it will be necessary to address parking on a development-by-development basis.

4.4.1 – Off-Street Study Summary

- The daytime activity in the study area decreased between the hours of 10:00 a.m. to 6:00 p.m. The level of activity along some of the block faces varied slightly, with some parking areas near Main Street being at or near 100% occupancy throughout the day.
- Off-street occupancy peaks in the morning and gradually tapers off throughout the day. This corresponds with University activity, with many students arriving in the morning for class and then activity lessening throughout the afternoon.
- The University of Virginia has the most influence on some private lots west of 10th Street.
- A small business sub-area within the West Main area influences parking demand between 6th and 8th Streets near Main Street.



NOTE: A SAMPLE GROUP OF ON AND OFF STREET PARKING AREAS WERE RANDOMLY SELECTED FOR TURNOVER AND OCCUPANCY ANALYSIS

LEGEND

- 85% - 100%
- 70% - 85%
- 50% - 70%
- 0 - 50%
- % (#) SPACES — OFF-STREET PARKING
- # — BLOCK NO.
- STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

WEST MAIN DOWNTOWN STUDY AREA

PEAK OCCUPANCY ACHIEVED (FOR SAMPLE OCCUPANCY STUDY)

MAP NOT TO SCALE

RICH AND ASSOCIATES
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Planners
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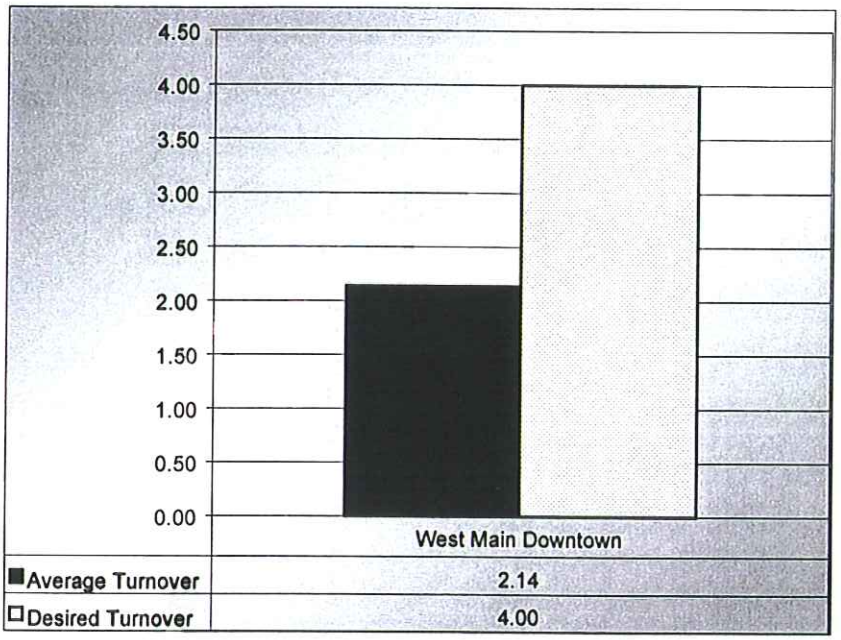
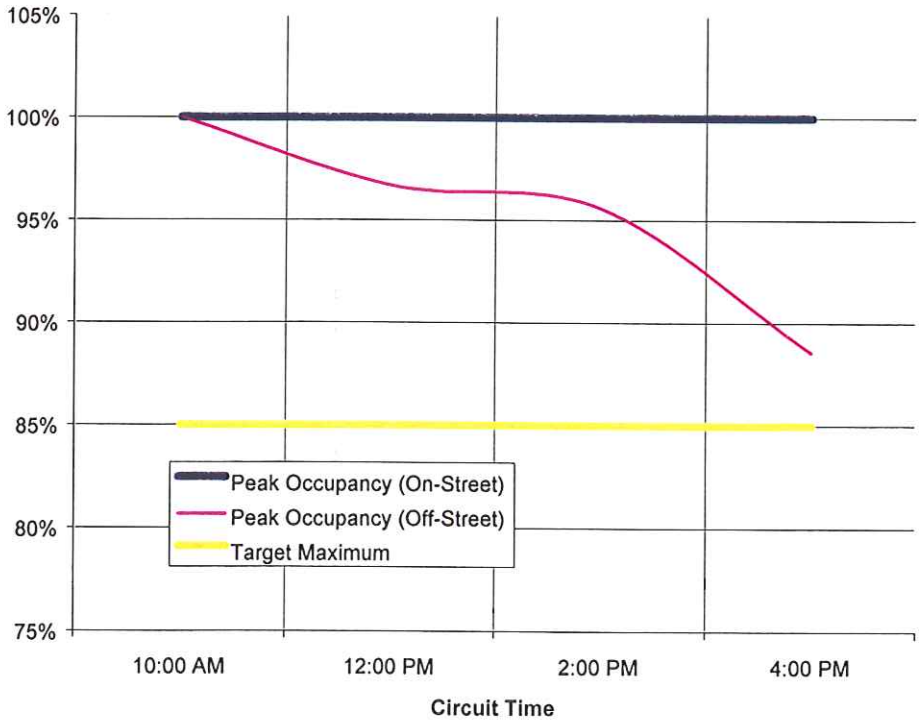
(813) 879-0987
Maitland, Florida
(407) 667-8990
E-MAIL parking@RichAssoc.com

Figure 4: West Main Downtown Turnover and Occupancy Summary





Source: Rich and Associates Fieldwork, Winter 2000

4.5 – Comparison of Current and Future Parking Demands

Parking demand and parking need have entirely different meanings. The current and future parking demands, as shown in Table 4C represent the number of parkers who are and would be attracted to a given parking demand generator (i.e. single purpose building, multi-purpose building, group of buildings on a block or an outdoor amenity). Parking demand assumes that all parking is free, and that there are user restrictions, location factors or time limitations. Parking need represents the number of parkers who need to be accommodated in a given parking area after the uses of alternative parking areas are considered. Price, use, accessibility and location influence parking need. The parking demand and need definitions were obtained from the Urban Land Institute (1993).

As mentioned previously, the parking demand has been calculated for the future condition as well. These results are shown in the future demand and surplus/deficit columns of Tables 4C, which detail the revised square footage of each block and the resulting parking demand using the Rich and Associates model.

In determining the future parking needs, several important developments within the West Main Downtown area were examined. These included the future demand and supply calculations for development projects and the two major influences outlined below. The future development scenarios are intentionally absent in this report at the request of the project owners, due to the sensitivity of property acquisition and the competitive nature of development projects. The future development projects were however, analyzed by both the consultants and City staff with regard to parking influences and these numerical findings are included in the West Main Downtown demand and supply matrix.

Table 4C below, summarizes the results of the current and future number of parking spaces demanded using factors calculated for Charlottesville. A complete chart of the building inventories and parking supplies for the West Main Downtown study area can be found in the appendix section of this report.

Table 4C:
West Main Downtown
Surplus/Deficit Summary "Parking Demand"

Time Period	Current	Future (5yr)	Future (10yr)
Supply	3,947 spaces	3,947 spaces	3,947 spaces
Demand	4,365 spaces	6,032 spaces	6,081 spaces
Surplus/Deficit	-418 spaces	-2,085 spaces	-2,134 spaces

Source: Rich and Associates Fieldwork, Winter 2000

Table 4D (below) is a summary of the key influences in the West Main Downtown area. The current number indicates the existing condition. The future number is an additional parking demand that will be generated by new development/re-development projects and potential expansion of the University of Virginia Facilities and other developments. A complete breakdown of the block-by-block surpluses and deficits for the West Main Downtown area can be found in the appendix section of this report.

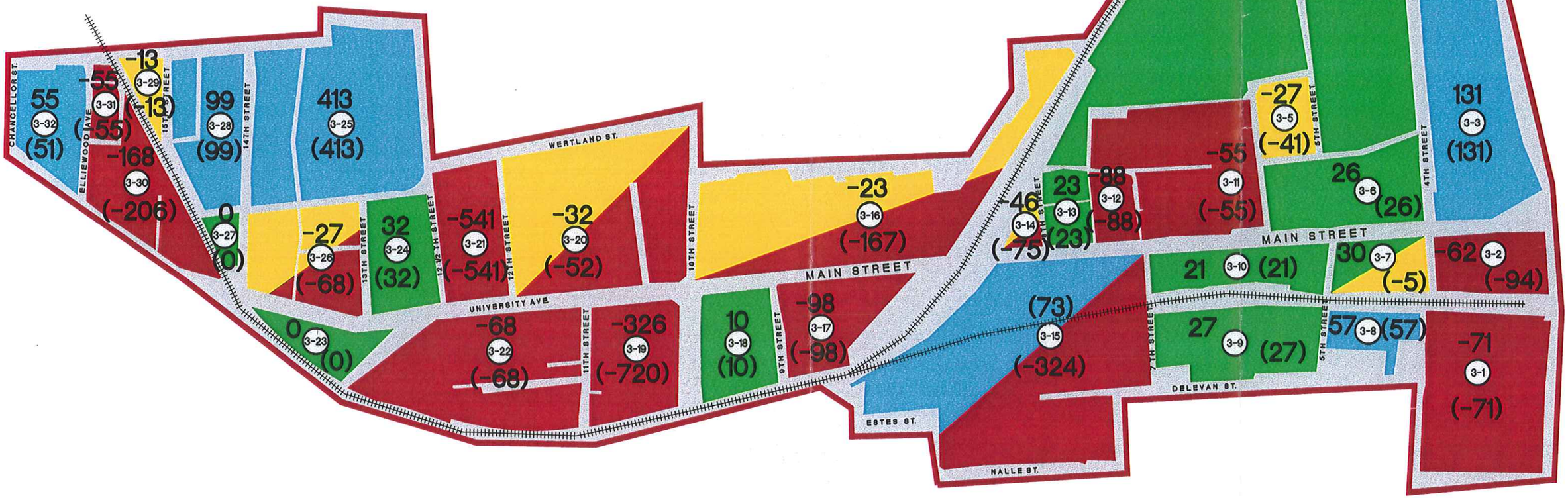
Table 4D:

Key West Main Downtown Demand Influences

Demand Generator	Parking Demand Impact	
	Current	Future
University of Virginia	475 spaces (approx.)	add 70 spaces (approx.)
Future Development	0 spaces	add 1,617 spaces
Summary	475 spaces	add 3,449 spaces

4.5.1 – University of Virginia

The demand estimate outlined above is based on our estimate of the number of vehicles in the West Main area that could be attributed to the UVA academic campus (+/-12%) from the occupancy analysis. The University's Hospital was not included. To further assess the number of parking stalls demanded by the University facilities, including the hospital, it will be necessary to undertake a study of these facilities separately.



LEGEND

PARKING STALLS
- > - 50
- 0 - -50
- 50 - 0
- < - 50

\# CURRENT
(#) 10 YEARS
(#) BLOCK NO.
STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

WEST MAIN DOWNTOWN STUDY AREA

SURPLUS / DEFECIT

53

NORTH

MAP NOT TO SCALE

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Maitland, Florida
(407) 687-8990
E-MAIL: parking@RichAssoc.com

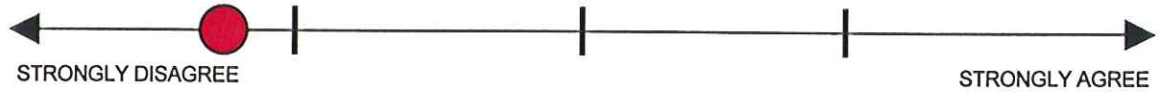
Section 5 – Survey Results

5.1 - Manager Surveys

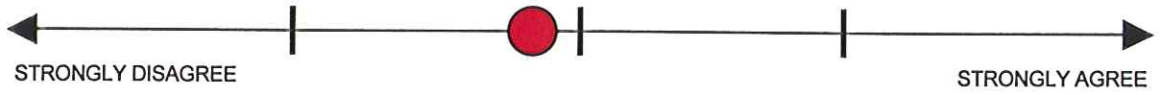
Rich and Associates distributed over 100 manager surveys to businesses randomly selected in the study area. Data obtained from the manager surveys was one of the factors used in determining short and long-term parking supply and demand. Managers were asked the number of full and part-time employees employed at their business, the average number of customers or visitors that shop at their business and the percentage of those customers or visitors who are downtown for other purposes (i.e., employed in the downtown). Below is a summary of the responses to subjective questions on the surveys.

5.1.1 – Manager Survey Summary (Opinion Questions)

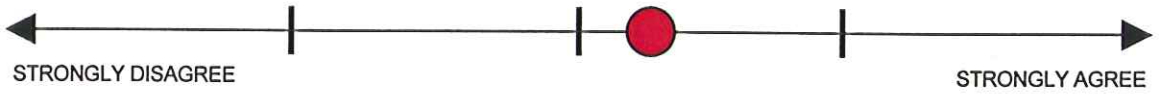
A) It should be left to the private sector to provide parking downtown.



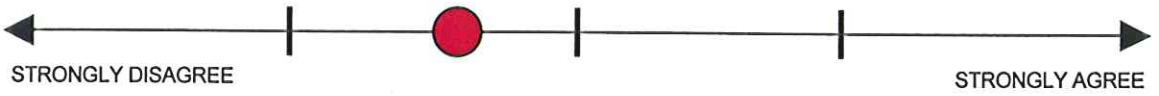
B) The cost for providing new parking downtown should be shared by the City, private sector and users.



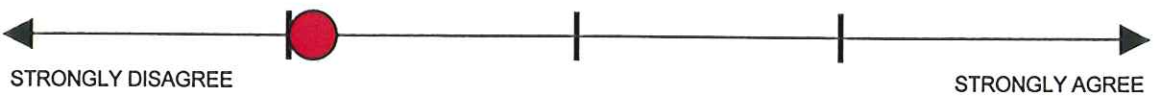
C) Only the City should pay for parking improvements.



D) I would support a special assessment to improve parking downtown.



E) I would encourage my employees to park outside the downtown core and use a shuttle bus to leave more parking for customers/visitors.



F) Charlottesville should install on-street meters to help increase on-street parking turnover.

G) Off-street parking for customers/visitors usage should be no more than $3.90 per day.

H) If installed, meters should be no more than $0.50 per hour.

I) The monthly cost of parking for employees parking less than three blocks from work should be $52.31 per month.

J) The monthly cost of parking for employees parking more than three blocks from work should be $41.70 per month.

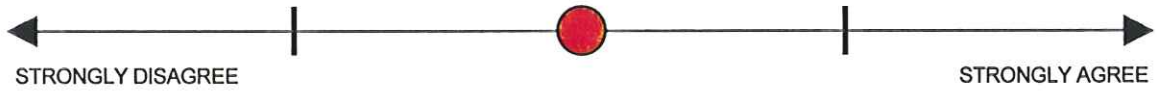
K) The fine for overtime parking should be $9.23.

5.2 - Employee Surveys

A representative sample of all business types within the study area received employee survey forms to distribute to their employees. The employee surveys were distributed with the manager forms and 191 were returned of the 600 distributed, for a response rate of 32%. Below are employee responses to opinion questions on the survey.

5.2.1 – Original Employee Survey Findings

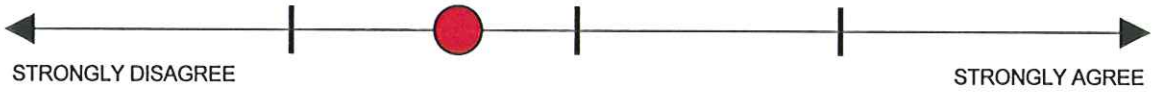
A) I would pay more to park closer to work versus less to park further away.



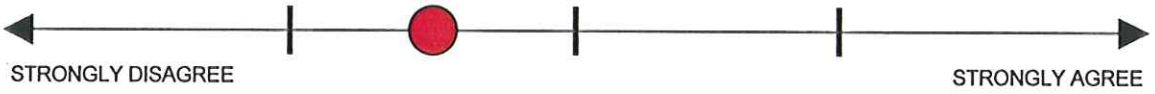
B) I would be willing to pay more for parking if the revenues were used to improve the parking.

C) Only the City should pay for parking improvements.

D) If free parking outside the central business district were provided and serviced by a convenient shuttle system, I would use it.



E) Charlottesville should install on-street meters to increase parking turnover.



F) If meters were installed to generate revenue, the rates should be no more than $2.60 per day.

G) Daily parking rates in off-street lots or parking decks should cost no more than $2.30 per day.

H) Monthly parking for employees working downtown should cost no more than $41.50 per month.

I) The fine for overtime parking should be $9.40.

5.2.2 – Modified Employee Survey Summary

A modified survey was distributed throughout the West Main Downtown area and within a select area of the Main Downtown. The purpose of this modified survey was to obtain origin and destination data in addition to the standard parking survey questions. The modified survey was adapted from a similar survey used above in 5.2.1. The modified employee surveys were distributed with the manager forms and 50 were returned of the 300 distributed, for a response rate of 17%. The following are employee responses to opinion questions summarized.

A) If meters were installed to generate revenue, the rates should be no more than $3.93 per day.

B) Daily parking rates in off-street lots or parking decks should cost no more than $0.89 per hour.

C) Monthly parking for employees working downtown should cost no more than $37.52 per month.

D) The fine for overtime parking should be $9.23.

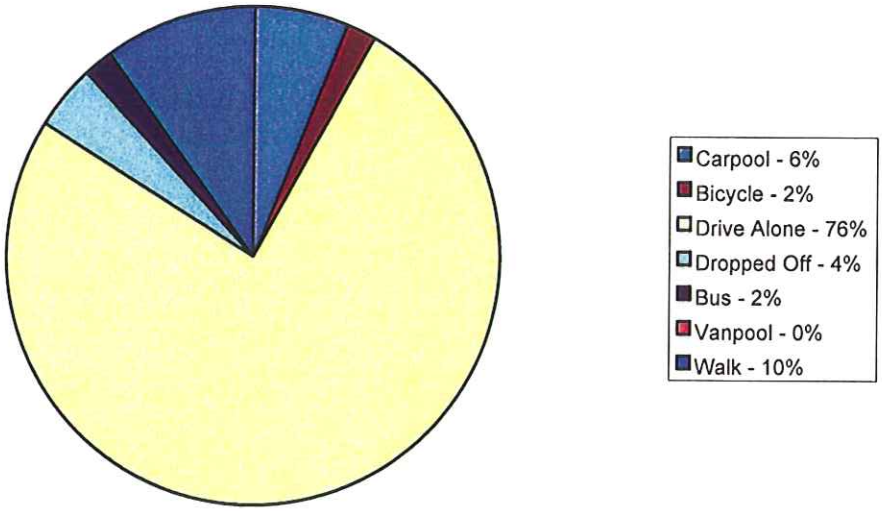
E) Alternative Transportation Ranking (most frequent response to least frequent response as tallied from all of the returned surveys).

Ranking	If you drive alone to work, what would encourage you to use alternative transportation?
1	Nothing
2	Save money on commuting expenses (gas, maintenance, depreciation, parking, tolls)
3	Guaranteed ride home in case of emergency
4	Availability of bus to and from work
5	Less stress
6	Better transit scheduling (frequency and trip times)
7	Information on park and ride lots
8	Flexible/compressed work schedule
9	Employer helps pay for commuting costs.
"	Personalized list of carpool/vanpool matches.
"	Preferential/reserved parking for carpools/vanpools.
10	Company provided van pool

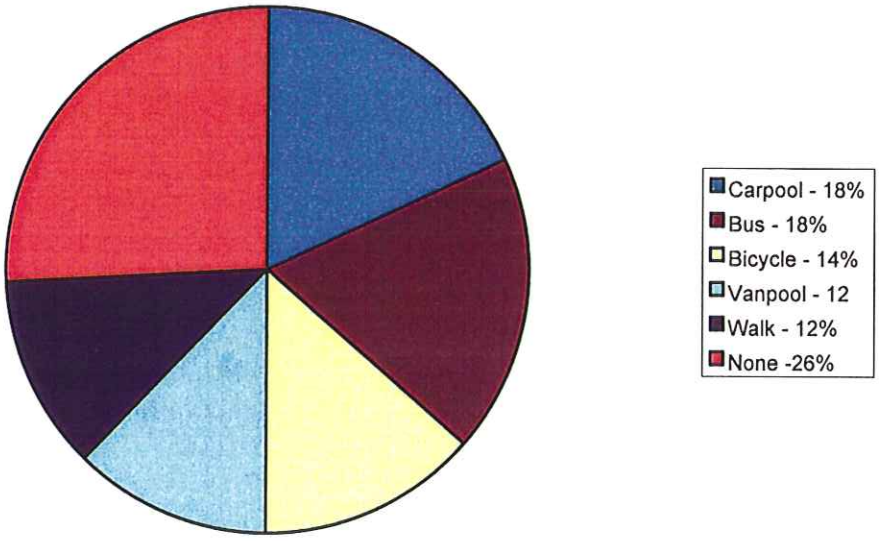
F) As a part of the modified survey, respondents were asked questions pertaining to trip origin, destination, mode of transportation and what alternatives they may consider using. The following pie charts (Figure 5) are the mean responses to these questions.

Figure 5: Modified Employee Survey Result Charts

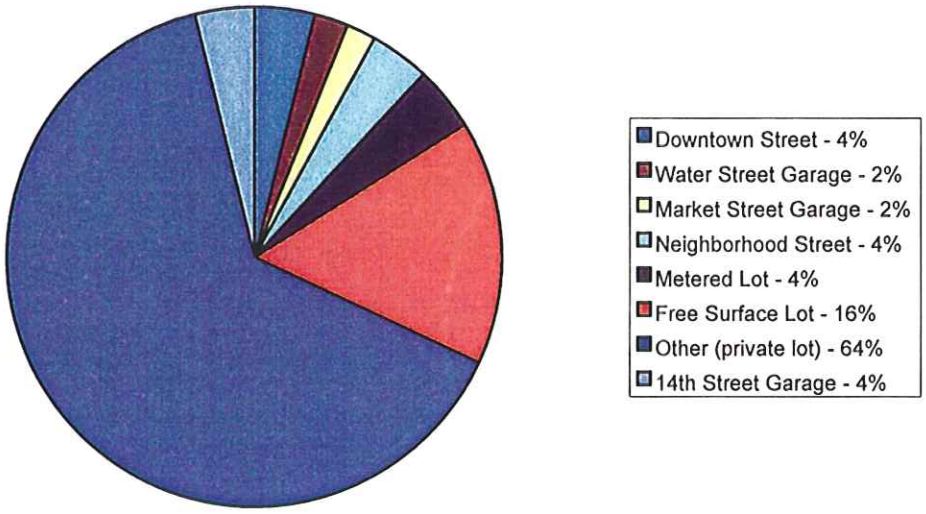
How do you normally get to work?



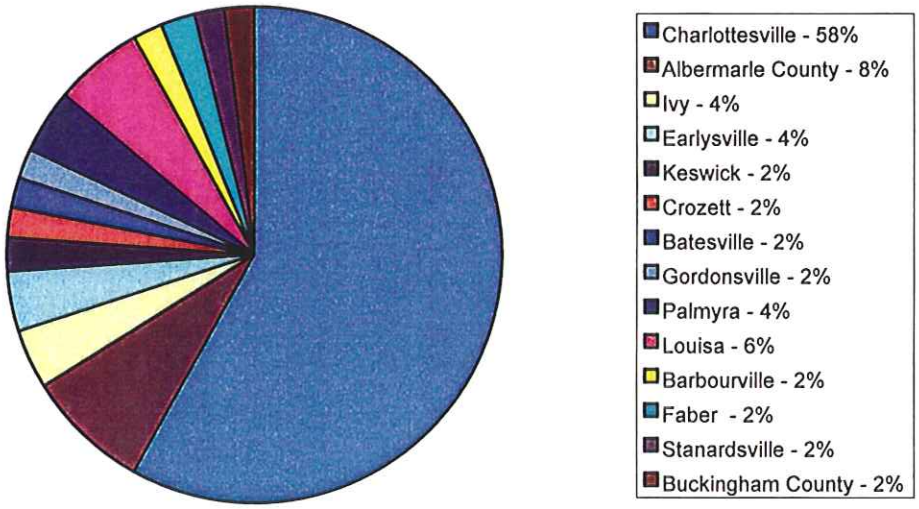
Which of the following means of commuting would you consider using one to two days per week?



If you commute by car, where do you normally park?



Commuter Origin



LEGEND

COURT SQUARE

MAIN DOWNTOWN

WEST MAIN DOWNTOWN

BLOCK NO.

STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

MAIN DOWNTOWN / WEST MAIN / COURT SQUARE

STUDY AREAS

3

MAP NOT TO SCALE

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Maitland, Florida
(407) 687-8990
E-Mail: parking@RichAssoc.com

Section 6 – Alternative Analysis

6.1 - Alternatives To Building New Parking

At the outset of the study, City staff, Parking Steering Committee Members and the Parking Consultants sought alternatives to building new parking to preemptively reduce the amount of parking that would need to be built. The following is a summary list developed as the potential alternatives available to Charlottesville.

In order to help assess the viability of these options a great deal of effort was put into examining each both from a logistical perspective and a usage viability perspective. Ultimately recommendations are made in the report regarding either the implementation of certain measures or to have further study undertaken to examine more closely the impact of implementation of the remaining alternatives.

Parking Efficiency Measures

- Relaying out of existing lots and/or decks in a more efficient arrangement.
- Enhancing current enforcement efforts in order to increase parking turnover, thereby freeing up more on-street parking.
- Determine optimum rate and fine schedules for parking in order to use existing parking as efficiently as possible. (This particular measure aids in promoting other alternatives such as multi-modal transit and the use of underutilized parking areas).
- Valet parking initiatives that allow for the maximum usage of parking areas, while providing a convenient parking method for patrons.

On-Street Parking

- Reorienting on-street parking in an angled fashion or other layout pattern to provide more on-street parking in key need areas.
- Arranging timed parking in a pattern that optimizes the particular location of a parking stall as it relates to surrounding uses and parking needs.

Multi-Modal Transportation

- Park and ride systems that involve the existing busing system or a shuttle system combined with remote or underutilized parking areas.
- Car-pooling or van-pooling initiatives encouraged by parking rate incentives and/or employer/City sponsored reward programs.
- Dedicated bicycle lanes and pedestrian friendly design schemes combined with traffic calming measures that will encourage bicycle and on-foot travel.

Additional Parking Supply Solutions (Including New Parking)

- Shared use initiatives that involve public/private partnerships in using private parking areas for public parking during times of low utilization.
- Providing additional parking through the expansion of existing parking areas (lots or structures).
- Providing additional parking through new parking areas.

Solution feasibility was partially assessed using downtown manager and employee questionnaires with questions oriented towards assessing the publics' acceptance of the non-parking alternatives. Alternatives were also analyzed using input from various City departments. By taking this approach, we began to define and evaluate the best parking solutions for Charlottesville.

The above alternatives are all examples of initiatives that Rich and Associates has some experience with and represents the scope of alternatives that fall within the realm of our abilities to study and make recommendation on. Other alternatives may be available to Charlottesville, however in order to fully understand and develop concepts for other alternatives or the transit related alternatives above, it will be necessary to have a transit/transportation specialty consultant assist with further study.

6.2 - Park and Ride

Several important factors need to be in place for Park-and-Ride systems to work well. First, is a demonstrated willingness on the part of motorists to participate in this type of system. Based on the survey results that we received, approximately 18% of the downtown employees indicated that they would consider using either a Park-and-Ride system or a shuttle system two days per week. This could have a net effect of freeing up approximately 400 parking stalls, although the experiences of other communities has shown that only between 5% and 8% will actually use an alternative on a long-term basis even with marketing and incentive efforts.

The second important element for Park-and–Ride systems is the need for adequate incentive. This can be in the form of some financial incentive or the lack of inexpensive parking in or near the CBD. In order to accomplish the incentives, it is necessary to have the cooperation and assistance of local employers and to closely regulate and appropriately price existing parking. Again, based on the survey responses, most employers indicated they would not encourage employees to use a park and ride.

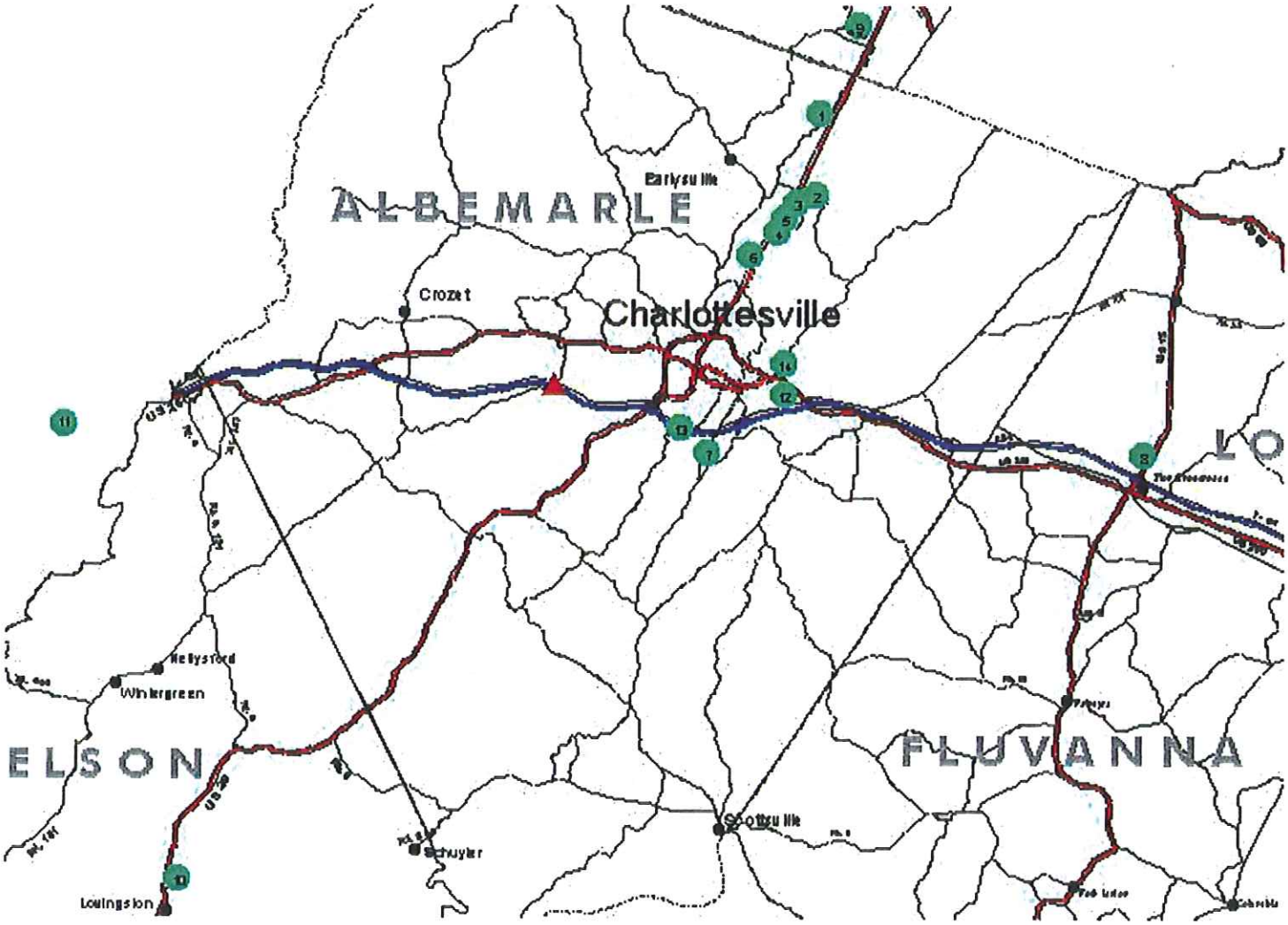
Achieving incentive for this program through the regulation of available CBD parking is within the realm of City control. However, this alone is not enough to create a situation where a Park-and Ride system would experience ridership gains.

The method of operation for the existing Park and Ride system (see map on the next page), being operated cooperatively by Ride Share, local transit systems, Charlottesville, Albemarle County and private land owners. V-DOT and private land owners provides a place for motorists to park for free and then they either car pool into Charlottesville or ride a bus or shuttle for the standard fare ($0.75). Originally this system was started with a fund and has since been operated without cost as landowners provide the property free of charge and the County has provided insurance coverage. This system is currently being reviewed and long-range goals are to incorporate more parking areas and to improve existing ones. Informal occupancy counts of these lots by Ride Share indicate that the parking areas are being well utilized, some even being at capacity.

This system works well at meeting demand in its current form and future planning for the system is oriented towards demand. We recommend that Albemarle County maintain its existing arrangement of extending insurance coverage to the privately owned park and ride lots and that expanded lots or new lots be sought out to meet increasing demand and insurance coverage be extended to these new areas to help keep operating costs as low as possible. Additionally, the park and ride buses and shuttles should be linked with any short-run shuttle system that operates in the downtown in order to maximize rider-ship and destination flexibility to passengers.

A consideration regarding promoting the use of the Park and Ride system is the use of some incentive. Some employers are pro-active participants in the promotion of personal transportation alternatives and offer their employees a financial incentive if they do not drive a car to work. Charlottesville could consider an arrangement where tax incentives or some other consideration is offered to downtown employers who would be willing to initiate such a program. Other methods of encouraging the use of Park and Ride systems involve the overall pricing system of the downtown parking. Parking that is closer to the core downtown area becomes progressively more expensive and likewise the furthest out parking would be the least expensive.

Figure 6: Charlottesville Area Park and Ride Map



Courtesy of RideShare: The Thomas Jefferson Planning Commission

1. Paran Methodist Church
2. Maple Grove Church
3. Forest Lakes North
4. Forest Lakes South
5. Peace Lutheran Church
6. Wal Mart Lot
7. Avon Street Extension
8. Zion's Crossroads
9. Bull Durham Restaurant
10. Lovingston
11. Waynesboro Outlet Village
12. Pantops Shopping Center
13. Azalea Park
14. Darden Towe Park

6.3 - Robotic Parking

Robotic parking is a method of placing vehicles in a parking structure automatically without the need for a driver to be present. Essentially, a mechanical car-cradle receives the automobile when a motorist enters the structure. The driver then exits the vehicle, and the vehicle is placed into a stall via an elevator style device. There is a certain futuristic ambiance to this concept and it has been used successfully in European cities. However, the elements that make such a device successful are very high property values, lack of available land, a very strong need for parking and a willingness on the part of the user to explore and trust an automated, unseen device. Additionally, robotic parking is not appropriate in a condition with a large number of employee patrons. The exiting capacity is limited and large queues of people waiting to retrieve their vehicle could occur.

Based on past experience with automation, any device that does not have person to person contact and a very simple method of vehicle placement and fee payment will not be well utilized. Customers will be resistant to entrusting their vehicle to a machine and this apprehension may prevent even marginal use of this very expensive option. Although this device has advantages such as increased efficiency and low staffing costs, it may have a higher first cost and long-term reliability and timely repair are highly questionable.

Robotic parking is an alternative available to the City. However, we would recommend against such an endeavor, as the initial costs, potential long-term reliability problems and questionable public reaction, make other parking alternatives more attractive.

6.4 – Downtown Property Owners Council Parking Committee Report

A group of local downtown entrepreneurs undertook an informal parking study in order to examine and present to the City some potentially viable parking development solutions. The report begins by examining CBD parking needs from the perspective of increased development and demand since a 1986 formal parking study undertaken by Wilbur Smith and Associates. The report continues by identifying some potential parking opportunities and concludes with construction cost estimates.

There are several good points presented in the report. First the criterion established by the committee for developing new parking is sound and a good reflection of the general opinion of the CBD stakeholders. Secondly, the method used by the group to establish demand and the time phasing of that demand has merit and the projected demand contains realistic derivations and assumptions. The fact that the group undertook identifying and quantifying parking need, demonstrates a commitment to their community and a willingness to help identify problem areas and offer potential solutions. Lastly, some of the sites identified by the group as potential parking structure sites are viable parking structure locations, depending on the configuration of a parking structure for the individual site and the cost of alternatives.

The report falls short of predicting actual downtown parking demand, as the assumptions used are based on a parking study from 1986. Major changes in development and economics have taken place over the last 14 years, including a recession and an economic boom experienced by the entire country. The dynamics of parking demand are heavily reliant on the general health of the economy and any projection developed must take this factor in to account.

The group identified a number of developments that have taken place since the report was published. However, the list of developments that they have cited is not complete in terms of influencing demand on the potential parking areas identified. Additionally, the amount of demand estimated for each individual project is based on an assumed ratio of parking required for each individual use type and no consideration of shared use availability or statistically based parking demand is included.

The end result is that their demand estimate is only about two-thirds of the actual for the demand area assumed in their report based on Rich and Associates fieldwork. Additionally, the sites proposed do not necessarily satisfy the demand, as supply location and demand sources are too distant for a critical mass of people to use. As walking distance to destination increases, a logarithmic decline in occupancy will result, even when adjusted for price and alternative parking area availability.

A number of the parking supply alternatives being advocated for by the group, include some form of underground parking. These alternatives are not feasible from the standpoint of economics, as underground parking costs range from 50% to 100% more to construct when compared to structured parking built above ground. Additionally, operating costs are higher and the perception of underground parking negatively affects its use. Typical throughout the construction estimate section, costs per square foot were underestimated. Based on more up-to-date local construction costs, the group may have considered underground parking alternatives an unviable option.

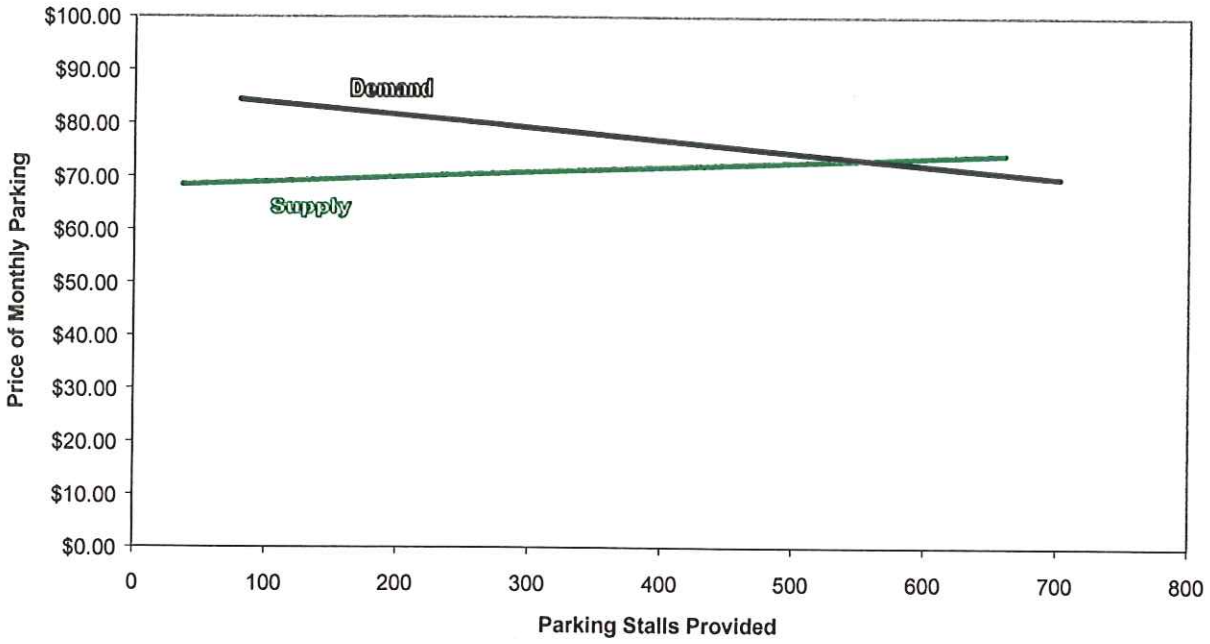
The group also identified the potential for building over the CSX rail line. While structures that span a railway have been constructed in the past, these initiatives are generally limited. The requirements for building over train tracks begin with a minimum of approximately 25-foot clear height over the track and often include very stringent requirements for structural integrity and the nature of the overhead occupancy. The construction costs for this initiative have again been underestimated and the efficiency of a parking structure over the train tracks would be less than the, currently underway, triangular Water Street extension.

All but two of the remaining potential parking structure sites identified by group, are too small to present an efficient structure and in some cases are too small to be built on as ramp grade and length minimums require a site with at least 150 feet of length. Parking structure efficiency increases as more parking spaces are built and the small structures being proposed in these schemes will drive the per parking-space-gained cost up from 25% to 50% of the cost of building a structure that contains more parking or is more efficient. Another variation offered by the group calls for a structure that is 60 feet wide by 600 feet long. This site dimension only allows for a single loaded module (parking, isle, parking) that is 600 feet long, which cannot be ramped by conventional means.

6.5 – Parking Economics

The size of the study area in Charlottesville and the variations in parking rates and locations allowed us to develop a supply and demand curve for the downtown parking. The following chart is based on monthly parking and represents an estimate of the demand for the entire downtown area combined.

Figure 7: Supply and Demand Chart



The graph reveals that Charlottesville's parking economics are relatively elastic with regard to both supply and demand. A summarization of the parking economics is as follows:

- As the price of parking increases marginally, suppliers are willing to build disproportionately more parking.
- Even small increases in parking rates cause parkers to seek alternate parking areas (generally further away and less expensive).
- Property value and demand dictate parking rates and both are a function of surrounding development density.

Figure 8: Demand Fluctuation Over Time As Price Increases

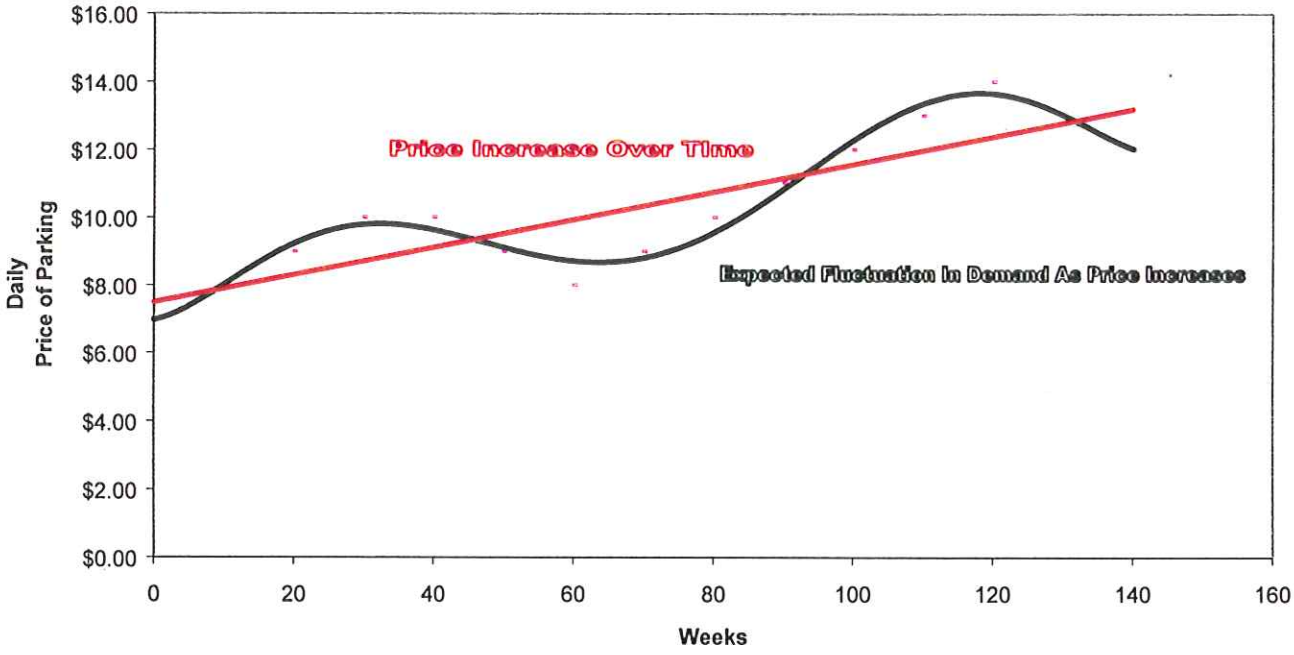


Figure 8 demonstrates the expected fluctuation in demand as the price of parking is gradually increased. The result is that the expected revenue stream for parking fluctuates as demand fluctuates and when the price of parking is increased there is an initial reduction in demand until the consumer adjusts to the new price. Drops in demand following price increases are typical for all parking facilities.

- As the price of parking increases marginally, demand will temporarily decrease.
- After an adjustment period the demand will again rise and then increase.
- Adjustments in the price of parking (monthly daily and hourly) should occur in a linear fashion. If prices are continuously fluctuated as demand fluctuates the consumer will become confused and a balance between price and demand will be difficult to achieve.

6.6 – Court Square Committee Meeting

A presentation of the draft parking report was given to the committee charged with Court Facilities Planning and Recommendations on June 1, 2000. The Committee offered two credible suggestions that merit further consideration for aiding in parking shortages in and around the Court Square Area.

The first suggestion involved splitting the court docket and holding an afternoon or early evening session. This would reduce the number of people that would be required to be at court in the morning for their hearing, by offsetting half of the cases until the second session. The impact on parking in the Court Square area would be an approximate reduction in parking stalls needed by 125. The stalls would not be needed until afternoon or early evening, when from our turnover and occupancy study the average occupancy decreases. The net effect would be a considerable reduction in needed parking stalls, however the overall need for parking would carry-on longer into the afternoon. The major hurdle with this idea is that the judges and court staff would need to be convinced of the merits of such a schedule change.

The second suggestion offered by the Court Square Committee was to alter the structure of on-street parking in Residential Permit Areas such that daytime parking by non-permit holders would be allowed. This change would affect the residential areas adjacent to the Court Square Area. Generally speaking, residential permit programs (RPP) are implemented at the request of the residents and are intended to provide locals with on-street parking near their home. Usually this is not a problem at night and to implement the recommended changes may moot the intent of the RPP. In order to apply this idea, further investigation and public input will be necessary.

6.7 – Valet Parking

Valet parking is a useful method of parking more vehicles in less space. Typically a motorist leaves their car with a valet person, who parks the automobile in a remote parking area and then retrieves the vehicle on demand. The result is that more vehicles are parked in a smaller space and there is a high degree of convenience for the car owner.

Valet operations area dependent on two key elements. The first is that there needs to be some destination where the customers are going. Secondly, there needs to be an arrangement in place for a parking area to be used by the valet operation. Other considerations are that the motorist must be comfortable leaving their car with a stranger and must be willing to pay the premium price associated with valet parking. Valet parking does cost as the parking must be paid for and the person who parks the car must also be compensated. Stacking of vehicles (one car behind another) will optimize the use of available space in a parking area. However, the timing of when a vehicle will need to retrieved is critical since vehicles which are parked first is effectively locked in until other vehicles can be moved.

Valet operations are typically associated with some nighttime social event such as attending the theater or dinning out. Daytime use of valet operations are typically only seen associated with restaurants or casinos. In Charlottesville's case a valet operation makes a lot of sense for downtown restaurants as the demand arises. Other uses of valet operations will only work for small privately operated lots where the arrival time and departure time of motorists is known.

The extent of practical use for a valet operation would be limited and our recommendation is that Charlottesville should leave valet operations to the private sector. The cost of operating a public valet system would far outweigh the benefits. However, it would be practical to preemptively have a plan in place for the use of public parking by valet operators. This partnership would allow for valet parking to take place in Charlottesville benefiting businesses experiencing parking shortages, while providing a source of revenue for operators and the City. A plan for using public parking by valet operators would involve the following elements:

- Designating public parking areas for valet parking (should be determined according to lots or structures that experience lower usage in the evenings. Additionally, cars can be tandem parked by valet service to make greater use of less space.
- Deciding on what times the public parking can be used for valet parking (typically after 5:00 pm until the restaurant or bar closes),
- Outlining what the cost will be to the valet operator for using the public parking (can be a flat rate or a per car parked fee, the cost should be less than the daytime parking rate).
- A set of regulations or binding agreements for valet operators that would ensure a uniform level of professionalism.
- The creation of valet zones in on-street locations adjacent to the businesses that enter into the service.

6.8 – Residential Permit Parking Program

Residential Permit Parking or RPP programs are a method of helping to control commuter parking in residential areas. Currently there are some areas in Charlottesville where RPP programs are being used. RPP programs involve the use of permits, issued only to residents with vehicles, to regulate parking in a specified area. The permit criteria preclude commuters and other non-residents from parking in the given area. RPP programs are generally expensive to administer and enforce and since permit fees don't usually cover all of the costs associated with running the program, the local municipal government typically subsidizes them. Other pitfalls with RPP programs include failure due to insufficient parking even when commuter vehicles are removed, permit prices that are too high and not enough local support for the program.

Our recommendations regarding the use of RPP programs are that no RPP program be implemented near the Court Square area until new parking is built. Consideration of requests for RPP's in or near the West Main area need to be considered on a case-by-case basis as applications are filed.

We are recommending against immediate implementation of RPP's in the Court Square area since the displacing of commuters who park near the downtown in residential areas will add to the parking shortage issue in the downtown and the use of RPP programs in this area should be delayed until the parking infrastructure is able to handle more automobiles.

Section 7 – Operational Recommendations

Section 7 of the report contains parking recommendations that are intended to enhance the existing parking supply available by increasing turnover and reallocating current parking areas and opportunities.

Recommendations have been developed for several categories. These are:

7.1 Employee Shuttle System

7.2 Parking Regulations

7.3 Loading Zones

7.4 Zoning Regulations

7.5 Parking Development Subsidies

7.6 Public/Private Partnerships

7.7 Signage

7.8 Marketing

The City of Charlottesville has many unique characteristics that present both challenges and opportunities in the development of an efficient and practical parking system. Some of the challenges present in Charlottesville include the historical nature of the downtown area and the limited land available for additional parking. While there are several open sites that could accommodate a parking structure, they have been identified as development sites. The parking supply shortfall of Charlottesville's CBD may seem overwhelming and insurmountable, however there are several important points to keep in mind. First of which, is the fact that the CBD area encompasses some 100-city blocks and the whole of the demand is dispersed throughout this large area. Secondly, when examining individual supply solutions, such as a parking structure, the area of demand that the structure will serve is only a fraction of the overall and as the distance from the structure increases, the demand for parking proportionately decreases.

7.1 - Employee Shuttle System

Identified previously as a questionable opportunity (see survey results in section 5, page 55, 57 & 58), the merits and need for such a system are still present. A potential variation that should be considered for Charlottesville is a short-run shuttle system that operates within the downtown area. This system would provide service for downtown employees who would agree to park in a new structure or lot such as the CSX property and be shuttled to their destination. The time in transit should be limited to less than 10 minutes and should be free to individuals that park in a pay lot or structure. Access to the shuttle would simply require the rider to show the shuttle driver their parking stub dated for that day.

The benefits that a short run shuttle include:

- Greater access to long-term parking in parking structures and remote lots.
- Allows areas that have excess parking to fulfill need in areas that might otherwise be too far to be of significant benefit.
- Assists downtown employees by allowing them to be able to choose less expensive parking in exchange for a short ride.
- Generally achieves a net gain in parking supply availability at less cost than building new parking, even when provided free of charge.
- Ridership level expected to be between 5% and 8% of current commuters, which in Charlottesville's case results in a net gain of +/-250 parking stalls.

In order for a system such as this to be successful it will be necessary to approach some major downtown employers regarding the encouraging of their employees to use the system. NGIC, City of Charlottesville, Martha Jefferson Hospital and the Courts may be potential candidates. By shifting even a portion of the demand generated by these agencies away from the Court Square area, additional parking for other users would be provided. Additionally, the system will need to run frequently during peak demand periods and periodically throughout the day. By providing the service as an included benefit of parking in a City owned parking structure and by having an adequate service level to allow riders to return to their vehicle relatively quickly, it may be possible to institute this concept and have increased usage as individuals become familiar with its operation and benefit.

Operations of the system will need to initially follow a regimented schedule as follows:

- Twenty-minute circulation time (deck pickup to deck pickup) from 6:00am to 9:00am.
- Half-hour circulation time from 9:00am to 3:00pm.
- Twenty-minute circulation time from 3:00pm to 6:00pm.
- Alternative service between 6:00pm and 6:00am as required by need.
- Routing will originate from a new structure or lot and circulate to various downtown destinations, major employers or tourist attractions. Exact routes will need to be determined by the Transit System as participation and rider-ship dictate.

The schedule above would only be for the initial trial period and should be reviewed periodically by the Transit System to ensure that the scheduling is optimized for rider-ship. After an initial trial period of six months, improvements could be made to the system including new or more shuttle vans, staff, and the construction of sheltered pick-up and drop-off sites. All of which, will hinge on the success of the system through marketing promotion and downtown employer support. Marketing of the parking system is covered in section 7.8 and employer participation will need to be dealt with directly by an individual charged with contacting potential participants on a person-to-person basis.

- **Implement a short-run employee shuttle system**

Action Time:	Immediate
Parking Impact:	Reduces needed parking by +/- 250 stalls initially.
Financial Impact:	Costs +/-$130,000/yr to initiate, $100,000 to operate.
Financial Savings:	Saves $250,000/yr compared to building equivalent parking.
Responsibility:	Charlottesville Transit System

7.2 – Parking Regulations

Adequate and proper enforcement is one of the most important elements of a successful parking system. The City's residents, employees, merchants and officials should know the objectives of the enforcement policies, and the level of enforcement should be fair and consistent. Review of Charlottesville's enforcement practices found that the enforcement personnel have a good understanding of policies and procedures for enforcing on-street and off-street parking regulations. The City's police department is pro-active in seeking out new ideas for better enforcement techniques and that they have an adequate staffing level to meet their needs. Enforcement responsibility should remain with this department.

Five parking enforcement officers are assigned to the CBD. The enforcement staff is responsible for overtime and expired parking meters, in addition to related duties of traffic direction, crossing guard duty and funeral escort. The number of tickets written by the officers (75 to 90 per day) is within the range of other communities with good enforcement. One improvement that we would recommend that would increase the accuracy of parking enforcement is the use of Computerized Ticket Writers. These devices track licenses and can in the matter of a few seconds indicate to the enforcement officer the parking activity of the vehicle upon entering the plate number. If there has been a violation the electronic writer then issues a ticket and keeps track of fines pending for accounting purposes. The devices quickly pay for themselves through increased enforcement efficiency and accurate record keeping.

An effective parking system requires that all parking regulations be consistently enforced with fine levels high enough to deter repeat offenders. The current fine structure for parking violations is too low. Some people interviewed indicated that they view the five-dollar fine as a low price to pay for a convenient on-street space. In other words, a fine this low is actually an incentive for a percentage of the motorists to park on-street. This can be seen by the high percentage of people parking on-street over four hours during the turnover and occupancy study. Maintaining a high turnover is important to Charlottesville's economic health and a fine rate of **$15** for overtime parking would help encourage the use of off-street lots. This fine rate would need to be implemented in stages of ten dollars immediately and then fifteen dollars in four years. The fine would also be applicable to any overtime parking situation including vehicle shuffling or overstaying the loading zone limit.

A second feature of enforcement, which needs to be considered, is the hours that the officers will be patrolling the City streets. In the case of Charlottesville's downtown, our turnover and occupancy study revealed that there was some activity in the downtown after typical working hours, extending until midnight. Our recommendation for this aspect of enforcement is that the Main Downtown on-street parking regulations be enforced from 9:00am until 11:00 pm, at least on Thursday, Friday and Saturday. There are several reasons for this recommendation, which include maintaining an efficient turnover well into the evening. A number of the Main Downtown businesses, typically restaurants and pubs, do the majority of their business in the evening.

Finally, the on-street duration for parking along Jefferson Street, Market Street, 3rd Street East and 4th Street East needs to be changed to a one-hour time limit. Currently these areas consist of two-hour parking stalls that do not serve the needs of short-term parkers well. One-hour parking will serve two important functions. The first of which, is the increased turnover of the on-street spaces that will provide more parking for short-term downtown patrons. Secondly, two-hour parking corresponds with standard work breaks, providing downtown employees opportunities to move their vehicle to a new parking stall, thereby avoiding an overtime fine. One-hour parking on the other hand is a disincentive, as it is much more difficult to avoid a fine by moving your vehicle every hour. As Charlottesville subscribes to the philosophy that free parking is an important element in their downtown, providing available parking for visitors and patrons is the sought benefit and one-hour parking will help achieve the desired result.

- **Increase Overtime Fine to $10 (now) and $15 (4years)**

  Action Time: Immediate

  Financial Impact: Added annual rev.-$93,750 ($10 fine), $187,500 ($15 fine)

  Responsibility: Police Department

- **Purchase Computerized Ticket Writers**

  Action Time: Immediate

  Financial Impact: Budget $3,000 per unit plus $10,000 for download software.

  Responsibility: Police Department

- **Decrease On-Street Time Limit Duration to One-Hour**

  Action Time: Immediate

  Financial Impact: Included in new signage package.

  Responsibility: Public Works

LEGEND

- NO PARKING
- 1 HOUR
- 15 MINUTE
- 30 MINUTE
- NOT SIGNED
- RESERVED
- B/F - BARRIER FREE
- L/Z - LOADING ZONE
- P/V - PATIENT/VISITOR
- (#) SPACES OFF-STREET PARKING
- (#) BLOCK NO.
- STUDY AREA BOUNDARY

CITY OF CHARLOTTESVILLE

MAIN DOWNTOWN STUDY AREA

PARKING AREA OF RECOMMENDED EVENING ENFORCEMENT

NORTH

MAP NOT TO SCALE

RICH AND ASSOCIATES
Parking Consultants
Architects · Engineers
Planners
21800 W. Ten Mile, Suite 209
Southfield, Michigan 48075
(248) 353-5080
Fax (248) 353-3830
Tampa, Florida
(813) 879-0987
Maitland, Florida
(407) 657-8890
E-Mail: parking@RichAssoc.com

7.3 – Loading Zones

As demonstrated in the turnover and occupancy section of the report, some street faces exceeded 100% occupancy. Where this occurs, vehicles are being parked illegally in either loading zones or in on-street no parking zones. Particular attention must be paid to these areas by enforcement personal regarding what vehicles are being parked and for how long. It may pay in Charlottesville's case to hire a sixth enforcement person to monitor loading zones exclusively. The enforcement approach that needs to be taken here, is that these spaces are to be only used for loading and un-loading of passengers or goods. Any vehicle parked in these spaces, not actively involved in loading or unloading, cannot exceed ten minutes.

As some vehicles parked in these spaces will be delivery vehicles that are involved in loading and unloading activities that could take longer than ten minutes, a certain level of discretion will need to be exercised by the patrolling officer.

- **Increase Loading Zone Surveillance**

Action Time:	Immediate
Financial Impact:	Budget for one added enforcement person +/- $22,000/yr.
Responsibility:	Police Department

7.4 – Zoning Regulations

In order to undertake this parking study, it was first necessary to determine how much parking was needed for each land-use type in Charlottesville. Through the process of field studies and survey data dissemination, sets of parking ratios were derived. These ratios (Charlottesville Model) were compared to the City Zoning Code requirements for parking and nationally accepted standards (Institute of Transportation Engineers Parking Standards) on page 8 of Section One. For the most part, standards developed for the Charlottesville Model varied insignificantly from the Zoning Requirements. However, a few of the ratios were significantly different and these ratios are the target of the recommendations made in this section of the report.

We are recommending revised zoning requirements for the following land-use types: Institutional – Assembly, Business – Retail, Business – Personal Service, Business – Restaurant. These particular categories have higher ratios or parking requirements outlined in the Charlottesville Zoning Code than are necessary according to our research. Since a part of this report recommends subsidizing privately developed public parking, it is necessary that the City should have a set of standards by which to guide development and subsidy assessment criteria. That criteria will be the City's Zoning Requirements and in order that these requirements accurately reflect Charlottesville's needs, we are recommending the following changes to Section 34-702 of the Zoning Ordinance:

Figure 9: Revised Section Of Charlottesville Zoning Ordinance

b) Institutional:

1) Assembly – theaters, auditoriums, stadiums, funeral homes, and similar establishments.

1 space for each 4 fixed seats or fraction thereof in the main public room(s) or

1 space for each 75 sq. ft. or fraction thereof of public assembly where there are no fixed seats. On-street parking within 500 feet of the building, except in residential areas, may be used toward fulfilling this requirement.

2) Worship – churches, synagogue and similar establishments.

1 space for each 4 fixed seats or fraction thereof in the main public room(s) or

1 space for each 75 sq. ft. or fraction thereof of public assembly where there are no fixed seats, provided that the number of spaces thus required may be reduced by not more than 75 percent if the place of worship is located within 500 feet of any public parking lot or any commercial parking lot where sufficient spaces are available by permission of the owner(s) without charge during the time of service to make additional spaces required. On-street parking within 500 feet of the building, except in residential areas, may be used toward fulfilling this requirement.

d) Business:

2) Retail Space (other than (d)(3)).

1 space for each of in the main public room(s) or

1 space for each 75 sq. ft. of non-storage space or fraction thereof. On-street parking within 500 feet of the building, except in residential areas, may be used toward fulfilling this requirement.

4) Personal Service Establishments (i.e. beauty shop, photo shop, etc.).

1 space for each 275 sq.ft. of floor area.

5) Restaurant, nightclub, café and similar establishments.

1 space for each 125 sq.ft. of public floor area.

An additional ordinance recommendation that is needed in Charlottesville is an ordinance allowing the use of a tire boot. This device is a lock that is applied to the wheel of a vehicle, which makes it immobile. The circumstances under which such a device is used are:

- Non-payment of parking fines.
- Repetitive abuse of on-street parking.

Currently, there is some difficulty being experienced in the collection of parking fines and with repetitive offenders. There have also been several incidents of confrontation between parking enforcement personal and motorists over the towing of vehicles. Reduction of these confrontations and effective fine collection can be achieved through the use of a boot. The boot is easily applied by an individual and can be carried in the rear of a patrol vehicle. When the enforcement officer identifies a parker with a history of parking violations (possibly the accumulation of three or more fines over a twelve month period), he/she simple locks the boot around the tire of that vehicle and places a fine on the windshield in the usual manner. The boot then remains in place, demobilizing the vehicle, until the fine is paid and the enforcement officer unlocks the device.

- **Implement Revisions To Zoning Ordinance as Outlined Above**

  Action Time: Immediate

  Financial Impact: Negligible

  Responsibility: Neighborhood Planning and Development Services

- **Revise Zoning Ordinance To Include Parking Requirements For The CBD Area**

  Action Time: Immediate

  Financial Impact: Negligible

  Responsibility: Neighborhood Planning and Development Services

- **Implement a Booting Ordinance**

  Action Time: Immediate

  Financial Impact: Budget $3,000 for boots

  Responsibility: Police Department

7.5 – Implement Downtown Parking Standards

Charlottesville's parking shortage will continue to worsen without development being subject to minimum parking requirements. This is particularly true for commercial development where office space is being built without parking. The revised zoning requirements outlined in the previous recommendation, provide a guide for the amount of parking that various developments in Charlottesville's downtown setting would need. These standards take in to account shared use opportunities and present a minimum parking need based on gross floor area. As such, Charlottesville should consider implementing minimum parking standards for future development in the downtown. The Charlottesville model used for this report makes a good guide for that minimum-parking requirement.

- **Implement Downtown Parking Standards**

Action Time:	Immediate
Financial Impact:	Reduces parking shortfall depending on development activity.
Responsibility:	Neighborhood Planning and Development Services

7.6 – City Participation In Privately Developed Parking

Developments in any of the three areas of Charlottesville's CBD are currently not subject to minimum parking requirements. As a result, new projects or changes in uses or rehabs are not providing parking unless the owner/developer feels it's important or if the lender requires it. Consequentially the City has become the main resource in providing parking. From a cost standpoint this places the burden of providing parking on the City. The City should consider participating by the City in parking development that is built for downtown projects that exceeds the minimum parking required (outlined in recommendation 7.5). This incentive for developers will help alleviate parking shortages and is a particularly important tool when considering parking mitigation methods in the case of the West Main Downtown area. This parking should be structured such that a reasonable credit is given for created parking spaces that will be available for public parking.

- **Initiate Development Incentive For Parking**

  Action Time: Mid-Term

  Financial Impact: Cost will vary by project. An overall annual budget will need to be established by the City.

  Responsibility: Neighborhood Planning and Development Services

Figure 10: Development Incentive Sample Calculation

Sample Calculation: (conversion project)

I. Building Gross Floor Area: **50,000 sq.ft.**

Current Use: Service
New Use: Office

Existing Parking	50 stalls
New Parking	100 stalls
Parking Added	**50 stalls**

II. Cost of Supplying Parking in a Deck/Structure $10,000/parking stall

Parking Incentive Subsidy (25% of Cost)
$10,000 x 25% = $2,500 / parking stall

III. Project Subsidy (Incentive x Added Public Parking)

50 stalls x $2,500 / stall = $125,000

7.7 – Public/Private Partnerships

As part of the study criteria, requested by Charlottesville City Officials, a number of public/private ventures were carefully examined. Ensuing meetings regarding the cost of borrowing and property tax implications allowed our staff to look at all possible scenarios relevant to the development of a parking structure.

Due to the unique economics of a parking structure, applicable tax regulations and the cost of borrowing, privately funded project are not always feasible. Essentially, a public entity is able to borrow money for a capital project three to four percent lower than the interest rates available to the private sector.

While there are examples of privately developed parking, these projects are relatively rare in a City the size of Charlottesville. The impetuses for a project such as this are usually of a self-serving nature, where the developer needs to provide accessible, convenient parking. In such cases, publicly available space within such a structure are often extra spaces, the number of which fluctuate with demand created by the principal project such as a hotel.

The best opportunities for a public/private parking structure venture in Charlottesville lie with the potential for shared resources. In particular, if the City where participants in a privately developed parking project that would encourage expanded parking development and in part to create extra parking available to the public, a potential mutually beneficial partnership would result.

- **Consider Continuing and Expanding Private Parking Management Contracts**

  Action Time: Mid – Term

  Financial Impact: Profit sharing arrangement to be determined

  Responsibility: City of Charlottesville

7.8 – Signage

Recommendations for signage and amenities include parking signage for the City parking lots and parking area enhancements. The parking signage in Charlottesville is limited to several different parking signs scattered throughout the study area. Charlottesville has installed direction, location and identification signs, which guide parkers to parking areas. Some of these signs are however, suspended above traffic. These signs are difficult to see for two reasons. First, the signs are above the motorists' line of sight. For the sign to be noticed, an individual must conscientiously look upward in the direction of the sign. Secondly, the brown color scheme used on most of the signs makes it difficult to distinguish from its surroundings. This second factor also makes the signs that are posted to the right of the roadway, at a standard sign height, somewhat inconspicuous as well.

There are five types of parking signage that increases drivers' wayfinding experience. These include:

Introduction: Introduction parking signage alerts drivers approaching the downtown of the locations of the publicly owned, off-street parking lots. This type of signage is distinctive in color and size, and it can be characterized by unique logos. The signs display the names of the off-street parking lots and the names of their streets. The signs are located on the street, and are mounted on poles of standard heights.

Directional: Directional-parking signage is distinct in color, size and logo and directs drivers to off-street parking areas. The signs are mounted on poles at standard heights, on the streets.

Locational: Parking locational signage complements the directional parking signage. The signs have arrows pointing to the off-street lots. The signs are mounted on poles at standard heights and located on-street.

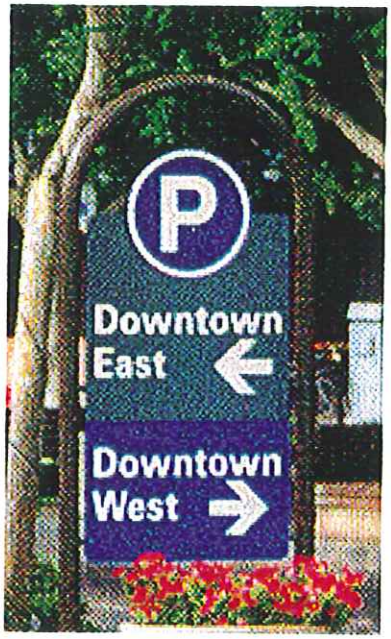
Identification: Identification signage is placed at the entry of each parking lot. The name of the parking area is identified and the type of parking available at the parking area is listed on the signage. The identification signage is distinctive in color and size, and it is located on a pole at a lower height.

Way Finding: Way finding signs are placed at the points of pedestrian entry/exit to parking lots and structures. The sign is a map illustrating the downtown area that points out the various shops or attractions that can be found. These types of signs are placed at locations easily found by a pedestrian and are intended to help that person orient themselves to the downtown area such that they can locate their destination and then be able to return to where they parked.

A fundamental type of sign is missing in the downtown corridor. This sign, introduction, is an important element in alerting motorists to off-street parking sites. The signage that is found in the downtown varies by color, language, size and positioning as it relates to a drivers point of view. Overall, the CBD signage needs to be standardized and completed.

The following signs are a type that should be considered by Charlottesville. The signs are distinctive in color, easily identifiable by parking logo and positioned well for a motorist to observe while driving. All of the desirable characteristics of good parking signs can be found in these examples.

Introduction Signage: Demonstrates to a driver the logo identifying public parking. This particular sign also identifies the direction to the particular downtown area, which in Charlottesville's case could be the Main Downtown, Court Square and West Main Downtown.



Identification Signage: Illustrates to a driver that this is a parking area that is publicly available and the name and type of lot. This particular sign also identifies this lot as a merchant validated parking lot that the driver can park in for free if he/she does a little shopping.

The qualities of good signage include the following aspects:

- Use of common logos and colors.
- Placement at or near eye level.
- Use of reflective, durable material.
- All five types used in conjunction to guide motorist and pedestrian activity.
- All entrances to the downtown need to have introduction signage.
- All parking areas need to have identification signage.
- All routes through the downtown need to have directional and locational signage.
- All pedestrian routes to and from parking areas need to have way finding signs.
- The signs need to convey parking rates, hours of operation, maximum durations, and validation availability.

Charlottesville's current signage has desirable characteristics, however it will be necessary to revise the existing signage to include all of the elements listed above. The recommendation regarding signage is to consider assembling a signage package for the downtown area by first having the existing parking committee meet and discuss logo design, color and placement of new signs.

Charlottesville's on-street parking also needs to be re-stripped as existing stripping is faded and/or non-existent in some places. In order to maximize the efficiency in which on-street parking is utilized, the stalls need to be clearly demarcated.

- **Develop a New Signage Package**

Action Time:	Immediate
Financial Impact:	Budget $50,000
Responsibility:	Parking Steering Committee/Public Works

- **Re-Stripe On-Street Parking Stalls**

Action Time:	Immediate
Financial Impact:	Budget $10 per stall or $10,020
Responsibility:	Public Works

7.9 – Marketing of Parking

Marketing of parking most often involves perception changes. It is imperative for the downtown merchants and businesses owners to understand the role that convenient parking plays in the minds of their customers. For Commercial Enterprises, service does not begin when their customer or client walks in the door, but begins with someone being able to park in close proximity to their destination. The problem is trying to keep downtown employees (or even the business owners) out of these convenient, on-street spaces.

The marketing of the City's parking system is important to the economic vitality of the downtown. Marketing may consist of the development of maps and coupons to be placed in business and tourism brochures and magazines. There are many benefits to coordinating the marketing efforts with merchant associations. Marketing programs are important not only for increasing parking in off-street lots but also for increasing shopping at downtown stores.

Charlottesville's marketing program also needs to deal with alternative modes of transportation. As discusses in previous sections, providing new parking will only address a portion of the parking shortage in Charlottesville. Encouraging as many people (both employees and visitors) as possible to use a Park and Ride, shuttle or an alternative that does not require a parking stall (bicycle, bus or foot) will be fundamental in mitigating short and long-term parking shortages.

- **Develop a Marketing Program for Businesses and On-Street Parking**

  Businesses and their employees need to be informed of the impact of employees parking on-street. First, the businesses in general must buy into the concept. This may involve public meetings with local merchant and possibly media reports in print, radio and television broadcasts. The effect on business revenue, employee productivity (lost time spent moving their cars) and on the image of the downtown needs to be championed. This awareness campaign must be on going. Late spring, early fall and winter will be key times. In conjunction with other public relation efforts, a monthly or quarterly flyer/newsletter circulated to all businesses may be considered. The flyer/newsletter could be devoted to "What's going on Downtown" (i.e. general interest) and could also include parking issues. Possibly some private business entity could spearhead this effort.

  Action Time: Immediate

  Financial Impact: Budget $5,000 annually

  Responsibility: To be determined.

- **Develop a Marketing Pieces for Visitors/Customers**

  Information about the City's parking system and alternative modes of transportation can be provided in City and County tourism brochures. The City may also want to advertise in the local newspaper for special holiday or event parking. Radio spots may also be used for parking pass or transit give-aways. Also, informational brochures about the downtown's parking and transit system can be placed in downtown businesses. The brochures may offer free one-day passes for the parking lots, shuttle system or buses.

  Action Time: Immediate

  Financial Impact: Budget $5,000 to $10,000 annually

  Responsibility: To be determined

7.10 – Influences On Charlottesville's Downtown Parking

The following map is an illustration of the dynamics of various influences on the downtown parking system. The drawing helps to understand why some of the recommendations presented here are necessary and why new parking locations are proposed for some areas and not others, which leads us into section eight.

Core Demand Area
Influences from Courts, Ancillary Users, and Main Downtown Mall

Parking Land Bank

Future Development Area

MJH + Medical Area Influence

UVA Influence

LEGEND

PARKING STALLS
- › - 50
- 0 - -50
- 50 - 0
- ‹ - 50

CURRENT
10 YEARS
(#) BLOCK NO.
STUDY AREA BOUNDARY

CHARLOTTESVILLE - VIRGINIA - 1762

CITY OF CHARLOTTESVILLE

MAIN DOWNTOWN / WEST MAIN / COURT SQUARE

PARKING DEMAND INFLUENCES

91

NORTH

MAP NOT TO SCALE

RICH AND ASSOCIATES
Parking Consultants
Architects · Engineers
Planners
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Southfield, Michigan 48075
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Maitland, Florida
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E-MAIL: parking@RichAssoc.com

Section 8 – Parking Supply Recommendations (Reserved)

Rich and Associates recommends that Charlottesville consider building new parking in and around the Court Square area and the Main Downtown area. Pending further investigation of potential sites for developing new parking, final recommendations for actual siting and design layout will be presented in the form of study addendums. Therefore, this section is reserved for future use.

Overall, there is a demonstrated need for approximately 4,000 new parking stalls throughout the downtown area of Charlottesville. As outlined in section seven, we feel that each development that takes place in the West Main area needs to be evaluated for parking provision opportunities on a case-by-case basis. The Court Square area and Main Downtown areas do provide optimal sites for parking provision. However, the various sites need to be looked at from an availability perspective pending negotiations with the landowners.

Parking System Comparison Chart

	CITY	CHARLOTTESVILLE, VA	BOULDER, CO	CHAPEL HILL, NC	BERKLEY, CA	COLUMBIA, SC	NEW HAVEN, CT	CAMBRIDGE, MA
1	**Who administers the parking system?**	Public Works	City and D&UHMD Parking Services	Parking Services	Finance Department	Public Works - Parking Div.	Traffic & Parking Dept.	Dept. of Traffic
			Parking Services					
2	**Is any part of the parking system administered**	Yes (CPC)	No	No	Yes	No	Yes	Structures and Parking Facilities
	by a private contractor, if so what part?	Parking Structures			Garages and Lots		Ticketing	
3	**Does the city have a parking committee**	Yes	Yes	No	Yes - Advisory Groups	No	Yes	Informal
3a	Do you have a parking authority?	No	Yes	No	No	No	Traffic Authority	No
			(2 districts authorities)					
4	**Number of municipal parking spaces**	2,849	3,565+	785	5,600	9,042	14,200	4,400
	Parking Structures / # of spaces	2/1,172	4/1,653	1/309	2/850	6/3,306	5 - 10,800	2 - 1,900
	Parking Lots / # of spaces	6/632	7/536	5/282	4/150	2/466	5 - 200	9 - 300
	On-street parking / # of spaces	1,045	1,077(metered), 299(time limit)	194	3,300	5,270	2,200 mtrd, 1000 n/mtrd	2,200
			+ 1,635 (permits for on-street)					
5	**Types of parking control:**							
	Parking Structures	Access Card/Gate Arm/Cashier	Cashier	Amano(Gates, Spitter, Cashier)	Pay On Exit & Pay In Advance	Gate Arm/Cashier/Permits	n/a	n/a
	Parking Lots	Meters/Cashier	Meters/Permits	Amano(Gates, Spitter, Cashier)	Pay On Exit, Meters, 2hr Enforced	Gate Arm/Cashier/Permits	n/a	n/a
	On-street parking	Meters/Time Limit Enforcement	Meters	Duncan(Meters)	Meters, Term Parking, RPP	Meters/Time Limit Enforcement	Meters & Vouchers	Metered & RPP
6	**Fines:**							
	Overtime parking	$5 (increases to $10 for late payment)	$15.00	$15.00	$22.00	$5.00	$10.00	$10.00
	Illegal parking	$10.00	$15.00 - $50.00	$40.00	$22 - $275	$15.00	$25.00	$15.00 - $25.00
	Handicap parking	$50.00	$50.00	$100.00	$275.00	$200.00	$50.00	$50.00
6a	**Which department oversees enforcement:**	Police	D&UHMD Parking Services	Parking Services/Police Dept.	Police Department	Parking Division	Traffic & Parking Dept.	Dept. of Traffic
6b	Number of enforcement officers:	5 + Patrol Officers	10	3	n/a	14	11	33, w/3 supervisors
6c	Are they motorized or on foot?	Motorized	Motorized, Foot & Bicycle	Combination	Motorized	Foot	Combination	Combination
6d	Do you use computerized ticket writers?	No	Yes	Yes	No	Yes	Yes	No
7	**Parking Rates:**							
	Parking Structures:	$1/h, $8.50/d, $70-$75/m	$193/quarter, $0.75/hr	$1-$1.20/h	1st hr free, 2nd hr $1.50, 3rd hr $2, 4+hrs $3	$0.75/30min.($0.75 >1+h) $47-$67/m	$1/hr. & $50 - $80/mo.	$1.00 / hour
	Parking Lots:	$1/h, $8.50/d, $70/m	$122/quarter, $0.75/hr - $1.50 max	$1-$1.20/h	1st hr free, 2nd hr $1.50, 3rd hr $2, 4+hrs $3	$1/d $47/m	$1/hr. & $50 - $80/mo.	$0.50 / 30 min.
	On-Street Parking:	$0.25/h (2h limit)	$0.75/hr	$1/h	$0.75/hr	$0.40/h	$0.74 / hour	$0.50 / 30 min.
8	**Is there a parking validation system in the downtown?**	Yes	Yes	Yes	Yes	Yes	Partial	No
9	**Number of staff and pay rates**	(Contractual w/ CPC)			Contractual		13 - Parking Admin.	
	Supervisory:	n/a	1 - $20.86/hr	3 - n/a	n/a	4-$23,855 to $33,568	n/a	n/a
	Cashier:	14 - $7.00	9 - $8.50 - $12.40/hr	4ft, 15pt - $10.13/h	n/a	6-$15,371 to $19,627	n/a	Private Contract
	Maintenance	1 - $7.00	8.5 - $11.50 - $16.70/hr	n/a	n/a	3-$16,147 to $18,691	n/a	Private Contract
	Enforcement	5 - $16,000 an.	8.5-$11.60-$15.80+1sup-$17.50/hr	4ft, 1pt - n/a	n/a	13-$16,147 to $22,174	n/a	36, $10.00 - $16.00 / hr.
	Other:	n/a	3 - $11.50 - $16.00/hr	n/a	n/a	7-$20,111 to $56,500	n/a	n/a
10	**Annual budget:**	Public Portion Only	$1,776,562.00	$1,500,000.00	$2,332,573 (off street only)	$4,100,000	$12 million	$6.6 million
	Labor Position:	n/a	$1,201,760.00	n/a	n/a	$935,045	n/a	$10.00 - $14.22 / hour
	Maintenance / Supplies	n/a	$574,802.00	n/a	n/a	$444,481	n/a	$10.81 - $15.68 / hour
	Debt Services (if any)	n/a	$2,301,761.00	n/a	$400,000	+/- $500,000	n/a	n/a
11	**Has the city financed parking improvements**	Yes	Yes	No	Yes	Yes	Yes	Yes
	in the last 5 years? If so how?	Bond Issue	General Obligation Bond		Parking Fund	Parking Reserve Funds & Revenue Bonds	Bond, Grant, Rev., GF.	Capital Budget
			(Improvement District Issuance)					
12	**Do you have a special assessment district for parking?**	No	Yes	No	No	No	Yes	No
12b	Who contributes to the assessment district?		All Real & Personal Property Owners				(not used)	
			Within the District					
13	**Who receives the parking fines?**	General Fund	General Fund	General Fund	General Fund	Parking Ops. Fund/Parking Res. Fund/Gen. Fund	General Fund	Parking Fund

Table 5A: Court Square Demand Matrix

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
Block	Office	Retail	Service	Rest.	Res.	Mixed	Gov.	Hotel	Industrial	Special #1	Per./Med.	Vacant	Demand	Future	5 yr.	10 yr.	Supply	Supply	Supply	Supply	Surplus/	Surplus/	Surplus/
								(per room)		(institutional)	Service (1)		(current)	Econ.	Peak	Peak	(on-street)	(off-street)	(barrier-free)	Total	Deficit	Deficit	Deficit
Factors	3.20	2.61	3.51	7.72	1.70	3.77	4.20	0.88	0.63	0.45	4.00			Adjust.	Demand	Demand					(current)	(5 years)	(10 years)
1-1	12,888	0	0	0	15,507	0	0	0	0	0	187,526	0	816	74	890	938	17	500	20	537	-279	-353	-401
1-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0	0	29	29	29	29
1-3	18,036	986	754	0	0	0	0	0	0	0	0	0	60	0	60	60	10	145	0	155	95	95	95
1-4	21,177	0	0	0	2,789	0	0	0	248	0	0	0	69	0	69	69	15	32	0	47	-22	-22	-22
1-5	23,215	2,880	0	2,757	16,742	0	0	0	0	0	0	0	128	0	128	128	11	139	2	152	24	24	24
1-6	0	0	0	0	0	0	125,966	0	0	0	0	0	529	0	529	529	15	100	5	120	-409	-409	-409
1-7	12,825	0	0	0	0	0	0	0	0	0	0	0	39	0	39	39	0	18	0	18	-21	-21	-21
1-8	14,502	0	0	0	34,500	0	0	0	0	0	0	0	103	0	103	103	23	86	0	109	6	6	6
1-9	0	0	0	0	19,358	0	0	0	1,898	0	0	0	34	0	34	34	19	113	0	132	98	98	98
1-10	0	0	0	0	0	0	0	0	0	35,181	0	0	16	0	16	16	12	0	2	14	-2	-2	-2
1-11	37,772	0	0	0	8,128	0	0	0	0	0	0	0	129	0	129	129	13	44	1	58	-71	-71	-71
1-12	33,860	0	0	0	0	0	0	0	0	0	0	0	103	0	103	103	4	61	2	67	-36	-36	-36
1-13	53,488	0	0	0	0	0	0	0	13,698	0	0	0	171	238	409	409	34	102	3	139	-32	-270	-270
1-14	46,772	0	0	1,468	27,423	0	0	0	0	0	0	0	200	0	200	200	16	32	0	48	-152	-152	-152
1-15	77,129	0	0	0	0	0	0	5	0	0	0	0	239	0	239	239	20	23	0	43	-196	-196	-196
1-16	0	0	0	0	0	0	31,720	0	0	0	0	0	133	31	164	164	26	0	0	26	-107	-138	-138
1-17	41,801	0	0	0	12,057	0	13,236	0	0	0	0	0	203	6	209	209	15	110	0	125	-78	-84	-84
1-18	16,992	0	0	0	13,611	0	14,404	0	0	0	0	0	135	0	135	135	16	112	2	130	-5	-5	-5
1-19	4,082	0	0	0	0	0	0	0	0	14,287	0	0	19	0	19	19	5	73	2	80	61	61	61
1-20	24,564	2,560	0	0	8,799	0	0	0	0	0	0	0	96	0	96	96	8	44	0	52	-44	-44	-44
1-21	9,037	0	0	0	0	0	14,909	0	0	6,555	0	0	93	0	93	93	24	0	3	27	-66	-66	-66
1-22	43,052	0	0	0	33,311	0	0	0	0	0	0	0	188	0	188	188	12	81	1	94	-94	-94	-94
1-23	22,459	0	0	0	17,017	0	0	0	0	0	0	0	97	0	97	97	35	46	0	81	-16	-16	-16
1-24	8,030	0	0	0	38,570	0	0	0	0	0	0	0	90	0	90	90	7	8	0	15	-75	-75	-75
1-25	4,322	0	0	0	0	0	0	0	0	22,089	0	0	23	0	23	23	5	32	2	39	16	16	16
1-26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	7	7	7
1-27	8,194	0	0	2,259	0	6,979	0	0	0	0	8,451	0	102	0	102	102	18	24	0	42	-60	-60	-60
1-28	0	0	0	0	8,138	0	0	0	0	18,406	0	0	22	0	22	22	18	12	3	33	11	11	11
1-29	0	0	0	0	54,576	0	0	0	0	68,434	0	0	124	0	124	124	0	67	1	68	-56	-56	-56
1-30	0	0	0	0	0	0	117,270	0	0	0	0	0	493	0	493	493	40	399	5	444	-49	-49	-49
1-31	13,184	3,449	14,222	0	2,470	0	0	0	0	5,755	22,132	0	194	0	194	194	8	189	7	204	10	10	10
1-32	9,898	0	0	0	2,864	0	0	0	0	0	6,316	0	60	0	60	60	0	40	1	41	-19	-19	-19
1-33	20,336	0	0	0	0	0	0	0	0	0	18,395	0	135	427	562	562	15	171	4	190	55	-372	-372
1-34	30,108	0	0	0	12,891	0	0	0	0	0	0	0	113	0	113	113	36	112	2	150	37	37	37
1-35	10,580	0	0	0	6,296	0	0	0	0	0	24,336	0	140	0	140	140	40	123	8	171	31	31	31
1-36	612	349	0	0	5,449	0	0	0	0	0	10,122	0	53	0	53	53	4	30	3	37	-16	-16	-16
1-37	3,726	0	0	0	0	0	0	0	0	0	13,635	0	66	0	66	66	10	53	1	64	-2	-2	-2
Sq. Ft.	**622,641**	**10,224**	**14,976**	**6,484**	**340,496**	**6,979**	**317,505**	**5**	**15,844**	**170,707**	**290,913**	**0**	**5,216**	**776**	**5,992**	**6,040**	**587**	**3,121**	**80**	**3,788**	**-1,428**	**-2,204**	**-2,252**
													(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)

Notes:

Demands presented in this chart represent the peak daytime demand that will occur during the work week (typically Wednesday at 11:00 am).

Special #1 contains the square footages of buildings such as churches, schools and other civic or community use buildings.

Future Economic Adjustment - Reflects a project by project parking stall impact assessment (netting out lost parking and/or adding in newly constructed parking).

(1) The square footage for Martha Jefferson Hospital has been adjusted in order to reflect the calculated parking demand for this facility (block 1-1).

Appendix B

Table 5B: Court Square Turnover and Occupancy

September 28, 1999 Court Square - On Street			Est.	Circuit 1 10:00 - 12:00		Circuit 2 12:00 - 2:00		Circuit 3 2:00 - 4:00		Circuit 4 4:00 - 6:00		Average	Average		Peak	
Block	Face	Description	Cap.	Occ.	%	Occ.	%	Occ.	%	Occ.	%	Turnover	Occ.	%	Occ.	%
5	A	On-Street	10	10	100%	10	100%	8	80%	4	40%	3.20	8	80%	10	100%
6	A	On-Street	5	5	100%	5	100%	5	100%	2	40%	1.80	4	85%	5	100%
7	B	On-Street	7	5	71%	6	86%	6	86%	4	57%	2.17	5	75%	6	86%
8	D	On-Street	7	4	57%	5	71%	5	71%	5	71%	2.80	5	68%	5	71%
12	D	On-Street	4	4	100%	4	100%	4	100%	1	25%	1.75	3	81%	4	100%
13	A	On-Street	6	6	100%	5	83%	6	100%	2	33%	2.67	5	79%	6	100%
13	D	On-Street	2	1	50%	2	100%	2	100%	1	50%	1.00	2	75%	2	100%
14	A	On-Street	3	4	133%	4	133%	3	100%	3	100%	2.75	4	117%	4	133%
15	A	On-Street	7	7	100%	7	100%	7	100%	3	43%	2.14	6	86%	7	100%
15	D	On-Street	9	10	111%	10	111%	8	89%	8	89%	2.00	9	100%	10	111%
16	C	On-Street	8	8	100%	8	100%	8	100%	5	63%	2.25	7	91%	8	100%
16	D	On-Street	6	5	83%	7	117%	5	83%	6	100%	2.00	6	96%	7	117%
17	D	On-Street	17	17	100%	17	100%	15	88%	11	65%	1.89	15	88%	17	100%
18	D	On-Street	11	11	100%	11	100%	12	109%	6	55%	2.67	10	91%	12	109%
19	C	On-Street	5	5	100%	5	100%	4	80%	4	80%	2.80	5	90%	5	100%
20	A	On-Street	1	1	100%	1	100%	1	100%	0	0%	2.00	1	75%	1	100%
21	A	On-Street	4	4	100%	4	100%	4	100%	4	100%	1.50	4	100%	4	100%
21	B	On-Street	8	10	125%	10	125%	10	125%	10	125%	3.10	10	125%	10	125%
21	C	On-Street	6	5	83%	6	100%	3	50%	6	100%	3.17	5	83%	6	100%
21	D	On-Street	9	7	78%	8	89%	6	67%	8	89%	3.00	7	81%	8	89%
22	B	On-Street	4	5	125%	7	175%	5	125%	4	100%	2.00	5	131%	7	175%
22	C	On-Street	8	5	63%	9	113%	10	125%	8	100%	2.50	8	100%	10	125%
22	D	On-Street	6	5	83%	5	83%	5	83%	6	100%	2.43	5	88%	6	100%
25	C	On-Street	5	5	100%	5	100%	5	100%	5	100%	3.00	5	100%	5	100%
26	A	On-Street	7	7	100%	6	86%	7	100%	7	100%	2.86	7	96%	7	100%
27	A	On-Street	4	4	100%	3	75%	4	100%	4	100%	2.00	4	94%	4	100%
27	B	On-Street	6	6	100%	6	100%	6	100%	6	100%	1.83	6	100%	6	100%
28	B	On-Street	6	6	100%	6	100%	6	100%	4	67%	2.17	6	92%	6	100%
28	C	On-Street	7	6	86%	6	86%	7	100%	7	100%	2.71	7	93%	7	100%
29		In Block	9	7	78%	7	78%	9	100%	7	78%	2.50	8	83%	9	100%
37	D	On-Street	3	2	67%	2	67%	1	33%	0	0%	0.38	1	42%	2	67%
Route 1 Summary			200	187	94%	197	99%	187	94%	151	76%	2.29	181	90%	206	103%
Peak Occupancy (On-Street)					133%		175%		125%		125%					
Target Maximum					85%		85%		85%		85%					

September 28, 1999 Court Square - Off Street			Est.	Circuit 1 10:00		Circuit 2 12:00		Circuit 3 14:00		Circuit 4 16:00		Average	Average		Peak	
Block	Face	Description	Cap.	Occ.	%	Occ.	%	Occ.	%	Occ.	%	Turnover	Occ.	%	Occ.	%
1	B	MJH Deck	221	211	95%	214	97%	201	91%	179	81%	n/a	201	91%	214	97%
3	D	Prudential Lot	70	26	37%	23	33%	33	47%	23	33%	n/a	26	38%	33	47%
6	C	Lot	83	47	57%	49	59%	45	54%	26	31%	n/a	42	50%	49	59%
8	B	Lot	86	54	63%	48	56%	32	37%	37	43%	n/a	43	50%	54	63%
11	A	Lot	45	38	84%	37	82%	36	80%	26	58%	n/a	34	76%	38	84%
18	D	Lot	26	20	77%	16	62%	19	73%	18	69%	n/a	18	70%	20	77%
19	D	Under Ground	60	34	57%	29	48%	36	60%	31	52%	n/a	33	54%	36	60%
20	A	Lot	7	6	86%	9	129%	6	86%	1	14%	n/a	6	79%	9	129%
22	D	OCS (upper)	40	18	45%	20	50%	29	73%	24	60%	n/a	23	57%	29	73%
22	B	OCS (lower)	41	27	66%	30	73%	33	80%	29	71%	n/a	30	73%	33	80%
28	B	Church Lot	12	11	92%	9	75%	9	75%	5	42%	n/a	9	71%	11	92%
31	A	Med Off. Deck	91	59	65%	67	74%	33	36%	13	14%	n/a	43	47%	67	74%
34	D	Lot	30	23	77%	21	70%	20	67%	18	60%	n/a	21	68%	23	77%
34	D	MJH - Lot	31	21	68%	18	58%	19	61%	6	19%	n/a	16	52%	21	68%
35	C	Lot	84	35	42%	35	42%	46	55%	9	11%	n/a	31	37%	46	55%
35	D	MJH - Lot	21	20	95%	21	100%	23	110%	12	57%	n/a	19	90%	23	110%
Route 1 Summary			948	650	69%	646	68%	620	65%	457	48%	n/a	593	63%	706	74%
Peak Occupancy (Off-Street)					95%		129%		110%		81%					
Desired Turnover			4.00													

Appendix C

Table 5C: Main Downtown Demand Matrix

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
Block	Office	Retail	Service	Rest.	Res.	Mixed	Gov.	Hotel	Industrial	Special #1	Per./Med.	Vacant	Demand	Future	5 yr.	10 yr.	Supply	Supply	Supply	Supply	Surplus/	Surplus/	Surplus/
								(per room)		(institutional)	Service		(current)	Econ.	Peak	Peak	(on-street)	(off-street)	(barrier-free)	Total	Deficit	Deficit	Deficit
Factors	3.20	2.61	3.51	7.72	1.70	3.77	4.20	0.88	0.63	0.45	4.00			Adjust.	Demand	Demand					(current)	(5 years)	(10 years)
2-1	1,804	0	0	0	3,965	0	0	0	1,125	0	4,228	0	30	240	270	270	0	0	0	0	-30	-270	-270
2-2	85,000	0	0	0	0	0	0	0	0	0	0	0	258	0	258	258	18	394	8	420	162	162	162
2-3	0	0	0	0	0	0	42,404	0	0	0	0	0	178	0	178	178	14	0	1	15	-163	-163	-163
2-4	61,136	0	0	0	0	0	75,760	0	0	0	0	0	504	6	510	510	12	480	3	495	-9	-15	-15
2-5	16,719	23,085	0	4,546	19,322	0	0	0	0	0	0	0	179	0	179	179	10	0	1	11	-168	-168	-168
2-6	65,363	18,525	0	0	7,782	0	0	0	0	0	0	4,648	260	0	273	277	12	8	1	21	-239	-252	-256
2-7	28,732	12,562	0	3,869	1,200	0	0	0	0	35,199	0	0	168	384	552	552	14	8	1	23	-145	-529	-529
2-8	262,400	20,190	0	0	0	0	0	0	0	0	0	0	850	346	1,196	1,196	0	46	0	46	-804	-1,150	-1,150
2-9	0	30,244	0	7,747	14,200	0	0	0	4,588	9,340	0	1,112	170	0	173	174	9	23	2	34	-136	-139	-140
2-10	20,886	26,810	0	16,917	6,011	0	0	0	0	3,099	0	2,683	276	0	283	285	6	60	0	66	-210	-217	-219
2-11	32,015	0	0	0	0	0	47,850	204	0	25,000	0	38,000	489	0	597	625	4	492	8	504	15	-93	-121
2-12	7,838	11,715	0	4,247	0	0	0	0	0	39,111	0	0	105	122	227	227	5	4	0	9	-96	-218	-218
2-13	0	55,792	0	0	33,245	0	0	0	0	0	0	0	202	311	513	513	5	0	2	7	-195	-506	-506
2-14	27,996	15,673	0	6,042	2,620	0	0	0	0	12,345	0	12,207	183	158	375	384	1	26	0	27	-156	-348	-357
2-15	33,037	17,858	0	6,380	3,894	0	0	0	697	2,240	0	1,249	204	0	208	209	5	15	1	21	-183	-187	-188
2-16	80,376	2,791	0	20,157	0	0	0	0	0	0	0	15,956	407	0	452	464	5	2	1	8	-399	-444	-456
2-17	41,379	45,085	0	0	0	0	0	0	0	0	0	8,240	243	0	267	273	7	1	2	10	-233	-257	-263
2-18	42,299	4,134	0	2,592	2,736	0	0	0	0	5,790	0	0	167	154	321	321	1	59	0	60	-107	-261	-261
2-19	15,524	0	0	0	0	0	0	0	0	0	0	0	47	0	47	47	25	0	0	25	-22	-22	-22
2-20	34,407	0	0	0	0	0	0	0	41,088	0	0	0	130	0	130	130	0	103	0	103	-27	-27	-27
2-21	721	0	0	0	0	0	0	0	11,064	0	0	0	9	0	9	9	7	11	0	18	9	9	9
2-22	20,072	9,972	0	0	0	0	0	0	35,660	0	0	0	110	0	110	110	16	75	0	91	-19	-19	-19
2-23	0	0	3,156	0	0	0	0	0	0	0	0	0	11	135	146	146	11	82	0	93	82	-53	-53
2-24	4,000	0	0	0	0	0	0	0	45,319	0	0	0	41	269	310	310	27	146	0	173	132	-137	-137
2-25	25,241	0	0	0	0	0	0	0	0	0	0	0	77	0	77	77	0	40	0	40	-37	-37	-37
2-26	3,493	2,768	0	0	0	0	0	0	0	7,898	0	0	21	-256	-235	-235	8	692	0	700	679	935	935
2-27	0	0	0	0	0	0	0	0	0	0	0	0	0	790	0	790	7	104	0	111	111	111	-679
2-28	2,829	0	0	0	0	0	0	0	0	0	0	0	9	790	9	799	0	101	4	105	96	96	-694
2-29	23,987	3,276	0	22,290	38,083	0	0	0	0	0	0	0	318	0	318	318	0	85	0	85	-233	-233	-233
2-30	18,312	4,528	0	5,647	112,447	0	0	17	1,594	0	0	0	318	0	318	318	29	59	0	88	-230	-230	-230
2-31	15,096	0	0	0	0	0	0	0	10,416	0	0	0	52	0	52	52	0	0	0	0	-52	-52	-52
2-32	3,516	0	0	0	0	0	0	0	17,406	0	0	0	22	0	22	22	5	15	0	20	-2	-2	-2
2-33	5,400	0	0	0	0	0	0	0	125,782	0	0	0	96	0	96	96	41	93	0	134	38	38	38
2-34	8,024	0	0	0	6,338	0	0	0	15,820	0	0	0	45	0	45	45	12	36	0	48	3	3	3
Sq. Ft.	987,602	305,008	3,156	100,434		0	166,014	221	310,559	140,022	4,228	84,095	6,180	3,449	8,287	9,930	316	3,260	35	3,611	-2,569	-4,676	-6,319
													(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)

Notes:

Demands presented in this chart represent the peak daytime demand that will occur during the work week (typically Wednesday at 11:00 am).

Special #1 contains the square footages of buildings such as churches, schools and other civic or community use buildings.

Future Economic Adjustment - Reflects a project by project parking stall impact assessment (netting out lost parking and/or adding in newly constructed parking).

Appendix D

Table 5D: Main Downtown Turnover and Occupancy

January 12, 2000 Main Downtown - Off Street			Ana.	Circuit 1 10:00 - 12:00		Circuit 2 12:00 - 2:00		Circuit 3 2:00 - 4:00		Circuit 4 4:00 - 6:00		Average	Average		Peak	
Block	Face	Description	Cap.	Occ.	%	Occ.	%	Occ.	%	Occ.	%	Turnover	Occ.	%	Occ.	%
2-11	D	OMNI Deck	374	247	66%	232	62%	253	68%	259	69%	n/a	248	66%	259	69%
2-11	A	One Valley Lot	99	50	51%	55	56%	67	68%	65	66%	n/a	59	60%	67	68%
2-10	A	Mall Lot	29	12	41%	13	45%	9	31%	10	34%	n/a	11	38%	13	45%
2-8	A	Mall Lot	46	27	59%	46	100%	20	43%	18	39%	n/a	28	60%	46	100%
2-4	A	Market Deck	430	384	89%	368	86%	402	93%	367	85%	n/a	380	88%	402	93%
2-25	A	Lot	24	20	83%	21	88%	21	88%	19	79%	n/a	20	84%	21	88%
2-18	C	Lot	38	35	92%	37	97%	38	100%	38	100%	n/a	37	97%	38	100%
2-26	A	Water Deck	592	439	74%	473	80%	479	81%	450	76%	n/a	460	78%	479	81%
2-27	A	CPC Lot	104	81	78%	90	87%	78	75%	95	91%	n/a	86	83%	95	91%
2-28	B	Metered Lot	105	95	90%	93	89%	88	84%	76	72%	n/a	88	84%	95	90%
Route 2 Summary			1841	1390	76%	1428	78%	1455	79%	1397	76%	n/a	1418	77%	1515	82%
Peak Occupancy (Off-Street)					92%		100%		100%		100%					

Desired Turnover 4.00

Table 5E: West Main Downtown Demand Matrix

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Block	Office	Retail	Service	Rest.	Res.	Mixed	Gov.	Hotel * (per room)	Industrial	Special #1 (institutional)	Per./Med. Service	Vacant	Demand (current)	Future Econ. Adjust.	5 yr. Peak Demand	10 yr. Peak Demand	Supply (on-street)	Supply (off-street)	Supply (barrier-free)
Factors	3.20	2.61	3.51	7.72	1.70	3.77	4.20	0.88	0.63	0.45	4.00								
3-1	0	6,416	0	0	25,781	0	17,080	0	34,563	4,727	0	0	156	0	156	156	28	57	0
3-2	34,434	0	0	0	0	0	0	0	2,964	4,343	0	0	109	32	141	141	7	37	3
3-3	17,384	31,139	5,955	11,497	0	0	0	0	0	0	0	0	244	0	244	244	17	351	7
3-4	10,205	0	0	0	12,390	0	67,486	0	2,403	73,462	0	0	370	0	370	370	29	384	0
3-5	0	0	0	0	18,218	0	0	0	0	3,512	0	4,908	33	0	46	50	0	6	0
3-6	5,202	5,936	4,460	0	9,136	0	0	0	0	0	3,878	0	78	0	78	78	14	90	0
3-7	5,030	0	5,840	0	0	0	0	0	6,570	0	0	0	40	35	75	75	2	68	0
3-8	0	0	0	0	1,030	0	0	0	0	0	0	0	2	0	2	2	0	59	0
3-9	1,452	0	0	0	5,119	0	0	0	0	0	0	0	13	0	13	13	0	40	0
3-10	2,500	4,490	5,797	0	3,358	3,020	0	0	0	4,167	0	0	59	0	59	59	0	80	0
3-11	21,717	0	6,776	5,012	21,453	0	0	0	0	5,200	0	0	167	0	167	167	0	112	0
3-12	4,227	2,818	0	4,227	12,070	8,692	0	0	0	0	0	0	106	0	106	106	0	18	0
3-13	0	3,640	1,856	500	1,170	0	0	0	0	0	0	0	22	0	22	22	0	45	0
3-14	14,410	0	1,938	0	0	0	0	0	0	0	0	0	51	29	80	80	0	5	0
3-15	3,640	0	0	0	0	0	0	0	13,250	17,220	0	0	27	397	424	424	0	100	0
3-16	59,235	6,752	2,206	0	1,000	0	0	0	6,917	0	5,000	0	231	144	375	375	0	208	0
3-17	3,736	0	38,778	0	0	0	0	0	18,172	0	0	0	159	0	159	159	0	61	0
3-18	0	0	0	0	0	0	0	100	0	0	0	0	88	0	88	88	0	94	4
3-19	6,681	8,557	0	16,060	0	0	0	0	0	0	90,000	0	527	394	921	921	0	201	0
3-20	61,196	10,474	7,081	0	24,912	0	0	0	4,459	1,768	0	0	284	20	304	304	0	252	0
3-21	5,620	0	0	0	271,683	0	0	137	0	0	0	0	600	0	600	600	0	59	0
3-22	54,764	29,389	0	2,984	0	0	0	0	0	0	59,220	0	503	0	503	503	0	435	0
3-23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-24	3,313	0	0	0	19,098	0	0	0	0	28,070	0	0	55	0	55	55	0	87	0
3-25	0	0	0	0	11,778	0	0	0	0	0	0	0	20	0	20	20	0	432	1
3-26	3,613	20,199	0	16,032	21,281	0	0	135	0	0	0	13,584	342	0	381	391	2	300	13
3-27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-28	0	0	0	0	6,562	0	0	0	0	0	0	0	11	0	11	11	0	109	1
3-29	0	0	0	750	10,050	0	0	0	0	0	0	0	23	0	23	23	0	10	0
3-30	5,006	64,303	0	11,316	4,551	0	0	0	829	0	0	12,741	279	0	315	324	0	111	0
3-31	3,068	6,967	0	3,367	2,255	0	0	0	0	0	0	0	57	0	57	57	0	2	0
3-32	6,832	1,519	0	5,868	0	0	0	0	0	0	0	1,476	70	0	74	75	0	125	0
Sq. Ft.	333,265	202,599	80,687	77,613	482,895	11,712	84,566	372	90,127	142,469	158,098	32,709	4,725 (stalls)	1,051 (stalls)	5,869 (stalls)	5,893 (stalls)	99 (stalls)	3,938 (stalls)	29 (stalls)

Table 5D: Main Downtown Turnover and Occupancy

January 12, 2000 Main Downtown - On Street				Circuit 1 10:00 - 12:00		Circuit 2 12:00 - 2:00		Circuit 3 2:00 - 4:00		Circuit 4 4:00 - 6:00						
Block	Face	Description	Ana. Cap.	Occ.	%	Occ.	%	Occ.	%	Occ.	%	Average Turnover	Average Occ.	Average %	Peak Occ.	Peak %
2-4	B	On-Street	12	7	58%	7	58%	7	58%	8	67%	1.92	7	60%	8	67%
2-4	C	On-Street	5	2	40%	4	80%	2	40%	2	40%	2.75	3	50%	4	80%
2-4	D	On-Street	2	2	100%	3	150%	3	150%	2	100%	2.67	3	125%	3	150%
2-5	A	On-Street	7	7	100%	7	100%	7	100%	7	100%	2.40	7	100%	7	100%
2-5	D	On-Street	8	7	88%	6	75%	8	100%	7	88%	2.10	7	88%	8	100%
2-6	A	On-Street	6	4	67%	5	83%	5	83%	4	67%	2.50	5	75%	5	83%
2-6	B	On-Street	3	2	67%	2	67%	2	67%	2	67%	1.67	2	67%	2	67%
2-6	D	On-Street	4	0	0%	2	50%	3	75%	3	75%	2.33	2	50%	3	75%
2-7	A	On-Street	8	7	88%	8	100%	7	88%	7	88%	2.30	7	91%	8	100%
2-7	D	On-Street	5	0	0%	2	40%	0	0%	0	0%	0.50	1	10%	2	40%
2-9	B	On-Street	9	2	22%	4	44%	2	22%	1	11%	0.50	2	25%	4	44%
2-9	D	On-Street	6	2	33%	4	67%	2	33%	0	0%	0.60	2	33%	4	67%
2-11	B	On-Street	5	4	80%	7	140%	5	100%	6	120%	2.71	6	110%	7	140%
2-12	C	On-Street	5	2	40%	4	80%	3	60%	3	60%	1.60	3	60%	4	80%
2-13	C	On-Street	2	0	0%	2	100%	2	100%	2	100%	3.00	2	75%	2	100%
2-13	D	On-Street	5	1	20%	3	60%	1	20%	4	80%	1.80	2	45%	4	80%
2-14	C	On-Street	1	2	200%	0	0%	2	200%	1	100%	2.00	1	125%	2	200%
2-15	C	On-Street	3	2	67%	2	67%	1	33%	2	67%	2.33	2	58%	2	67%
2-15	D	On-Street	3	1	33%	3	100%	4	133%	3	100%	1.75	3	92%	4	133%
2-16	C	On-Street	2	2	100%	2	100%	1	50%	0	0%	1.50	1	63%	2	100%
2-16	D	On-Street	4	2	50%	4	100%	2	50%	3	75%	1.75	3	69%	4	100%
2-17	B	No-Parking	1	0	0%	1	100%	1	100%	0	0%	n/a	1	50%	1	100%
2-17	C	On-Street	4	0	0%	3	75%	2	50%	4	100%	2.00	2	56%	4	100%
2-17	D	On-Street	4	0	0%	3	75%	1	25%	2	50%	1.25	2	38%	3	75%
2-18	C	On-Street	4	1	25%	1	25%	1	25%	3	75%	1.25	2	38%	3	75%
2-19	A	On-Street	4	2	50%	3	75%	4	100%	1	25%	1.75	3	63%	4	100%
2-18	E	On-Street	4	4	100%	4	100%	3	75%	4	100%	3.75	4	94%	4	100%
2-18	F	On-Street	6	4	67%	4	67%	5	83%	4	67%	2.83	4	71%	5	83%
2-21	B	On-Street	7	3	43%	0	0%	0	0%	2	29%	1.25	1	18%	3	43%
2-22	B	On-Street	6	6	100%	5	83%	4	67%	4	67%	n/a	5	79%	6	100%
2-22	C	On-Street	5	5	100%	4	80%	5	100%	5	100%	1.20	5	95%	5	100%
2-22	D	On-Street	8	0	0%	0	0%	0	0%	2	25%	0.25	1	6%	2	25%
2-23	A	On-Street	5	5	100%	4	80%	5	100%	4	80%	1.00	5	90%	5	100%
2-24	B	On-Street	9	7	78%	8	89%	9	100%	8	89%	1.00	8	89%	9	100%
2-24	C	On-Street	11	12	109%	12	109%	11	100%	12	109%	1.33	12	107%	12	109%
2-24	D	On-Street	7	7	100%	6	86%	6	86%	6	86%	1.29	6	89%	7	100%
2-27	D	On-Street	7	6	86%	6	86%	7	100%	7	100%	3.14	7	93%	7	100%
2-28	B	On-Street	5	4	80%	5	100%	4	80%	5	100%	3.00	5	90%	5	100%
2-28	D	On-Street	9	5	56%	6	67%	7	78%	7	78%	2.57	6	69%	7	78%
2-30	A	On-Street	15	18	120%	14	93%	19	127%	11	73%	1.36	16	103%	19	127%
2-31	A	On-Street	7	7	100%	7	100%	7	100%	6	86%	1.50	7	96%	7	100%
2-31	B	No-Parking	3	3	100%	3	100%	3	100%	2	67%	n/a	3	92%	3	100%
2-32	C	On-Street	5	8	160%	8	160%	7	140%	6	120%	0.56	7	145%	8	160%
2-33	A	On-Street	21	15	71%	17	81%	17	81%	9	43%	1.20	15	69%	17	81%
2-33	B	On-Street	13	13	100%	13	100%	12	92%	11	85%	0.93	12	94%	13	100%
2-33	D	On-Street	7	7	100%	6	86%	7	100%	0	0%	0.80	5	71%	7	100%
2-34	A	On-Street	4	4	100%	4	100%	4	100%	0	0%	0.83	3	75%	4	100%
2-34	B	On-Street	8	6	75%	7	88%	7	88%	1	13%	0.80	5	66%	7	88%
Route 2 Summary			294	210	71%	235	80%	227	77%	193	66%	1.72	216	74%	266	90%
Peak Occupancy (On-Street)					200%		160%		200%		120%					
Target Maximum					85%		85%		85%		85%					

Table 5F: West Main Turnover and Occupancy

February 9, 2000 West Main - On Street			Est.	Circuit 1 10:00 - 12:00		Circuit 2 12:00 - 2:00		Circuit 3 2:00 - 4:00		Circuit 4 4:00 - 6:00		Average	Average		Peak	
Block	Face	Description	Cap.	Occ.	%	Occ.	%	Occ.	%	Occ.	%	Turnover	Occ.	%	Occ.	%
2	A	On-Street	4	4	100%	2	50%	3	75%	2	50%	1.75	3	69%	4	100%
3	C	On-Street	7	5	71%	5	71%	5	71%	6	86%	1.86	5	75%	6	86%
6	C	On-Street	6	2	33%	3	50%	5	83%	3	50%	1.17	3	54%	5	83%
7	A	On-Street	3	0	0%	0	0%	1	33%	0	0%	0.33	0	8%	1	33%
10	A	On-Street	13	4	31%	8	62%	4	31%	6	46%	1.15	6	42%	8	62%
11	C	On-Street	6	0	0%	2	33%	3	50%	5	83%	1.33	3	42%	5	83%
12	C	On-Street	6	0	0%	1	17%	2	33%	6	100%	1.50	2	38%	6	100%
13	C	On-Street	2	2	100%	2	100%	2	100%	2	100%	3.50	2	100%	2	100%
15	A	On-Street	22	12	55%	19	86%	14	64%	13	59%	1.95	15	66%	19	86%
20	C	On-Street	5	5	100%	5	100%	4	80%	5	100%	1.60	5	95%	5	100%
21	C	On-Street	2	2	100%	2	100%	2	100%	1	50%	2.50	2	88%	2	100%
23	A	On-Street	12	11	92%	10	83%	11	92%	12	100%	3.08	11	92%	12	100%
24	C	On-Street	7	7	100%	7	100%	6	86%	7	100%	2.00	7	96%	7	100%
26	C	On-Street	2	1	50%	2	100%	1	50%	0	0%	2.00	1	50%	2	100%
26	B	On-Street	17	15	88%	16	94%	15	88%	17	100%	2.41	16	93%	17	100%
30	C	On-Street	4	1	25%	4	100%	3	75%	4	100%	3.00	3	75%	4	100%
32	C	On-Street	4	2	50%	3	75%	0	0%	2	50%	1.75	2	44%	3	75%
Route 3 Summary			102	62	61%	81	79%	67	66%	80	78%	2.14	73	71%	92	90%
Peak Occupancy (On-Street)					100%		100%		100%		100%					
Target Maximum					85%		85%		85%		85%					

September 28, 1999 West Main - Off Street			Est.	Circuit 1 10:00 - 12:00		Circuit 2 12:00 - 2:00		Circuit 3 2:00 - 4:00		Circuit 4 4:00 - 6:00		Average	Average		Peak	
Block	Face	Description	Cap.	Occ.	%	Occ.	%	Occ.	%	Occ.	%	Turnover	Occ.	%	Occ.	%
11	C	Lot	15	7	47%	13	87%	14	93%	11	73%	n/a	11	75%	14	93%
15	A	Amtrack Lot	100	79	79%	79	79%	89	89%	67	67%	n/a	79	79%	89	89%
16	A	Republic Lot	153	121	79%	123	80%	108	71%	119	78%	n/a	118	77%	123	80%
20	C	Stacey Hall	175	144	82%	146	83%	146	83%	155	89%	n/a	148	84%	155	89%
22	B	JPC Lot	43	30	70%	37	86%	34	79%	36	84%	n/a	34	80%	37	86%
22	B	Blar Lot	230	192	83%	197	86%	184	80%	183	80%	n/a	189	82%	197	86%
22	B	Private Lot	63	51	81%	50	79%	51	81%	51	81%	n/a	51	81%	51	81%
26	A	Deck	216	138	64%	170	79%	170	79%	162	75%	n/a	160	74%	170	79%
30	B	Corner Pkg Lot	91	69	76%	88	97%	87	96%	74	81%	n/a	80	87%	88	97%
30	A	Eljo's Lot	20	6	30%	7	35%	7	35%	9	45%	n/a	7	36%	9	45%
32	B	Deck (Lower)	45	20	44%	36	80%	30	67%	21	47%	n/a	27	59%	36	80%
32	B	Deck (Upper)	41	41	100%	35	85%	30	73%	35	85%	n/a	35	86%	41	100%
32	D	Bank Lot	39	20	51%	18	46%	14	36%	12	31%	n/a	16	41%	20	51%
Route 3 Summary			1231	918	75%	999	81%	964	78%	935	76%	n/a	954	77%	1030	84%