Charlottesville Downtown Parking Study

Final Report
October 27, 2008

Prepared by

MARTIN ALEXIOU BRYSON

in association with

RENAISSANCE PLANNING GROUP

(inside front cover – intentionally blank)

Charlottesville Downtown Parking Study

Executive Summary

Background, Purpose and Study Period

This study was commissioned by the City of Charlottesville to address a range of issues relating to downtown parking:

- There are concerns about the existing and future adequacy of downtown parking.
- The current designation of spaces in the core area does not appear to be meeting stakeholders' needs.
- Whether the existing Parking Exempt Zone (PEZ) is still appropriate.
- Whether, and how, transit can help to reduce downtown parking demand.

The study was overseen by a Stakeholder Group representing downtown stakeholders and City departments. Because the focus was on the needs of downtown businesses and their customers, the study addressed weekday daytime parking. Special events, evenings and weekends were beyond the scope of the study.

An inventory of downtown parking spaces was collected in April 2008. A comprehensive occupancy survey was undertaken on Thursday April 17, 2008 for the entire business day, in hourly cycles from 8am to 6pm. The survey date was chosen to be a time when outdoor seating had returned to the Mall and the University was still in session, as directed by the Stakeholder Group. The weather on the survey date was good. The Water Street and Market Street garages were recounted on Wednesday July 16, 2008, to corroborate the April data. A one-day survey cannot reflect all possible conditions, but it does provide a fair reflection of conditions on a typical weekday.

Existing Parking Supply and Demand

Downtown Charlottesville has approximately 6,000 spaces, of which about 5,000 (84%) are off-street and about 1,000 (16%) are on-street.

On typical weekdays during the business day, there is currently enough parking overall for everyone. At the busiest time of the survey, only 63% of spaces were occupied. There were approximately 800 spaces available in the off-street public lots. ('Public lots' includes lots for which the public can buy hourly or monthly parking; these may be publicly-owned or privately-owned.) This included approximately 380 spaces in the Water Street garage, 130 in the Market Street garage, 80 in the Water Street lot, and the remaining 220 in other lots. (Note that this refers to a typical business day. On busy weekend evenings with special events, the two main garages can be full or nearly full.)

The private lots (lots that are restricted to employees or customers of a particular business) have approximately 1,200 available spaces. However, many of these private lots are unsuitable for public parking (e.g. residential, very small lots, etc). Some are suitable for public parking if the owners see a market, but currently this is unlikely due to the free on-street parking.

The on-street parking is under stress. In particular, the two-hour spaces exceeded 85% occupancy (the desirable maximum) for much of the day. This corroborates concerns about the availability of convenient customer/visitor parking. The two-hour spaces were examined in more detail, because there are concerns about the 'Two-Hour Shuffle' of commuters using these spaces. The average length-of-stay in two-hour spaces is 1.6 hours, but this hides the fact that many stays exceed the time limit. We estimate that about 20% of stays are overstays. We estimate that at least 10% of vehicles using the two-hour spaces are either performing the 'Two-Hour Shuffle' or staying in the same space for four hours or

more. Both of these groups are a problem, because they are not using the two-hour spaces as intended. Although these are a relatively small proportion of the vehicles, their all-day presence gives them a disproportionate impact on parking occupancy. At the busiest times of day, more than 30% of the two-hour spaces are occupied by these people. Without them, occupancy of the two-hour spaces would not have exceeded 75% at any time.

Data confirms the suspicion that commuters (or other long-stay visitors) are creating a problem for short-stay visitors. The Stakeholder Group agreed that there should be a goal to encourage commuters out of the two-hour spaces, to free-up the supply for shoppers and visitors. There are easily enough spaces vacant in downtown to accommodate these commuters if they switch from two-hour spaces to other on-street or off-street spaces. The potential concerns have been about the cost penalty (if they switch to off-street spaces) or time penalty (if they switch to either off-street spaces or peripheral on-street spaces). The time penalty of commuters parking further out is not a major issue. Already people are using time to look for a space, and/or to shuffle; this would be replaced with walk time. The cost penalty is a potential issue for some people (such as restaurant wait staff on lunchtime shifts). In addition, the longer the walk from the core area, the more conscious pedestrians are of security. Some businesses reportedly cannot afford to pay their staff to park. The ideal is to provide a free peripheral parking lot, but it has not yet been possible to identify a suitable site. However, there are currently vacant on-street spaces allowing free all-day parking, at the southern edge of the study area.

Future Developments

Planned downtown development are forecast to generate demand for approximately 1,700 parking spaces during a typical business day. This growth cannot be accommodated solely within the approximately 800 currently available spaces in the public off-street lots. As described above, some private lots may be suitable for public parking, but this may not be enough to accommodate the remainder of the forecast demand growth. If all the forecast developments come to fruition, additional parking spaces (and/or Travel Demand Management (TDM) aimed at reducing the parking demand) may therefore be needed in the future.

Recommended On-Street Parking Plan

The Stakeholder Group recommends that the City should retain the current policy of free on-street parking. The spaces should, however, follow a simpler, more understandable pattern of zones with corresponding time limits, shown in Figure ES-1 below. This should include:

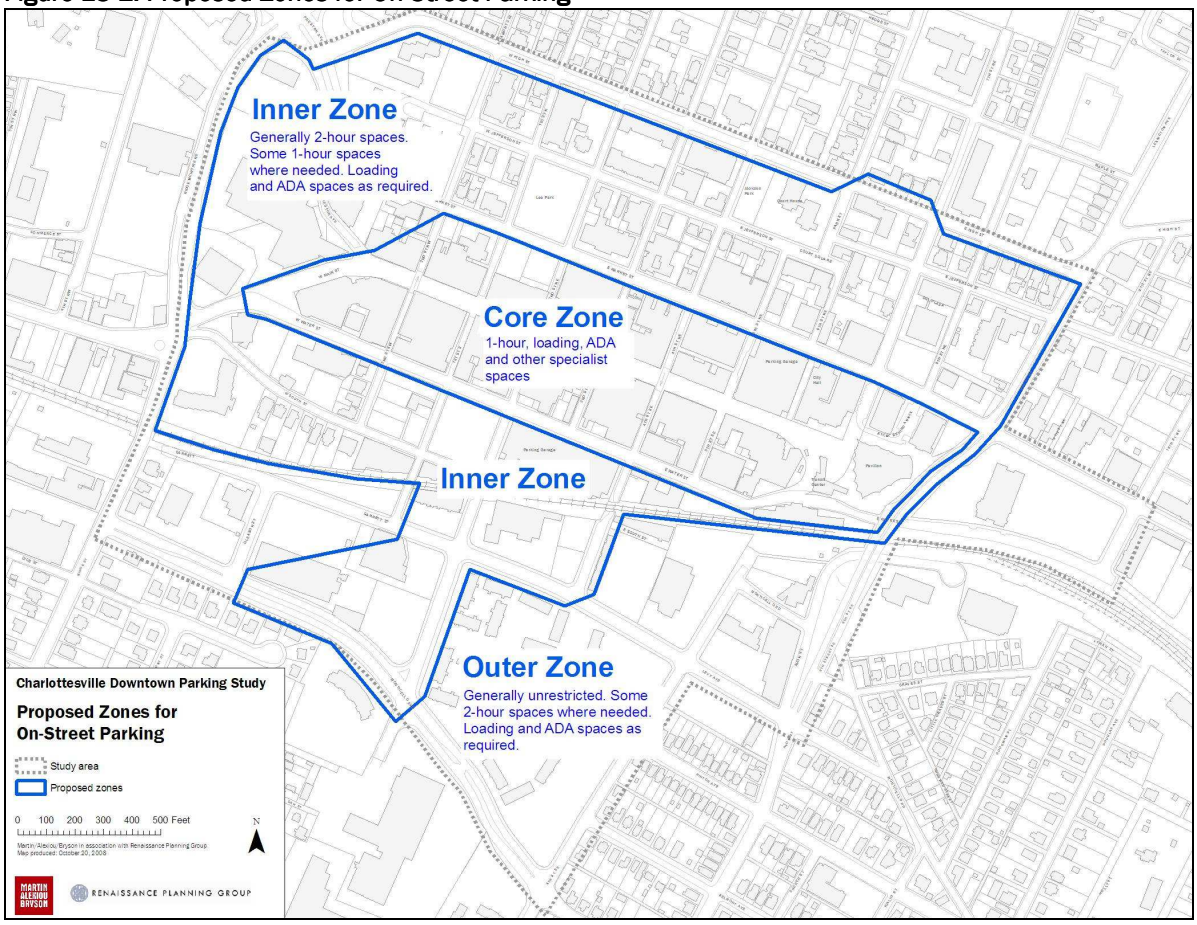
- A Core Zone with the emphasis on business loading needs, short visits to businesses (one-hour parking) and accessible (ADA) spaces.
- An Inner Zone with the emphasis on two-hour parking, serving shoppers and other downtown customers and visitors. Loading, ADA and one-hour spaces should be provided where these are needed in specific locations.
- An Outer Zone with the emphasis on unrestricted parking. Loading, ADA and two-hour spaces should be provided where these are needed in specific locations.

New categories of loading space are proposed, to reflect the traffic impact of commercial vehicle loading as well as the fact that more loading spaces are required in the morning than in the afternoon. The proposed categories are:

- Loading all day until 6pm (as per current designation of loading spaces).
- Loading all day until 6pm, then drop-off after 6pm.
- Loading until 11am, then one-hour parking until 6pm.
- Loading with Business Loading Permit all day until 6pm.
- Loading with Business Loading Permit until 11am, then one-hour parking until 6pm.

The Business Loading Permit would be available to business-owners for loading non-commercial vehicles. The spaces involved are mainly on the stub-end streets adjoining the mall. Currently, large commercial vehicles try to back into or out of these spaces, which affects traffic flow. The Permit system is aimed at eliminating this problem while still retaining convenient loading spaces on these streets for business-owners who need to use their own vehicles. Commercial vehicles will still be able to use the loading spaces on through-streets, with many additional loading spaces available until 11am.

Figure ES-1: Proposed Zones for On-Street Parking



Recommended Policies for Changing the Designation of On-Street Spaces

Currently the City deals on a case-by-case basis with requests to permanently change space designations. The City should adopt a policy that allows flexibility to meet changing needs but does not compromise the basic principle of the zones and create a piecemeal parking system. The policy should include the following:

- Any proposed changes should still conform to the general zone principles.
- The following requests should normally be allowed:
    - Expand/contract a zone boundary to meet an identified need.
    - Convert general parking to/from loading or ADA spaces.
    - Change time limits, if the proposed time limit is still appropriate to that zone.

- The following requests should normally be refused:
    - Change to a non-standard time limit.
    - Change to a time limit not appropriate to that zone.

Construction projects often eliminate one or more spaces close to the site, either to provide a staging area for materials or to provide parking for construction equipment. Construction projects should still be able to make use of spaces in this way. However, it is important to insure that loading and other specialist needs are still met. The policy for construction projects should therefore be as follows:

- The City Traffic Engineer can approve temporary use of spaces for construction projects.
- Where a construction project takes over a loading, ADA or other specialist parking space, the City Traffic Engineer should have the discretion to adjust other nearby spaces for the duration of the project to ensure the specialist needs are still met. For example, if a loading space is taken for construction, an adjacent one-hour space could be converted to loading at the same time.
- Where a construction project takes over a general parking space (for example, a 1-hour space), no consequential changes are needed.

Residential moving needs should also be handled through a similar process. However because the needs are generally for one day only, the space(s) should normally be 'reserved' for moving that day, with no consequential changes to other spaces. This is similar to the way theater vehicles are currently handled on Market Street. The City Traffic Engineer should, however, have the discretion to designate the appropriate space(s) to be reserved in each case.

Future Parking Management Strategy

Current best-practice in downtown parking management is to move away from a reactive approach to one which involves pro-actively managing parking as a component of a downtown's success. Typical elements adopted in similar cities include:

- Creating a City Parking Department, or a Parking Division within an existing City department, to provide full-time management of the parking system.
- Treating parking enforcement as an ambassador/welcome role as much as a ticketing role.
- Using on-street parking fees to cover management costs and to create revenue for downtown booster programs.
- Adopting an occupancy target for general on-street parking, with rates set accordingly, so that the convenient spaces are never totally full and customers and visitors can therefore always find a convenient space.
- Using modern meters or multi-space 'pay stations'.

There are two options for Charlottesville's future downtown parking strategy:

Option 1: Make the recommended changes to parking space designations, as described above, and retain free on-street parking. The recommended changes will address many of the existing concerns about downtown parking. The cost will be small (mostly signage, striping and staff time). However, retaining free parking means that the city does not gain the ability to manage on-street parking availability through a price mechanism. It also means that enforcement is the only available mechanism for discouraging the two-hour shuffle.

Option 2: Make the recommended changes to parking space designations, as described above, and move to a more pro-active model of managing downtown parking, including charging for on-street parking in the Core Zone and Inner Zone. This is more complicated to implement and would require an up-front investment in ticket machines or meters. However, it would provide a revenue stream to fund parking management and potentially other downtown

enhancements; would provide a way to manage on-street parking availability, thus ensuring that drivers can find a space easily; and would discourage commuters from using on-street spaces that are needed for shoppers and visitors.

In a busy, desirable downtown such as Charlottesville, with a limited parking supply, it is difficult to provide both (a) free on-street parking and (b) assurance that customers and visitors can always find a convenient space. Charging for the most convenient spaces provides the most effective tool for managing the system and ensuring spaces are available. However, the Stakeholder Group believes that introducing charges for on-street parking is not realistic in the current economic situation.

The City should nevertheless try to make progress toward more pro-active management of downtown parking. Parking enforcement should be seen positively as an important means of making the best use of downtown parking spaces for shoppers and visitors. An important initial step should be to bring enforcement under the same roof as traffic engineering, as part of an integrated management structure for on-street parking. This would not only help to ensure an appropriate level of enforcement, but also allow the 'ambassador' or 'welcome' role to develop.

Parking Exempt Zone

The market is generally providing parking for developments within the Parking Exempt Zone (PEZ) at a similar level to the City's requirements for areas outside the PEZ. The PEZ is not currently causing any problems. Recent developments have been able to lease existing parking spaces in order to meet market needs (including financiers' requirements). However, the City is concerned that once these existing spaces are all in use, it may be less easy for the market to provide spaces for new developments. Practice varies widely in other cities – there is no one standard or 'correct' system.

The recommendation is to replace the PEZ with the following system:

- Set minimum parking standards, with the developer having the option of paying a fee in lieu of some or all of the parking required. The City would use in-lieu fees to provide a combination of parking and/or support for alternative modes of travel. We recommend setting this minimum standard at one parking space per residential unit, plus 50 percent of the required parking for non-residential uses already specified in the City's code. In-lieu parking fees should be set at a value that is proportionate to the cost of providing the intended off-site parking or transportation improvement, and at a value that is not so high that it will deter downtown development and/or encourage construction of on-site parking.

- Incentivize employer participation in travel demand management (TDM) programs. Encourage the implementation of employee transit pass, parking cash-out, car sharing, or similar travel demand management strategies by not only promotion but also allowing participation to count toward reductions in parking or in-lieu fee requirements. These strategies have the potential to reduce the demand for parking while encouraging additional walking, cycling, and transit use, in line with City goals.

- Expand permit parking and create parking benefit districts as needed. To avoid parking spillover into residential neighborhoods adjacent to downtown, it may be necessary to establish additional permit parking zones (such as currently exists in North Downtown), or parking benefit districts, which would allow neighborhoods to generate revenue by charging visitors to park on neighborhood streets.

Transit and Other Projects

It is estimated that around 1-2% of downtown employees (250-300 people) ride transit to work on a typical day. There is also likely a smaller number of downtown shoppers and visitors riding transit.

Three-quarters of downtown employees live outside the Charlottesville Urban Area. CTS does not serve them, nor could it realistically be expected to do so. This partly explains why the transit share (1-2%) is so low. It also limits the opportunities for growing transit ridership.

A concerted effort to provide a 'best in class' transit service within the Charlottesville Urban Area could, ambitiously, double the number of transit riders to downtown. This would liberate around 300 downtown spaces – enough to absorb a few years of growth or the closure of a significant parking lot, but not enough to change the dominance of car travel.

Parking supply and pricing have an important relationship with transit ridership. The more scarce and more expensive downtown parking is, the more people will ride transit. As with any city, this produces a dilemma for Charlottesville. If Charlottesville wishes to use transit to reduce downtown parking demand, it needs to be part of wider package of measures including:

- Using the supply and price of commuter parking to regulate demand.
- Providing good-quality, attractive alternative modes of travel, so that people can and will respond to the price signals. No one alternative mode will be suitable for everybody, so a balanced system of alternatives is needed.
- Continuing to develop TDM programs to support people who use the alternatives. The use of in-lieu fees would be an important step in this process.

The streetcar project, as currently envisioned, would provide a net increase of around 30 on-street parking spaces on Water Street, by reconfiguring the road layout with new spaces on the south side. Its other impacts on the downtown parking supply would be negligible. This parking study is likely to have no impact on the downtown wayfinding effort.

RECOMMENDATIONS

- Re-designate downtown on-street parking spaces to follow a simpler, more understandable pattern of zones with corresponding time limits:
    - A Core Zone (consisting of streets surrounding and adjoining the mall) with an emphasis on business loading needs, short visits to businesses (one-hour parking) and accessible (ADA) spaces.
    - An Inner Zone with the emphasis on two-hour parking, serving shoppers and other downtown customers and visitors.
    - An Outer Zone with the emphasis on unrestricted parking.
- Introduce additional loading spaces, and new categories of loading space, to meet particular needs in the Core Zone, as described in this report.
- Adopt policies for dealing with requests to change designation of spaces, as well as for construction and residential moving impacts, as described in this report.
- Create a City Parking Department, or a Parking Division within an existing City department, to provide full-time management of the parking system. This should include parking enforcement, to provide an integrated management structure for on-street parking. This would not only help to ensure an appropriate level of enforcement, but would also allow enforcement staff to perform an 'ambassador' or 'welcome' role in support of downtown.
- Replace the Parking Exempt Zone (PEZ) with minimum parking standards, with the developer having the option of paying a fee in lieu of parking. The City would use in-lieu fees to provide a combination of parking and/or support for alternative modes of travel.
- To support the new downtown parking standards and the overall management of downtown parking, the City should also:
    - Support and incentivize employer participation in travel demand management (TDM) programs.
    - Where needed, expand permit parking and create parking benefit districts.

Summary Action Plan

Action	Lead	Next Steps	Timescale	Cost
Re-designate on-street parking spaces	City Traffic Engineer	• Prepare detailed signing and striping plan • Prepare procedures and forms for Business Loading Permit • Prepare advisory leaflets etc. for businesses and visitors	• Plan in Winter 2008-9 • Implement in early 2009 • Review in Spring/Summer 2009	Low (signs, striping and permit administration)
Adopt policies for dealing with requests to change designation	City Traffic Engineer	• Prepare procedural details and forms	• Complete during Winter 2008-9 • Implement in early 2009 • Review in late 2009 or 2010	Negligible
Bring Enforcement within the same purview as parking management	City Traffic Engineer and Police Chief	• Determine personnel and budget implications • Develop transition plan	• Plan during Winter 2008-9 for possible implementation in 2009	Possible transitional costs (to be determined)
Replace the Parking Exempt Zone (PEZ) with minimum parking standards, with the developer having the option of paying a fee in lieu of parking	Neighborhood Development Services	• Develop draft ordinance language • Set up procedures for receiving and allocating fees-in-lieu • Set up formal and informal mechanisms for promoting TDM (e.g. within existing downtown partnership)	• Plan during 2009 as staff time allows • Possible implementation in 2009 or 2010	Mainly staff time and/or consultant fees

Contents

Figures

Tables

Maps (in Appendix)

1 Background and Study Process

1.1 Background

The City of Charlottesville is fortunate to have an active and vibrant downtown, including one of the most successful pedestrian malls in the nation. The aim of this study was to address three broad areas of concern about downtown parking and its contribution to the future economic health of downtown:

Parking concerns: Parking in the downtown area has been identified as a concern by residents, visitors and business owners. Closure of the mall to automobiles created a great asset to the community but has also created numerous parking challenges. Currently the side streets along the mall have an inconsistent mix of time-limited parking, loading zones and ADA spaces. The current arrangement does not appear to be meeting the needs of the business owners or residents. Additionally, there are wider concerns about the current and future availability of parking for downtown as a whole. The City therefore wished to understand the existing and forecast balance between supply and demand, and to understand whether reallocation of particular spaces would be helpful.

Parking Exempt Zone: Currently a significant portion of the City, including downtown and the West Main Street corridor toward the University, is contained in a Parking Exempt Zone (PEZ). This area is exempt from the parking requirements outlined in the City's Zoning Ordinance. Although the City has a goal of promoting use of transit, walking and cycling as modes of transportation, most new projects include parking based on their market research. The City therefore wished to understand whether the PEZ is still appropriate for today's needs.

Relationship between Parking and Transit: Stakeholders in Charlottesville are considering the possibility of a streetcar transit system on West Main Street to connect downtown Charlottesville and the University of Virginia. The 2005 report *Shaping Community with Transit*, which introduced the streetcar concept, recommended that the downtown parking strategy should be designed to work with transit. The City therefore wished to understand how the transit system and the parking system could contribute to each other's objectives.

1.2 Study Area and Process

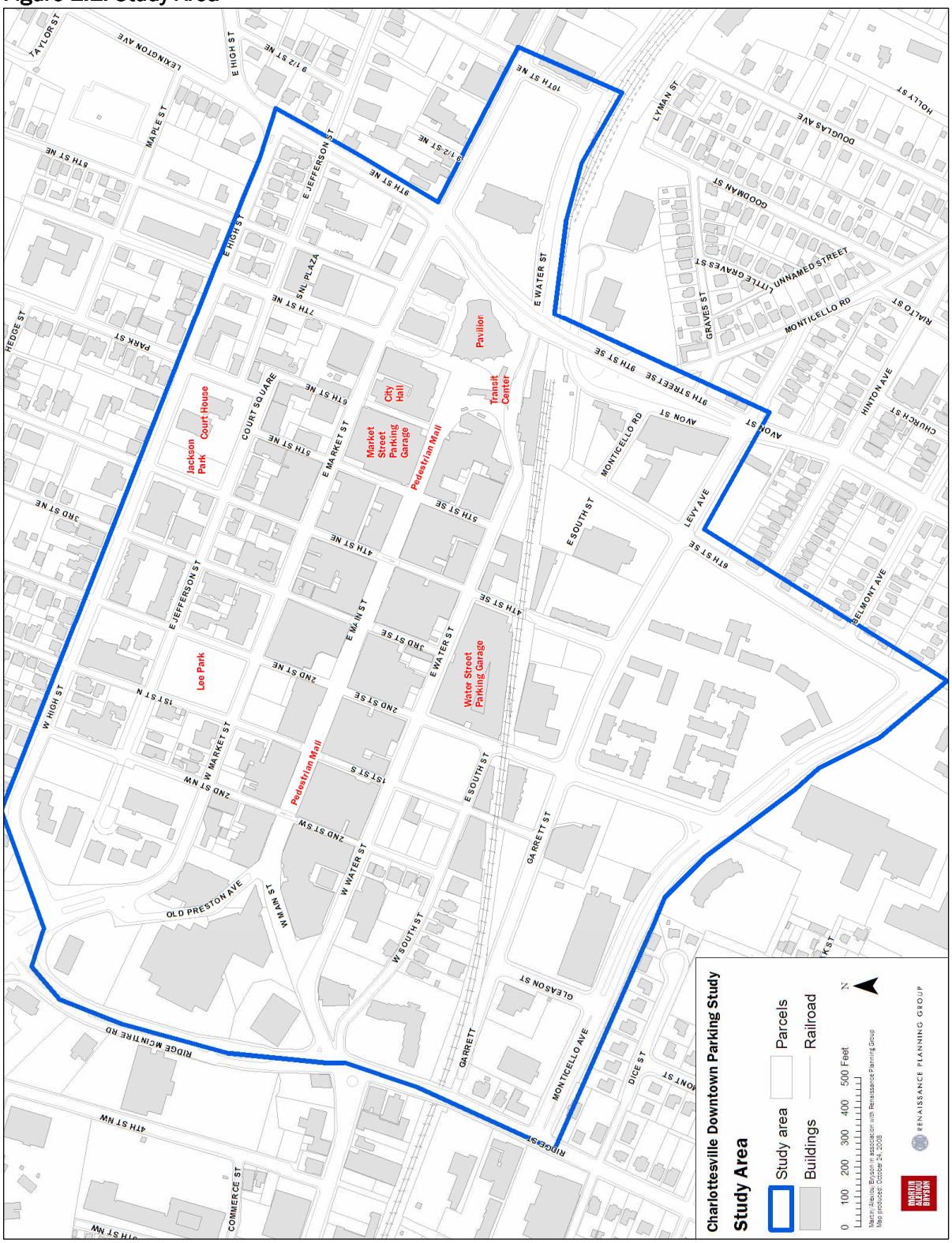
Figure 1.1 shows the study area.

The study team reported to a Stakeholder Group that included representatives of downtown merchants and other stakeholders, as well as representatives of the City.

Because the focus was on the needs of downtown businesses and their customers, the study addressed weekday daytime parking. Special events, evenings and weekends were beyond the scope of the study.

An inventory of downtown parking spaces was collected in April 2008. A comprehensive occupancy survey was undertaken on Thursday April 17, 2008 (when outdoor cafes were open) for the entire business day, in hourly cycles from 8am to 6pm. The survey date was chosen to be a time when outdoor seating had returned to the Mall and the University was still in session, as directed by the Stakeholder Group. The weather on the survey date was good. The Water Street and Market Street garages were recounted on Wednesday July 16, 2008, to corroborate the April data.

Figure 1.1: Study Area



2 Parking

2.1 Existing Parking Supply and Demand

2.1.1 Introduction and Key Points

This section describes the existing parking supply and existing demand levels, as well as evaluating use of the two-hour spaces in detail.

Supply and Demand Estimates:

- Downtown Charlottesville has approximately 6,000 spaces, of which about 5,000 (84%) are off-street and about 1,000 (16%) are on-street. The off-street spaces include 500 in the Market Street garage, 1,019 in the Water Street garage, and 125 in the Water Street lot alongside the garage.
- The study examined parking occupancy during a typical business day (weekends and special events were outside the scope of the study). Overall, there is enough parking for everyone on a typical business day. At the busiest time on the survey day, only 63% of spaces were occupied.
- However, the on-street parking is under stress. In particular, the two-hour spaces exceed 85% occupancy (the desirable maximum) for much of the day. This corroborates concerns about customer/visitor parking.
- There are approximately 800 spaces available in the public lots. ('Public lots' means lots for which the public can buy hourly or monthly parking, and includes privately-owned lots.) (Note that this refers to a typical business day. On busy weekend evenings with special events, the two main garages can be full or nearly full.)
- The private lots (lots that are restricted to employees or customers of a particular business) have approximately 1,200 available spaces. However, many of these lots are unsuitable for public parking (e.g. residential, very small lots, etc). Some are suitable for public parking if the owners see a market – currently this is unlikely due to the free on-street parking.

Existing Use of Two-Hour Spaces:

- The two-hour spaces were examined in more detail, because there are concerns about the 'Two-Hour Shuffle' of commuters using these spaces.
- The average length-of-stay in two-hour spaces is 1.6 hours, but this hides the fact that many stays exceed the time limit. We estimate that about 20% of stays are overstays.
- We estimate that at least 10% of vehicles using the two-hour spaces are either performing the 'Two-Hour Shuffle' or staying in the same space for four hours or more. Both of these groups are a problem, because they are not using the two-hour spaces as intended.
- Although these are a relatively small proportion of the vehicles, their all-day presence gives them a disproportionate impact on parking occupancy. At the busiest times of day, more than 30% of the two-hour spaces are occupied by these people. Without them, occupancy of the two-hour spaces would not have exceeded 75% at any time – a level that would make it much easier for genuine customers and visitors to find a convenient space.

Implications:

- The survey has therefore confirmed the suspicion that commuters (or other long-stay visitors) are creating a problem for short-stay visitors.

- The Stakeholder Group agreed that there should be a goal to encourage commuters out of the two-hour spaces, to free-up the supply for shoppers and visitors.
- There are easily enough spaces vacant in downtown to accommodate these commuters if they switch from 2-hour spaces. The potential concerns have been about the cost penalty (if they switch to off-street spaces) and time penalty (if they switch to either off-street spaces or peripheral on-street spaces).
- The time penalty of commuters parking further out is not a major issue. Already people are using time to look for a space, and/or to shuffle; this would be replaced with walk time.
- The cost penalty is a potential issue for some people (such as restaurant wait staff on lunchtime shifts). Some businesses reportedly cannot afford to pay their staff to park. The ideal is to provide a free peripheral parking lot, but it has not yet been possible to identify a suitable site. However, there are currently vacant on-street spaces, allowing free all-day parking, at the southern edge of the study area.

2.1.2 Parking Supply

Summary: Table 2.1 summarizes the parking supply in the study area. The area includes around 6,000 spaces, of which about 5,000 (84%) are off-street and about 1,000 (16%) are on-street.

Table 2.1: Summary of Parking Supply in Study Area, By Type of Space

Type	Spaces	% of on-street spaces	% of total spaces
Unrestricted	470	48%	8%
2-hour	265	27%	4%
1-hour	14	1%	0%
30-minute	32	3%	1%
15-minute	32	3%	1%
ADA	47	5%	1%
Government	36	4%	1%
Loading	67	7%	1%
Drop-off	7	1%	0%
Residential Permit	11	1%	0%
Total on-street	981	0%	16%
Private off-street	2,875	-	48%
Public off-street	2,142	-	36%
Total off-street	5,017	-	84%
Grand total	5,998	100%	100%

The 5,000 off-street spaces include:

- public spaces – in which the public can park for a monthly or hourly fee, and
- private spaces – restricted to certain users, such as employees or customers of a business.

Public off-street parking: There are eight public lots/garages, with a total of about 2,100 spaces. These include the two large garages, which are privately owned by Charlottesville Parking Center, Inc. (CPC).

The Market Street garage offers both monthly and hourly parking. There is currently a waiting-list for monthly parking. Hourly parking is available at $2 per hour with a daily maximum of $16. Of the 500 spaces, 450 are public and the remaining 50 are private (leased to the City police).

The Water Street garage also offers both monthly and hourly parking. Hourly parking costs $1.50 per hour with a daily maximum of $12. Of the 1,019 spaces, 843 are public and the remaining 176 are private (leased to specific businesses).

CPC also operates the Water Street parking lot, which has some monthly parkers but is no longer accepting monthly parking applications. Hourly parking in this lot costs $2 per hour with a daily maximum of $16.

The remaining public lots are operated by other companies.

Private off-street parking: The 89 private lots, plus the small number of private spaces in the two large garages, have a total of about 2,900 spaces.

On-street parking: The approximately 1,000 on-street spaces fall into a range of categories. About three-quarters of the on-street spaces are for general parking (that is, anyone can park there). This includes 470 spaces with unlimited time, 265 spaces with a maximum stay of two hours, and small numbers of one-hour, 30-minute and 15-minute spaces. All these spaces are free of charge. The time restrictions apply from 8:00 AM to 6:00 PM, Monday through Friday. The remaining one-quarter of the on-street spaces are 'specialist spaces', designated for particular types of user: ADA priority spaces, government spaces, loading spaces, drop-off spaces, and spaces for residential permit-holders.

2.1.3 Location of Spaces

Map 1 (see Appendix) shows all the parking spaces in the study area. Individual on-street spaces are color-coded according to their designation. Off-street public lots are shown in dark blue, and private lots in light blue.

Map 2 (see Appendix) shows only the on-street general spaces, color-coded according to their time limit. In general, the periphery of downtown has unrestricted parking and the core area of downtown has two-hour parking. Particularly busy areas (such as City Hall or the Courthouse) have one-hour, 30-minute or 15-minute spaces. This pattern is typical of a downtown area, and remains broadly appropriate.

Map 3 (see Appendix) shows the locations of the ADA, loading and drop-off spaces. These are spread across the downtown, with no particular pattern.

2.1.4 Parking Occupancy

Table 2.2 shows the occupancy (that is, the proportion of spaces that were occupied) for each type of space throughout the day. The survey was undertaken on a cyclical basis, and the hours listed represent the start of each cycle. This means, for example, that the 8 AM column denotes occupancy when each space was counted some time between 8 AM and 9 AM.

For general on-street parking, 85% is usually seen as the desirable maximum occupancy level. Above 85%, it becomes difficult for people to find a space near where they want to be. Too far below 85%, however, means that spaces are being wasted. For off-street parking, the desirable maximum is usually seen as 90% for visitors (including shoppers) and 95% for commuters.

On typical weekdays during the business day, there is currently enough parking overall for everyone. At the busiest time of the survey, which was 2 PM, there were fewer than 3,800 vehicles in the 6,000 spaces (63% occupancy). The total off-street parking supply is sufficient in both the public and private categories (Figure 2.2 and Map 4). However, the on-street parking is under stress. The timed parking (two hours or less, intended for visitors such as shoppers) is at 88%-90% occupancy for much of the day (Figure 2.1). Within this category, the two-hour spaces exceed 85% occupancy for much of the day, and indeed reached 97% occupancy at 4 PM. These spaces are examined in more detail below.

Table 2.2: Summary of Occupancy, by Type of Space and Hour – On-Street Spaces

(a) Occupancy of On-Street Spaces

		Occupancy (%)									
Type	**Spaces**	**8 am**	**9 am**	**10 am**	**11 am**	**12 pm**	**1 pm**	**2 pm**	**3 pm**	**4 pm**	**5 pm**
Unrestricted	470	73%	75%	75%	85%	83%	79%	82%	74%	58%	41%
2-hour	265	78%	80%	88%	93%	95%	86%	94%	94%	97%	90%
1-hour	14	36%	57%	50%	36%	43%	57%	57%	29%	29%	29%
30-minute	32	56%	70%	81%	81%	72%	91%	84%	81%	81%	78%
15-minute	32	53%	60%	78%	88%	78%	75%	72%	69%	69%	81%
ADA	47	62%	74%	70%	68%	77%	74%	66%	68%	60%	40%
Government	36	58%	33%	81%	64%	64%	61%	81%	58%	50%	61%
Loading	67	26%	34%	39%	41%	40%	51%	49%	53%	54%	65%
Drop-off	7	43%	75%	57%	57%	14%	14%	14%	57%	86%	71%
Residential Permit	11	82%	55%	64%	55%	55%	55%	73%	64%	73%	91%
All on-street spaces	981	68%	71%	77%	81%	80%	77%	81%	76%	69%	60%
All on-street parking (including illegal)	981	69%	72%	77%	82%	82%	78%	82%	77%	70%	61%
All general spaces (Unrestricted or timed)	813	72%	74%	83%	87%	86%	81%	85%	80%	71%	60%
All timed spaces	343	72%	73%	86%	89%	89%	85%	90%	88%	90%	86%

(b) Occupancy of Off-Street Spaces

(AM and PM snapshot surveys - considered reliable for the times shown)

		Occupancy (%)									
Type	**Spaces**	**8 am**	**9 am**	**10 am**	**11 am**	**12 pm**	**1 pm**	**2 pm**	**3 pm**	**4 pm**	**5 pm**
Private lots	2,875	n/a	n/a	54%	54%	n/a	n/a	57%	57%	n/a	n/a
Off-street public lots	2,142	n/a	n/a	50%	50%	n/a	n/a	62%	62%	n/a	n/a
All off-street lots	5017	n/a	n/a	53%	53%	n/a	n/a	59%	59%	n/a	n/a
Breakdown of off-street public lots:											
Market Street Garage (public spaces onl	450	n/a	n/a	60%	60%	n/a	n/a	71%	71%	n/a	n/a
Water Street Garage (public spaces only	843	n/a	n/a	46%	46%	n/a	n/a	55%	55%	n/a	n/a
Water Street Lot	125	n/a	n/a	15%	15%	n/a	n/a	34%	34%	n/a	n/a
All other off-street public lots	724	n/a	n/a	55%	55%	n/a	n/a	69%	69%	n/a	n/a

(c) Overall Parking Demand and Occupancy

		Demand									
Type	**Spaces**	**8 am**	**9 am**	**10 am**	**11 am**	**12 pm**	**1 pm**	**2 pm**	**3 pm**	**4 pm**	**5 pm**
On-street (including illegal)	981	678	621	755	805	810	767	805	759	686	595
Private lot	2,875	n/a	n/a	1,565	1,565	n/a	n/a	1,633	1,633	n/a	n/a
Off-street public lots	2,142	n/a	n/a	1,071	1,071	n/a	n/a	1,325	1,325	n/a	n/a
Total	5,998	n/a	n/a	3,391	3,441	n/a	n/a	3,763	3,717	n/a	n/a
Overall downtown parking occupancy				**57%**	**57%**			**63%**	**62%**		

Figures in orange indicate occupancy between 85% (desirable maximum) and 90%. Figures in red indicate occupancy above 90%. 'Illegal' means people parked in no-parking zones.

Figure 2.1: On-Street Parking Occupancy

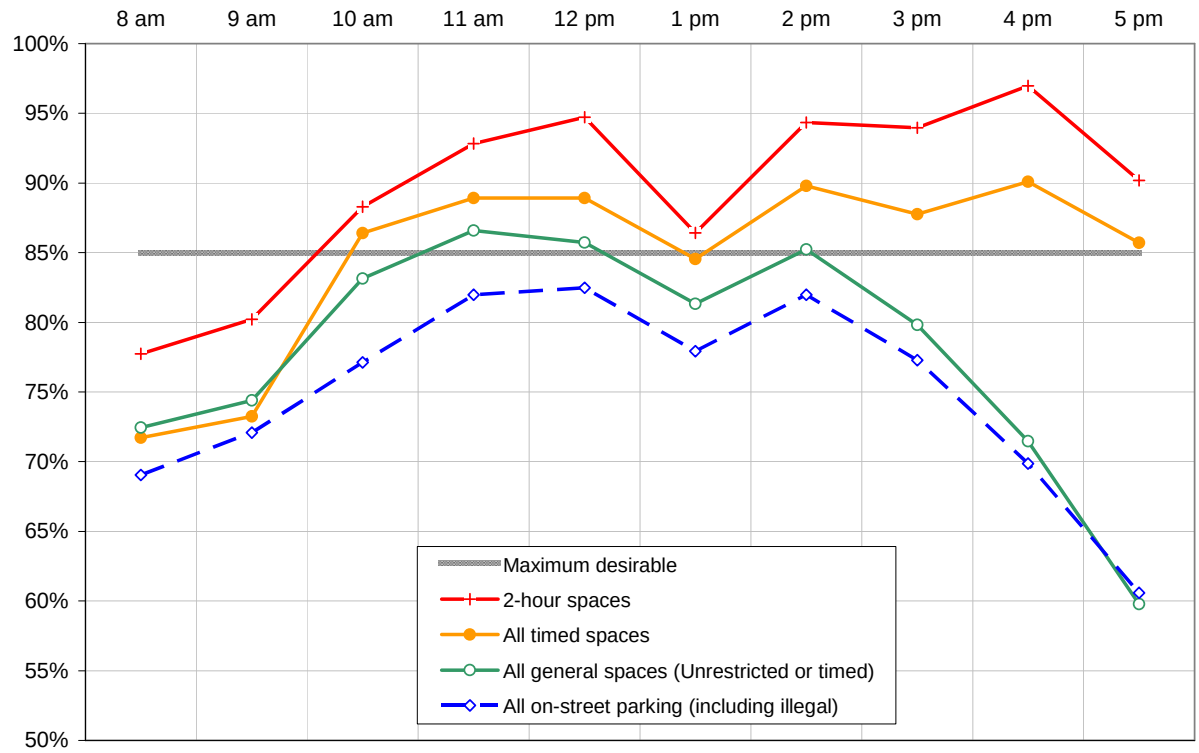
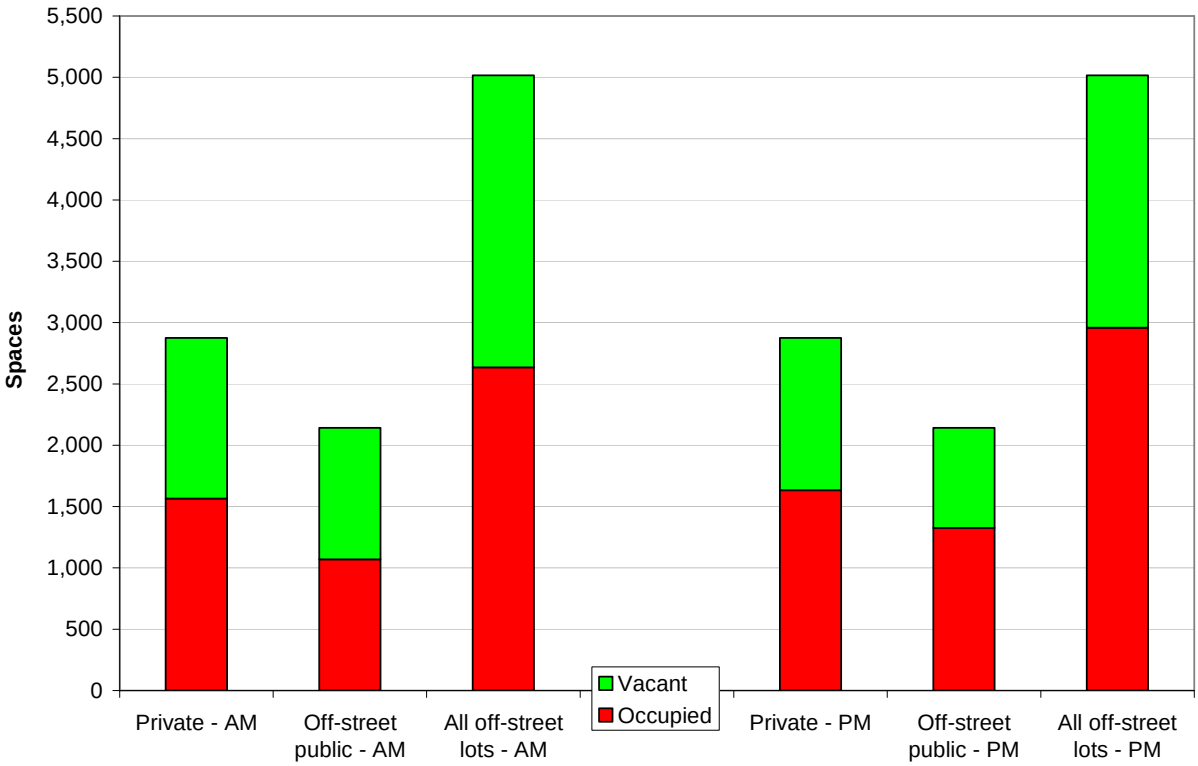


Figure 2.2: Off-Street Parking Occupancy



2.1.5 Parking Behavior in Two-Hour Spaces

Introduction

As described above, the two-hour parking spaces are under stress, with occupancy above 85% for much of the day. This suggests that the two-hour spaces are:

- fulfilling the intended role of short-stay visitor parking, but are too few to meet demand; or
- attracting more than the intended market (possibly including commuters); or
- a combination of both of these.

These spaces were therefore analyzed in more detail, to understand which of these explanations is correct.

Some important technical issues must be understood in order to interpret the results:

- Because the survey was undertaken hourly, the length-of-stay calculations are only approximate. For example, a vehicle that was recorded in the 9 AM and 10 AM count cycles (at around 9:30 and around 10:30) might have stayed for nearly three hours (8:35 through 11:25) or barely one hour (9:25 through 10:35). The vehicle is therefore assumed to have stayed approximately two hours. In this case, we cannot say for certain whether or not the vehicle overstayed the two-hour limit.
- Vehicles recorded in three consecutive counts will almost certainly have overstayed. For simplicity, these are referred-to as **Definite Overstays**. Because of slight variations in the counting cycle, it is theoretically possible that such a vehicle was parked legally. For example, a vehicle parked from 9:30 to 11:29 might have been recorded at 9:32, 10:30 and 11:28 – thus parking legally but appearing as a Definite Overstay. This possibility can be regarded as having a negligible impact.
- The survey was only undertaken during the restricted hours, and all data refer to this period. For example, a vehicle recorded for the first time in the 5 PM count cycle is recorded as staying about one hour or less, but in reality it might have stayed all evening (entirely legally).
- Some people recorded as overstaying may have had a disability permit.

Turnover

Table 2.3 summarizes the turnover – that is, the number of vehicles which used each space during the day. At one extreme, 25 spaces (9%) had eight vehicles during the course of the day. At the other extreme, eleven spaces (4%) had just one vehicle during the day (mostly due to one person parking all day, rather than lack of use) and two spaces (1%) had no observed use at all. Most spaces, however, saw four, five or six vehicles during the day. The average turnover was 5.3 vehicles per day.

Table 2.3: Turnover Distribution (Two-Hour Spaces)

	Number of different vehicles in the space during the day										
	0	1	2	3	4	5	6	7	8	9	Total
Spaces	2	11	8	15	44	50	71	38	25	1	265
%	1%	4%	3%	6%	17%	19%	27%	14%	9%	0%	100%

Length-of-Stay

Table 2.4 summarizes the length-of-stay – that is, how long a vehicle remained parked each time. Overall, approximately two-thirds of vehicles stayed about an hour or less. At lunchtime and in the early afternoon, more than three-quarters of vehicles arriving at that time stayed about an hour or less. These short stays are exactly what the two-hour spaces were intended for, so the high percentages are good news *unless* commuters are shuffling their cars (see below).

Another 20% stayed approximately two hours. As described above, it is not known how many of these vehicles stayed less than two hours (legal) or more than two hours (illegal).

The remaining 15% were Definite Overstays (approximately three hours or longer). Remarkably, 5% stayed for approximately four hours or longer; usually this involved staying in the same space all morning or all afternoon (some vehicles did both, in different spaces). A handful of vehicles stayed in the same space all day. The average length-of-stay was 1.6 hours, but this hides the fact that many were overstays. Allowing for the uncertainty at the two-hour limit, we estimate that about 20% of stays were overstays.

It is noticeable that 35% of the vehicles arriving at 8 AM overstayed. This figure is inflated by the all-day parkers (5% of 8 AM arrivals), but also reflects many people staying all morning (four-hour or five-hour stays, 9% of the 8 AM arrivals).

Table 2.4: Length-of-Stay, By Arrival Time (Two-Hour Spaces)

(a) Length-of-Stay, by Arrival Time

	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	All arrivals
Approx. 1 hour or less	117	19	64	66	120	122	129	71	75	126	909
Approx. 2 hours	17	16	52	49	17	13	24	43	47		278
Approx. 3 hours	40	5	14	8	5	12	9	39			132
Approx. 4 hours	17	1	1	2	0	10	8				39
Approx. 5 hours	2	0	4	4	2	7					19
Approx. 6 hours	1	0	2	1	1						5
Approx. 7 hours	1	1	0	2							4
Approx. 8 hours or more	11	0	2								13
Total	206	42	139	132	145	164	170	153	122	126	1399
Hours stayed (approx.)	450	77	262	236	185	259	236	274	169	126	2274
Average length of stay (approx.) (see notes 1 and 2)	2.2	1.8	1.9	1.8	1.3	1.6	1.4	1.8	1.4	1.0	1.6

(b) As % of People Arriving at That Time

	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	All
Approx. 1 hour or less	57%	45%	46%	50%	83%	74%	76%	46%	61%	100%	65%
Approx. 2 hours	8%	38%	37%	37%	12%	8%	14%	28%	39%		20%
Approx. 3 hours	19%	12%	10%	6%	3%	7%	5%	25%			9%
Approx. 4 hours	8%	2%	1%	2%	0%	6%	5%				3%
Approx. 5 hours	1%	0%	3%	3%	1%	4%					1%
Approx. 6 hours	0%	0%	1%	1%	1%						0%
Approx. 7 hours	0%	2%	0%	2%							0%
Approx. 8 hours or more	5%	0%	1%								1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Definite Overstays	35%	17%	17%	13%	6%	18%	10%	25%	0%	0%	15%
Definite or Possible Overstays (see note 3)	43%	55%	54%	50%	17%	26%	24%	54%	39%	0%	35%

Notes:
(1) This table excludes time spent parked before or after the restricted hours.
For example, someone arriving just before the 4pm count and staying all evening would count as approx. 2 hours.
Someone arriving at 6am and leaving between the 8am and 9am counts would count as 1 hour.
(2) Average length of stay is approximate only. Because of the hourly survey counts, people staying less than one hour are counted as staying approximately one hour. People staying more than 8 hours are counted as staying 8 hours; this has a negligible effect.
(3) The Definite Overstays are people staying approx. 3 hours or more. The Possible Overstays are people staying approx. 2 hours (i.e. present in exactly two consecutive counts). There are 'possible' because they could have stayed (for example) 1 hour 10 mins, or 2 hours 50 mins - there is no way to be sure whether they stayed more or less than two hours.
These two lines thus show a lower and upper bound for the percentage of overstays.

Length-of-stay and number of visits, by vehicle

The length-of-stay analysis above was looking at individual stays, with no sense of which particular vehicles were involved. Now the analysis turns to understanding the behavior of individual vehicles. Table 2.5 shows how many separate stays each vehicle made in downtown, and also shows the longest stay made by each vehicle.

Because the table is complicated, some examples are given at the foot of the table to help. Remember that this analysis looks at the *two-hour* spaces. Vehicles which visited downtown but never used a two-hour space do not appear here. Similarly, some vehicles that used a two-hour space may have used another type of space, but only their use of two-hour spaces appears here.

The vast majority of vehicles (82%) visited only once. Most of these single-visit vehicles stayed for approximately one or two hours (which is the intended use of these spaces), but some stayed longer and a few stayed all day. A small but significant number of vehicles (13%) made two visits, and few (5%) made more than two visits.

The majority of vehicles (62%) never stayed beyond approximately one hour in any space. Another 20% stayed approximately two hours; we cannot tell how many of these stayed slightly beyond two hours, but it is reasonable to say that 60-80% of vehicles stayed within the rules or nearly so.

At least 18% of vehicles overstayed at least once. This is a cause for concern, because it is a substantial proportion of the users. (Note that this is 18% of *vehicles*, whereas Table 2.4 referred to 15% of *stays*. This is not a discrepancy.)

Table 2.5: Number of Stays, and Longest Stay, per Vehicle (Two-Hour Spaces)

(a) Number of vehicles

	Longest stay (hours, approx.)									Definite	D.O. as % of
Stays	1	2	3	4	5	6	7	8	Total	Overstayer	this group
1	613	160	67	22	14	3	3	12	894	121	14%
2	50	46	30	6	3	2	1	1	139	43	31%
3	8	8	12	6	1	-	-	-	35	19	54%
4	2	5	10	3	-	-	-	-	20	13	65%
5	-	1	2	1	-	-	-	-	4	3	75%
6	-	2	-	-	-	-	-	-	2	-	0%
Total	673	222	121	38	18	5	4	13	1,094	199	18%

(b) As percentage

	Longest stay									Definite
Stays	1	2	3	4	5	6	7	8	Total	Overstayer
1	56%	15%	6%	2%	1%	0%	0%	1%	82%	11%
2	5%	4%	3%	1%	0%	0%	0%	0%	13%	4%
3	1%	1%	1%	1%	0%	-	-	-	3%	2%
4	0%	0%	1%	0%	-	-	-	-	2%	1%
5	-	0%	0%	0%	-	-	-	-	0%	0%
6	-	0%	-	-	-	-	-	-	0%	-
Total	62%	20%	11%	3%	2%	0%	0%	1%	100%	18%

Example: 894 vehicles (82% of total) made only one stay. This includes 613 vehicles that stayed approximately one hour or less. But it also includes 12 vehicles that stayed for approximately eight hours.

Example: 139 vehicles (13% of total) made two stays. Of these, 43 (4% of total) had a longest stay of three hours or more, making them Definite Overstayers.

Example: Two vehicles each made six separate stays. Neither of those vehicles stayed longer than approximately two hours in any one space.

Note: For technical reasons, vehicles that stayed for longer than eight hours are included in the eight hours category. This has a negligible effect on the results.

The 15% of *stays* in Table 2.4 is not the same measurement as the 18% of *vehicles* in Table 2.5; this is not a discrepancy. Vehicles with fewer stays were less likely to have an overstay than vehicles with more stays (see final column of (a)). The total number of stays was dominated by the people with fewer stays, because of their sheer weight of numbers. This is why the proportion of *stays* overstayed is less than the proportion of *vehicles* with an overstay.

Estimated impact of commuter parking in two-hour spaces

The final element of the analysis is to estimate the balance between short-term visitors and people who are in downtown all day.

Some people may be in downtown all day but move their car from one two-hour space to another during the course of the day. These may be visitors making multiple stops in a single visit to downtown, or they may be commuters who use the two-hour spaces for convenience and move their cars around to avoid tickets (the 'Two-Hour Shuffle'). In this analysis, these people are termed **Shufflers**. We assumed that any vehicle making more than one stay of two hours or more is a shuffler. This assumption will likely include a few people who are not shufflers (for example, people making separate morning and afternoon visits to downtown), and exclude a few people who are shufflers (for example, people who moved their cars at the same time as the count and were therefore under-counted, and people who self-validate a two-hour stay in a garage as part of their shuffle). Overall, the estimated number will be reasonable.

Others may be in downtown all day but simply leave their vehicle beyond the time limits rather than performing the Two-Hour-Shuffle. Someone who stays approximately three hours may be a shopper overstaying, or may be a commuter who is late for the Two-Hour Shuffle. Someone who stays approximately four hours or more is more likely to be a commuter (several of these people stayed four hours in one space, then a gap for lunch, then four hours in another). We therefore identified people who stayed four hours or more in one space as **Major Overstayers.** Some major overstayers may have disability permits, entitling them to stay for an indefinite duration, but this will likely have a minimal effect on the results.

Table 2.6 divides the vehicles into these categories. Of the 1,094 individual vehicles that used the two-hour spaces during the day, about 50 (5%) were Shufflers and about 80 (7%) were Major Overstayers. Some vehicles were in both categories. Overall, about 10% of vehicles using the two-hour spaces were either Shufflers or Major Overstayers. Another 9% were Definite Overstayers, a category which likely includes visitors as well as commuters.

This is an important result. The expectation had been that commuters making the two-hour shuffle would be a significant issue. In fact, the results suggest that two problems are significant: not only the two-hour shuffle, but also major overstays. We believe that both of these problems are attributable to commuters. Shorter overstays (the three-hour stays) are also significant, but are less clearly attributable to commuters rather than visitors.

Although the Shufflers and Major Overstayers are a relatively small minority of people, their all-day presence gives them a disproportionate impact on parking occupancy. Table 2.7 summarizes the number of spaces that were occupied at each hour by the Shufflers and Major Overstayers. At the busiest times of day, more than 30% of the two-hour spaces are occupied by Shufflers and Major Overstayers. Without the Shufflers and Major Overstayers, occupancy of the two-hour spaces would not have exceeded 75% at any time. This is shown on Figure 2.3.

Table 2.6: Summary of Parking Behavior in Two-Hour Spaces

	# of vehicles	% of vehicles
Vehicles using 2-hour spaces	1,094	100%
Shuffler	51	5%
Definite overstayer	199	18%
Major overstayer	78	7%
Shuffler or major overstayer	113	10%
Other definite overstayer	94	9%
None of the above	887	81%

Shuffler = more than one stay of two hours or more
Probable overstayer = seen at three consecutive hours in same space
Major overstayer = at least one stay of four hours or more in same space
Vehicles can fall into any combination (or none) of these categories.
The final three lines of the table count all vehicles exactly once.

Table 2.7: Impact of the Two-Hour Shuffle and Major Overstays on Occupancy of Two-Hour Spaces

(a) Two-Hour Shuffle

	8 am	9 am	10 am	11 am	12 pm	1 pm	2 pm	3 pm	4 pm	5 pm
Spaces occupied by shufflers	24	25	41	46	40	34	35	41	38	19
As % of 2-hour spaces	9%	9%	15%	17%	15%	13%	13%	15%	14%	7%

(b) Major Overstays

	8 am	9 am	10 am	11 am	12 pm	1 pm	2 pm	3 pm	4 pm	5 pm
Spaces occupied by major overstayers	40	38	49	59	44	55	62	58	51	30
As % of 2-hour spaces	15%	14%	18%	22%	17%	21%	23%	22%	19%	11%

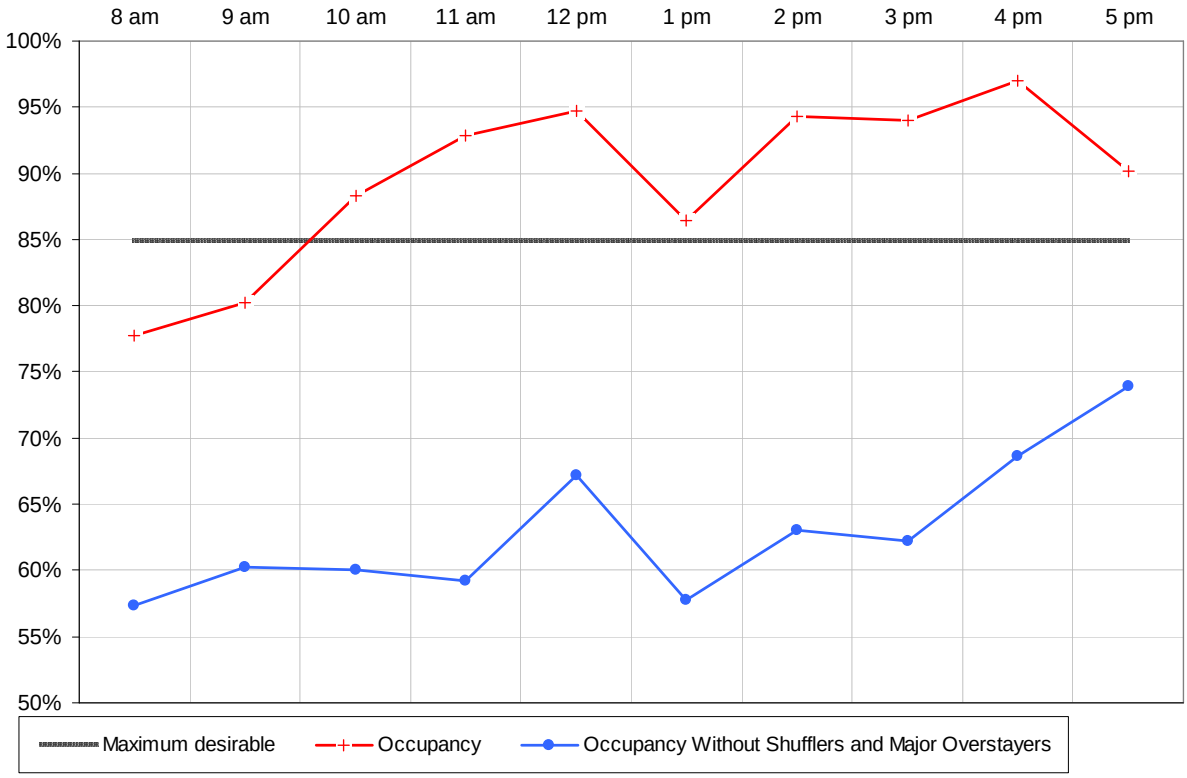
(c) Combined

	8 am	9 am	10 am	11 am	12 pm	1 pm	2 pm	3 pm	4 pm	5 pm
Spaces occupied by shufflers or major overstayers	54	53	75	89	73	76	83	84	75	43
As % of 2-hour spaces	20%	20%	28%	34%	28%	29%	31%	32%	28%	16%

(d) What if the Shufflers and Major Overstayers Were Removed?

	8 am	9 am	10 am	11 am	12 pm	1 pm	2 pm	3 pm	4 pm	5 pm
Occupancy	78%	80%	88%	93%	95%	86%	94%	94%	97%	90%
Shufflers and Major Overstayers	20%	20%	28%	34%	28%	29%	31%	32%	28%	16%
Occupancy without them	57%	60%	60%	59%	67%	58%	63%	62%	69%	74%

Figure 2.3: Occupancy of Two-Hour Spaces



2.2 Future Developments and Demand Growth

2.2.1 Introduction and Key Points

This section examines the potential for increased parking demand arising from future downtown developments, and examines whether that increase can be accommodated within the existing parking supply.

- Planned downtown development is forecast to generate demand for approximately 1,700 parking spaces during business hours on a typical weekday.
- If all these developments come to fruition, additional parking spaces (and/or travel demand management (TDM) aimed at reducing the parking demand) may be needed in the future.

2.2.2 Future Developments and their Parking Demand Rates

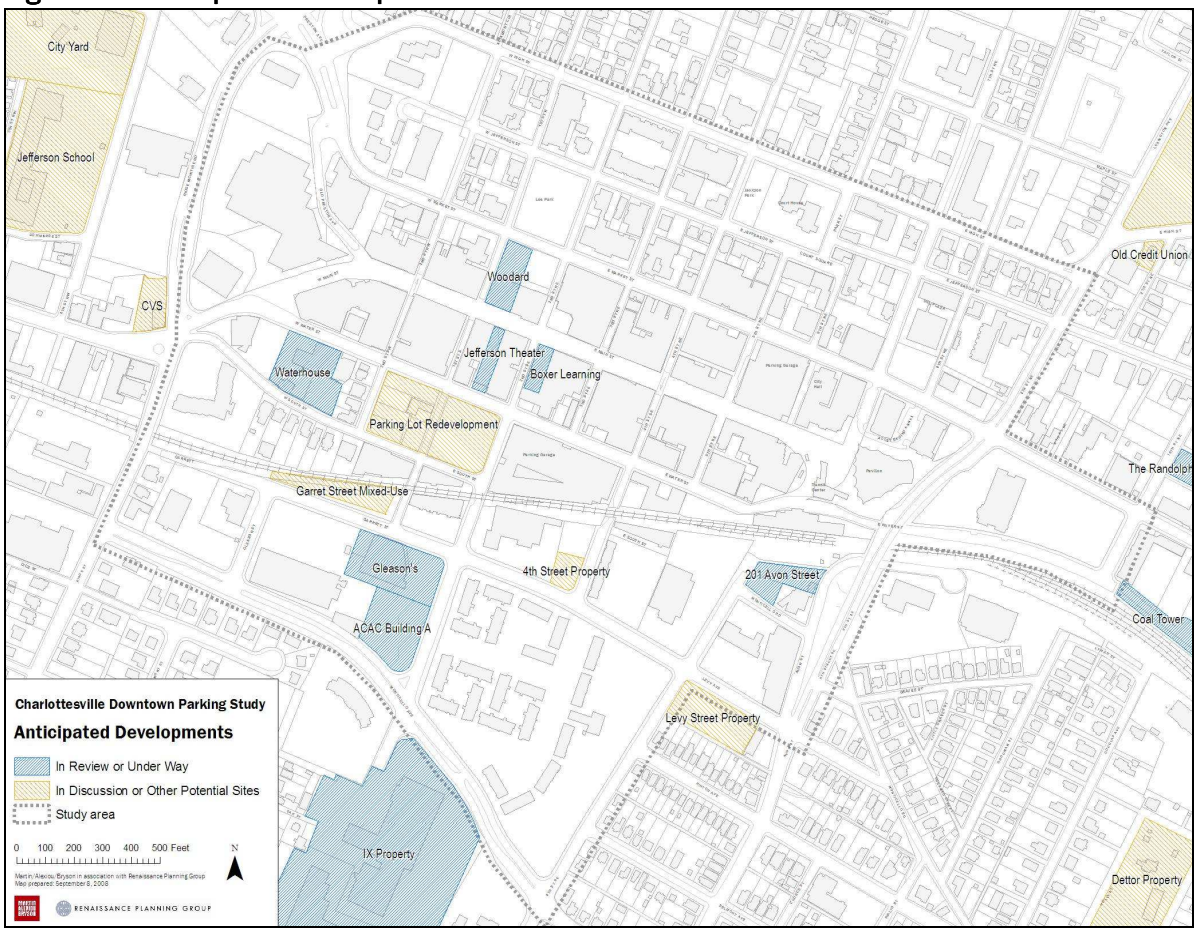
Figure 2.4 and Table 2.8 show the anticipated developments in downtown Charlottesville, according to data supplied by the City's Department of Neighborhood Development Services. The list includes not only developments that are currently in the planning process but also those which are anticipated to begin the planning process in the near future.

The table also shows the estimated parking demand (during business hours on a typical weekday) from each project. Wherever possible, the rates given in the Institute of Transportation Engineers' Report *Parking Generation* (3rd edition, 2004), which is a widely accepted manual, were used. However, the report's data are limited, and in some cases expert judgment was required to estimate a suitable demand rate. Because the study area is a downtown with a mixture of uses, the opportunity to walk from one location to another, and substantial transit service, the parking demand is likely to be lower than the rates in the manual. In line with standard practice, a percentage reduction has been applied to the manual rates to reflect this. The 20% reduction used is a typical level for a downtown of this size.

As shown in Table 2.8, the total estimated demand growth from the anticipated projects during business hours on a typical weekday is approximately 1,700 spaces. This includes an estimated 600 spaces due to the Water Street lot redevelopment, which is still at an early stage of planning; the redevelopment will itself eliminate more than 200 existing spaces but may include on-site parking, depending on the outcome of the design. The outcome of that site is therefore a key factor influencing future parking needs.

The estimated demand growth of approximately 1,700 spaces cannot be accommodated solely within the approximately 800 currently available spaces in the public off-street lots. Some private lots may be suitable for public parking if owners have available spaces and see a market, but this may not be enough to accommodate the remainder of the forecast demand growth. If all the forecast developments come to fruition, additional parking spaces (and/or travel demand management (TDM) aimed at reducing the parking demand) may therefore be needed in the future.

Figure 2.4: Anticipated Developments in Downtown Charlottesville



Source: Department of Neighborhood Development Services. Data correct at time of collection (Spring 2008).

Table 2.8: Forecast Parking Demand from Anticipated Developments

Location	Use	Amount	ITE #	Rate	Demand	Reduction for transit, TDM	Total Demand
Gleason's	Residential (units)	44	230	1.46	64	20%	51
	Office (sq ft)	52,846	701	2.4	127	20%	101
	Retail (sq ft)	17,865	820	2.65	47	20%	38
ACAC Building A	Office (sq ft)	43,500	701	2.4	104	20%	84
201 Avon Street	Residential (units)	116	230	1.46	169	20%	135
	Hotel and Spa	n/a					
Waterhouse	Residential (units)	58	230	1.46	85	20%	68
	Retail (sq ft)	9,500	820	2.65	25	20%	20
Jefferson Theater (note 1)	Theater (max occupancy)	1,200	444	0.17	203	20%	162
Boxer Learning	Hotel (rooms)	97	310	0.91	88	20%	71
	Restaurant (sq ft)	4,500	932	5.55	25	20%	20
Woodard (note 2)	Office (sq ft)	15,000	701	2.4	36	20%	29
	Retail (sq ft)	5,000	820	2.65	13	20%	11
	Residential (units)	200	230	1.46	292	20%	234
Garret Street Mixed-Use	Retail (sq ft)	9,101	820	2.65	24	20%	19
	Residential (units)	25	230	1.46	37	20%	29
Water Street Parking Lot Redevelopment	Unknown - anticipated demand supplied by City of Charlottesville				600	-	600
Norcross Station (corner of Garrett St)	Residential (units)	24	230	1.46	35	20%	28
Total					**1,975**		**1,700**

Notes:

(1) The Jefferson Theater is expected to have a maximum occupancy of 1,200, but this is only likely to be reached for weekends, evenings and special events. The rate used in this table corresponds to ITE data on typical weekday daytime parking demand, rather than the evening or weekend maximum.

(2) Woodard is expected to have 20,000 sq ft of office and retail, but the breakdown between the two is not yet known and has therefore been estimated for this table.

Martha Jefferson Hospital is excluded from these figures because plans for that site are still unclear. The Coal Tower site is excluded from these figures because the site plan indicates that the development will be self-sufficient for parking.

2.3 Recommended On-Street Parking Plan

2.3.1 Introduction and Key Points

This section summarizes the study's recommendations for on-street parking.

- The City should re-designate downtown on-street parking spaces to follow a simpler, more understandable pattern of zones with corresponding time limits:
  - A Core Zone (streets surrounding and adjoining the mall) with an emphasis on business loading needs, short visits to businesses (one-hour parking) and accessible (ADA) spaces.
  - An Inner Zone with the emphasis on two-hour parking, serving shoppers and other downtown customers and visitors.
  - An Outer Zone with the emphasis on unrestricted parking.
- The City should introduce additional loading spaces, and new categories of loading space, to meet particular needs in the Core Zone, as described in this report.
- The City should adopt policies for dealing with requests to change designation of spaces, as well as for construction and residential moving impacts, as described in this report.

2.3.2 Recommended Zones and Time Limits for On-Street Parking

Downtown parking should follow a simpler, more understandable pattern of zones with corresponding time limits. Figure 2.5 shows the recommended zones, which are:

- A Core Zone, representing streets surrounding and adjoining the Mall, where the emphasis is on business loading needs, short visits to businesses (one-hour parking) and accessible (ADA) spaces.
- An Inner Zone representing the time-limited spaces outside the Core Zone. The emphasis in this zone would be on two-hour parking to serve shoppers and other downtown customers and visitors. Loading, ADA and one-hour spaces should be provided where these are needed in specific locations.
- An Outer Zone, covering the remainder of the study area. This zone would have unrestricted parking. Loading, ADA and one-hour spaces should be provided where these are needed in specific locations.

This recommendation is in line with the general parking management principle that the shortest stays deserve the most convenient parking spaces. It also aims to:

- Make it clear to people where they should be trying to park, once they know how long they plan to stay.
- Reduce 'hunting' for spaces and preserve the most convenient spaces for shoppers and customers rather than 'two-hour shuffle' commuters.

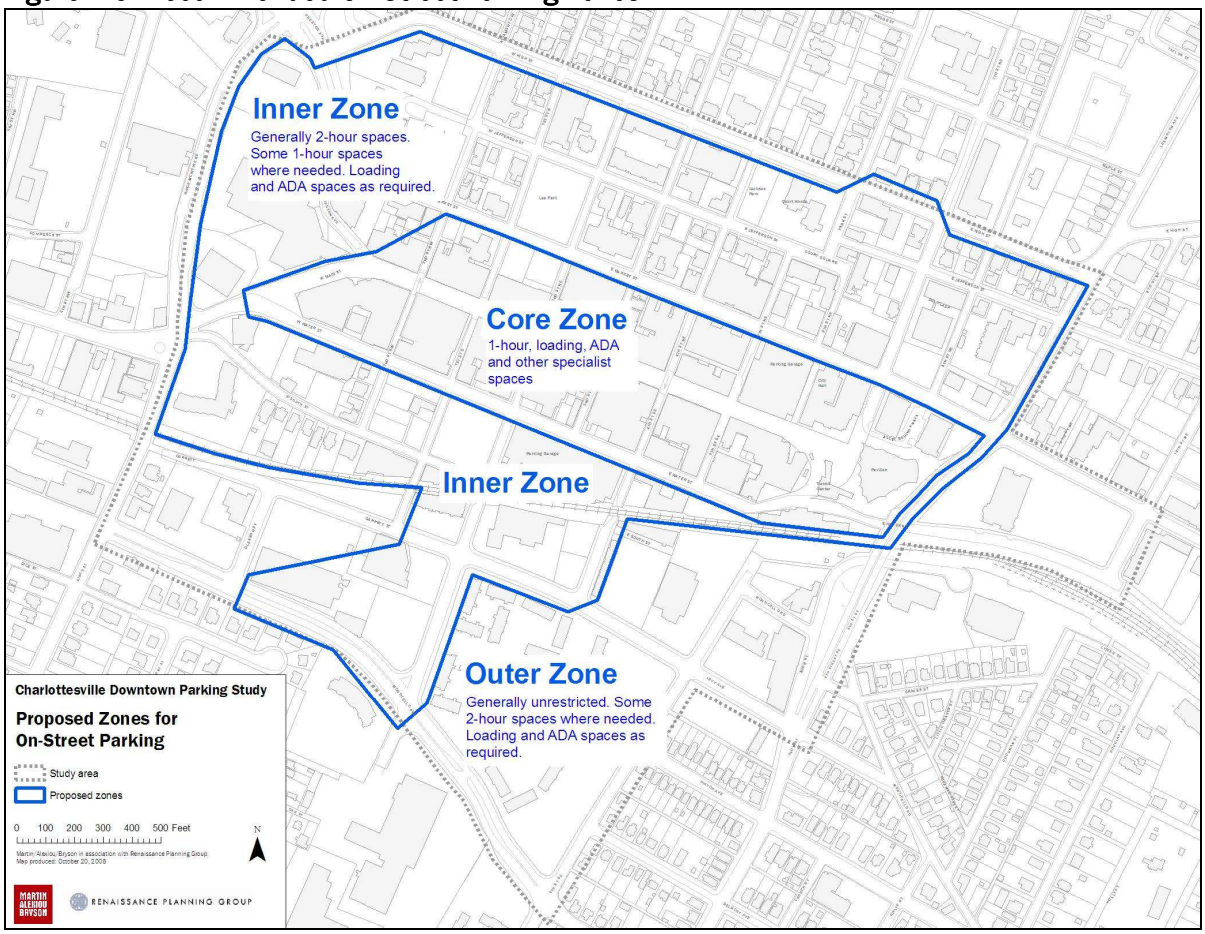
The time limits on general parking spaces should be simplified to correspond to the zone:

- 15-minute and 30-minute spaces should all become one-hour spaces. The Stakeholder Group recommended a one-hour limit as being the most appropriate for the core zone of Downtown Charlottesville.
- The small number of existing one-hour spaces outside the core zone should be converted to two-hour spaces.

The recommended Inner Zone extends to areas south of the railroad that currently have unrestricted spaces. This is partly to reflect existing and anticipated commercial developments in that area, and partly to replace the two-hour spaces in the core zone that are recommended for conversion to other designations. The unrestricted spaces that fall within the Inner Zone should be converted to two-hour spaces in line with the zone designation.

Map 5 (see Appendix) shows how the on-street spaces would be designated in accordance with these zones. A full field survey was carried out in the Core Zone, and the proposed designations in this zone are described in more detail in the following section. Outside of the Core Zone, the proposed designations shown on the map simply reflect the existing status of each space and the recommended zonal policy; adjustments could be made to specific spaces if required at the time of implementation.

Figure 2.5: Recommended On-Street Parking Zones



2.3.3 Designation of Spaces in the Core Zone

Because of the importance of the Core Zone, this zone was addressed in detail, including a detailed site survey. Map 6 (see Appendix) shows the existing and proposed spaces in this zone. Table 2.9 shows the existing and proposed number of spaces in each category. For ease of reference, Map 7 (see Appendix) shows only the loading spaces.

The key changes are:

- Providing many additional loading spaces before 11:00 AM (the busiest time of day for loading). After 11:00 AM, many of these spaces become ordinary one-hour parking spaces, and the number of loading spaces after 11:00 AM will be similar to today's number.

- Introducing a number of permit-controlled spaces (shown as L4 and L5 on the map) that are designed for non-commercial vehicle loading. Permits for these spaces would be available to downtown businesses. These are mainly the loading spaces on the stub-end streets leading to the mall. Currently, large commercial vehicles use these spaces, leading to problems when they need to back out. The L4 and L5 categories are designed to keep the commercial vehicles on the through-streets (where additional loading spaces have also been provided).
- Eliminating general parking on some of the stub-end streets – partly to provide additional loading space and partly to discourage people from 'hunting' for a parking space on these streets. The only general parking spaces remaining on stub-end streets are those which serve particular facilities such as an ATM.
- Converting 15-minute, 30-minute and two-hour spaces to one-hour spaces (or loading spaces), in line with the overall strategy for downtown.

The City is considering changing its method of trash pick-up, with the possibility of using wheeled dumpsters that businesses move out into the road in time for pick-up. If this is adopted, the proposed spaces will need to be reviewed. It is likely that some of the loading spaces would need to be converted to 'trash until 11 AM' or a similar designation.

Table 2.9: Proposed Changes to Core Zone Parking Spaces

Code on map	Type of Space	Existing Spaces	Proposed Spaces
L1	Loading at all times	33	23
L2	Loading until 6 PM; drop-off after 6 PM	-	3
L3	Loading until 11 AM; one-hour parking after 11 AM	-	33
L4	Loading by permit at all times	-	8
L5	Loading by permit until 11 AM; one-hour parking after 11 AM	-	6
	ADA priority	24	24
	Two-hour parking	19	-
	One-hour parking	2	29
	30-minute parking	11	-
	15-minute parking	23	-
	Drop-off	4	1
	Motorcycle	-	2
	Government	3	3
	Total	119	132

2.3.4 Recommended Policies for Changing Space Designations

Currently the City deals with requests to change space designations on a case-by-case basis. The City should adopt a policy that allows flexibility to meet changing needs but does not compromise the basic principle of the zones and create a piecemeal parking system. The policy should include the following:

- Any proposed changes should still conform to the general zone principles.
- The following requests should normally be allowed:
    - Expand/contract a zone boundary to meet an identified need.
    - Convert general parking to/from loading or ADA spaces.
    - Change time limits, if the proposed time limit is still appropriate to that zone.

- The following requests should normally be refused:
    - Change to a non-standard time limit.
    - Change to a time limit not appropriate to that zone.

Construction projects often eliminate one or more spaces close to the site, either to provide a staging area for materials or to provide parking for construction equipment. Construction projects should still be able to make use of spaces in this way. However, it is important to ensure that loading and other specialist needs are still met. The policy for construction projects should therefore be as follows:

- The City Traffic Engineer can approve temporary use of spaces for construction projects.
- Where a construction project takes over a loading, ADA or other specialist parking space, the City Traffic Engineer should have the discretion to adjust other nearby spaces for the duration of the project to ensure the specialist needs are still met. For example, if a loading space is taken for construction, an adjacent 1-hour space could be converted to loading at the same time.
- Where a construction project takes over a general parking space (for example, a one-hour space), no consequential changes are needed.

Residential moving needs should also be handled through a similar process. However because the needs are generally for one day only, the space(s) should normally be 'reserved' for moving that day, with no consequential changes to other spaces. (This is similar to the way theater vehicles are currently handled on Market Street.) The City Traffic Engineer should, however, have the discretion to designate the appropriate space(s) to be reserved in each case.

2.4 Additional Considerations for Parking Management

2.4.1 Introduction and Key Points

This section describes some additional considerations for managing parking in downtown Charlottesville.

- Current best-practice in downtown parking management is to move away from a reactive approach to one which involves pro-actively managing parking as a component of a downtown's success. Typical elements adopted in similar cities include:
    - Creating a City Parking Department, or a Parking Division within an existing City department, to provide full-time management of the parking system.
    - Treating parking enforcement as an ambassador/welcome role as much as a ticketing role.
    - Using on-street parking fees to cover management costs and to create revenue for downtown booster programs.
    - Adopting an occupancy target for general on-street parking, with rates set accordingly, so that the convenient spaces are never totally full and customers and visitors can therefore always find a convenient space.
    - Using modern meters or multi-space 'pay stations'.
- In a busy, desirable downtown such as Charlottesville, with a limited parking supply, it is difficult to provide both (a) free on-street parking and (b) assurance that customers and visitors can always find a convenient space. Charging for the most convenient spaces provides the most effective tool for managing the system and ensuring spaces are available. However, the Stakeholder Group believes that introducing charges for on-street parking is not realistic in the current economic situation.

- The City should nevertheless try to make progress toward more pro-active management of downtown parking. An important initial step should be to bring enforcement under the same roof as traffic engineering, as part of an integrated management structure for on-street parking. This would not only help to ensure an appropriate level of enforcement, but also allow the 'ambassador' or 'welcome' role to develop.

2.4.2 Best-Practice In Downtown Parking Management

Current best-practice in downtown parking management is to treat it pro-actively as a key factor in the success (or otherwise) of the downtown economy, and to link parking management with wider efforts to promote downtown. This approach can include:

- Creating a City Parking Department, or a Parking Division within an existing department, to provide full-time management of the parking system.
- On-street parking fees are used not only to cover management costs but also to create revenue for downtown booster programs (potentially also downtown TDM promotion). Boulder, Colorado is a well-known example of this approach. Other case studies are given below.
- Treating parking enforcement as an ambassador/welcome role as much as an enforcement role. Some cities have parking enforcement officers in friendly uniforms with a brief to assist visitors and shoppers. In Boulder and some other cities, short overstays at paid on-street spaces are not ticketed the first time. Instead, a friendly 'we have given you extra time' note is placed on the windshield; the downtown business community pays the City for this 'free' extra time.
- Adopting an 85% occupancy target for on-street general parking, representing the best balance between use/income and ensuring spaces are always available. Meter rates are periodically adjusted as required to achieve that target. (See Redwood, California case study below.)
- Using modern meters or multi-space 'pay stations'. These are more flexible than traditional cash-only meters, as they can allow payment by card, cellphone or meter key.

A range of organizational and financial structures are available for managing downtown parking. These include Business Improvement Districts (BIDs), 'parking tax districts', and parking management partnerships. If the City preferred to move away from the traditional model of funding and operation, it could investigate these options.

2.4.3 Possible Charging Model for Charlottesville

A charging model for downtown Charlottesville would likely have the following aims:

- Manage occupancy levels to ensure that most spaces are used but some spaces are always available for arriving shoppers and visitors. The usual target occupancy level for on-street parking is 85%.
- Make it cost-effective for commuters to buy monthly garage permits, rather than park in on-street spaces that are needed for short-stay shoppers and visitors.
- Provide a revenue stream to pay for the ticket machines and cash handling costs, as well as enforcement costs. Ideally the revenue stream should also be able to contribute to downtown enhancements.

Charges would likely apply to the two-hour and one-hour spaces in the core and inner zones. The unrestricted spaces in the outer zone would not be charged. This means that commuters and shoppers alike would have the choice between the charged spaces closer-in and the free spaces further out.

Further study would be needed to determine the optimum hourly rate. However, a rate of $1 per hour would make it cost-effective for commuters to buy monthly garage permits (Table 2.10). Peer cities charge this rate or slightly more. This fee level would likely generate gross income of about $500,000 - $600,000 per year, depending on occupancy levels.

Table 2.10: Hypothetical On-Street Parking Fees

Existing off-street fees

Location	Fees		
	Monthly	Hourly	Daily max
Water Street Lot (no new monthly parking)	$150.00	$2.00	$16.00
Water Street Garage (monthly parking available)	$115.00	$1.50	$12.00
Market Street Garage (waiting list)	$130.00	$2.00	$16.00

Hypothetical on-street fees, and how they would affect commuters

Hourly rate	$0.50	$0.75	$1.00	$1.25	$1.50
Hours per day	8	8	8	8	8
Days per month (allowing for absences)	17	17	17	17	17
Monthly cost	$68.00	$102.00	$136.00	$170.00	$204.00

At $1 per hour, becomes cheaper for commuters to park off-street.

2.4.4 Summary of Options and Recommended Strategy

There are two options for Charlottesville's future downtown parking strategy:

Option 1: Make the recommended changes to parking space designations, as described above, and retain free on-street parking. The recommended changes will address many of the existing concerns about downtown parking. The cost will be small (mostly signage, striping and staff time). However, retaining free parking means that the City does not gain the ability to manage on-street parking availability through a price mechanism. It also means that enforcement is the only available mechanism for discouraging the two-hour shuffle.

Option 2: Make the recommended changes to parking space designations, as described above, and move to a more pro-active model of managing downtown parking, including charging for on-street parking in the Core Zone and Inner Zone. This is more complicated to implement and would require an up-front investment in ticket machines or meters. However, it would provide a revenue stream to fund parking management and potentially other downtown enhancements; would provide a way to manage on-street parking availability, thus ensuring that drivers can find a space easily; and would discourage commuters from using on-street spaces that are needed for shoppers and visitors.

In a busy, desirable downtown such as Charlottesville, with limited parking supply, it is difficult to provide both (a) free parking and (b) assurance that customers and visitors can always find a convenient space. Charging for the most convenient spaces provides the most effective tool for managing the system and ensuring spaces are available. There are also other reasons for considering charging: it would provide a revenue stream to fund parking management and potentially other downtown enhancements; and would discourage commuters from using on-street spaces that are needed for shoppers and visitors. However, the Stakeholder Group believes that introducing charges for on-street parking is not realistic in the current economic situation.

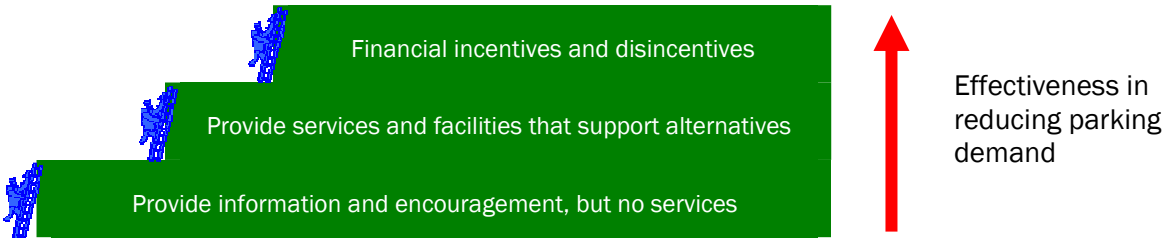
The City should nevertheless try to make progress toward more pro-active management of downtown parking. Parking enforcement should be seen positively as an important means of making the best use of downtown parking spaces for shoppers and visitors. An important initial step should be to bring enforcement under the same roof as traffic engineering, as part of an integrated management structure for on-street parking. This would not only help to ensure an appropriate level of enforcement, but also allow the 'ambassador' or 'welcome' role to develop.

2.4.5 Travel Demand Management

Travel Demand Management (TDM) involves actively managing travel demand rather than simply trying to accommodate the travel demand that naturally occurs. TDM measures (and entire TDM programs) can be divided into three broad categories:

- **Information and Encouragement.** This is passive encouragement to change travel behavior, such as with information posters or leaflets.
- **Support Services**. These are physical measures or services. Often they involve supporting people who choose to use alternative modes, with measures such as ride-matching services, priority spaces for carpoolers, or installing bicycle racks and showers. They can also include provision of the alternative modes themselves (for example, providing a park-and-ride service). This category also includes measures to avoid or reduce commuting into downtown, such as telecommuting or a compressed work week.
- **Financial incentives and disincentives.** These include measures such as parking fees and free transit pass programs. This category also includes measures required by ordinances, such as maximum parking limits or mandatory TDM plans for new developments.

Experience has consistently found that information-only programs have minimal effects on travel behavior. Programs with support services have noticeable effects, but the greatest effects are from programs that combine the support services with real incentives and disincentives. As described in Section 4.2, the price of parking is a very important incentive. It should also be noted that the extent and level of employer participation is a key sensitivity in the effectiveness of TDM packages.



Case Study #1: Downtown Pasadena, California

During the 1970s Old Pasadena's downtown had become run-down, with many derelict and abandoned buildings and few customers, in part due to the limited parking available to customers. Curb parking was restricted to two-hour duration but many employees simply parked in the most convenient, on-street spaces and moved their vehicles several times each day. The city proposed pricing on-street parking as a way to increase turnover and make parking available to customers. Many local merchants originally opposed the idea. As a compromise, city officials agreed to dedicate all revenues to public improvements that make the downtown more attractive. A Parking Meter Zone (PMZ) was established within which parking was priced and revenues were invested.

This approach of connecting parking revenues directly to added public services and keeping it under local control helped guarantee the program's success. With this proviso, the merchants agreed to the proposal. They began to see parking meters as a way to fund the projects and services that directly benefit their customers and businesses. The city formed a PMZ advisory board consisting of business and property owners, which recommended parking policies and set spending priorities for the meter revenues. Investments included new street furniture and trees, more police patrols, better street lighting, more street and sidewalk cleaning, pedestrian improvements, and marketing (including production of maps showing local attractions and parking facilities). To highlight these benefits to motorists, each parking meter has a small sticker which reads "Your Meter Money Will Make A Difference: Signage, Lighting, Benches, Paving."

This created a 'virtuous cycle' in which parking revenue funded community improvements that attracted more visitors, which increased the parking revenue, allowing further improvements. This resulted in extensive redevelopment of buildings, new businesses and residential development. Parking is no longer a problem for customers, who can almost always find a convenient space. Local sales tax revenues have increased far faster than in other shopping districts with lower parking rates, and nearby malls that offer free customer parking. This indicates that charging market rate parking (i.e., prices that result in 85-90% peak-period utilization rates) with revenues dedicated to local improvements can be an effective way to support urban redevelopment.

"Old Pasadena is now a place where everyone wants to be, rather than merely another place where everyone can park free." – *Kolozsvari and Shoup*

Source: adapted from Victoria Transport Policy Institute – Online TDM Encyclopedia http://www.vtpi.org/tdm/tdm72.htm. VTPI was in turn quoting from this article: Douglas Kolozsvari and Donald Shoup, 'Turning Small Change Into Big Changes', in Access, No. 23 (Fall 2003) pp. 2-7 – University of California Transportation Center, www.uctc.net/access/access23lite.pdf,

Case Study #2: Aspen, Colorado

Aspen, Colorado is a rapidly growing resort community. In 1991 the city built a 340-space underground parking structure in the city center, but despite its convenient location and low price it remained half-empty most days, while motorists fought over on-street parking spaces nearby. Most spaces were occupied by locals and downtown commuters who would perform the "Ninety Minute Shuffle," moving their cars every 90 minutes to avoid a parking ticket.

In 1995 the city began charging for on-street parking using multi-space meters. Parking fees are highest in the center and decline with distance from the core. Parking is priced on nearby residential streets, but residents are allowed a limited number of passes. The city had a marketing campaign to let motorists know about the meters, including distribution of one free $20 prepaid parking meter card to each resident to help familiarize them with the system. Each motorist was allowed one free parking violation, and parking control officers provide an hour of free parking to drivers who were confused by the meters. Although some downtown workers initially protested (opponents organized a "Honk if you hate paid parking" campaign the day pricing began), pricing proved effective at reducing parking problems and six months later the program was supported by a 3-to-1 margin in the municipal election. Most downtown business people now support pricing to insure that convenient parking is available for customers, and to raise funds for city programs.

Source: Victoria Transport Policy Institute – Online TDM Encyclopedia http://www.vtpi.org/tdm/tdm72.htm

On-street parking uses solar-powered multi-space 'pay-and-display' machines. These accept coins, tokens, prepaid smart cards, and major credit cards, and in-car meters. After receiving payment, the pay station will print a receipt which should be displayed on the driver's side of the dashboard.

The in-car meters can be pre-loaded with between 20 and 200 hours of parking time. Users turn the meter on when they arrive and off when they leave, so they are only charged for the time they are parked.

Interestingly, downtown Aspen allows parking for up to four hours on-street (with the multi-space meters) and also has some 15-minute spaces on street corners (with traditional meters). The revenue contributes to providing a number of transportation alternatives including eight free transit routes, carpool permit provision and more.

Source for machine information and length-of-stay limits: paraphrased from City of Aspen website http://www.aspenpitkin.com/depts/61/payoptions.cfm

Case Study #3: 'Just Right' Pricing – Redwood City, California

In Redwood City, California, the city sets meter rates to achieve an 85 percent occupancy rate for curb parking downtown; the rates differ by location and time of day, depending on demand. The city returns the revenue for added public services in the metered district, and downtown Redwood City will receive an extra $1 million a year to pay for increased police protection and clean sidewalks. The merchants and property owners all supported the new policy when they learned the meter revenue would pay for added public services in the downtown business district, and the city council adopted it unanimously. Performance-based prices create a few curb vacancies so visitors can easily find a space, the added meter revenue pays to improve public services, and these public services create political support for the performance-based prices.

Most cities keep their meter rates constant throughout the day and let occupancy rates vary in response to demand. Instead, cities can charge different prices at different times of day to keep occupancy at about 85 percent. In Redwood City, the meter rates are higher in the central spaces because demand is higher there. The goal is to balance supply and demand everywhere, all the time.

Most cities also limit the length of stay at meters so long-term parkers won't monopolize the under-priced curb spaces. After Redwood City adjusted meter rates to guarantee the availability of curb spaces, it removed the time limits at meters. This unlimited-time policy has turned out to be popular with some drivers, who can now park for as long as they are willing to pay. The demand-determined meter rates create turnover at convenient curb spaces, and most long-term parkers tend to choose cheaper spaces in off-street lots.

Source: adapted slightly from Donald Shoup, 'Cruising for Parking', in Access, No. 30 (Spring 2007), pp. 16-22

Case Study #4: Downtown Ann Arbor '*go!pass*'

Working in conjunction with the Ann Arbor Area Chamber of Commerce, the City of Ann Arbor, and the Downtown Development Authority (DDA), the Ann Arbor Transportation Authority (AATA) introduced the *go!pass* in 1999. It is an unlimited usage transit pass available to all employees within the DDA boundaries. The program is designed to alleviate traffic and parking congestion downtown by encouraging employees to choose alternatives to commuting by single-occupancy vehicle.

The pass is free to employees, and participation in the program by businesses is voluntary. The *go!pass* was completely funded by the City of Ann Arbor and the DDA for the first two years. Beginning in the third year, employers must pay $5 annually per worker for all full-time firm employees in order to participate (participation by part-time employees is optional). The remaining balance is paid for by the DDA.

Average weekday use of the go!pass is around 1,100 boardings; a study estimated that this saves roughly 112 car trips into the downtown per day. This estimate is down considerably from 2001 because the number of passes in circulation dropped when individual firms began to be charged for the go!pass.

The go!pass enjoys a high degree of employee recognition, and half of the go!pass holders indicated that the pass is an important benefit of their job. The value of the go!pass extends beyond the car trips that it saves. Employees value the pass beyond its actual use; it seems that its availability as an option – even if just for occasional or backup use – is appreciated. Nearly 85% of employees who have received the pass have used it at least once. For employers, the pass provides a way to improve employee accessibility to their location; this would hold particularly true for employers who rely on non-driving employees.

Source: "Evaluation of getDowntown go!pass program" , November 2005 – Prepared for the getDowntown Program by the Urban and Regional Research Collaborative at The University of Michigan

Case Study #5: Downtown Cash-Out Examples

Santa Monica, California
In Santa Monica, 26 employers offer cash in lieu of parking. Twenty percent of employees take advantage of the cash option and carpool or find other ways to get to work.

Louisville, Kentucky
The parking cash-out program at the Louisville and Jefferson County Metropolitan Sewer District in Kentucky encouraged 21% of its employees to switch from driving alone to using alternatives. The District was able to eliminate some of the parking it had been leasing, saving $125,000 each year.

Pleasanton, California
The city of Pleasanton, California initiated a parking cash-out program in January 1994, offering $1.50 per day to employees who use an alternative to driving alone to work. Before the program started in 1994, only 28 employees used alternative modes. By the next year, this more than doubled to 66, eliminating 20,625 trips, saving 12,375 gallons of fuel and preventing 123 tons of carbon dioxide emissions.

Source: 'Parking Management' brochure by Tri-State Transportation Campaign

3 Parking Exempt Zone

3.1 Introduction and Key Points

The section assesses the existing downtown Parking Exempt Zone (PEZ), and makes recommendations for revising this policy to better meet current and future needs.

- The market is generally providing parking for developments within the PEZ at a similar level to the City's requirements for areas outside the PEZ.
- The PEZ is not currently causing any problems. Recent developments have been able to lease existing parking spaces in order to meet market needs (including financiers' requirements). However, the City is concerned that once these existing spaces are all in use, it may be harder for the market to provide spaces for new developments.
- Practice varies widely in other cities – there is no one standard or 'correct' system.
- The City should replace the PEZ with the following system:
    - Set minimum parking standards, with the developer having the option of paying a fee in lieu of parking. The City would use in-lieu fees to provide a combination of parking and/or support for alternative modes of travel.
    - Incentivize employer participation in travel demand management (TDM) programs.
    - Expand permit parking and create parking benefit districts as needed.

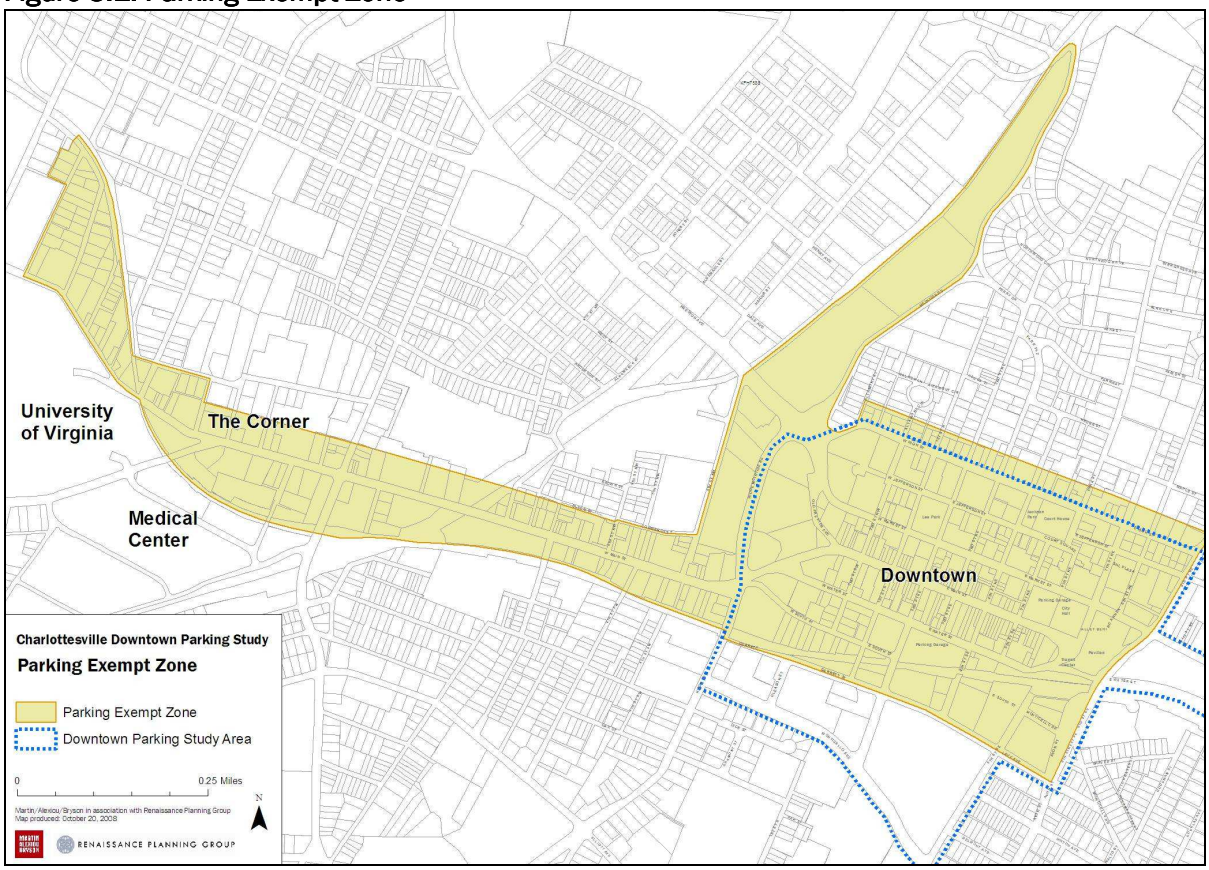
3.2 Background

The City of Charlottesville adopted the PEZ in 1976 to take advantage of publicly available, shared parking and provide an incentive for urban redevelopment. The PEZ covers the majority of downtown, and also extends further north along McIntire Road and west along Main Street (Figure 3.1). The PEZ benefits developers by avoiding the costs associated with the construction of parking and by allowing greater use of valuable downtown land that can instead be developed for a higher use than parking. The PEZ also benefits the City by encouraging the development of a tight fabric of pedestrian-oriented buildings and open spaces that give vibrancy to downtown Charlottesville and draw in a large number of residents and visitors.

However, most recent developments in downtown have provided off-street parking. This has led to the question of whether the PEZ is still appropriate or useful, and whether there are better ways to achieve the original goals.

There is sound logic in allowing developers to use the market to determine how many parking spaces should be provided. Minimum parking requirements often result in too many parking spaces, which is costly to a developer and disrupts the urban fabric of a downtown. However, a balance must be found that ensures that a developer is not simply burdening the City with providing parking to support a private development, and that parking and traffic do not spill over from the private development into surrounding residential neighborhood streets. As Charlottesville's success has spurred continual development, including a recent trend toward residential development, the demands for public parking have increased, putting pressure on downtown parking supplies and on neighborhood streets immediately surrounding downtown.

Figure 3.1: Parking Exempt Zone



3.3 Developers' Views

A committee, consisting of City staff and developers with projects in downtown Charlottesville, was formed as part of this study to help investigate issues related to the PEZ. The following feedback was provided by this committee:

- There may need to be some variation in PEZ policies by use. For example, an office should provide parking for its employees on-site or in garages, since these are dedicated, all-day parking spaces. Residential should provide one parking space per unit on-site or in an adjacent garage, as this is usually required for financing anyway. Other uses such as retail and entertainment may be able to provide no parking without that creating a problem. The market will dictate that a certain amount needs to be provided, but there might still need to be requirements aimed at keeping parking problems from spilling over into adjacent neighborhoods.
- It will be important in the future that applicants clearly understand that they may be allowed to provide less parking than the standards indicate, but that the City is not in a position to reallocate public parking for specific private uses.
- Existing employers that do not provide employee parking are a significant problem, but there is not much that could be legally done for these cases after-the-fact.
- Some potential strategies include:
    - Setting parking minimums and maximums by use in the exempt area.
    - Keeping only certain small areas, such as immediately around the mall, completely exempt.
    - Allowing applicants to pay a fee for providing parking off-site (as was recently done for the Landmark Hotel building) or to pay for other non-parking transportation improvements.

The garages close at midnight, which creates a problem when trying to share parking spaces in these structures. And eventually the garages will fill up. Should parking be replaced 1:1 off site? Would a certain amount be allowed on-site? How much would the fee be? Setting it too high will make downtown unaffordable. Setting it too low will result in too little revenue to be beneficial.

- Setting up 'neighborhood parking districts' that would allow residents to park by permit or the general public to park by hourly fee.
- If a new parking garage is needed, there may be locations west of McIntire Road that could be used, perhaps with a shuttle service to connect to downtown.

3.4 Parking Provided in Recent Developments

The current parking requirements *outside* of the PEZ are provided in Table 3.1.

Table 3.1: Current Charlottesville Parking Requirements Outside of the PEZ

Land Use	Parking requirement
Multifamily residential (2 or fewer bedrooms)	1 per unit
Multifamily residential (more than 2 bedrooms)	2 per unit
General office	1 per 500 square feet
General retail	1 per 285 square feet
Restaurant	1 per 250 square feet

Table 3.2 summarizes the recent trends in parking provision for downtown developments. On average, recent developments within the PEZ have provided one parking space per residential unit and one parking space per 450 square feet of non-residential floor area. This average parking provision is comparable to the non-PEZ parking requirements.

Table 3.2: Parking Provision for Recent Downtown Developments

Development	Location	Size/Use	Parking Spaces Provided	Residential Parking Provided	Non-Residential Parking	Notes	Status
Charlottesville Hotel	Corner of East Water Street and 2nd St SE	100 guest rooms / restaurant	40	0.4 per room	0 for restaurant	Provided via long term lease with the Water Street Parking Garage.	Under Construction
Gleasons	Corner of Garnett and 2nd St SE	44 residential units / 84,000 sf of commercial space	128	1 per unit	1 per 1000 square feet		Approved
ACAC Building A	Monticello and 2nd St SE	New building is 43 500 sf of office	177	n/a	1 per 245 square feet	Parking total is for all three buildings. 102 in the deck and 75 in the surface lot	Under Construction
Waterhouse	200 block of West Water Street	58 residential units / 9,500 sf retail	102	1 per unit	1 per 215 square feet		Approved
The Randolph/ East Market Place Condominiums	10th Street NE	44 residential units / 18,000 sf of commercial space	90	1 per unit	1 per 390 square feet		Completed
First and Main	Corner of First Street and Main Street	95 residential units / 36,000 sf of commercial space	310	2 per unit	1 per 300 square feet		Under Review
201 Avon	Avon Street, next to the Beck/Cohen Building	116 residential units / 8 room hotel and spa	100	0.8 per unit or room	0 for spa		Under Review
The Station	Corner of Garrett and 2nd St SE	25 residential units / 9,000 sf of commercial space	27	0.5 per unit	1 per 620 square feet		Under Review
600 East Water Street	600 East Water Street	17 residential units / 17,000 sf of commercial space	19	0.5 per unit	1 per 1620 square feet		Under Review
Sycamore	1003 West Main St	16 residential units / 39,000 sf office / 8,000 sf retail	99	1 per unit	1 per 560 square feet		Has not been submitted
Norcross Station	4th St SE	88 residential units	106	1.25 per unit	n/a	64 units already built. 24 additional are approved but have not been built	Approved
PEZ Average		**611 residential units / 264,000 sf commercial space**	**1198**	**1 per unit**	**1 per 450 square feet**		

3.5 Policies in Comparable Cities

Table 3.3 describes the downtown parking policies in a range of cities whose size and character are comparable to Charlottesville. While there is significant variety in the specific parking policies in each city, example policies include full parking exemptions (similar to Charlottesville); reduced minimum parking requirements; maximum parking ceilings; additional parking reductions based on the provision of affordable housing, transit, and travel demand management programs; and allowances for the payment of parking fees in-lieu of providing parking on-site. There is no clear set of 'correct' policies that should serve as a template for any given city; rather, a combination of policies should be selected to best meet the goals of the community and that is consistent with the local economic and political climate.

Table 3.3: Parking Policies for Development in Downtowns Comparable to Charlottesville

Location	Parking policies
Alexandria, VA	Parking policies in Old Town Alexandria include: • Reductions or exemptions to minimum parking requirements (varies by use and size of development) • Reductions by special use permit based on the submittal of a parking management plan
Annapolis, MD	Parking policies in downtown include: • Parking is not required within a small area covering the center of downtown • Parking is reduced for some uses outside of the center of downtown (varies by use)
Arlington, VA	Parking policies in the Rosslyn/Ballston Metro corridor include: • Reduced minimum parking requirements, 25-75% of minimum required parking for rest of city (varies by use and by distance from Metro station) • Parking exempt for small retail establishments (less than 5,000 square feet) • Parking exemptions may be granted for any development within 1/4-mile of Metro station • Parking must be provided underground or within a structure above ground • Parking demand management plans are required and can be used to justify further parking reductions
Asheville, NC	Parking policies for the Central Business District include: • No parking required for residential development • No loading spaces required • Minimum and maximum non-residential parking requirements are the same as for the entire City • Bicycle parking is required
Athens, GA	Parking policies for the Downtown District include: • No parking required for non-residential development • Parking requirements are reduced for residential units and hotel rooms (varies by residential type) • Bicycle parking is required
Austin, TX	Parking policies for the CBD and Downtown Mixed Use Zoning Districts: • Minimum parking requirements are provided for all areas outside of the CBD and Downtown Districts. Within the CBD and Downtown Districts, the minimum non-residential parking requirement is 20% of the minimum required for the rest of the city, maximum non-residential parking is 60% of the minimum required for the rest of the city • Additional reductions may be allowed for providing parking in a structure rather than in a surface lot, and may be shared with nearby properties • Minimum residential parking requirement is 60% of the of the minimum required for the rest of the city; there is no maximum residential parking requirement • The required minimum multi-family residential parking may be reduced from 60% to 40% if the development participates in a car-sharing program • Parking may be provided off-site within 1,000 feet

Location	Parking policies
Boulder, CO	Parking policies for the Downtown and University Parking Districts include: • No minimum parking requirements • Property owners are taxed to provide public on-street and off-street parking in the Districts • Revenue from meters and garages may go towards transit passes, bike racks, landscaping • Revenue from tickets goes into General Fund Outside of the Downtown Parking District: • Parking may be reduced based on the availability of transit or other transportation demand management strategies
Burlington, VT	Parking policies for the Central Business District include: • Minimum parking requirements for CBD are the same as for the entire City • After providing the first ten parking spaces on-site, a fee may be paid into the Parking and Mass Transit Capital Fund in-lieu of providing on-site parking • $8,000/space, last updated in 1992 • Parking may be reduced based on opportunities to share parking, providing affordable housing, the availability of transit, or other transportation demand management strategies

Chapel Hill, NC	Parking policies for the Town Center (downtown) include:
	• No minimum parking requirements, only maximums
	• No loading spaces are required; Town has separate plan for loading access
	• Parking may be provided off-site within 1,200 feet
	• Parking may be shared with an agreement between the owners of separate parcels
	• Fees may be paid into the Off-Street Parking Fund in-lieu of providing parking:
	  • $3,600/space
	  • May be used only for providing additional off-street parking
	• A Transportation Management Plan may be required when providing no or minimal parking to demonstrate how the site will be accessed
	• Bicycle parking is required

Madison, WI	Parking policies for the central commercial district (downtown) include: • Off-street parking and loading are not required • Residential parking permits are provided for residences • Bicycle parking is required for all new developments and uses
Palo Alto, CA	Parking policies for the Downtown Parking District include: • Minimum parking requirements are generally similar to the minimums for the rest of the City • Payment into a fund may be allowed in-lieu of providing on-site parking • Fee will be set at the cost per replacement parking space plus administrative costs at the time of construction • Parking may be provided off-site at a “reasonable distance” • Bicycle parking is required
Pasadena, CA	Parking policies for Old Pasadena (downtown) include: • Office minimum parking is reduced by 25 percent and other non-residential minimum parking is reduced by 10 percent of the minimums for the rest of the City; parking maximums are also provided • Residential minimum parking is reduced by 25-50 percent of the minimums for the rest of the City; parking maximums are also provided • Parking may be provided off-site within 1,000 feet • Parking may be shared with an agreement between the owners of separate parcels • Payment into the Parking Development Fund may be allowed in-lieu of providing on-site parking • $135/space/year to lease space in existing garage • Bicycle parking is required • Revenue from metered parking and garages funds downtown improvements (Parking Benefit District), cited as a necessity to make metered parking politically palatable and a major catalyst for the revitalization of Old Pasadena • Residential permits are issued for neighborhoods bordering Old Pasadena

3.6 Potential Strategies for Revising the Parking Exempt Zone Policies

Businesses such as retail shops, restaurants, and entertainment destinations are dependent on a constant stream of short-term patrons during the day and thus have a need for a parking supply that complements this high-turnover dynamic. Public parking, both on-street and in the downtown pay lots, are ideal for this type of user, where the parking regulations and/or price discourage long-term use. Unfortunately in downtown Charlottesville, the occupancy survey (Section 2.1) indicates that 20-30 percent of the two-hour parking spaces are being used by those that move their car from space-to-space every two hours or those that stay at least four hours in a two hour space. Accounting for the number of spaces that would open up without these abusers, and considering that the pay lots are typically not more than about 60 percent occupied, there is no real need for additional retail parking at this time. As retail, restaurant, and entertainment uses expand to the south of downtown in the future, there may be a need to convert currently unrestricted parking spaces to two-hour parking (Section 2.3).

It is likely that the two-hour parking space abusers are mostly downtown employees, with some downtown residents that do not have a private off-street parking space and do not pay to park in a garage. Ideally, resident parking should be located on-site to provide convenience for residential loading and unloading, and to allow residents to keep their vehicles in a secure location near their residence. Employees typically have minimal need for loading and unloading, and are more willing to park a longer distance from their destination if it means that they are able to pay less to park. This can be observed along Garrett and 6th Streets south of downtown, where employees are able to park for free only a few blocks from downtown and leave their vehicles throughout the working day. Unfortunately this also compromises the viability of the Water Street pay lots and garage, as the proximity to downtown does not provide enough value to employees to outweigh free parking a few blocks away. Thus, there is a need to strike a balance where enough long-term residential and employee parking is located either on-site (residential and employee) or remotely (employee), allowing the on-street parking and pay lots to be used for high-turnover, convenience uses.

The following are potential strategies that could be implemented by the City to revise the current PEZ policies.

3.6.1 Establish Minimum and Maximum Parking Requirements

Rather than leaving parking provision in downtown entirely up to market forces, it may be beneficial to set minimum and maximum parking requirements. These requirements would need to be low enough that they do not place an unnecessary burden on downtown developers or harm the pedestrian-oriented character of downtown Charlottesville, but high enough so that private parking demands do not overwhelm the public parking supply.

Currently, there is no need for additional retail parking, though there is some logic behind requiring residential and employee parking. Residential parking is already typically provided at one space per unit, as this amount of parking is needed for both financing and the marketability of the residential units. Employee parking is also typically provided, although the amount of employee parking provided varies greatly case-by-case. Because many employees drive vehicles to work every day, there is a need to provide at least a minimal number of parking spaces for this use, either on-site or in an off-site parking garage. This could be accomplished by setting minimum parking standards downtown, though these should be set lower than the current parking requirements for the City outside of the PEZ. As traditional parking requirements assume that all travelers will arrive by car, the lower parking standards would account for reduced parking demand downtown due to the numerous walking, biking, and transit opportunities. In the short-term, this parking could be provided on-site (preferably in garages or underground) or by leasing spaces in one of the existing parking garages. In the future, in-lieu parking fees could be collected instead to help fund the construction of additional parking as needed.

In the event that a need for additional short-term convenience parking presents itself in the future, minimum parking requirements could be expanded for retail, restaurant, entertainment, and similar uses.

For any use, it may be beneficial to adopt maximum parking limits in addition to minimum parking requirements, to safeguard against the development of intensively auto-oriented uses and the

construction of excessive parking which might threaten the pedestrian-oriented environment downtown. Limiting parking is also an economic strategy that would effectively increase the value of a parking space and facilitate the ability to charge for parking, which can be used as a way of managing travel demand.

3.6.2 In-Lieu Parking Fees

In-lieu parking fees have become a common method for providing an adequate parking supply without burdening a developer with squeezing parking into a constrained site (as is typical for a downtown development) and often more cheaply than a developer could provide herself. Cities such as Chapel Hill, NC, Burlington, VT, and Pasadena, CA, have successfully employed such systems. In-lieu parking fees may be used either to provide additional parking off-site, or to provide other transportation infrastructure, programs, or services such as improved transit operations, bicycling facilities, or travel demand management programs.

In-lieu parking fee systems allow for some or all of the required on-site parking to be waived in-lieu of payment. Thus, the City would need to adopt minimum parking requirements in the PEZ as a prerequisite.

An in-lieu fee system could likely be arranged today through the state's conditional zoning policies (VA statutes §15.2-2296 – 15.2-2300), though may require enabling legislation to impose in-lieu fees on by-right development. The City's Comprehensive Plan would also need to lay out the proffer policies that would provide the framework for determining the amount of parking and cost of the in-lieu parking fees that would be expected. Any projects designated for the receipt of in-lieu fee revenue would need to be included in the City's capital improvements program.

The appropriate cost for in-lieu parking fees is typically determined by calculating the cost to replace the waived parking spaces (or the number of parking spaces the City is willing or able to provide), divided by the total number of future users of those parking spaces. This cost may also be adjusted to find the appropriate price point between covering the cost of the new parking spaces and providing an incentive to developers to pay the fee rather than provide on-site parking. The cost per space in Chapel Hill, for example, is $3,600. Those funds are deposited into the Off-Street Parking Fund for the Town Center District in Chapel Hill, and are used for development of new off-street parking within the district, land acquisition, land development, and construction of parking structures.

3.6.3 Alternatives to Providing or Paying for Parking

A number of strategies have been used around the country to reduce parking requirements for on-site parking or payment of in-lieu fees. One specific program, called "Eco Pass," provides employees with transit passes at a cheap rate, typically covered by the employer. The Eco Pass program is used in Denver, Salt Lake City, San Jose, and other cities and regions. In this program, the transit provider sells a package of transit passes to an employer at a discounted rate so that every employee will have access to a transit pass. The passes in some cases are discounted so much that they only cost one-fifth of the rate of a standard individual transit pass. Having a free transit pass readily accessible provides an incentive for employees to choose transit over driving, and the fee structure provides regular income for the transit provider without putting too much burden on the employer. A secondary benefit for the employer is that there is less demand for parking at the employment location, so fewer parking spaces will need to be required by the locality. Studies have shown that there is a substantial financial benefit for the employer to purchase cheap transit passes rather than provide costly parking, and parking demand in some cases has been reduced by 20 percent as a result of the Eco Pass program.

More often than not, employee parking is free and readily available, whether you want to use it or not. An alternative is provided by the parking cash-out systems used in many localities, where an employer will pay an employee a monthly rate rather than providing an actual parking space. This payment can be used to offset the cost for using transit, walking, or biking to work. As with the Eco Pass program, significant financial savings have been demonstrated through the use of parking cash-out to reduce the need for parking. A parking cash-out system typically results in a ten percent lower demand for parking.

Car-sharing is an additional method that some employers have used to reduce the demand for on-site parking, where employees have access to a vehicle during the day, even if they did not arrive at work with their own personal vehicle. Either through citywide programs open to the general public or through private, employer-provided programs, car-sharing allows employees to travel both for work or to make mid-day errands, while also providing an emergency option for getting home in cases where the employee has no other option.

3.7 Recommendations

Development within the parking exempt zone in recent years has proceeded with minimal concerns regarding the limitations of downtown parking. However, as the garages fill-up and surface parking lots are redeveloped into uses that will draw additional vehicles and people into downtown, it is essential to have a long-term strategy in place to manage parking and travel demand within downtown. With that in mind, we offer the following recommendations:

- **Implement a system of in-lieu parking fees for downtown development.** In order to accommodate the future demands for travel into downtown Charlottesville, consideration needs to be given either to providing additional parking supply, or to reducing the demand for downtown parking by encouraging the use of other modes. In-lieu parking fees are a method for achieving both through a single strategy. An in-lieu parking fee system will allow developers to either provide parking on-site or to pay a fee in-lieu of providing parking which the City can use for providing parking or other transportation services off-site.

  We recommend setting minimum parking standards for the current parking exempt zone area, which would require developers to provide a minimum amount of parking on-site with the option of paying the in-lieu parking fee per required parking space that the developer chooses not to provide on-site. We recommend setting this minimum standard at one parking space per residential unit, plus 50 percent of the required parking for non-residential uses already specified in the City's code. In-lieu parking fees should be set at a value that is proportionate to the cost of providing the intended off-site parking or transportation improvement, and at a value that is not so high that it will deter downtown development and/or encourage construction of on-site parking.

- **Incentivize private participation in travel demand management programs.** Encourage the implementation of employee transit pass, parking cash-out, car sharing, or similar travel demand management strategies by providing reductions in parking or in-lieu fee requirements. These strategies have the potential to reduce the demand for parking while encouraging additional walking, biking, and transit use. At sites where these strategies have been implemented, it is typical to see around a ten percent decrease in parking demand.

- **Expand permit parking and create parking benefit districts as needed.** To avoid parking spillover into residential neighborhoods adjacent to downtown, particularly in the event that the City begins to charge for on-street parking downtown, it may be necessary to establish additional permit parking zones (such as currently exists in North Downtown), or parking benefit districts, which would allow neighborhoods to generate revenue by charging visitors to park on neighborhood streets.

3.8 Considerations for Setting In-Lieu Parking Fees

3.8.1 Introduction

In-lieu parking fees can be set either as a flat fee that is applied to every development, or as a development-specific fee that varies on a case-by-case basis. Flat fees are far more common as they are easier to administer and provides more certainty for both the locality and the developer. While flat fees are generally calculated as the amount it would cost the locality to provide a replacement parking space in a parking structure off-site, accounting for both land and construction costs, these fees are typically reduced to an amount that is low enough that it will not deter continued private development. Some

localities calculate this reduction by discounting the fee by the projected annual revenue that each parking space will provide to the locality at the end of the life of the parking structure (e.g. 30 years). In a 1999 international survey by Donald Shoup, the median in-lieu fee was $9,781, with the range from a low of $1,846 to a high of $27,520.

Depending on the needs of the City, in-lieu fees can be:

- required for replacement of all on-site parking (i.e. the City does not want any new on-site parking provided), or
- optional (i.e. the City does not mind new on-site parking and it is up to the applicant to determine his own needs) – this is the recommendation for Charlottesville, or
- required with stipulations (i.e. the applicant must provide in-lieu fees to replace a minimum percentage of on-site parking and/or the applicant may only provide in-lieu fees to replace a maximum percentage of on-site parking.

The City has several options for when to requirement payment of the in-lieu fee. The City may either require payment of the entire fee prior to the issuance of a building permit or occupancy permit, or may allow the developer to pay the fee over time, or may require a certain percentage prior to the issuance of permits with the remainder paid over time. As a guarantee to the payers of the fee, it is typical that a locality will provide stipulations on the length of time that the locality will be able to hold onto the fee revenue before it must be spent, and will specify what types of capital or operating projects for which the fee revenue can be used. While most localities use the fee revenue for parking replacement alone, there are several localities that use the fee revenue for projects that could be considered under the broad category of *parking demand management*, such as transit, pedestrian, or bicycling projects. Charlottesville should also do so, to support its wider transportation goals.

Some localities update their fee annually, indexed to a measure of inflation, while others only revise their fees on an 'as-needed' basis. An annual update, set by policy up front, is preferable to ad-hoc updates so as to avoid the politics inherent in trying to pass a fee increase.

3.8.2 Example in-lieu parking fee calculation process

A typical decision process for establishing an in-lieu parking fee structure and policies is as follows:

1. Calculate the annual land, construction, and other costs for providing one off-site parking space, based on the projected lifespan of the off-site parking structure. If the City intends to use the fee revenue on projects other than parking replacement, that cost can be calculated here as well. (economic calculation)
2. Determine what, if any, rights the applicant has to off-site parking spaces. Will spaces be dedicated to the applicant's permanent use or leased to the applicant on a monthly basis? (policy decision)
3. Discount the annual cost by the projected annual revenue collected by the locality for leasing parking spaces or other revenue-generating operations of the parking structure. (economic calculation)
4. Set a required ratio of off-site (in-lieu) parking spaces to replace required on-site parking spaces. Will there be 1:1 replacement or will fewer spaces be provided off-site than were required on-site? Also specify if in-lieu fees are required to replace all on-site parking, a specified portion of on-site parking, or the amount is entirely at the discretion of the applicant. (policy decision)
5. Discount the fee as needed to strike a balance between revenue generation and developer financial burden. (policy decision)
6. Set a policy for the timing requirements for payment of the in-lieu fee. (economic calculation and policy decision)
7. Set a policy for the City to repay in-lieu fees to the applicant in cases where the fee has not been used for allowable purposes within an allowable amount of time. (policy decision)
8. Annually update the fee based on a measure of inflation. (economic calculation)

4 Transit

4.1 Existing Transit and Other Projects Affecting Downtown

4.1.1 Introduction and Key Points

This section describes the existing transit serving downtown, the proposed streetcar, and the existing downtown wayfinding project.

- It is estimated that around 250-300 downtown employees ride transit on a typical day, which in turn represents a 1-2% share of the approximately 20,000 downtown workers. There is also likely a smaller number of downtown shoppers and visitors riding transit.
- The streetcar project as currently would provide a net increase of around 30 on-street spaces on Water Street, by reconfiguring the road layout with new parking spaces on the south side. Its other impacts on the downtown parking supply would be negligible.
- This parking study is likely to have no impact on the downtown wayfinding effort.

4.1.2 Existing CTS Transit Routes Serving Downtown

This description concentrates on the Monday-Friday daytime service, because these are the times on which the study is focused. Evening and weekend services are also operated, but are not described here.

The current CTS routes are shown in Figure 4.1. The system serves broadly the area within the city limits, plus additional areas north along US-29 outside the city limits. Most routes operate to/from the Downtown Transit Center in a hub-and-spoke system. The basic service pattern is hourly, but some routes operate more frequently all day or during peak hours. Route 7 and the free trolley both operate every 15 minutes and serve the transit center off-pulse; together, they provide service every five or ten minutes (unevenly) on the Market Street corridor between downtown and the University. Route 7 continues along the Emmet Street / US-29 corridor to Fashion Square, providing a very useful 'transit spine' through the city (and providing the connections from suburban route 5 into downtown). The free trolley, which is primarily aimed at visitors, shoppers, lunchtime errands, etc., loops around the University grounds and returns to downtown.

4.1.3 Downtown Transit Center and Routing Around Downtown

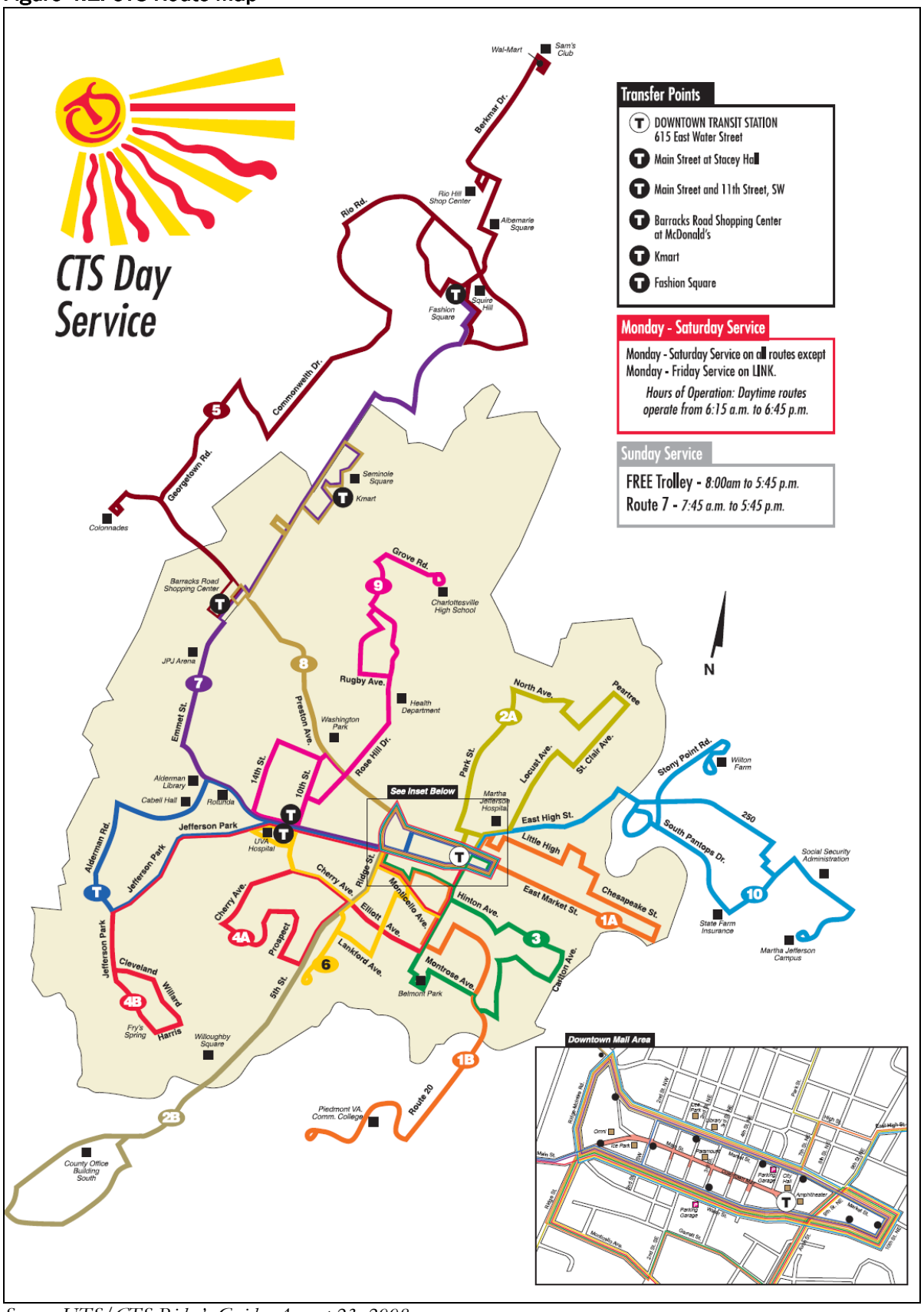
The recently-opened Downtown Transit Center is alongside the Amphitheater at the east end of the downtown mall, with pedestrian access from the mall and Water Street. Buses line up on Water Street outside the center. All routes make a counter-clockwise loop around the mall, with stops on Water Street, Ridge McIntire Road, Market Street and 10th Street NE. This arrangement provides convenient access to the main areas of downtown from all routes.

4.1.4 Other Local Transit Serving Downtown

The University of Virginia operates an extensive transit system, UTS, around its grounds and the surrounding areas. UTS does not itself serve downtown, but the University is a substantial partner in CTS services through its U-pass arrangements.

'Jaunt' is a regional transportation system providing service to Charlottesville, Albemarle, Fluvanna, Louisa, Nelson, Buckingham and Amherst Counties. In addition to rural demand-responsive service, it provides commuter service (reservations required) to Charlottesville from towns such as Mineral, Scottsville and Crozet. Greene County Transit provides a similar commuter service (reservations also required) from Stanardsville and Ruckersville.

Figure 4.1: CTS Route Map



Source: UTS/CTS Rider's Guide, August 23, 2008.

4.1.5 Ridership Data

CTS does not have ridership data in enough detail to firmly establish ridership to and from downtown. However, following discussions with CTS, it is estimated that around 2,400 boardings on a typical weekday are associated with downtown. This includes people who board outside downtown for travel into downtown, and represents approximately 1,200 people (assuming each person makes a round-trip on average). Some of these people will be making transfers in downtown in order to visit another part of the city. It is estimated that around 20-25% of the 1,200 people are downtown employees, and some of the remainder will be downtown shoppers and visitors. This represents around 250-300 downtown employees riding the bus on a typical day, which in turn represents a 1-2% share of the approximately 20,000 downtown workers (as estimated by the City's Economic Development department).

4.1.6 Proposed Streetcar

Background, Route and Status

The concept of a streetcar along West Main Street was initially proposed in 2003 and has subsequently been examined in more detail. In 2005 an initial report, *Shaping Community with Transit,* was sponsored by the Alliance for Community Choice in Transportation (ACCT). This set out a conceptual plan for the service. The key points from that study were that:

- Corridor activity, not the population of a city, determines a streetcar's viability.
- Activity on the West Main Street corridor is great enough to make a streetcar viable.
- Charlottesville has no fatal barriers to a streetcar system.
- Steps including signal priority for buses and restructured bus routes can be taken immediately as steps toward a future streetcar system.

In 2006, the Mayor's Streetcar Task Force was assembled to study the concept further. The Task Force included stakeholders representing a variety of government, university, real estate, and non-profit interests. According to its April 2008 Final Report, the Task Force concluded that

> the proposed streetcar system is an excellent opportunity to improve transit and accomplish the city's stated development goals along the West Main Corridor. While the Task Force can not recommend the implementation of such a system at this time, the Task Force enthusiastically recommends further practical study of this proposal... Two especially important elements of this work plan will be the cost and development analysis tasks. Together, these tasks will determine the costs and benefits of a potential streetcar system. As an immediate step, the City should hire the necessary consultants to study the base cost to build and operate a streetcar system as proposed in this report, and to forecast the development effects of the proposed streetcar.

The Task Force recommended as follows:

Routing:

- The streetcar route should connect the Downtown Transit Center with Barracks Road Shopping Center.

Land Use:

- Examine form-based zoning as a way to allow greater density at streetcar stops.
- Implement a minimum density for new development along West Main Street.

Finance:

- Given the scarcity of federal funds, focus efforts on local funding sources.
- Conduct a study to determine the capital and operating costs of the proposed system.

Connectivity:

- Coordinate the streetcar study with Places29 and Regional Transit Authority studies. (The Places29 Study is a corridor study that is looking at the US-29 corridor north of US-250 Bypass.

There is a 'gap' between Barracks Road Shopping Center and the Bypass, which neither study examined.)

Figure 4.2 shows the proposed route and a possible phasing. Note that there is a choice of a northern route through the Corner District and a southern route along Jefferson Park Avenue. The railroad bridge represents an acknowledged technical obstacle to the northern route.

Design and Impact on Parking

The streetcar proposal is currently at a very early stage. An initial concept design was prepared for the 2005 report, and this has been used as the basis for estimating the potential impact on parking supply. However, the design could (and likely will) change as it is developed further.

The streetcar would enter the Downtown Parking Study area on West Main Street at Ridge McIntire Road, then continue down Water Street to the downtown terminus at the Transit Center. The tracks would continue east of the Transit Center to the end of Water Street, to reach a depot between the railroad and Market Street.

Figure 4.3 shows the section of the 2005 report that dealt with Water Street. Here, the streetcar would share the general travel lanes. Curbside parking would be provided on both sides of the street, except at stations, where the curb would be built-out toward the track. Stations were envisaged at two-block intervals, at 4th Street SE, 2nd Street SE, and 2nd Street SW, in addition to the Transit Center. The report envisaged a 66-foot streetcar with a door-to-door length of around 40 feet, meaning that the curb build-outs would be a minimum of 40 feet long.

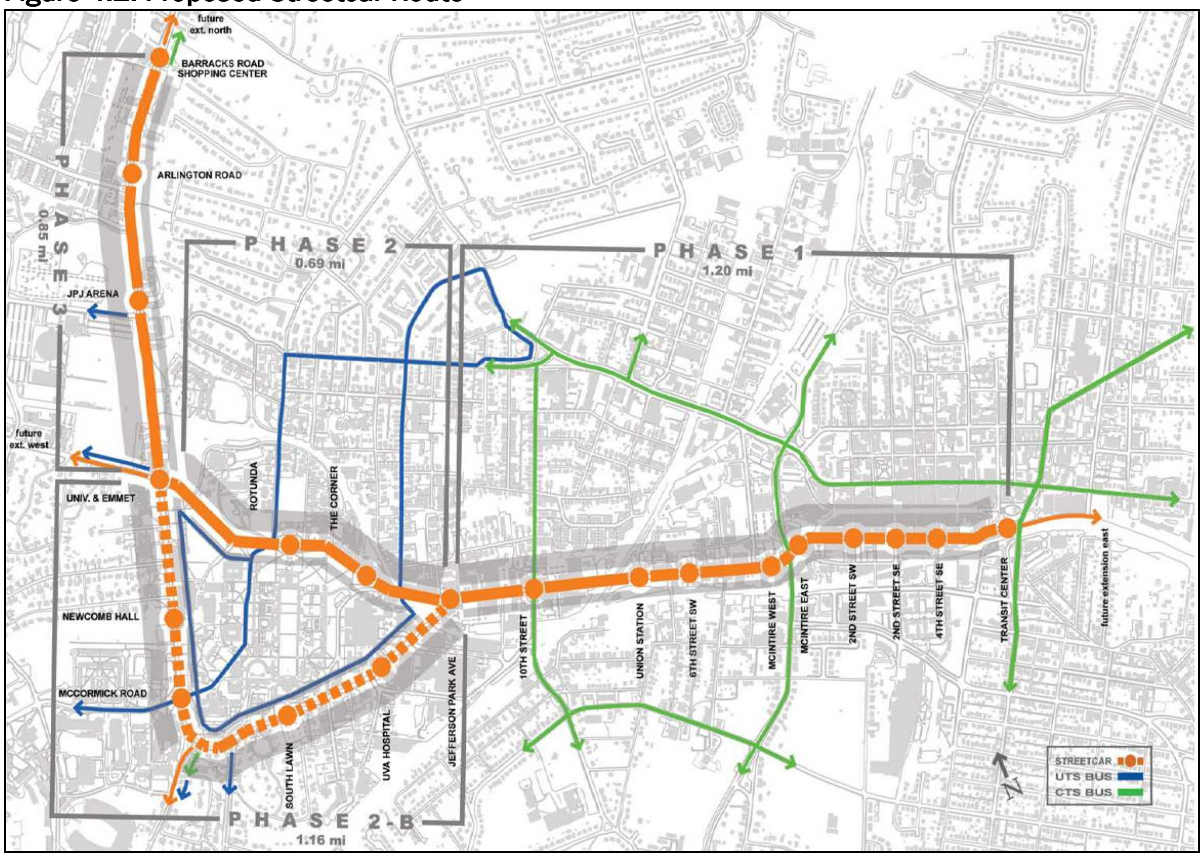
Figure 4.4 shows the section that dealt with the area around Ridge McIntire Road. (In terms of development, the report emphasized that this was not a proposed plan, but simply an illustration of the potential for future development and redevelopment around the streetcar line.) In this area, the streetcar would use a single track in a dedicated lane, with general travel lanes on either side. Curbside parking was expected to be minimal. At stations, there would be two tracks (to allow streetcars to pass), with a platform between them. The report envisaged stations at the west end of the mall ('McIntire East') and on West Main Street immediately west of Ridge McIntire Road ('McIntire West').

Each curb build-out might eliminate up to three spaces each, depending on the final location and design. However, the streetcar proposal would add new on-street spaces on the south side of Water Street. These would presumably be between 2nd Street SE and the Transit Center, as there does not appear to be space to add parking west of 2nd Street SE. Overall, we estimate that the streetcar project would provide a net increase of around 30 on-street spaces on Water Street. If these additional spaces were not provided, the net impact would be a negligible loss of around 5 spaces.

4.1.7 Downtown Wayfinding Effort

The maps and sign schedule for the planned downtown wayfinding system were reviewed. In terms of parking, the wayfinding system focuses on directing people to the two main public garages (Water Street and Market Street). It is not expected that the key public role of these two garages – particularly for first-time visitors – will change significantly as a result of this downtown parking study. No impact on the downtown wayfinding effort is therefore likely.

Figure 4.2: Proposed Streetcar Route



Source: Mayor's Streetcar Task Force – Final Report, April 2008. This is a revised version of a 2005 diagram by Okerlund Associates.

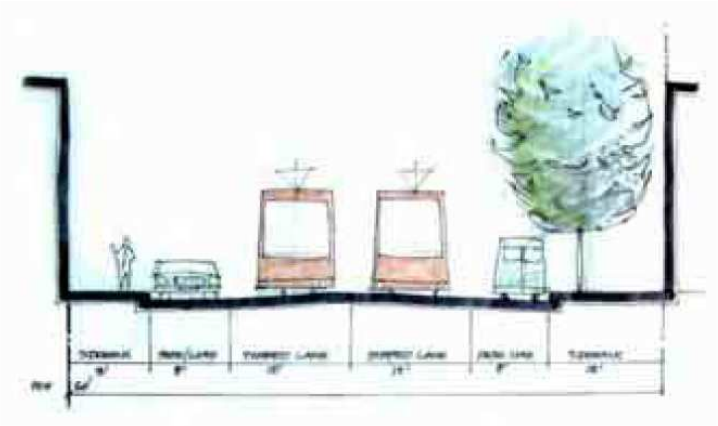
Figure 4.3: Possible Street Section for Water Street with Streetcar

Street Section Design

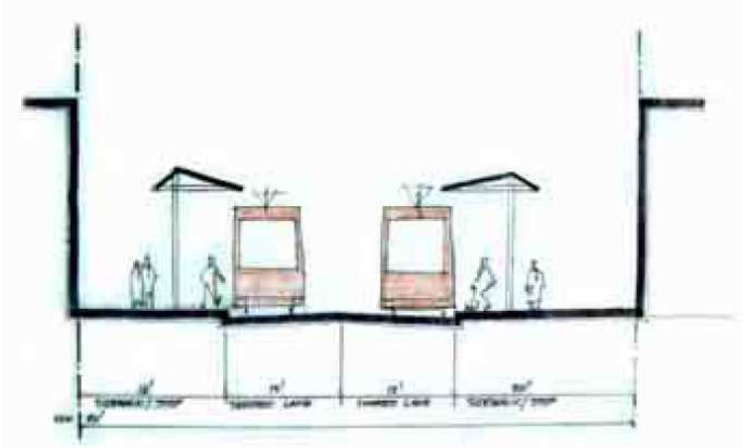
The street section design determines where, within the public right-of-way, the streetcar will run and stop. Because of variations in street width, traffic volume, and other obstacles, various street sections designs will be needed at points along the proposed streetcar route. The streetcar can be constructed to run on parallel tracks – one set for trains moving in each direction – or on a single track, with trains passing each other only at designated spots.

Streetcar photosimulation - Water Street.

Water Street
The width of Water Street and its relatively low volume of traffic mean that the streetcar and automobiles can share two 12-foot travel lanes here – one in each direction - a double-track configuration. This design would also allow streetside parking spaces on both the north and south sides of Water Street, an increase in parking over the existing street design.



Water Street Stations
The streetcar stops on Water Street would be at the street's edge, with the sidewalk widened out into the street to meet the streetcar track. The curb at the stops is raised slightly, bringing it up to the floor level of the streetcar. This Water Street station design would be use for stops at 4th Street SE, 2nd Street SE, and 2nd Street SW.



Source: Shaping Community with Transit, March 2005, p. 42

Figure 4.4: Conceptual Case Study of 'McIntire Square' with Streetcar

Aerial photograph - McIntire Square streetcar stop.

Development footprint - existing - McIntire Square streetcar stop.

Development footprint - potential - McIntire Square streetcar stop.

McIntire Square

This Stop is central to the entire corridor, intersects with the major north-south Ridge-Mcintire Road corridor, and helps bridge the pedestrian unfriendly intersection. It provides new development and infill opportunities as well as the protection of adjacent historic resources.

Characteristics:

- It creates McIntire Square, a dominant new pedestrian-friendly public space adjacent to the streetcar stop that can serve as a gateway to West Main Street, and as a setting for the Lewis and Clark statue by eliminating a redundant street.
- The area can be transformed from an auto-dominant environment to one that is friendly to transit and pedestrians.
- It has enhanced pedestrian-oriented streetscape improvements with wider sidewalks and amenities, and improved, safer pedestrian crosswalks.
- It establishes a pedestrian-friendly network of interconnected walkways linking multiple destinations.
- It encourages the creation of a continuous façade along the street, making a more urban identity.

Design diagram - McIntire Square streetcar stop.

continues on next page

continued from previous page

- It encourages future redevelopment of the northwest quadrant, creating a visual landmark with supportive transit-oriented uses.

- It also encourages redevelopment of the underused parking area north of Main, providing new development opportunities and public parking, including pedestrian linkages to the stop and other destinations.

Existing density in the immediate sphere of influence includes approximately 174,000 square feet, yielding a Floor Area Ratio (FAR) just above 0.5. There are presently no residential units. The present density and auto-dominance of the area does not, by itself, adequately support streetcar transit. The illustrated potential density and pedestrian emphasis provides approximately 475,000 square feet, giving an FAR of approximately 2.0, and adding 120 new residential units, making the area supportive of streetcar transit, that, in turn is needed to support increased new development.

Plan of potential development - McIntire West streetcar stop.

West Main Street, Charlottesville

Illustration of potential development - McIntire West streetcar stop.

Source: Shaping Community with Transit, March 2005, p. 46-47

4.2 Transit Assessment

4.2.1 Introduction and Key Points

This section reports on how parking supply could affect transit, and how transit could affect parking demand.

- Three-quarters of downtown employees live outside the Charlottesville Urban Area. CTS does not serve them, nor could it realistically be expected to do so. This partly explains why the transit share (1-2%) of commuting to downtown is so low. It also limits the opportunities for growing transit ridership.
- A concerted effort to provide a 'best in class' transit service within the Charlottesville Urban Area could, ambitiously, double the number of transit riders to downtown. This would liberate around 300 downtown spaces – enough to absorb a few years of growth or the closure of a significant lot, but not enough to change the dominance of car travel.
- Parking supply and pricing have an important relationship with transit ridership. The more scarce and more expensive downtown parking is, the more people will ride transit. As with any city, this produces a dilemma for Charlottesville.
- If Charlottesville is keen to use transit to reduce downtown parking demand, it needs to be part of wider package of measures including:
  - Using the supply and price of commuter parking to regulate demand.
  - Providing good-quality, attractive alternative modes of travel, so that people can and will respond to the price signals. No one alternative mode will be suitable for everybody, so a balanced system of alternatives is needed.
  - Continuing to develop TDM programs to support people who use the alternatives. The use of in-lieu fees could be an important step in this process.

4.2.2 Current Travel Patterns

As described in Section 4.1, it is estimated that around 250-300 downtown employees ride CTS services on a typical day, which represents a 1-2% share of the approximately 20,000 downtown employees. A small additional number of shoppers and visitors also likely ride transit.

Table 4.1 uses census data to show where people who work in downtown and the nearby commercial areas live . Three-quarters live outside the Charlottesville urban area. This is important information, because CTS only operates within the city limits and some other parts of the Charlottesville urban area. It does not operate in the surrounding rural areas (and indeed it would be very difficult for CTS to do so effectively). CTS therefore only provides commuting opportunities for around 20-25% of downtown employees. This partly explains why the transit share (1-2%) is so low. It also limits the opportunities for growth, as described below.

Table 4.1: Residence Patterns of Downtown (and Nearby) Workers

Residence Location	Number of Workers	% of Workers
Inside Charlottesville City Limit	11,375	15%
Outside City Limit, but within Charlottesville Urban Area	8,351	11%
Outside Charlottesville Urban Area	55,525	74%
Total	75,251	100%

Source: 2000 Census journey-to-work data. Data are for Census Tract 1, which broadly corresponds to downtown and the adjoining commercial areas. This is why the figure of 75,000 workers is different from the City's estimate of 20,000 workers in downtown alone.

4.2.3 How Transit Can Help to Reduce Parking Demand

Transit can reduce downtown parking demand by allowing commuters, shoppers and visitors to reach their destination by bus, with no need to park a car. There is very little data on the impact of transit enhancements on downtown parking. This is because transit represents such a small proportion of commuting that any change in parking demand is too small to measure. For this reason, the following discussion[1] refers to increasing ridership as a proxy for reducing parking demand.

In general, adding transit service will lead to increased ridership. As a rule of thumb, for every percentage increase in service level, ridership can be expected to increase between 0.5% and 1%. The actual increase (if any) always depends on the service itself and on local travel patterns and demographics. Success factors include:

- An emphasis on core routes with high service levels.
- Consistency in scheduling.
- Enhancement of direct travel and ease of transferring.
- Service design based on quantitative investigation of that city's travel patterns.
- Favorable economic conditions.
- Packages of improvements (for example, higher frequencies combined with new buses) do particularly well in attracting new ridership.

Ridership is typically most sensitive to frequency changes when the prior service was infrequent, such as hourly or half-hourly, and when the route serves middle and upper income areas. Where transit headways are already short, and particularly when lower income service areas are involved, ridership tends to be less affected by frequency changes and may be more sensitive to fare changes. Otherwise, ridership is typically more responsive to frequency changes than fares. In Charlottesville, most routes currently have hourly or half-hourly headways, so there is good scope to increase the level of commuting by transit.

Routes that serve multiple markets fare better than routes aimed at just one function. The implication for Charlottesville is that transit service aimed at reducing downtown parking demand will be more viable if it also fulfils other needs within the city.

One study helpfully summarized the experience as follows:

> "The policy prescriptions that can be inferred from the research into travel demand can be characterized, over simply, as
>
> - Stick to traditional transit territory (that is, dense corridors within the central city, or from the suburbs to the central city).
> - Concentrate good service on the most responsive areas and groups.
> - Don't be overly concerned about fare levels, but rather focus on providing good service where you can best compete with private vehicle travel.
>
> "Another very important insight that emerges from the understanding about demand is that policies that focus on *making private vehicle use less attractive* are likely to spur transit ridership to a more marked extent than those that *make transit more attractive*, in situations (like many commuting corridors) where the two modes can offer reasonably comparable service."
>
> *(Source: TCRP Report 27:* Building Transit Ridership: An Exploration of Transit's Market Share and the Public Policies That Influence It*)*

[1] The main sources for this section are:

- *Traveler Response to Transportation System Changes* (TCRP Report 95), Chapters 3/9/10/17/18
- *Building Transit Ridership: An Exploration of Transit's Market Share and the Public Policies That Influence It* (TCRP report 27)

4.2.4 Downtown Circulator

Charlottesville already operates a downtown circulator service, the free 'trolley' route. Its role in reducing parking demand is to support people who do not bring a car to downtown or the University grounds, by allowing them to ride the bus for short trips for which they would normally drive – particularly short trips between downtown, the University and the commercial district between the two.

4.2.5 Park-and-Ride, Park-and-Pool, and Express Commuter Transit

These three modes are described together because they often share common facilities and transit service.

Park-and-ride reduces downtown parking demand by allowing people to park in suburban lots and ride transit (often a dedicated express bus) into downtown. Put another way, it *moves* the parking demand from downtown to the suburbs, where it can be accommodated more easily and cheaply. The suburban lots can be either dedicated locations or simply existing parking lots such as malls. Park-and-ride funnels demand from a wide area onto a single 'trunk' route, so it provides a transit option for people living in low-density areas where local or express commuter transit is not viable.

Experience with park-and-ride (P+R) has found three factors to be particularly important for success:

- Downtown parking needs to be relatively expensive.
- The bus service needs to be frequent. (Demand falls off rapidly when headways exceed 15 minutes. People dislike waiting-time more than they dislike time spent on the move.)
- Travel time using P+R needs to be reasonably competitive with driving.

Other success factors include:

- Direct routes to downtown, with priority for transit.
- Congested highways.
- Lack of convenient parking at destination.
- Long travel distances.

Interestingly, adjunct facilities at P+R lots (such as a convenience store, car care, or child care) are appreciated but have not been found to influence the use of P+R.

Because people are rarely willing to backtrack more than a short distance, successful P+R locations have a funnel-shaped catchment area, attracting both people living within (say) two miles of the lot, and people further out along the corridor. The distances involved vary between cities, but the funnel shape is consistent.

In terms of specific locations, experience has found the following factors as being important for success:

- The best balance between (a) maximizing the catchment area (which draws P+R close to downtown) and (b) avoiding congested corridors (which draws P+R away from downtown) tends to be about equidistant from home and workplace, or slightly closer to home.
- Before hitting congestion.
- Easy highway access. Demand begins to fall when the lot is more than three-quarters of a mile from the direct route to downtown.
- High visibility from the road. Most P+R users learn about it by seeing it.

Typically 95% or more of P+R users are commuting. In most cases, around half of the users have previously commuted by single-occupancy vehicle, although the range is very variable. Others had previously carpooled (about 25% on average) or used transit (about 10% on average). Most of the remainder had not previously made the trip (usually because of changing jobs). Studies have also found that:

- The main incentives for using P+R are saving money, saving driving stress, and saving time.
- For most riders, P+R is not as attractive as an equivalent-quality transit service that runs within a short walk of home. This means that P+R users are generally 'choice riders' who are not captive to transit, but who do not have good transit direct from their home.

Park-and-pool reduces downtown parking demand by providing locations where people can park in suburban lots and then carpool or vanpool into downtown. Often these locations are simply park-and-ride lots, but dedicated lots are sometimes used. Like park-and-ride, it provides an alternative to single-occupancy vehicle commuting for people living in low-density areas where local or express commuter transit is not viable. Put another way, it allows for carpooling between groups of people who live in the same general direction but not close to each other.

Express commuter transit is similar to local service, but is specifically aimed at commuter trips to/from downtown. Typically routes pick up riders from suburban areas, neighboring towns and/or park-and-ride lots, and then run non-stop to downtown. These services usually operate in peak hours only, and are most suited to outer areas or adjoining towns.

4.2.6 Peripheral Parking

Peripheral parking means parking that is provided on the edge of downtown, far enough from the core area to be competitively priced, yet close enough for people to be able to walk or take a shuttle to their workplace. The goals can be to:

- Address congestion, by intercepting commuter trips before they enter downtown.
- Address a shortage of downtown parking.
- Deliberately tighten parking as part of a policy to manage land use, traffic or travel demand.

It is often provided by municipalities, but sometimes by employers/developers. Universities and medical centers (including the University of Virginia) often provide peripheral parking.

In Charlottesville, there have been calls for a free peripheral parking lot, aimed at downtown workers, but so far a suitable site has not been identified. In practice, the unrestricted spaces on the south side of downtown, as well as some of the existing surface lots, already act as peripheral parking.

Research from other cities has shown mixed results. The disappointing results have generally been where the user cost saving did not justify the loss in time or convenience relative to parking in the core. This means it is important to be able to manage the relative rates of core and peripheral parking; this may be difficult given the current structure of Charlottesville's parking provision.

The city of Hartford, CT has a policy allowing parking requirements for new developments to be reduced by up to 30 percent in exchange for shuttle service from off-site parking, paired with a requirement for putting new on-site parking underground. However, developers have reportedly preferred leasing nearby surface parking over use of peripheral parking.

4.2.7 Potential Impacts in Charlottesville

If Charlottesville made a strong push to develop its transit service to 'best in class' for a city of its size, experience from other cities suggests that a tripling of the service level could perhaps double transit ridership. This would increase downtown commuting ridership from the current estimate of 250-300 people to around 600 people, or approximately a 3% share. In turn, this would save around 300 parking spaces downtown (equivalent to 8% of current parking demand in the study area). This saving is unlikely to be a major 'game-changer'. However, it is still significant and useful – for example, it could delay the need for an additional garage by absorbing several years of demand growth.

4.2.8 Importance of Parking Supply and Price

It is important to understand that the supply and price of parking will be the single largest factor in encouraging greater use of transit or other alternative modes for commuting. That is, 'carrots' in the form of improved transit and other alternatives will have some effect, but a greater effect will come from 'sticks' of limited and/or more expensive parking:

> "Overall, the most important factor influencing modal choice appears to be parking price…. Parking supply also has an important, although less visibly strong, effect. The role of parking supply in establishing parking prices needs to be factored into the evaluation. While the scarcity of parking apparently isn't the most directly compelling signal to travelers, the higher prices it seemingly induces produce the signal that most influences mode choice." *(Traveler Response to Transportation System Changes (TCRP report 95), p. 18-43).*

This is logical. Ample parking supply makes it hard to introduce effective travel demand management programs, since it is difficult to price or otherwise restrict the use of parking that employees know to be available.

Experience has also found, however, that other factors such as transit availability and concurrent incentives or programs will also influence traveler response to parking pricing. Raising fees substantially without reasonable levels of alternatives can be expected to have little effect on travel, but simply act as a revenue generation strategy.

The long-run success of parking management policy depends on:

- The inherent draw of downtown Charlottesville.
- The availability of quality travel alternatives.
- The ease with which people and employers can switch to locations where parking is cheaper or more plentiful.

The potential side-effects of supply or pricing measures are therefore:

- A possible cascade of parking towards peripheral locations around downtown. This may be acceptable as long as care is taken to manage the parking appropriately (for example, with peripheral spaces or lots, and/or by protecting residential streets from undesirable levels of commuter parking).
- A possible relocation of activities out of downtown Charlottesville. The inherent draw of downtown will need to be enough to counteract this.

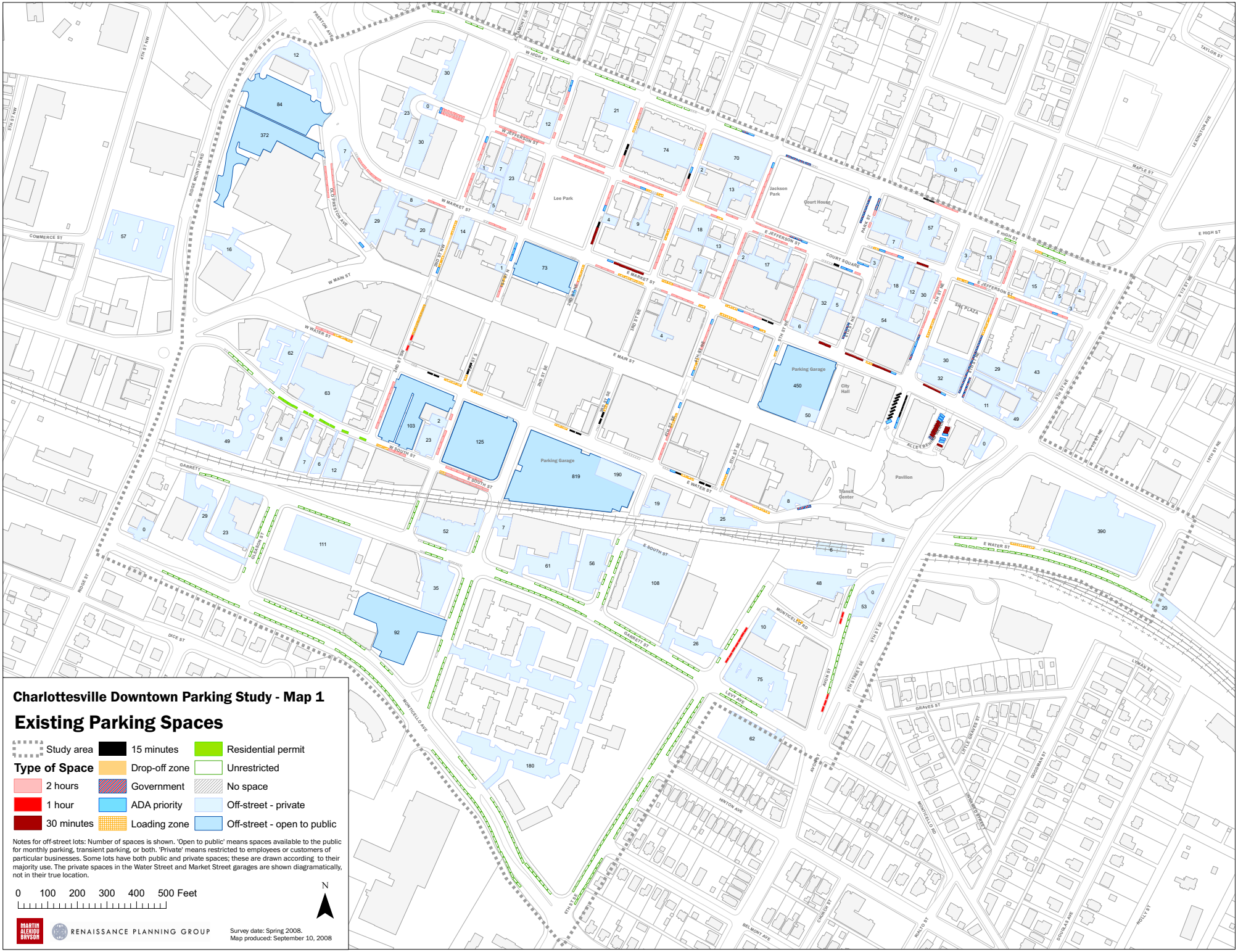
4.2.9 Summary of Ways for Transit to Reduce Downtown Commuter Parking Demand

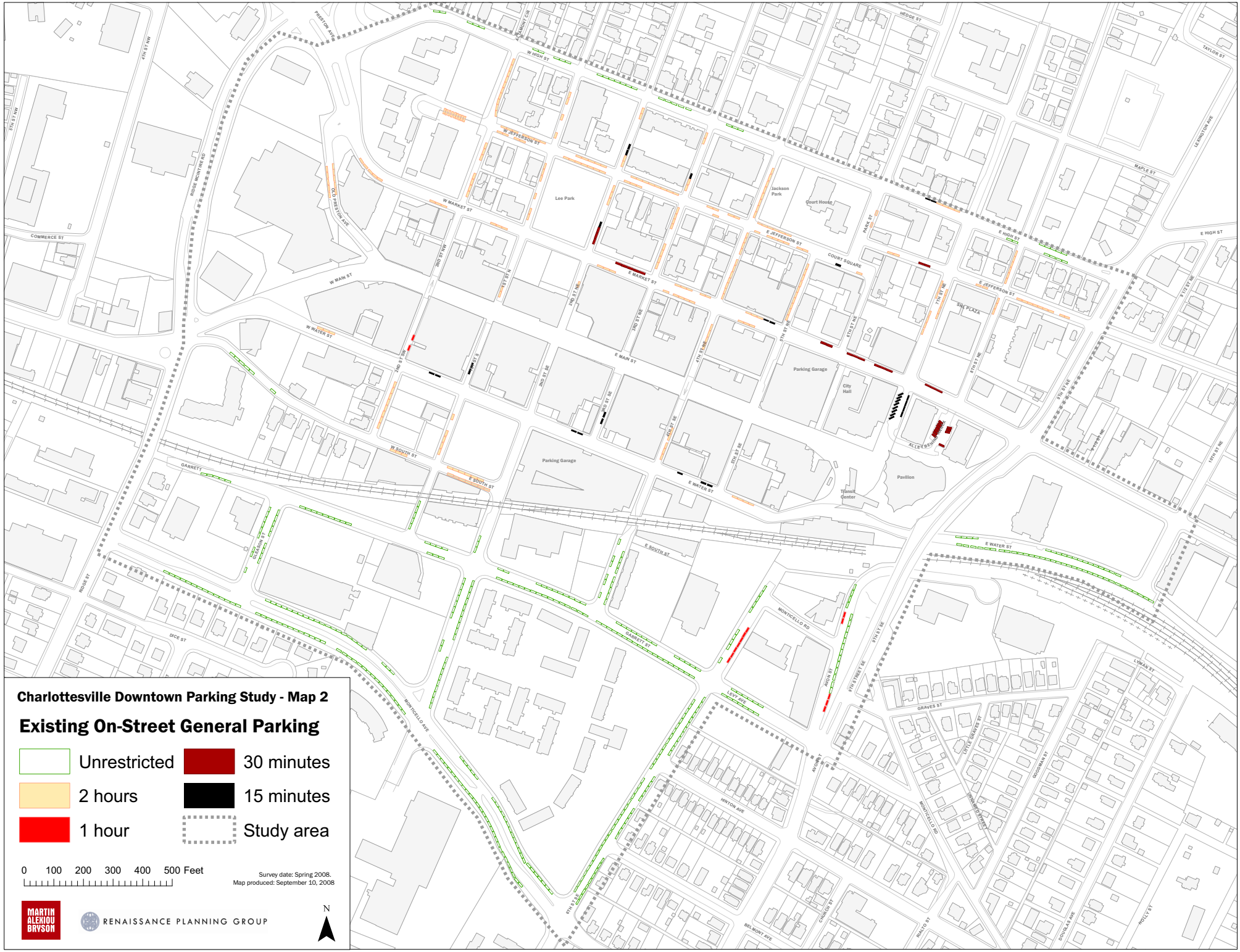
In summary, the most effective way for transit to reduce downtown parking demand is as a part of a wider package of measures that is likely to include:

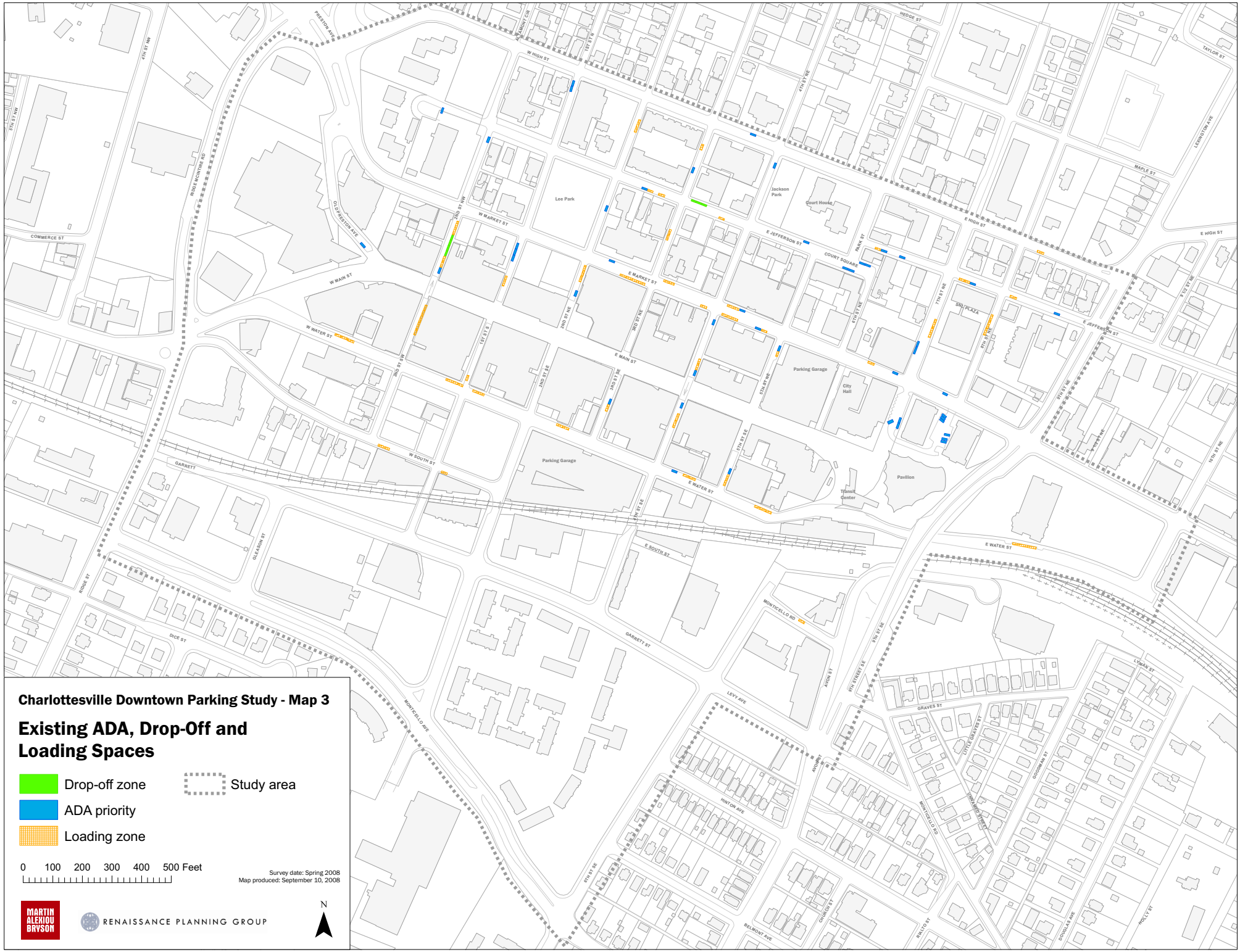
- Using the supply and price of commuter parking to regulate demand.
- Providing good-quality, attractive alternative modes of travel, so that people can and will respond to the price signals.
- Continuing to develop TDM programs to support people who use the alternatives.

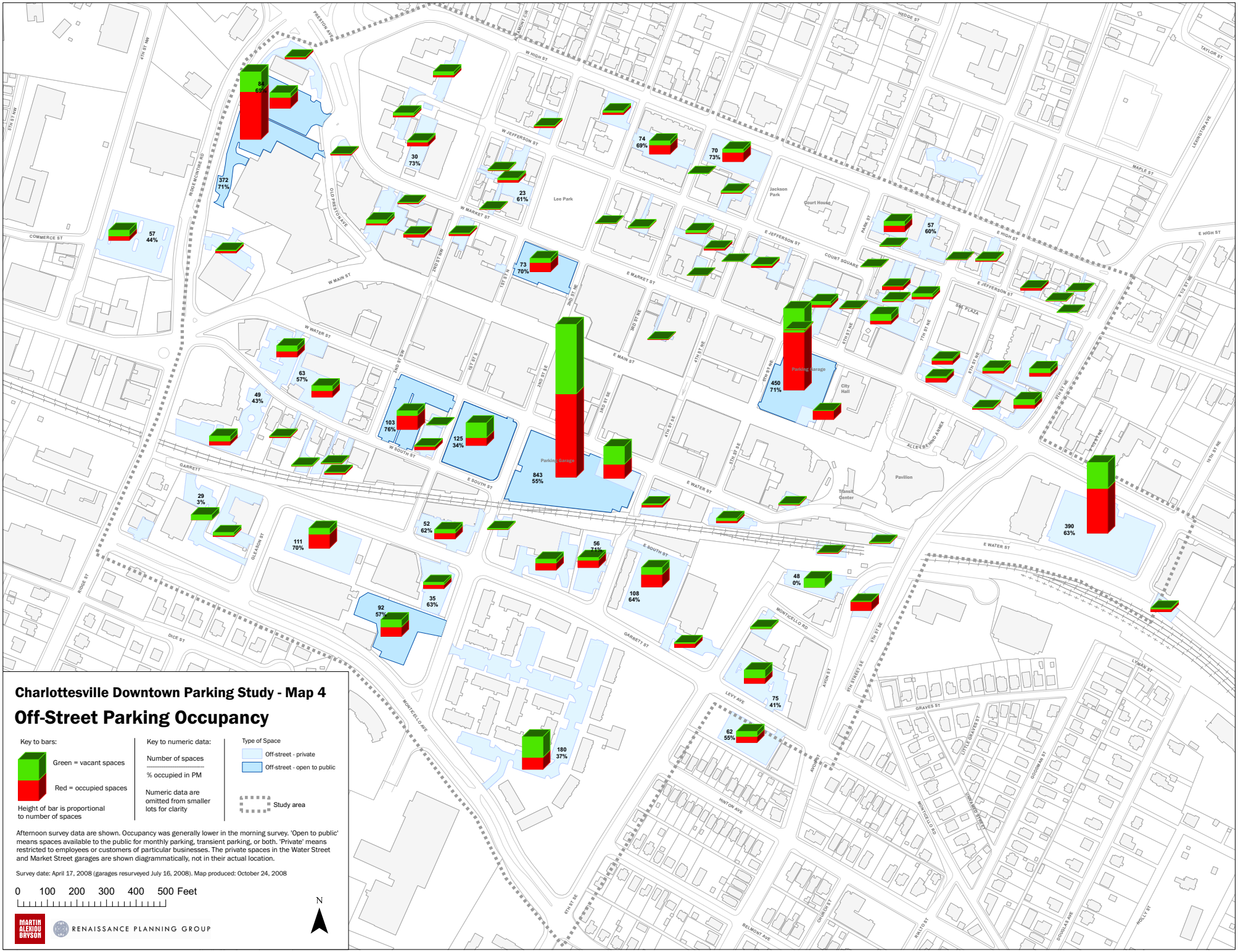
No one alternative mode will be suitable for everybody, so a balanced system of alternatives is needed. The ideal system would include:

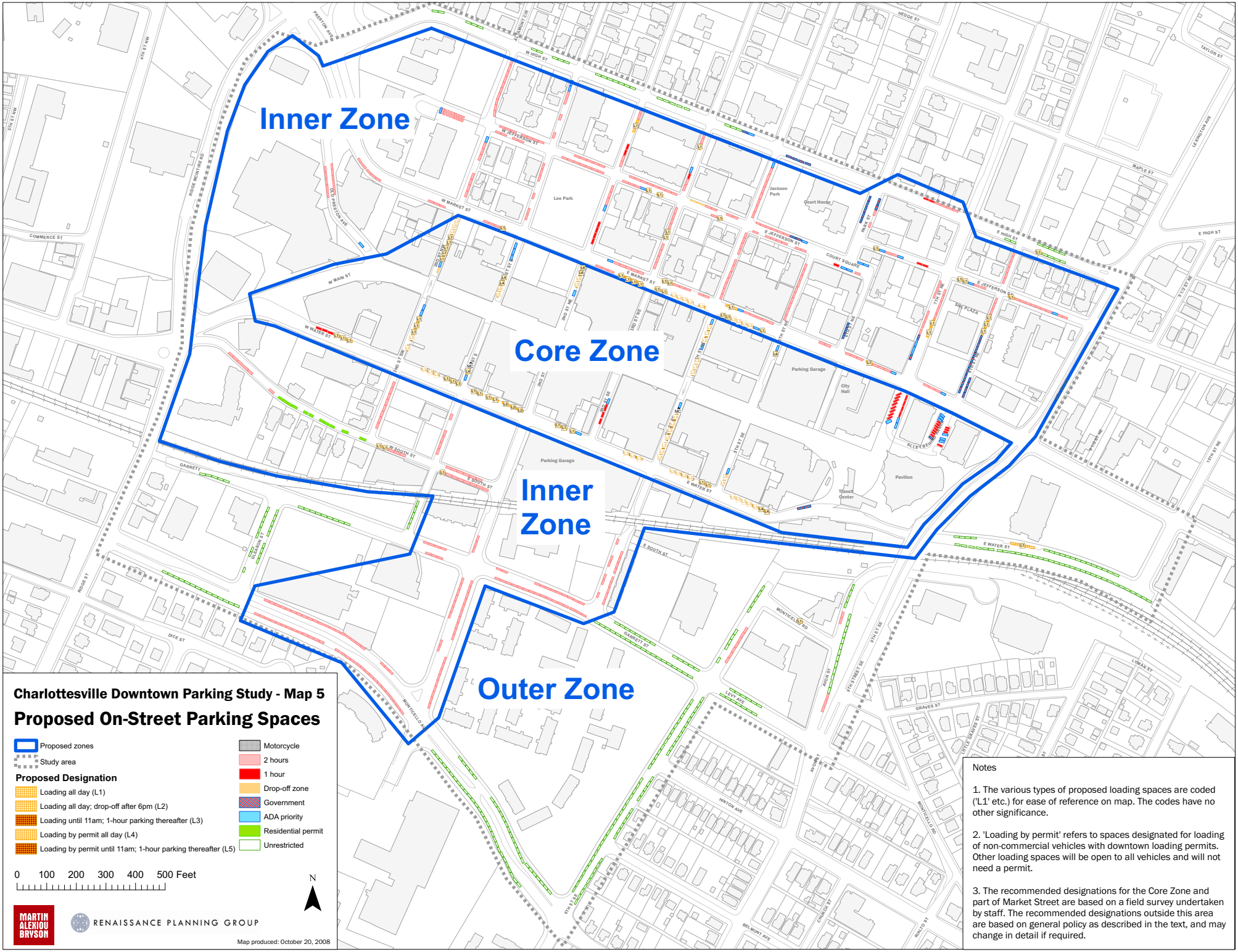
- Pedestrian and bicycle access to downtown – this targets people living nearby.
- Incremental improvements to the existing local transit service – this targets people living citywide.
- Developing key corridors where there are opportunities to be competitive with car travel, with frequent high-quality services aimed at maximizing commuter ridership – this targets particular corridors where additional inroads into parking demand can be made and where there are synergies with other transit needs.
- Developing park-and-ride locations with frequent express service to downtown Charlottesville – this targets people living outside the city limits or in the wider region for whom other transit services are not available or suitable. It also provides park-and-pool opportunities.


Charlottesville Downtown Parking Study - Map 1
Existing Parking Spaces
Study area
Type of Space
2 hours
1 hour
30 minutes
15 minutes
Drop-off zone
Government
ADA priority
Loading zone
Residential permit
Unrestricted
No space
Off-street - private
Off-street - open to public
Notes for off-street lots: Number of spaces is shown. 'Open to public' means spaces available to the public for monthly parking, transient parking, or both. 'Private' means restricted to employees or customers of particular businesses. Some lots have both public and private spaces; these are drawn according to their majority use. The private spaces in the Water Street and Market Street garages are shown diagramatically, not in their true location.
0 100 200 300 400 500 Feet
N
MARTIN ALEXIOU BRYSON
RENAISSANCE PLANNING GROUP
Survey date: Spring 2008.
Map produced: September 10, 2008


Charlottesville Downtown Parking Study - Map 2
Existing On-Street General Parking
Unrestricted
2 hours
1 hour
30 minutes
15 minutes
Study area
0 100 200 300 400 500 Feet
Survey date: Spring 2008.
Map produced: September 10, 2008
MARTIN ALEXIOU BRYSON
RENAISSANCE PLANNING GROUP
N


Charlottesville Downtown Parking Study - Map 3
Existing ADA, Drop-Off and Loading Spaces
Drop-off zone
ADA priority
Loading zone
Study area
0 100 200 300 400 500 Feet
Survey date: Spring 2008
Map produced: September 10, 2008
MARTIN ALEXIOU BRYSON
RENAISSANCE PLANNING GROUP
N
W HIGH ST
E HIGH ST
W MARKET ST
E MARKET ST
E JEFFERSON ST
W MAIN ST
E MAIN ST
W WATER ST
E WATER ST
W SOUTH ST
E SOUTH ST
COURT SQUARE
Lee Park
Jackson Park
Court House
Parking Garage
City Hall
Pavilion
Transit Center
GARRETT ST
LEVY AVE
HINTON AVE
MONTICELLO RD
MONTICELLO AVE
GRAVES ST
LYMAN ST
MAPLE ST
TAYLOR ST
LEXINGTON AVE
COMMERCE ST
RIDGE ST
DICE ST
OLEARON ST
BELMONT AVE
MOLLY ST


Charlottesville Downtown Parking Study - Map 4
Off-Street Parking Occupancy
Key to bars:
Green = vacant spaces
Red = occupied spaces
Height of bar is proportional to number of spaces
Key to numeric data:
Number of spaces
% occupied in PM
Numeric data are omitted from smaller lots for clarity
Type of Space
Off-street - private
Off-street - open to public
Study area
Afternoon survey data are shown. Occupancy was generally lower in the morning survey. 'Open to public' means spaces available to the public for monthly parking, transient parking, or both. 'Private' means restricted to employees or customers of particular businesses. The private spaces in the Water Street and Market Street garages are shown diagrammatically, not in their actual location.
Survey date: April 17, 2008 (garages resurveyed July 16, 2008). Map produced: October 24, 2008
0 100 200 300 400 500 Feet
N
MARTIN ALEXIOU BRYSON
RENAISSANCE PLANNING GROUP



Charlottesville Downtown Parking Study - Map 5

Proposed On-Street Parking Spaces

- Proposed zones
- Study area

Proposed Designation

- Loading all day (L1)
- Loading all day; drop-off after 6pm (L2)
- Loading until 11am; 1-hour parking thereafter (L3)
- Loading by permit all day (L4)
- Loading by permit until 11am; 1-hour parking thereafter (L5)

- Motorcycle
- 2 hours
- 1 hour
- Drop-off zone
- Government
- ADA priority
- Residential permit
- Unrestricted

0 100 200 300 400 500 Feet

N

MARTIN ALEXIOU BRYSON

RENAISSANCE PLANNING GROUP

Map produced: October 20, 2008

Notes

1. The various types of proposed loading spaces are coded ('L1' etc.) for ease of reference on map. The codes have no other significance.

2. 'Loading by permit' refers to spaces designated for loading of non-commercial vehicles with downtown loading permits. Other loading spaces will be open to all vehicles and will not need a permit.

3. The recommended designations for the Core Zone and part of Market Street are based on a field survey undertaken by staff. The recommended designations outside this area are based on general policy as described in the text, and may change in detail if required.

Charlottesville Downtown Parking Study - Map 6

Existing and Proposed On-Street Spaces In Core Zone

- Loading all day (L1)
- Loading all day; drop-off after 6pm (L2)
- Loading until 11am; 1-hour parking thereafter (L3)
- Loading by permit all day (L4)
- Loading by permit until 11am; 1-hour parking thereafter (L5)
- Motorcycle
- 2 hours
- 1 hour
- 30 minutes
- 15 minutes
- Drop-off zone
- Government
- ADA priority
- Residential permit
- Unrestricted

Core Zone

The various types of proposed loading spaces are coded ('L1' etc.) for ease of reference on map and table. The codes have no other significance.

'Loading by permit' refers to spaces designated for loading of non-commercial vehicles with downtown loading permits. Other loading spaces will be open to all vehicles and will not need a permit.

Code on map	Type of Space	Existing Spaces	Proposed Spaces
	Loading Zone	33	-
L1	Loading at all times	-	23
L2	Loading until 6PM; Drop-Off after 6PM	-	3
L3	Loading until 11AM; 30-minute parking after 11AM	-	33
L4	Loading by permit at all times	-	8
L5	Loading by permit until 11AM; 30-minute parking after 11AM	-	6
	ADA Priority	24	24
	2 Hour Parking	19	-
	1 Hour Parking	2	29
	30 minute Parking	11	-
	15 minute Parking	23	-
	Drop Off	4	1
	Motorcycle	-	2
	Government	3	3
	Total	119	132

Additional loading spaces are also proposed for Market Street. These are not included in the totals shown above.

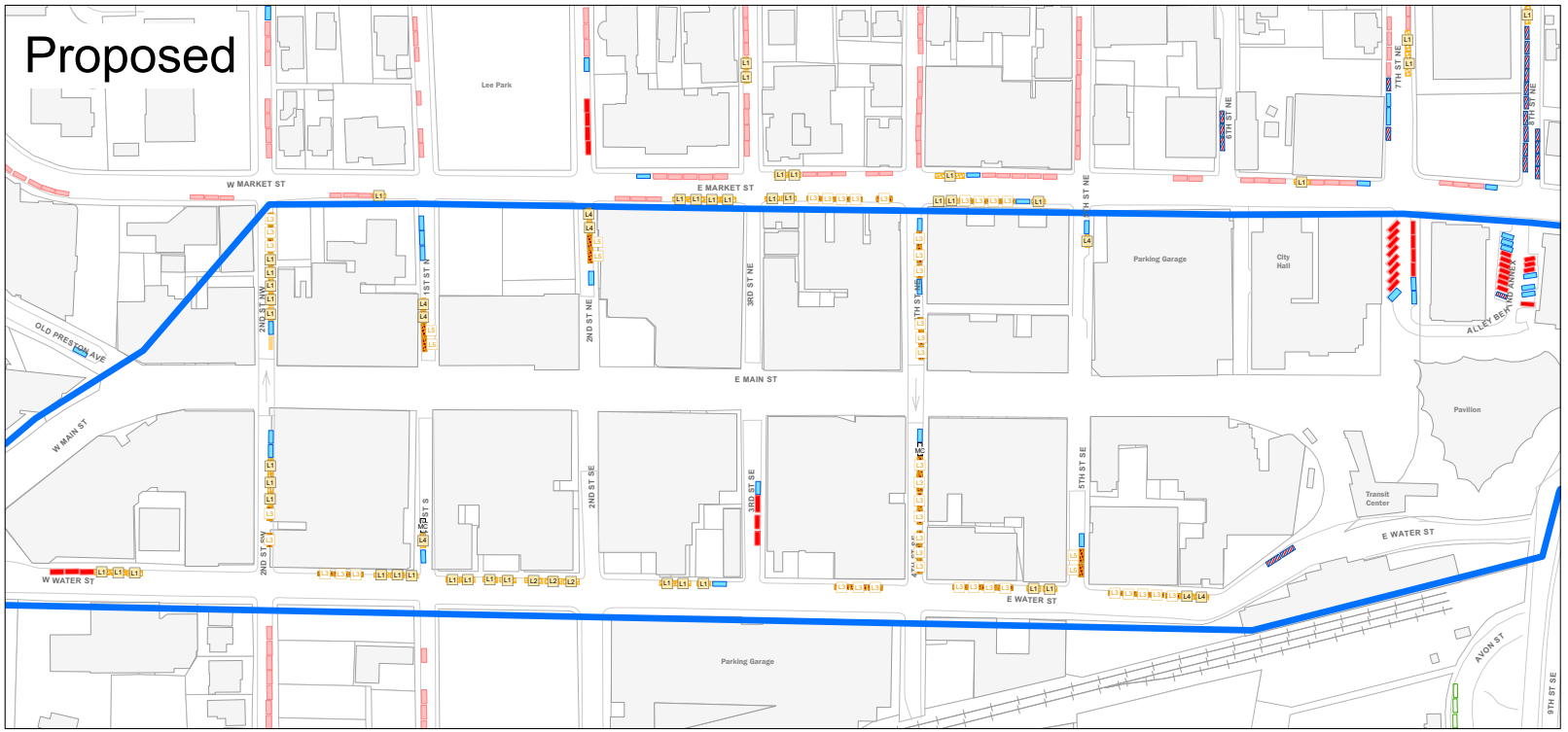
0 100 200 300 400 Feet

N

Martin/Alexiou/Bryson in association with Renaissance Planning Group
Survey date for existing data: Spring 2008
Map produced: October 20, 2008

MARTIN ALEXIOU BRYSON

RENAISSANCE PLANNING GROUP



Charlottesville Downtown Parking Study - Map 7

Proposed Loading Spaces In Core Zone

Loading by permit (L4 or L5)

Loading (L1, L2 or L3)

The various types of proposed loading spaces are coded ('L1' etc.) for ease of reference on map and table. The codes have no other significance.

'Loading by permit' refers to spaces designated for loading of non-commercial vehicles with downtown loading permits. Other loading spaces will be open to all vehicles and will not need a permit.

0 100 200 300 400 Feet

N

Martin/Alexiou/Bryson in association with Renaissance Planning Group
Map produced: October 20, 2008

MARTIN ALEXIOU BRYSON

RENAISSANCE PLANNING GROUP