Direct Dial: 434.951.5709 vlong@williamsmullen.com

JUN 1 2 2017

June 12, 2017

## Via Hand Delivery

NEIGHBORHOOD DEVELOPMENT SERVICES

Carrie Rainey, RLA Urban Designer Department of Neighborhood Development Services Charlottesville, VA 22903

RE: 1011 E. Jefferson Street - Proposed Mixed Use Building

Dear Ms. Rainey:

On behalf of our client, Jefferson Medical Building Partnership (the "Applicant"), the owners and developers of the property located at 1011 E. Jefferson Street (the "Property"), we are enclosing updated materials in connection with the proposed mixed use building (the "Project") and the special use permit application that was submitted on February 21, 2017 in connection with the Property.

Since the Planning Commission public hearing last fall, we have met several times with representatives from the Little High Street neighborhood in an effort to better understand their concerns and preferences. We have endeavored to incorporate their suggestions into the Project wherever possible. The February and June materials incorporate their changes, most significantly, the following elements:

- Shifting the massing of the building away from 11<sup>th</sup> Street NE and towards 10<sup>th</sup> Street; with 5 stories on 10<sup>th</sup> Street and 3 stories on 11<sup>th</sup> Street NE
- · Inclusion of commercial space and an updated traffic study to reflect the change
- Addition to Suggested Conditions of Approval to install two-way stop sign at the 11<sup>th</sup>
   Street NE and Little High Street intersection, reversing existing traffic flow to improve
   pedestrian safety
- Addition to Suggested Conditions of Approval to install curb bulb-outs and high visibility crosswalks at the 11<sup>th</sup> Street NE and Little High Street intersection, also to improve pedestrian safety

The following is a list of documents from the February 21, 2017 submission:

Feb. 21, 2017	Cover Page detailing changes made from previous submittal
Exhibit A	Compliance with General Standards for Issuance of a Special Use Permit
Exhibit B	Comprehensive Plan Goals Summary
Exhibit C	Conceptual Plan
Exhibit D	Suggested Conditions of Approval
Exhibit E	Building Renderings: Updated Design February 2017
Exhibit F	Building Renderings: June 22, 2016 Submittal Package
Exhibit G	Summary Memo of Traffic Study and Trip Generation Tables
Exhibit H	Traffic Study: September 2016
Exhibit I	Trip Generation Tables for Mixed Use: February 2017

We have included the February, 21, 2017 cover page in our current materials and would like the document to be considered in tandem with the current submission. In addition, the following exhibits were updated since the February 21, 2017 submission and are enclosed:

Exhibit C Conceptual Plan, last revised June 9, 2017

Exhibit D Suggested Conditions of Approval, dated June 12, 2017

Exhibit E Building Renderings: Updated Design

\*note: no changes were made to the actual renderings submission on February 21, 2017; only the dated on the renderings has changed.

Exhibit G Summary Memo dated June 12, 2017 of Traffic Study dated May 22, 2017

We are also enclosing the following new exhibits since the February 21, 2017 submission:

Exhibit J Traffic Study dated May 22, 2017

Exhibit K Market Analysis, East Jefferson Place Apartments, dated June 1, 2017

Exhibit L East Jefferson Place Project Narrative dated June 12, 2017

The major change to the application since the February 21, 2017 submission is the inclusion of 10,000 square feet of commercial space: 8,000 square feet of specialty retail and 2,000 square feet of a coffee/donut shop. This change was expressly requested by representatives of the Little High Street Neighborhood Association. As such, the only change to the Conceptual Plan (Exhibit C) was a reference the addition of commercial space in the notes section.

The Suggested Conditions of Approval (Exhibit D) were updated to reflect the most recent revision dates of the application materials. A second change to the Suggested Conditions of Approval (Exhibit D) involves the addition of two conditions designed to improve the 11<sup>th</sup> Street NE and Little High Street intersection. After meeting with the President of the Little High Street Neighborhood Association, we learned of concerns regarding the safety of the 11<sup>th</sup> Street NE and Little High Street intersection and such additions to the Suggested Conditions of Approval were an effort to address the neighborhood's safety concerns. Improvements at the 11<sup>th</sup> Street NE and Little High Street intersection include (1) the change of traffic flow so that the existing two-way stop sign will stop traffic on Little High Street instead of stopping traffic on 11<sup>th</sup> Street NE and (2) the addition of curb bulb-outs and high visibility crosswalks to improve pedestrian visibility and safety. These safety improvements and the change in traffic flow are recommended by the Multi-Way Stop Warrant Analysis in the Traffic Study dated May 22, 2017 (Exhibit J). A new Summary Memo of the most recent Traffic Study (Exhibit G) is also added to the submission materials.

Another exhibit is added to the submission materials (Exhibit K), which includes a market study documenting market support for the proposed number of market rate apartment units and a Fiscal Impact Analysis (FIA) that presents the net fiscal benefits of the apartment proposal to the City at build out.

A final exhibit is added to the submission materials (Exhibit L), which includes a narrative of the Project with illustrative slides that walk through the highlights of the Project.

As always, we appreciate your consideration of this request, and would be happy to address any questions or comments you may have about the Project. Please feel free to contact me if I can be of assistance.

Sincerely,

Valerie W. Long

Valerie W. Jong

## Attachments

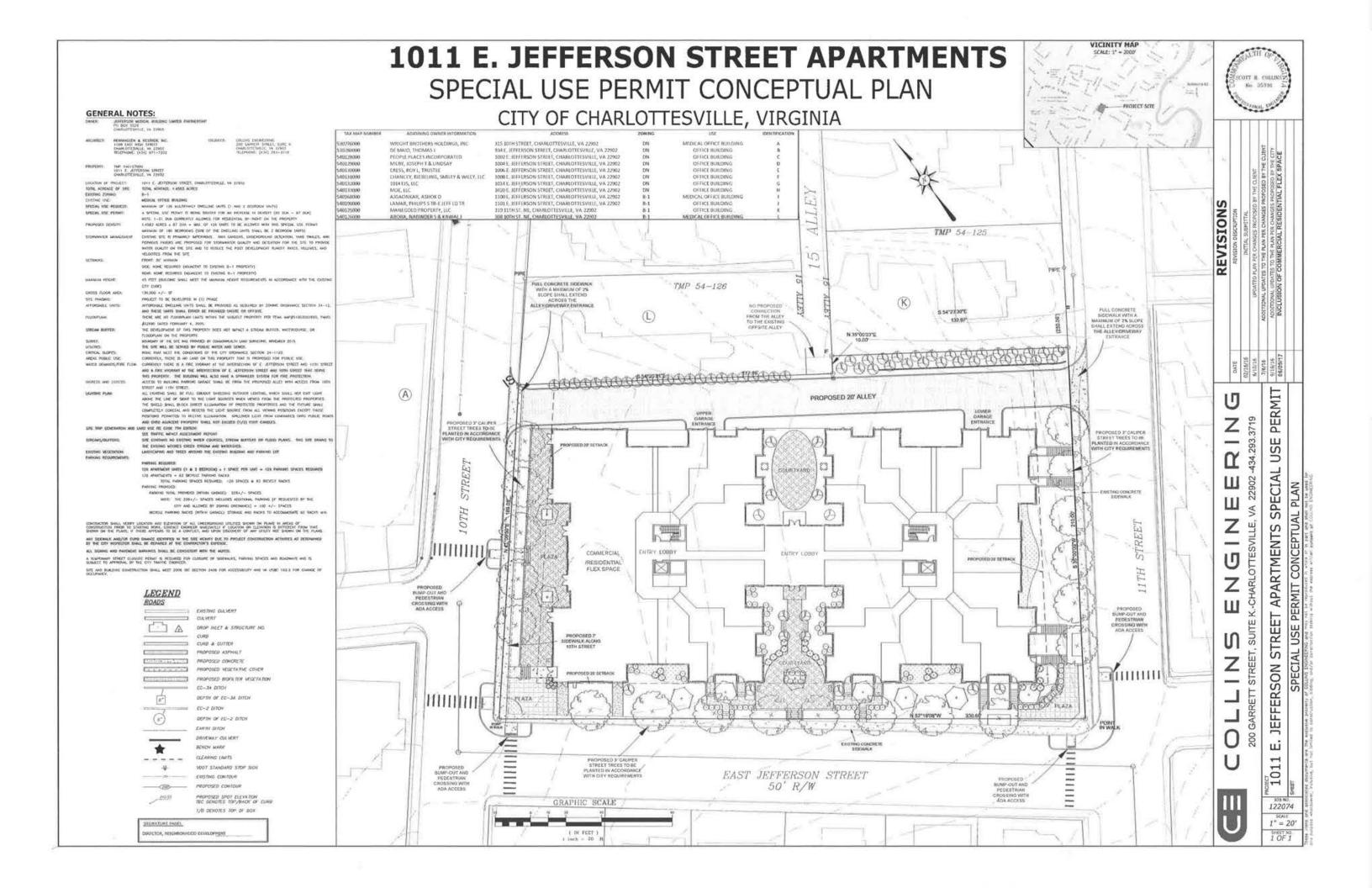
Exhibit C	Conceptual Plan, submitted June 12, 2017, last revised June 9, 2017
Exhibit D	Suggested Conditions of Approval, dated June 12, 2017
Exhibit E	Building Renderings: Updated Design dated June 12, 2017
	*note: no changes were made to the actual renderings submission on
	February 21, 2017; only the date has changed since then.
Exhibit G	Summary Memo of Traffic Study dated May 22, 2017
Exhibit J	Traffic Study dated May 22, 2017
Exhibit K	Market Analysis, East Jefferson Place Apartments, dated June 1, 2017
Exhibit L	East Jefferson Place Project Narrative
Exhibit M	February 21, 2017 Cover Page

cc: Jefferson Medical Building Partnership

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# Exhibit C

Conceptual Plan, last revised June 9, 2017



# Exhibit D

Suggested Conditions of Approval dated June 12, 2017

#### **Recommended Conditions**

June 12, 2017

Staff recommends that a request for higher density could be approved with the following conditions:

- Up to 87 dwelling units per acre (DUA) are permitted on the subject property. A
  maximum of 180 bedrooms shall be allowed on the subject property. Up to 50% of the
  dwelling units shall be two (2) bedroom units. No more than two (2) unrelated persons
  may reside in any unit. Leasing structure and lease agreements will not allow units to be
  leased by the bedroom or to have multiple leases per unit with shared living spaces.
- Affordable housing units as required by Z.O. Sec. 34-12 shall be provided on-site or on property zoned in the Downtown or Downtown North Mixed Use Corridors.
- 3. No demolition of existing building(s) or improvements shall be commenced prior to approval of a final site plan and approval of a permit authorizing land-disturbing activities pursuant to Z.O. Sec. 10-9. For purposes of Chapter 10 of the City Code, demolition activities shall be planned and built into the erosion & sediment control plan and stormwater management plan (if required), as part of the overall development plan for the subject property, and no such demolition activity shall be undertaken as a standalone activity.
- 4. The design, height, and other characteristics of the development shall be in general accord, remain essentially the same, in all material aspects, as described within the application materials received from February 16, 2016 until June 12, 2017, submitted to the City for and in connection with SP16-00001, including the site plan received June 12, 2017, last revised June 9, 2017 (Updated Attachment C) and updated building massing materials submitted June 12, 2017 (Updated Attachment E).
  - Conceptual Plan by Collins Engineering dated February 16, 2016, last revised June 9, 2017 (the "Concept Plan")
  - Special Use Permit Project Proposal Narrative dated September 16, 2016, as updated by materials submitted to the City on June 12, 2017
  - · Building Massing Materials submitted to the City on June 12, 2017

Except as the design details of the development may subsequently be modified to comply with staff comments, or by any other provision(s) of these SUP Conditions, any change to the development that is inconsistent with the essential elements of the application shall require a modification of this SUP. These characteristics essential elements include:

- Two (2) open air courtyards in the front and rear of the building, with the front courtyard visible from E. Jefferson Street.
- b. Three (3) plazas in the provided site plan one (1) along the entire 10<sup>th</sup> Street, NE frontage, one (1) at the corner of 10<sup>th</sup> Street, NE and E. Jefferson Street, and one (1) at the corner of 11<sup>th</sup> Street, NE and E. Jefferson Street.
- c. Direct pedestrian access to the internal access system of the proposed building from E. Jefferson Street.

Commented [AD1]: In this condition, the applicant has inserted an additional component to limit the number of two bedroom units. The reference to two unrelated persons has been deleted due to the potential conflict with the Federal Fair Housing Act. Instead, leasing agreements have been addressed to reduce the likelihood of students renting at this location.

Commented [AD2]: 'In general accord' represents standard legal language incorporated into Conditional Zonings and Special Use Permits.

Commented [AD3]: The insertion of essential elements further clarifies how the plan must be in general accord.

Commented [AD4]: Internal access system is not defined The site plan clearly shows the points of pedestrian access.

- d. An additional building setback at least 10 feet beyond the required minimum 20 feet setback for a minimum of 40% on 10<sup>th</sup> Street NE and 11<sup>th</sup> Street NE, with an allowance of a 10% deviation from this minimum. Additional building setbacks on 10<sup>th</sup> Street, NE, 11<sup>th</sup> Street, NE, and E. Jefferson Street in general accord with the Concept Plan, with an allowance of 10% deviation from what is shown thereon.
- e. An additional building setback at least 25 feet beyond the required minimum 5 (five) feet setback for a minimum of 35% on E Jefferson Street, with an allowance of a 10% deviation from this minimum, and with the remainder of the building being setback at least 15 feet beyond the required minimum five (5) feet setback on E Jefferson Street.
- f. e. An additional building stepback at least 10 feet from the required minimum 20 feet setback on the entirety of any building story above the second (2nd) floor fronting 11<sup>th</sup> Street, NE, and an additional building stepback of at least 25 feet from the required minimum five (5) feet setback on the entirety of any building story above the second (2nd) floor fronting E. Jefferson Street, and an additional building stepback of at least 10 feet from the setback applied to the bottom two(2) stories on the entirety of any building story above the second (2nd) story along the northern side of the building.
- Street trees shall be a minimum of three (3) inch caliper at planting. Regardless of canopy size, street trees shall be spaced no more than 25 feet apart on the 10<sup>th</sup> Street NE and 11<sup>th</sup> Street NE frontages, and no more than 35 feet apart on the E Jefferson Street frontage 35 feet apart on all frontages.
- 6. The applicant shall provide pedestrian improvements in the vicinity of the subject property, the dimension and final design of which is subject to approval by the City Traffic Engineer. These improvements shall be designed so that adequate space shall remain for the potential future installation of bicycle lanes on 10<sup>th</sup> Street, NE. These improvements shall include:
  - a. Provide an improved pedestrian path on 10<sup>th</sup> Street, NE along the entire frontage of the subject property. This will consist of a widened sidewalk with a minimum of seven (7) feet in width. If the widened sidewalk extends into the subject property, the sidewalk area shall be donated to the City for addition to the public right-of-way and a reduction of two (2) feet shall be applied to all setbacks and stepbacks required for 10<sup>th</sup> Street NE by both Z.O. Sec. 34-457 and conditions 5c and 5e above. The acreage of the existing project parcel at the time of Special Use Permit approval shall be the acreage utilized to calculate the maximum density allowed, even if part of the parcel is donated to the City.
  - Install curb extensions extending into the intersection of 10th Street NE and E
     Jefferson Street adjacent to the subject property on both sections of the
     staggered intersection, as shown in the provided site plan received June 12,

Commented [AD5]: This condition has been simplified to reference the Concept Plan, while also providing minor flexibility for the site plan review.

Commented [AD6]: This condition was removed because the information is covered in condition 4d.

Commented [AD7]: This condition has been modified to allow for the adequate spacing of larger street trees in an urban location.

Commented [AD8]: Additional language regarding project density has been added to insure that the applicant is not penalized for additional dedication of land to the public.

2017, last revised June 9, 2017 (Updated Attachment C). Curb extensions shall include perpendicular curb ramps aligned with each pedestrian crosswalk. A receiving curb ramp shall be installed as necessary on the opposite end of each pedestrian crosswalk.

- c. Install curb extensions extending into the intersection of 11<sup>th</sup> Street NE and E Jefferson Street adjacent to the subject property, as shown in the provided site plan received June 12, 2017, last revised June 9, 2017 (Updated Attachment C). Curb extensions shall include perpendicular curb ramps aligned with each pedestrian crossing. A receiving curb ramp shall be installed as necessary on the opposite end of each pedestrian crosswalk.
- d. Replace the existing two-way stop sign located at the intersection of 11<sup>th</sup> Street NE and Little High Street with a new two-way stop sign that shall stop traffic traveling on Little High Street, instead of stopping traffic traveling on 11<sup>th</sup> Street NE. The replacement of the existing two-way stop sign shall be subject to the approval of the City Traffic Engineer.
- e. Install curb extensions extending into the intersection of 11<sup>th</sup> Street NE and Little High Street. Curb extensions shall include perpendicular curb ramps aligned with each pedestrian crossing. A receiving curb ramp shall be installed as necessary on the opposite end of each pedestrian crosswalk. Install high visibility crosswalk at the pedestrian crossing at the 11<sup>th</sup> Street NE and Little High Street intersection. All pedestrian Intersection improvements at the 11<sup>th</sup> Street NE and Little High Street intersection shall be substantially similar in form and design as shown for those intersections immediately adjacent to the subject property in the provided site plan received June 12, 2017, last revised June 9, 2017 (Updated Attachment C).
- f. Install high visibility crosswalks at all pedestrian crossings immediately adjacent to the subject property, at both the 10<sup>th</sup> Street NE and E Jefferson Street and 11<sup>th</sup> Street NE and E Jefferson Street intersections, as shown in the provided site plan received June 12, 2017, last revised June 9, 2017 (Updated Attachment C).
- e. Continue the concrete sidewalk across all proposed driveway/alley entrances in full width and at a maximum two (2) percent cross slope, as shown in the provided site plan received June 12, 2017, last revised June 9, 2017 (Updated Attachment C).
- 7. All outdoor lighting and light fixtures shall be full cut-off luminaires.
- 8. The spillover light from luminaires onto public roads and onto adjacent property shall not exceed one-half (½) foot candle. A spillover shall be measured horizontally and vertically at the property line or edge of right-of-way or easement, whichever is closer to the light source.
- No vehicular access to the subject property shall be permitted from the existing alley connecting the rear of the property to Little High Street.

Commented [SN9]: Additional language regarding change in traffic flow at the 11th Street NE and Little High Street intersection as recommended from the Multi-Way Stop Warrant Analysis, found in the most recently updated Traffic Study. The change in traffic flow is designed to address concerns raised by representatives of the Little High Neighborthood Association that traffic was travelling too fast through Little High Street.

Commented [SN10]: Additional language regarding pedestrian improvements at the 11th Street NE and Little High Street intersection as was also recommended from the Multi-Way Stop Warrant Analysis, found in the most recently updated Traffic Study. Such improvements, such as curb bulb outs, are designed to reduce the distance of pedestrian crosswalks and increase the visibility of such crosswalks, which enhances pedestrian safety.

- 10. No more than one (1) vehicular access point may be established on 11<sup>th</sup> Street, NE, unless additional access points on 11<sup>th</sup> Street, NE are determined by the City Traffic Engineer to be appropriate.
- 11. Conform to Z.O. Sec. 34-881(2)-Bicycle Storage Facilities or the most current Bicycle Storage Facilities code for multi-family dwellings at time of development.
- 12. Low impact development techniques such as rain gardens and permeable pavers shall be installed on the subject property with the redevelopment of the site.

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## Exhibit E

Building Renderings: Updated Design June 2017

## 1011 EAST JEFFERSON STREET

June 12, 2017

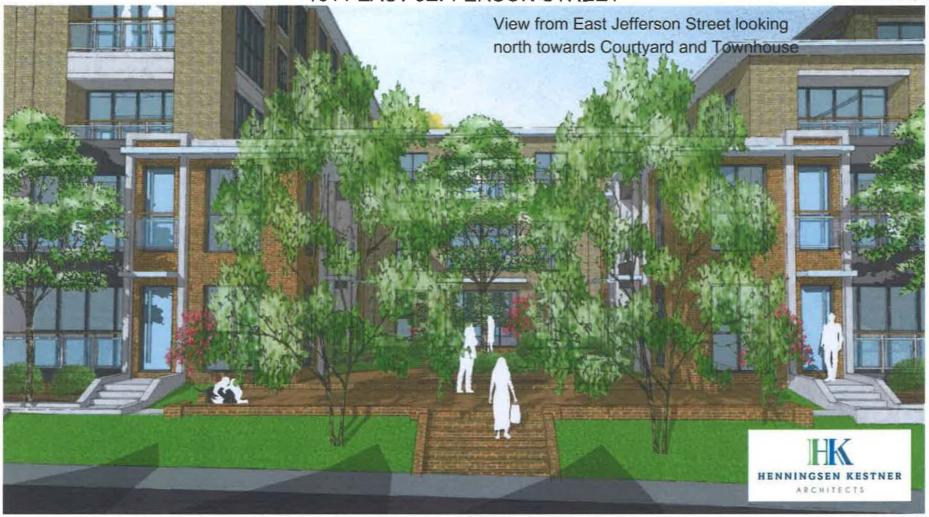




## 1011 EAST JEFFERSON STREET



## 1011 EAST JEFFERSON STREET





# Exhibit G

Summary Memo of Traffic Study dated May 22, 2017

### MEMORANDUM

TO:

Carrie Rainey

FROM:

Williams Mullen

DATE:

June 12, 2017

RE:

East. Jefferson Place - Traffic Study Summary

The following is a summary of the attached Traffic Impact Analysis (the "Traffic Study") prepared by Ramey Kemp & Associates, Inc., a well-regarded professional traffic engineering firm in the area (the "Traffic Engineers"). The Traffic Engineers have previously submitted the Traffic Study to Brennan Duncan under separate cover, but we thought a summary might be helpful for you and others interested in the Project.

The Traffic Study has three key parts outlined below:

- 1) Vehicular Trip Generation Estimates,
- 2) Street Capacity Analysis, and
- 3) Multi-Way Stop Warrant Analysis.

The first section of the Traffic Study estimates how many average vehicle trips per day are expected at the site from the proposed development. Such estimates were made by using the methodologies of the Institute of Transportation Engineers Trip Generation Manuel – 9th Edition, which is the industry standard for traffic studies (the "Trip Generation Manuel"). The Traffic Study concluded that only two additional vehicular trips per day are expected from the proposed development as compared to the number of average daily vehicular trips generated from the existing medical office use. Two field studies were made to verify such assumptions: (1) vehicles were manually counted at a similarly situated apartment complex, located ½ mile from the proposed development (the City Walk Apartments) and (2) vehicles were manually counted at two local coffee shops (Shenandoah Joe's and Milli Coffee Roasters, both located on Preston Avenue).

The second section of the Traffic Study uses standard industry software to estimate delays (measured in seconds) and vehicular que length (measured in feet) at each intersection surrounding the proposed development. To generate such estimates, the Traffic Engineers must input the project's estimated average daily vehicular trip generation. Even though standard industry practice and field observations confirmed the justifications for the above assumptions, when inputting the project's average daily vehicular trip generation, the Traffic Engineers did not make such assumptions so as to be certain that the surrounding streets could handle traffic volumes at any fathomable level. The number of average daily vehicular trips inputted in the street capacity analysis software was at least 684 more vehicle trips than what is actually expected at the site. Nevertheless, the Traffic Engineers estimated that the surrounding intersections will have delays of less than 30 seconds and que lengths of two vehicles at most, operating at the high levels of service.

The third section of the Traffic Study analyzed traffic at the intersection of 11th Street NE and Little High Street. Representatives of the Little High Neighborhood Associations expressed concerns with vehicular speeds at Little High Street. The Traffic Study conducted a "multi-way stop warrant analysis," the first step necessary for the installation of a four-way stop. While such analysis revealed that the intersection does not meet the Virginia Department of Transportation's requirements for the installation of a four-way

stop sign, the Traffic Engineers recommended switching the current configuration so that Little High Street Traffic must stop and yield to 11th Street NE traffic, thus reducing vehicular speeds of thru-traffic on Little High Street. The Traffic Study also recommended certain upgrades to the sidewalk and the installation of a highly visible crosswalk.

Further details can be found in the Traffic Study.

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# Exhibit J

Traffic Study dated May 22, 2017



RAMEY KEMP & ASSOCIATES, INC. 4343 Cox Road Glen Allen, VA 23060 Phone: 804-217-8560 Fax: 804-217-8563

www.rameykemp.com

May 22, 2017

Mr. Brennen Duncan, P.E. City of Charlottesville 610 East Market Street Charlottesville, Virginia 22902

Phone: (434) 970-3182

Reference:

East Jefferson Street Apartments – Traffic Impact Analysis (TIA)

Charlottesville, Virginia

Dear Mr. Duncan,

Ramey Kemp & Associates, Inc. (RKA) has performed a Traffic Impact Analysis (TIA) to support the proposed redevelopment of the property on the north side of East Jefferson Street between 10<sup>th</sup> Street NE and 11<sup>th</sup> Street NE. The property currently has a 20,300 square foot (s.f.) medical office building, with two full-movement driveways on East Jefferson Street, and one full-movement driveway on 10<sup>th</sup> Street NE.

The proposed redevelopment includes replacing the medical office building with 126 apartment units, up to 8,000 s.f. of specialty retail space, and a 2,000 s.f. coffee / donut shop without a drive-through window. The proposed access plan includes removing both driveways on East Jefferson Street, and adding one new full-movement driveway on 11<sup>th</sup> Street NE. The plan includes constructing a two-level below-grade parking deck with 246 spaces. If approved, the redevelopment is expected to be complete in 2019. Figure 1 shows the site location and study intersections.

The purpose of this letter report is to provide the following:

- Trip generation calculations
- Trip generation study at City Walk Apartments
- Trip generation study at two local coffee shops
- Capacity analysis of study intersections
- Multi-way stop analysis for the intersection of Little High Street at 11<sup>th</sup> Street

## **Existing Roadway Conditions**

10<sup>th</sup> Street NE is a two-lane local collector with an average daily traffic (ADT) volume of approximately 4,000 vehicles per day, and a posted speed limit of 25 mph across the property frontage.

East Jefferson Street is a two-lane local collector with an ADT volume of approximately 1,700 vehicles per day, and a posted speed limit of 25 mph across the property frontage.

Mr. Brennen Duncan, P.E. Page 2 of 12

11th Street NE is a two-lane local collector with an ADT volume of approximately 1,500 vehicles per day, and a posted speed limit of 25 mph across the property frontage.

### **Existing Traffic Volumes**

The existing 2016 AM peak hour (7:00 to 9:00 AM) and PM peak hour (4:00 to 6:00 PM) turning movement counts were conducted by RKA and Burns Service, Inc. at the following intersections during the week of September 12, 2016:

- 10<sup>th</sup> Street NE at East Jefferson Street
- 11<sup>th</sup> Street NE at East Jefferson Street
- East Jefferson Street at three existing medical office driveways

Burns Service, Inc. also performed a 14-hour (6:00 AM to 8:00 PM) turning movement count at the following intersection during the week of May 8, 2017:

Little High Street at 11<sup>th</sup> Street NE

The existing peak hour volumes were increased and balanced between the study intersections, and are shown in Figure 2. All of the traffic count data is enclosed for reference.

### **Background Traffic Growth**

The existing medical office trips were removed from the existing driveways, but those trips were not subtracted from the main intersections. Additionally, based on a review of the 2012 and 2015 ADT's, the existing 2016 peak hour traffic volumes were grown by an annual rate of 3.0% for three years to estimate the 2019 no-build traffic volumes, which are shown in Figure 3.

Based on discussion with the City, we understand there are no approved developments near this site.



## **Trip Generation**

The trip generation potential of the proposed redevelopment during a typical weekday, AM peak hour and PM peak hour was estimated using the methodologies published by the Institute of Transportation Engineers (ITE) Trip Generation Manual  $-9^{th}$  Edition. Table 1 shows the trip generation potential of the proposed redevelopment.

Table 1 ITE Trip Generation – 9th Edition – Weekday

Land Use (ITE Land Use Code)	Size	Average Daily Traffic (vpd)		AM Peak Hour (vph)		PM Peak Hour (vph)	
		Enter	Exit	Enter	Exit	Enter	Exit
	Prop	osed Uses					
Apartments (220)	126 units	419	419	13	51	51	28
Specialty Retail Center (826)	8,000 s.f.	190	190	4	2	18	23
Coffee / Donut Shop without Drive—Through Window (936)	2,000 s.f.	748	748	111	106	41	41
Subtotal	1,357	1,357	128	159	110	92	
ITE Internal Capture – 8% Al	-305	-305	-11	-11	-37	-37	
Driveway Volume	1,052	1,052	117	148	73	55	
ITE Pass-By Trips Specialty Retail – 34 Coffee / Donut Shop – 49% Al	-50 -287	-50 -287	-0 -48	-0 -48	-4 -12	-4 -12	
33% Adjustment for Pedestrian, Bicycle, and Tra		-347	-347	-38	-48	-24	-18
Net New External T	Net New External Trips			31	52	33	21
	Exis	sting Use					
Medical Office 20,300 s.f.		366	366	39	10	20	52
Net Change in Externa	l Trips	+2	+2	-8	+42	+13	-31

<sup>\*</sup> ITE does not publish pass-by rates for coffee / donut shops. In this case, the pass-by rates for a fast-food restaurant were applied. It is reasonable to assume that the actual pass-by rates for coffee / donut shops are significantly higher, which would result in fewer new trips.



Note that the existing medical office trips were not subtracted out of the background traffic volumes at the study intersections.

Specialty retail space and coffee / donut shops attract pass-by trips, which are made by drivers who are already driving by the site today, and will visit these uses in the future because they are convenient. Table 1 shows the ITE pass-by trip adjustments that could be applied. In this case, the pass-by adjustments were not applied, which results in more new trips in the traffic projections.

Note that the trip generation of the coffee / donut shop is based on the ITE trip rates, which are significantly higher than expected with the proposed coffee shop because most of the shops surveyed by ITE are part of large chains, and located on major thoroughfares. The proposed shop will likely be locally-owned and focused on serving the neighborhood. To confirm, RKA counted two local coffee shops, and those results are presented later in this report.

## Trip Generation Study at City Walk Apartments

A traffic count was conducted by Burns Service, Inc. at the intersection of Water Street at City Walk Way during the week of September 12, 2016. The purpose of the count was to determine an appropriate pedestrian reduction by comparing similar apartments in Charlottesville. Table 2 shows a comparison of the trip generation potential of City Walk Apartments based on the ITE trip rates, and the actual traffic counts.

Table 2
City Walk Apartments
Trip Generation Comparison – 9th Edition – Weekday

Land Use (ITE Land Use Code)	Size	Averag Tra (vp	ffic	AM Pea	ık Hour oh)	PM Pea (vi	
		Enter	Exit	Enter	Exit	Enter	Exit
Apartments (220)	301 units	974	974	30	121	119	64
Actual Counts	301 units	-	-	10	88	69	30
Community III	-	-	-67%	-27%	-42%	-53%	
Compared to IT	(2)		-35	5%	-46	0%	

The number of vehicle trips entering and exiting City Walk Apartments is approximately 35% lower than what ITE predicts during the AM peak hour, and approximately 46% lower during the PM peak hour. Therefore, the 33% adjustment shown in Table 1 for the proposed East Jefferson Street apartments is reasonable. However, in this case, the reduction was not applied, which results in more new trips in the traffic projections.



## Trip Generation Study at Local Coffee Shops

An AM peak hour (7:00 to 9:00 AM) pedestrian count was conducted by Burns Service, Inc. at two local coffee shops during the week of April 24 to determine an appropriate trip generation rate for the proposed coffee shop. Shenandoah Joe's is a 3,200 s.f. coffee shop on Preston Avenue at 10<sup>th</sup> Street NW, and Milli Coffee Roasters is a 1,800 s.f. coffee shop located on Preston Avenue at McIntire Road. Table 3 shows a comparison of the trip generation potential of the local coffee / donut shops based on the ITE trip rates, and the actual traffic counts.

Table 3 Local Coffee Shops Trip Generation Comparison – 9<sup>th</sup> Edition – Weekday

Location	Size	AM Peak Hour (vph)		
		Enter	Exit	
ITE Trip Generation for Coffee / Donut Shop without Drive-Through Window (936)	3,200 s.f.	177	170	
Shenandoah Joe's – Preston Avenue	3,200 s.f.	76	70	
ITE Trip Generation for High-Turnover Sit-Down Restaurant (932)	3,200 s.f.	19	16	
ITE Trip Generation for Coffee / Donut Shop without Drive-Through Window (936)	2,000 s.f.	111	106	
Proposed East Jefferson Coffee Shop	2,000 s.f.	41	39	
ITE Trip Generation for High-Turnover Sit-Down Restaurant (932)	2,000 s.f.	12	10	
ITE Trip Generation for Coffee / Donut Shop without Drive-Through Window (936)	1,800 s.f.	100	96	
Milli Coffee Roasters – Preston Avenue	1,800 s.f.	31	22	
ITE Trip Generation for High-Turnover Sit-Down Restaurant (932)	1,800 s.f.	11	9	

Based on the Shenandoah Joe and Milli Coffee Roasters data, the proposed coffee shop is expected to generate only 80 trips during the AM peak hour, which is approximately 63% lower than the 217 AM peak hour trips predicted by ITE. This analysis is based on the ITE trip rates, which result in significantly more trips than other local coffee shops.



Mr. Brennen Duncan, P.E. Page 6 of 12

#### Site Traffic Distribution

The following site traffic distribution was assumed for vehicle trips based on a review of the existing traffic volumes, the adjacent roadway network, and engineering judgement:

- 30% to / from the north on 10<sup>th</sup> Street
- 30% to / from the south on 10<sup>th</sup> Street
- 15% to / from the west on East Jefferson Street
- 15% to / from the north on 11<sup>th</sup> Street
- 5% to / from the south on 11<sup>th</sup> Street
- 5% to / from the east on East Jefferson Street

The following site traffic distribution was assumed for the pedestrian and bicycle trips:

- 55% to / from the west on East Jefferson Street
- 20% to / from the south on 10<sup>th</sup> Street
- 10% to / from the north on 10<sup>th</sup> Street
- 10% to / from the north on 11<sup>th</sup> Street
- 5% to / from the south on 11<sup>th</sup> Street

The vehicle trips are assumed to be medium and long-range trips, so a significant percentage of those trips are assigned to / from the US 250 Bypass. The pedestrian and bicycle trips are assumed to be short-range trips, which will be oriented toward the downtown area.

Figures 4 and 5 show the site trip distribution for vehicles and pedestrian / bicycles. Figure 6 shows the vehicle site trip assignment, and the build 2019 traffic volumes are shown in Figure 6.



## Traffic Capacity Analysis

Traffic capacity analysis for the study intersections was performed using Synchro 9.1, which is a comprehensive software package that allows the user to model signalized and unsignalized intersections to determine levels-of-service based on the thresholds specified in the 2010 Highway Capacity Manual (HCM).

Table 4 summarizes the capacity analysis results for the unsignalized intersection of 10<sup>th</sup> Street NE at East Jefferson Street, and all of the Synchro output is enclosed for reference.

Table 4
Level-of-Service Summary for 10<sup>th</sup> Street NE at East Jefferson Street

CONDITION		Al	M PEAK H	OUR	PM PEAK HOUR		
	GROUP	Lane LOS	Queue (ft)	Overall LOS (Delay)	Lane LOS	Queuc (ft)	Overal LOS (Delay)
	EBL/T/R <sup>†</sup>	В	10		C B	35	
Existing 2016	WBL/T/R1	В	13	N/A <sup>3</sup>	В	35 8 0 3	N/A
Traffic Conditions	NBL/T/R <sup>2</sup>	A	0	IN/A	Α	0	
	SBL/T/R <sup>2</sup>	A	3		Α	3	
	EBL/T/R1	В	10	N/A <sup>3</sup>	С	48	N/A <sup>3</sup>
No-Build 2019	WBL/T/R1	В	15		В	10	
Traffic Conditions	NBL/T/R <sup>2</sup>	A	0		A	0 3	
Traffic Conditions	SBL/T/R <sup>2</sup>	A	3		Α	3	
	EBL/T/R1	С	20		С	60	N/A³
Build 2019 Traffic Conditions	WBL/T/R1	C B	13	DT/A3	В	10	
	NBL/T/R <sup>2</sup>	A	0	N/A <sup>3</sup>	A		
	SBL/T/R <sup>2</sup>	A	3		Α	0 3	

1. Level of service for minor approach

2. Level of service for major street left-turn movement

Capacity analysis indicates that all movements at this intersection are projected to operate with short delays (less than 25 seconds) during the AM and PM peak hours under all scenarios, with a queue length of three vehicles or less.

Note that the eastbound and westbound approaches are offset by 90 feet, and function as two three-leg intersections. Note that this intersection was modeled as one four-leg intersection, which results in longer delays and queues because a four-leg intersection has 32 traffic conflict points, but a three-leg intersection has only 9 traffic conflict points.

No improvements are warranted or recommended at this intersection.

HCM methodology does not provide lane group or overall LOS, delay, and queue lengths for major street through
movements or right turns at unsignalized intersections.

Table 5 summarizes the capacity analysis results for the unsignalized intersection of 11th Street NE at East Jefferson Street, and all of the Synchro output is enclosed for reference.

Table 5 Level-of-Service Summary for 11th Street NE at East Jefferson Street

CONDITION	Edin	Al	M PEAK H	OUR	PM PEAK HOUR		
	GROUP	Lane LOS	Queue (ft)	Overall LOS (Delay)	Lane LOS	Queue (ft)	Overall LOS (Delay)
	EBL/T/R1	A	5		В	10	
Existing 2016	WBL/T/R1	В	5	N/A <sup>3</sup>	B B A	5	N/A <sup>3</sup>
Traffic Conditions	NBL/T/R <sup>2</sup>	B A	3	N/A	A	5 0 0	
	SBL/T/R <sup>2</sup>	Α	0		A	0	
Security Security Security 2	EBL/T/R <sup>1</sup>	A	8	N/A <sup>3</sup>	В	13	N/A <sup>3</sup>
No-Build 2019	WBL/T/R1	В	5		В	13 8 0 0	
Traffic Conditions	NBL/T/R <sup>2</sup>	B	3		B A	0	
Traffic Conditions	SBL/T/R <sup>2</sup>	A	0		Α	0	
Build 2019 Traffic Conditions	EBL/T/R1	В	8		В	13	N/A <sup>3</sup>
	WBL/T/R1	В	8	NT/A 3	B B A	13 8 0 0	
	NBL/T/R <sup>2</sup>	A	3	N/A <sup>3</sup>	A	0	
	SBL/T/R <sup>2</sup>	A	3		A	0	

Level of service for minor approach

Capacity analysis indicates that all movements at this intersection are projected to operate with short delays (less than 25 seconds) during the AM and PM peak hours under all scenarios, with a queue length of one vehicle or less.

No improvements are warranted or recommended at this intersection.



Level of service for major street left-turn movement HCM methodology does not provide lane group or overall LOS, delay, and queue lengths for major street through movements or right turns at unsignalized intersections.

Table 6 summarizes the capacity analysis results for the unsignalized intersection of Little High Street at 11<sup>th</sup> Street NE, and all of the Synchro output is enclosed for reference.

Table 6
Level-of-Service Summary for Little High Street at 11<sup>th</sup> Street NE

CONDITION		A	M PEAK H	IOUR	PM PEAK HOUR		
	GROUP GROUP	Lane LOS	Queue (ft)	Overall LOS (Delay)	Lane LOS	Queue (ft)	Overall LOS (Delay)
	EBL/T/R <sup>2</sup>	Α	0		Α	0	
Existing 2016	WBL/T/R <sup>2</sup>	A	0	N/A <sup>3</sup>	A A B	0	N/A
Traffic Conditions	NBL/T/R1	В	5	N/A	В	10 8	
Traine Conditions	SBL/T/R1	В	15		В	8	
	EBL/T/R <sup>2</sup>	A	0	27/43	A	0	N/A <sup>3</sup>
No-Build 2019	WBL/T/R <sup>2</sup>	A A B	0		A A B B	0	
Traffic Conditions	NBL/T/R1	В	5	N/A <sup>3</sup>	В	10	
Traffic Conditions	SBL/T/R1	В	18		В	10	
Build 2019 Traffic Conditions with Stop control on	EBL/T/R1	В	15		В	10	N/A <sup>3</sup>
	WBL/T/R1	В	13	NT/ 1 3	B B	10 8 0 0	
	NBL/T/R <sup>2</sup>	A	0	N/A <sup>3</sup>	A	0	
Little High Street	SBL/T/R <sup>2</sup>	Α	0		A	0	

1. Level of service for minor approach

2. Level of service for major street left-turn movement

Capacity analysis indicates that all movements at this intersection are projected to operate with short delays (less than 25 seconds) during the AM and PM peak hours under all scenarios, with a queue length of one vehicle or less.

As described later in this report, we recommend switching the Stop control at this intersection to designate 11<sup>th</sup> Street as the major street, and Little High Street as the minor street. We also recommend installing bulbouts on the west side of the intersection to aid in traffic calming, and the shorten the crossing distance for pedestrians.



HCM methodology does not provide lane group or overall LOS, delay, and queue lengths for major street through movements or right turns at unsignalized intersections.

Table 7 summarizes the capacity analysis results for the unsignalized intersection of 10<sup>th</sup> Street NE at Site Driveway 1, and all of the Synchro output is enclosed for reference.

Table 7
Level-of-Service Summary for 10<sup>th</sup> Street NE at Site Driveway 1

		AM PEAK		AM PEAK HOUR		PM PEAK HOUR		
CONDITION	GROUP GROUP	Lane LOS	Queue (ft)	Overall LOS (Delay)	Lane LOS	Queue (ft)	Overall LOS (Delay)	
Build 2019 Traffic Conditions	WBL/R <sup>1</sup> NBT/R SBL/T <sup>2</sup>	B - A	25 - 3	N/A <sup>3</sup>	B - A	8 - 3	N/A <sup>3</sup>	

Level of service for minor approach

2. Level of service for major street left-turn movement

 HCM methodology does not provide lane group or overall LOS, delay, and queue lengths for major street through movements or right turns at unsignalized intersections.

Capacity analysis indicates that all movements at this intersection are projected to operate with short delays (less than 25 seconds) during the AM and PM peak hours at build-out of the site, with a queue length of one vehicle or less.

No improvements are warranted or recommended at this intersection.

Table 8 summarizes the capacity analysis results for the unsignalized intersection of 11<sup>th</sup> Street NE at Site Driveway 2, and all of the Synchro output is enclosed for reference.

Table 8
Level-of-Service Summary for 11<sup>th</sup> Street NE at Site Driveway 2

CONDITION	100000	A	AM PEAK HOUR			PM PEAK HOUR		
	LANE GROUP	Lane LOS	Queue (ft)	Overall LOS (Delay)	Lane LOS	Queue (ft)	Overall LOS (Delay)	
Build 2019 Traffic Conditions	EBL/R <sup>1</sup> NBL/T <sup>2</sup> SBT/R	A A	3 0	N/A <sup>3</sup>	A A	3 0	N/A <sup>3</sup>	

1. Level of service for minor approach

2. Level of service for major street left-turn movement

HCM methodology does not provide lane group or overall LOS, delay, and queue lengths for major street through
movements or right turns at unsignalized intersections.

Capacity analysis indicates that all movements at this intersection are projected to operate with short delays (less than 25 seconds) during the AM and PM peak hours at build-out of the site, with a queue length of one vehicle or less.

No improvements are warranted or recommended at this intersection.

### Multi-Way Stop Warrant Analysis

A multi-way stop warrant analysis was performed for the intersection of Little High Street at 11<sup>th</sup> Street NE. Multi-way stop warrants are evaluated using the thresholds for intersection volume and collision history as outlined in the Manual on Uniform Traffic Control Devices (MUTCD). The following traffic volume thresholds must be met for at least 8 hours to warrant multi-way stop control:

- The approach volumes on the major street approaches must exceed 300 vehicles per hour, and
- The approach volumes on the minor street approaches must exceed 200 vehicles per hour

During the traffic count, the 8:00 to 9:00 AM hour was the busiest, and the total approach volume at the intersection was only 254 vehicles. This is just over half the threshold needed to meet one hour of the warrant, so the traffic volumes are well below the thresholds for multi-way stop control.

In order to meet the collision warrant for a multi-way stop, there must be five or more correctable collisions in a 12 month period at the intersection. Based on the data provided by the Virginia Department of Motor Vehicles (DMV), there were no reported collisions at the intersection between January 2013 and December 2015, so that warrant is not met either.

We understand that there is concern about the speed of traffic on eastbound Little High Street. Based on the 14 hour volume data, 11<sup>th</sup> Street had a total approach volume of 966 vehicles, and Little High Street had a total approach volume of 882 vehicles. The proposed redevelopment is projected to add approximately 315 vehicles per day to this segment of 11<sup>th</sup> Street. Therefore, we recommend switching the Stop control at this intersection to designate 11<sup>th</sup> Street as the major street, and Little High Street as the minor street.

We also recommend installing bulbouts on the west side of the intersection to aid in traffic calming, and the shorten the crossing distance for pedestrians.

Note that this analysis includes several assumptions that overestimate the impact of the proposed redevelopment:

- The capacity analysis in this TIA assumes no reduction for the pedestrian, bicycle, and transit trips, even though a comparison of City Walk Apartments shows a 33% adjustment would be appropriate
- The existing medical office trips were not subtracted from the study intersections
- The trip generation of the coffee / donut shop results in a significantly higher number of trips because most of the shops surveyed by ITE are part of large chains, and located on major thoroughfares. The proposed shop will likely be locally-owned and focused on serving the neighborhood.
- The proposed specialty retail space and coffee / donut shop will attract pass-by trips, but no adjustment for pass-by trips was made in this analysis
- The intersection of 10<sup>th</sup> Street NE at East Jefferson Street was modeled as four-leg intersection instead of two three-leg intersections



Mr. Brennen Duncan, P.E. Page 12 of 12

Figure 8 shows the recommended lane configuration.

We appreciate your attention to this matter. Please contact me at (804) 217-8560 if you have any questions about this report.

Sincerely yours,

Ramey Kemp & Associates, Inc.

CARL A. HULTGREN ELIC. No. 049624

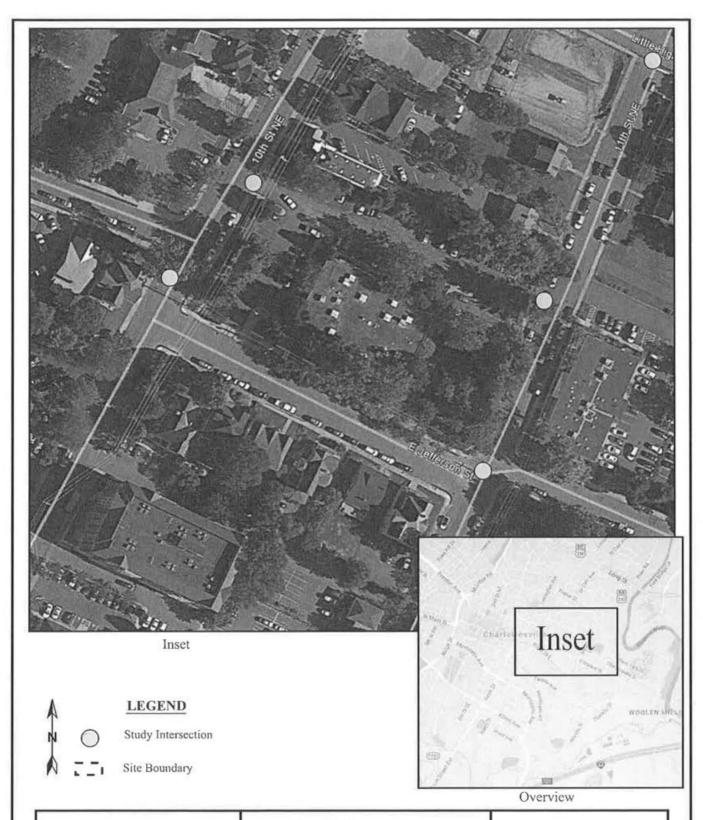
Carl Hultgren, P.E., PTOE Regional Manager

Enclosures: Figures, Synchro output, Traffic count data, Multi-Way Stop warrant

Copy to: Mr. David Mitchell, Southern Classic, Inc.

Ms. Valerie Long, Williams Mullen Ms. Ashley Davies, Williams Mullen

Mr. Scott Collins, P.E., Collins Engineering

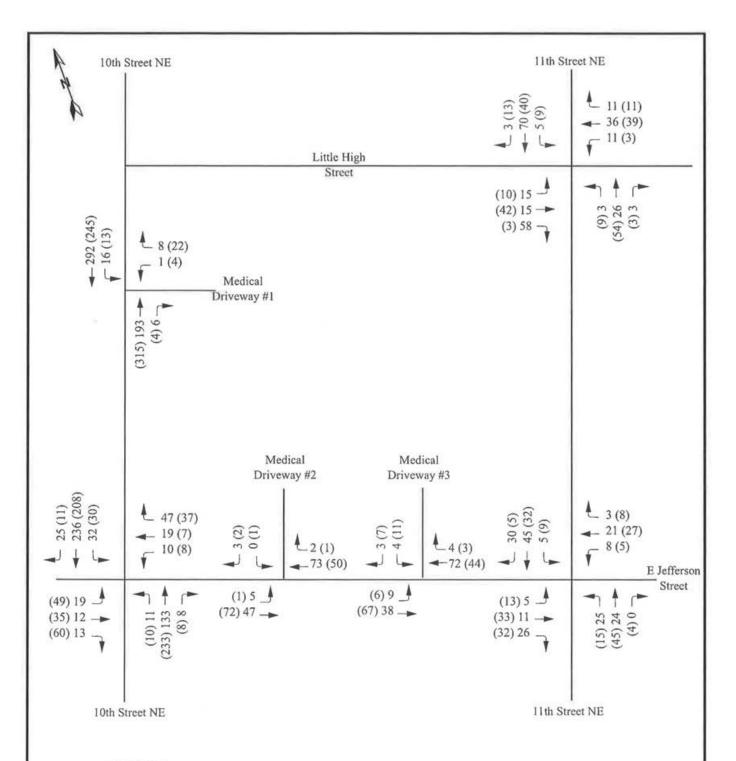




East Jefferson Street Apartments Charlottesville, Virginia Site Location and Study Intersections

Scale: Not to Scale

Figure 1



## LEGEND

X (Y) AM (PM) Peak Hour



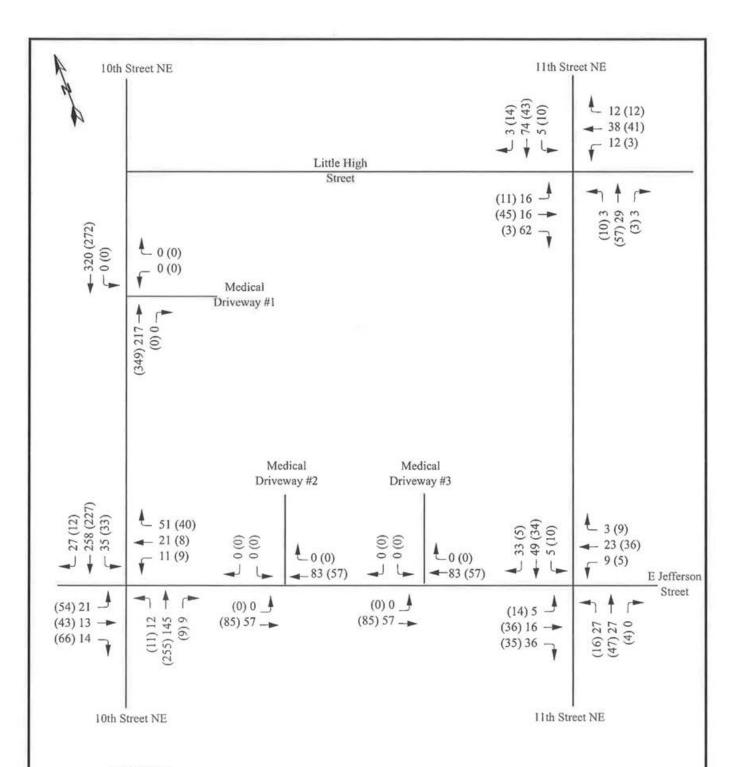
East Jefferson Street Apartments

Charlottesville, Virginia

Existing (2016) Peak Hour Traffic Volumes

Scale: Not to Scale

Figure 2



### LEGEND

X (Y) AM (PM) Peak Hour

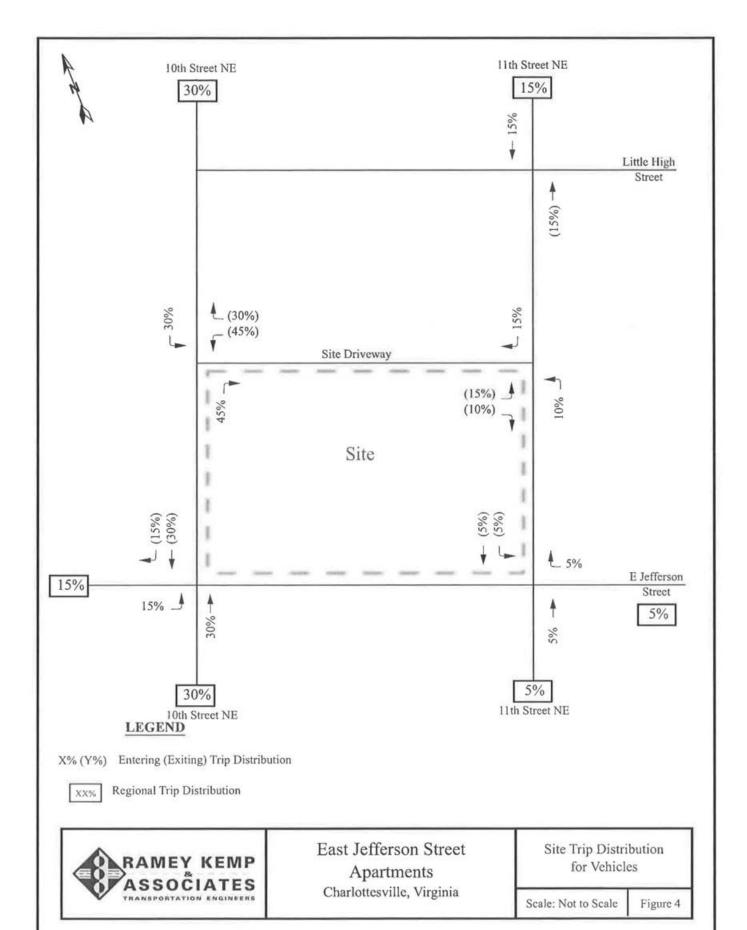


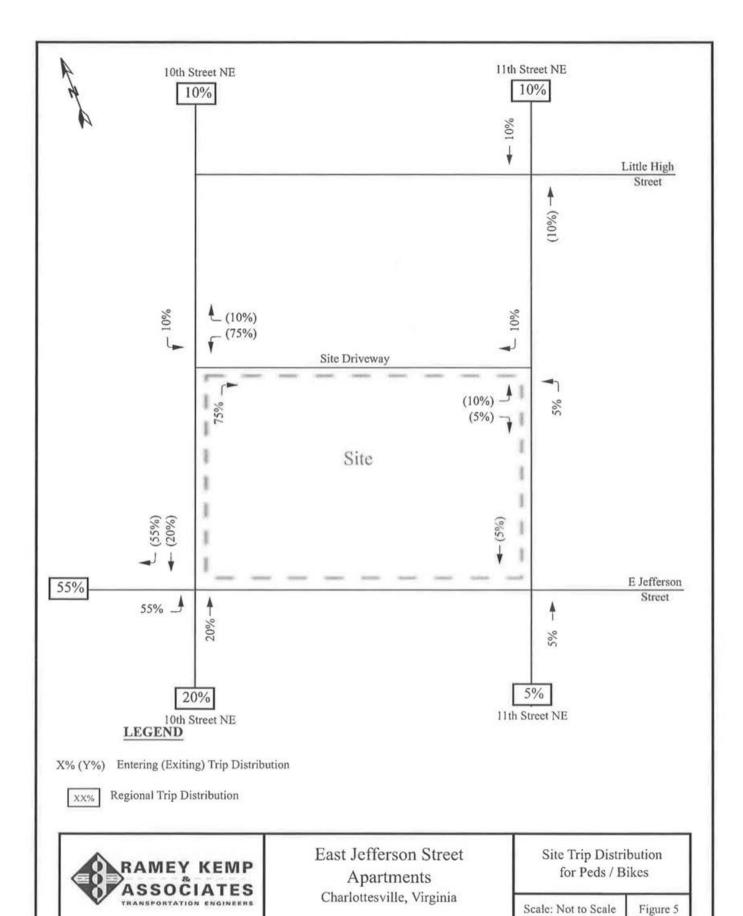
East Jefferson Street Apartments Charlottesville, Virginia

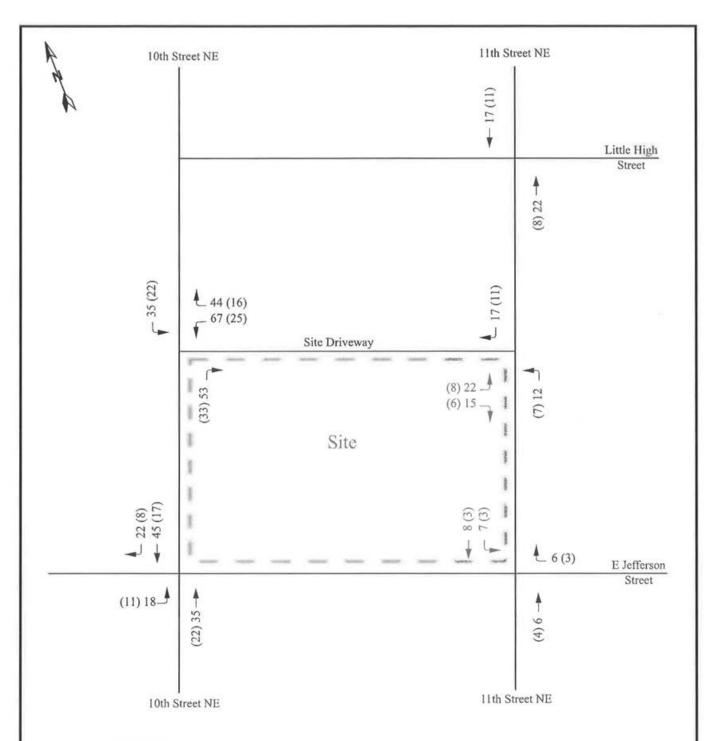
No Build (2019) Peak Hour Traffic Volumes

Scale: Not to Scale

Figure 3







### LEGEND

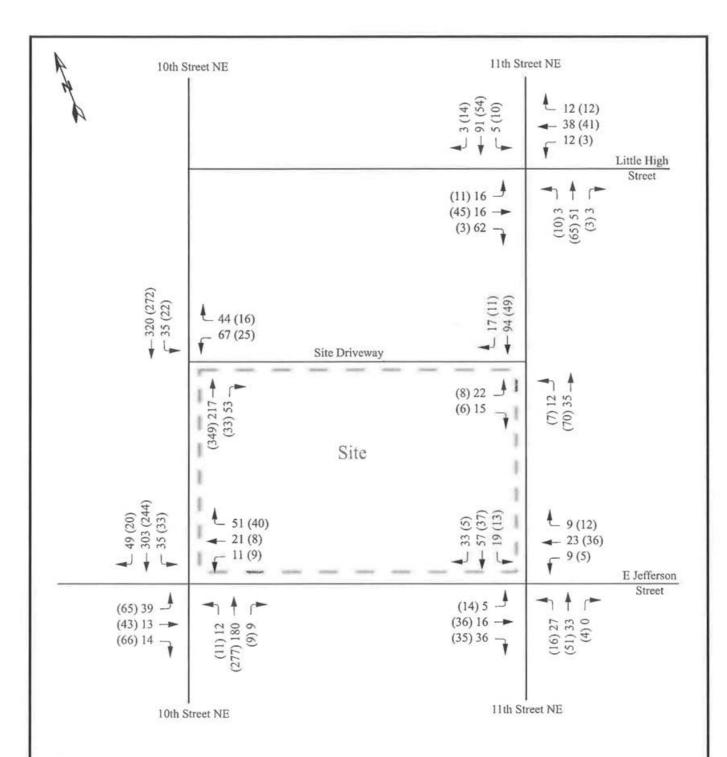
X (Y) AM (PM) Peak Hour



East Jefferson Street Apartments Charlottesville, Virginia Site Trip Assignment for Vehicles

Scale: Not to Scale

Figure 6



#### LEGEND

X (Y) AM (PM) Peak Hour

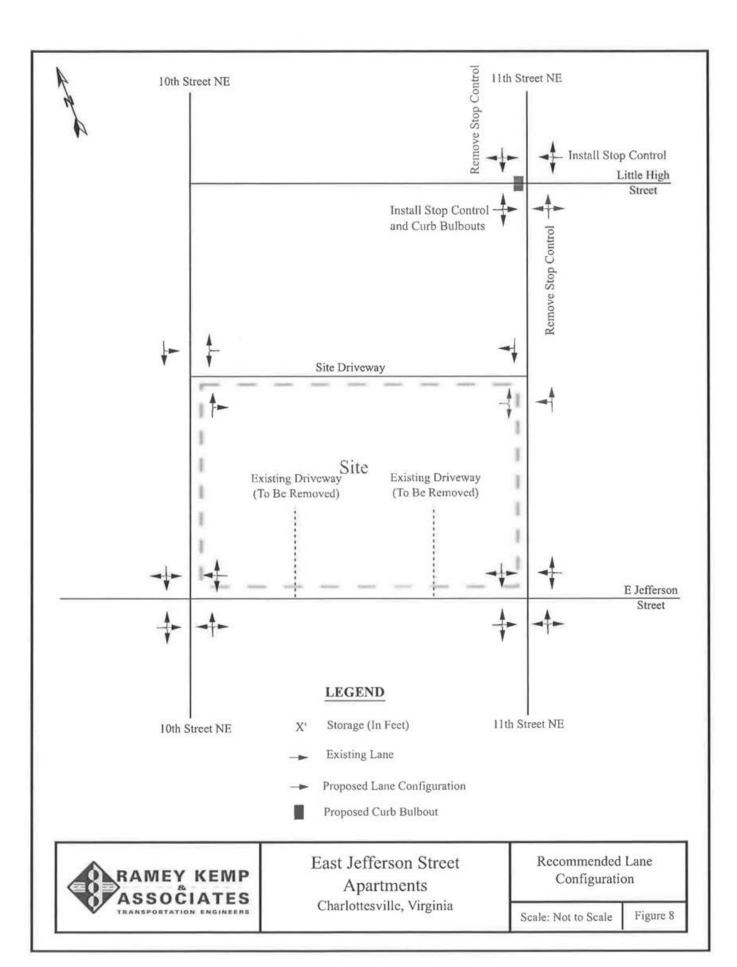


East Jefferson Street Apartments Charlottesville, Virginia

Build (2019) Peak Hour Traffic Volumes

Scale: Not to Scale

Figure 7



Intersection														
Int Delay, s/veh	3.2													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4	8			4				4			4	
Traffic Vol, veh/h	19	12	13		10	19	47		11	133	8	32	236	25
Future Vol, veh/h	19	12	13		10	19	47		11	133	8	32	236	25
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	(
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Free
RT Channelized			None				None				None		-	None
Storage Length	- 2					- 2			-					
Veh in Median Storage, #		0				0			-	0			0	,
Grade, %		0				0	-			0	-		0	
Peak Hour Factor	89	89	89		89	89	89		89	89	89	89	89	89
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	21	13	15		11	21	53		12	149	9	36	265	28
N	Nr. 0			W	vr			7.4				14-1-0		
Major/Minor	Minor2			_	Minor1				Major1			Major2		
Conflicting Flow All	567	534	279		544	544	154		293	0	0	158	0	(
Stage 1	351	351	-		179	179	-		-					
Stage 2	216	183	-		365	365	-		=	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22		7.12	6.52	6.22		4.12			4.12		
Critical Hdwy Stg 1	6.12	5.52			6.12	5.52			-	*	*		-	
Critical Hdwy Stg 2	6.12	5.52	-		6.12	5.52	-		*	-	-			
Follow-up Hdwy	3.518	4.018	3.318		3.518	4.018	3.318		2.218	*	17	2.218	*	
Pot Cap-1 Maneuver	434	452	760		450	446	892		1269	-		1422		
Stage 1	666	632	-		823	751			-			-	-	
Stage 2	786	748	3 ·		654	623			-			-	-	,
Platoon blocked, %										*				
Mov Cap-1 Maneuver	381	434	760		418	428	892		1269		-	1422	-	
Mov Cap-2 Maneuver	381	434			418	428			-			*	*	
Stage 1	659	613			815	743	-			2			1	
Stage 2	711	741	1.70		609	604			-	-	-		*	
Approach	EB				WB				NB			SB		
HCM Control Delay, s	13.7				11.6				0.6			0.8		
HCM LOS	В				В				0.0			0.0		
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1\	_	SBL	SBT	SBR						
Capacity (veh/h)	1269		(4)	465	628	1422								
HCM Lane V/C Ratio	0.01	-		0.106	0.136	0.025								
HCM Control Delay (s)	7.9	0		13.7	11.6	7.6	0	-						
HCM Lane LOS	A	Α		В	В	Α	Α							
HCM 95th %tile Q(veh)	0			0.4	0.5	0.1		4						

Intersection														
Int Delay, s/veh	4.7													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4				4			4	
Traffic Vol, veh/h	5	11	26		8	21	3		25	24	1	5	45	30
Future Vol, veh/h	5	11	26		8	21	3		25	24	1	5	45	30
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	(
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Free
RT Channelized		-	None				None			*	None			None
Storage Length	-		-			2			-	2	-			1 19
Veh in Median Storage, #		0	-			0	-			0			0	
Grade, %	-	0				0	-		-	0			0	
Peak Hour Factor	73	73	73		73	73	73		73	73	73	73	73	73
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	1
Mvmt Flow	7	15	36		11	29	4		34	33	1	7	62	4
Major/Minor	Minor2			9	Minor1				Major1			Major2		
Conflicting Flow All	214	199	82		223	218	34		103	0	0	34	0	(
	96	96			102	102	34			U	U	34		
Stage 1									*					
Stage 2	118	103			121	116	6.00		4.10			4.12		
Critical Hdwy	7.12	6.52	6.22		7.12 6.12	6.52 5.52	6.22		4.12	•			7	
Critical Hdwy Stg 1	6.12	5.52	-				-							
Critical Hdwy Stg 2	6.12	5.52	2 240		6.12	5.52	2 240		2 240		-	2.240		
Follow-up Hdwy	3.518	4.018	3.318		3.518		3.318		2.218		*	2.218		
Pot Cap-1 Maneuver	743	697	978		733	680	1039		1489	-	*	1578		
Stage 1	911	815			904	811			-		*			
Stage 2	887	810			883	800	35							
Platoon blocked, %										*	-			
Mov Cap-1 Maneuver	700	678	978		680	661	1039		1489	*	-	1578	-	
Mov Cap-2 Maneuver	700	678	-		680	661			7.	*	*			
Stage 1	890	811	-		883	792	7					(4)		
Stage 2	832	791	-		831	796			. 70	ĕ	7	-	-	
Approach	EB				WB				NB			SB		
HCM Control Delay, s	9.6				10.6				3.7			0.5		
HCM LOS	Α				В									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1V	VBL n1	SBL	SBT	SBR						
Capacity (veh/h)	1489	-		841	689	1578	-							
HCM Lane V/C Ratio	0.023	- 2	100	0.068			- 0	-						
HCM Control Delay (s)	7.5	0		9.6	10.6	7.3	0							
HCM Lane LOS	7.5 A	A	S. 1	9.0 A	10.0 B	7.3 A	A	5.5						
HCM 95th %tile Q(veh)	0.1	A		0.2	0.2	0	^							

Intersection													
Int Delay, s/veh	5.7												
Movement	EBL	EBT	EBR	WBI	. WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4				4			4	
Traffic Vol, veh/h	15	15	58	11		11		3	26	3	6	70	3
Future Vol, veh/h	15	15	58	11	36	11		3	26	3	6	70	3
Conflicting Peds, #/hr	0	0	0	(	0	0		0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free		Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized			None			None				None			None
Storage Length	2	- 2				2			-	2	12		0.2
Veh in Median Storage, #		0			. 0				0	-		0	
Grade, %		0	14		. 0	-		+	0	-		0	
Peak Hour Factor	69	69	69	69	69	69		69	69	69	69	69	69
Heavy Vehicles, %	2	2	2	2	2 2	2		2	2	2	2	2	2
Mvmt Flow	22	22	84	16		16		4	38	4	9	101	4
Major/Minor	Major1			Major	)		,	Minor1			Minor2		
Conflicting Flow All	68	0	0	106		0		252	207	64	220	241	60
Stage 1	-	U	U			0		107	107	04	92	92	
Stage 2			- 0			- 6		145	100		128	149	
Critical Hdwy	4.12			4.12				7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	4.12					- 0		6.12	5.52	0.22	6.12	5.52	0.22
Critical Hdwy Stg 2						- 5		6.12	5.52	i.	6.12	5.52	
Follow-up Hdwy	2.218	-		2.218	}			3.518		3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1533	-		1485		- 5		701	690	1000	736	660	1005
Stage 1	1555	-						898	807	1000	915	819	1000
		*						858	812		876	774	
Stage 2		-						000	012	-	0/0	114	3.5
Platoon blocked, %	4522			1485				602	672	1000	600	642	1005
Mov Cap-1 Maneuver	1533	*		1400	, -	-			672	1000	688	643 643	1000
Mov Cap-2 Maneuver								602	795		688		
Stage 1 Stage 2	-							885 739	803		901 818	810 762	
•													
Approach	EB			WE	3			NB			SB		
HCM Control Delay, s	1.3			1.4	1			10.6			11.7		
HCM LOS								В			В		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR WBI	. WBT	WBR	SBLn1						
Capacity (veh/h)	686	1533		- 1485			655						
HCM Lane V/C Ratio	0.068			- 0.01									
HCM Control Delay (s)	10.6	7.4	0	- 7.5		_	11.7						
HCM Lane LOS	В	Α.4	A	- /		.0	В.						
HCM 95th %tile Q(veh)	0.2	0		- (			0.6						

Intersection														
Int Delay, s/veh	4.6													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4				4	4		4	
Traffic Vol, veh/h	49	35	60		8	7	37		10	233	8	30	208	1
Future Vol, veh/h	49	35	60		8	7	37		10	233	8	30	208	1
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Free
RT Channelized			None				None		-		None		-	None
Storage Length			-		-	- 2	23		-					
Veh in Median Storage, #		0	-		-	0	-			0			0	
Grade, %	-	0	-		-	0	-			0		-	0	
Peak Hour Factor	91	91	91		91	91	91		91	91	91	91	91	9
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mymt Flow	54	38	66		9	8	41		11	256	9	33	229	12
Major/Minor	Minor2				Minor1			M	lajor1			Major2		
		500	225			E00	200	IV		0	0		^	
Conflicting Flow All	608	588	235		635	589	260		241	-	0	265	0	(
Stage 1	301	301	*		282	282	÷		-	-				
Stage 2	307	287			353	307	0.00		4.40			4.40		
Critical Hdwy	7.12	6.52	6.22		7.12	6.52	6.22		4.12	-	-	4.12		
Critical Hdwy Stg 1	6.12	5.52			6.12	5.52	*		-	*			-	
Critical Hdwy Stg 2	6.12	5.52	-		6.12	5.52	-		-			0.040		
Follow-up Hdwy			3.318			4.018			2.218			2.218		
Pot Cap-1 Maneuver	408	421	804		391	421	779		1326			1299		
Stage 1	708	665	-		725	678	_		-		*			
Stage 2	703	674	-		664	661	7					*	1.5	
Platoon blocked, %											*		*	
Mov Cap-1 Maneuver	370	405	804		323	405	779		1326			1299		
Mov Cap-2 Maneuver	370	405	-		323	405	15		00			*		
Stage 1	701	646	-		718	671	-		-				-	
Stage 2	652	667	-		557	642			9		•			
Approach	EB				WB				NB			SB		
HCM Control Delay, s	15.8				11.9				0.3			0.9		
HCM LOS	C				В				0.0			0.0		
Minor Lane/Major Mvmt	NBL	NBT	NDD	EBLn1\	NRI n4	SBL	SBT	SBR						
			NDI	-	-									
Capacity (veh/h)	1326			491	581	1299	*	*						
HCM Cantrol Dalay (a)	0.008		-	0.322		0.025		~						
HCM Control Delay (s)	7.7	0	*	15.8	11.9	7.8	0							
HCM Lane LOS	A	Α		C	В	A	Α							
HCM 95th %tile Q(veh)	0	-	-	1.4	0.3	0.1	-	-						

EBL 13 13 0 Stop	EBT 33 33 0 Stop 0 0	Stop None	W	5 5 0	27 27 0	WBR 8 8	NB 1 1	<b>♣</b> 5 45	NBR 4 4	SBL 9	SBT	SBF
13 13 0 Stop	33 33 0 Stop	32 32 0 Stop None	-5-	5 : 5 :	27 27 0	8	1	<b>♣</b> 5 45	4	9	4	SBI
13 0 Stop - - - 80	33 33 0 Stop - 0 0	32 0 Stop None	St	5 : 5 :	27 27 0	8		5 45				
13 0 Stop - - - 80	33 33 0 Stop - 0 0	32 0 Stop None	St	5 : 5 :	27 27 0	8		5 45				
0 Stop - - - 80	O Stop	Stop None	St	0	0		1	5 45	4			- 5
Stop	Stop - 0 0	Stop None	St	0	•	32			-	9	32	
- 80	0	None	St	op Sto		0		0 0	0	0	0	
- 80	0	None		(#08 S430)	g	Stop	Fre	e Free	Free	Free	Free	Fre
	0			*		None			None		-	None
	0	-		_								
					0			- 0			0	
		-		-	0			- 0			0	
	80	80		30	30	80	8			80	80	80
-					2					- 2	2	2
16	41	40				10				11	40	(
Minor2			Mine	r1			Maior	1		Major2		
	165	12			25	50			0		٥	(
							4	0 0	U	01	U	,
				20070	2000			5 5	-		7.	
							4.4	2		4.10		
							4.1			4.12		
											-	
		2 240				2 240	0.04			0.040		
						1007	150	2 -		1542	*	
									-			
887	813	-	9	00 8	3/	-			-	~		
						4007	4.00			4540		
		1027				1007	156	2 -		1542	*	
	550.509										*	
											-	
830	802		8	16 8	31	-				-		
EB			V	/B			N	В		SB		
10			10	.1			1.	7		1.4		
В				В								
NRI	NRT	NRR	FBI n1WRI	n1 SI	31	SBT	SBR					
		1101(1			_							
		- 25					155					
							1724					
						1500						
						A	355					
	Minor2 184 666 118 7.12 6.12 3.518 777 945 887 730 730 933 830 EB	Minor2  184 165 66 66 118 99 7.12 6.52 6.12 5.52 6.12 5.52 3.518 4.018 777 728 945 840 887 813  730 714 933 834 830 802  EB  10 B  NBL NBT  1562 - 0.012 - 7.3 0 A A	Minor2  184 165 43 66 66 - 118 99 - 7.12 6.52 6.22 6.12 5.52 - 6.12 5.52 - 3.518 4.018 3.318 777 728 1027 945 840 - 887 813 - 730 714 1027 730 714 - 933 834 - 830 802 -  EB  10 B  NBL NBT NBR   1562 - 0.012 - 7.3 0 - A A -	Minor2 Mino  184 165 43 20 66 66 6 - 9 118 99 - 10 7.12 6.52 6.22 7.6 6.12 5.52 - 6.6 6.12 5.52 - 6.3 3.518 4.018 3.318 3.5 777 728 1027 75 945 840 - 96 887 813 - 96 730 714 1027 66 730 714 - 66 933 834 - 86 830 802 - 86  EB W  10 B  NBL NBT NBR EBLn1WBL 1562 - 819 75 0.012 - 0.119 0.06 7.3 0 - 10 10 A A - B	Minor2 Minor1  184 165 43 202 16 66 66 - 96 9 118 99 - 106 6 7.12 6.52 6.22 7.12 6.8 6.12 5.52 - 6.12 5.8 6.12 5.52 - 6.12 5.8 3.518 4.018 3.318 3.518 4.07 777 728 1027 756 72 945 840 - 911 83 887 813 - 900 83 730 714 1027 684 73 730 714 - 684 73 933 834 - 899 80 830 802 - 816 83  EB WB  10 10.1 B  NBL NBT NBREBLn1WBLn1 SE 1562 - 819 754 154 0.012 - 0.119 0.066 0.00 7.3 0 - 10 10.1 7 A A A - B B	Minor2 Minor1  184 165 43 202 165 66 66 6 - 96 96 118 99 - 106 69 7.12 6.52 6.22 7.12 6.52 6.12 5.52 - 6.12 5.52 6.12 5.52 - 6.12 5.52 3.518 4.018 3.318 3.518 4.018 3.518 3.518 4.018 3.518 3.518 4.018 3.518 3.5	Minor2 Minor1  184 165 43 202 165 59 66 66 6 - 96 96 - 118 99 - 106 69 - 7.12 6.52 6.22 7.12 6.52 6.22 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 3.518 4.018 3.318 3.518 4.018 3.318 777 728 1027 756 728 1007 945 840 - 911 815 - 887 813 - 900 837 -  730 714 1027 684 714 1007 730 714 - 684 714 - 933 834 - 899 804 - 830 802 - 816 831 -  EB WB  NBL NBT NBR EBLn1WBLn1 SBL SBT  1562 - 819 754 1542 - 0.012 - 0.119 0.066 0.007 - 7.3 0 - 10 10.1 7.4 0 A A - B B A A	Minor2         Minor1         Major           184         165         43         202         165         59         4           66         66         -         96         96         -         118         99         -         106         69         -         118         99         -         106         69         -         -         118         99         -         106         69         -         -         118         612         5.52         6.22         7.12         6.52         6.22         4.1         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         156         7.28         1007         156         728         1007         156         728         1007         156         788         788         714         1007         156         788 <td>Minor2         Minor1         Major1           184         165         43         202         165         59         46         0           66         66         -         96         96         -         -         -           7.12         6.52         6.22         7.12         6.52         6.22         4.12         -           6.12         5.52         -         6.12         5.52         -         -         -           6.12         5.52         -         6.12         5.52         -</td> <td>Minor2         Minor1         Major1           184         165         43         202         165         59         46         0         0           66         66         -         96         96         -         -         -         -           7.12         6.52         6.22         7.12         6.52         6.22         4.12         -         -           6.12         5.52         -         6.12         5.52         -<!--</td--><td>  Minor2</td><td>  Minor2</td></td>	Minor2         Minor1         Major1           184         165         43         202         165         59         46         0           66         66         -         96         96         -         -         -           7.12         6.52         6.22         7.12         6.52         6.22         4.12         -           6.12         5.52         -         6.12         5.52         -         -         -           6.12         5.52         -         6.12         5.52         -	Minor2         Minor1         Major1           184         165         43         202         165         59         46         0         0           66         66         -         96         96         -         -         -         -           7.12         6.52         6.22         7.12         6.52         6.22         4.12         -         -           6.12         5.52         -         6.12         5.52         - </td <td>  Minor2</td> <td>  Minor2</td>	Minor2	Minor2

Intersection														
Int Delay, s/veh	6													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4				4			4	
Traffic Vol, veh/h	10	42	3		3	39	11		9	54	3	9	40	13
Future Vol, veh/h	10	42	3		3	39	11		9	54	3	9	40	13
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	0
Sign Control	Free	Free	Free		Free	Free	Free		Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized			None		-		None		-	-	None		-	None
Storage Length	-				-	-	-		-	-	-			
Veh in Median Storage, #	*	0	-		*	0				0			0	,
Grade, %		0			3	0			2	0	-		0	
Peak Hour Factor	80	80	80		80	80	80		80	80	80	80	80	80
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	13	53	4		4	49	14		11	68	4	11	50	16
Major/Minor	Major1			N	Major2				Minor1			Minor2		
Conflicting Flow All	63	0	0		56	0	0		175	149	54	178	144	56
Stage 1	03	0			-	-	-		79	79	34	63	63	
Stage 2					0				96	70		115	81	
Critical Hdwy	4.12	-			4.12				7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	4.12				4.12				6.12	5.52	0.22	6.12	5.52	0.22
Critical Hdwy Stg 2			-		3	-	-		6.12	5.52		6.12	5.52	
Follow-up Hdwy	2.218	-			2.218				3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1540				1549				788	743	1013	784	747	1011
	1340		*		1049	- 7			930	829	1013	948	842	1011
Stage 1					-				911	837		890	828	
Stage 2	7		-						911	037		090	020	
Platoon blocked, %	4540	-			1549	-	-		729	734	1012	720	738	1011
Mov Cap-1 Maneuver	1540		*		1549		*			734	1013		738	1011
Mov Cap-2 Maneuver							-		729		•	720		
Stage 1		*	•		*		-		922	822		939	839	
Stage 2					•				840	834	-	807	821	
Approach	EB				WB				NB			SB		
HCM Control Delay, s	1.3				0.4				10.5			10.1		
HCM LOS									В			В		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	743	1540			1549	-	-	779						
HCM Lane V/C Ratio	0.111	0.008			0.002			0.099						
HCM Control Delay (s)	10.5	7.4	0		7.3	0		10.1						
HCM Lane LOS	В	Α.	A	61	7.5 A	A		В						
HCM 95th %tile Q(veh)	0.4	0	1		0			0.3						

3.4													
EBL	EBT	EBR		WBL	WBT	WBR	N	BL N	ВТ	NBR	SBL	SBT	SBF
	4				4			- 8	4			4	
21		14		11		51				9	35		27
		14											27
0	0	0		0	0	0		0	0	0	0	0	(
Stop	Stop	Stop		Stop	Stop	Stop	Fr	ee Fr	ree	Free	Free	Free	Free
		10.00		-	-				-	46.5			None
									-	335057/ (#)			1/2/200
	0			-	0	-					-	0	
-					(2)						2	50	
89		89			9.50	89		89		89	89		89
													2
24	15	16		12	24	57				10	39	290	30
Minor?				Minor1			Mair	nr1			Major2		
	E01	205			E04	160			0	0	THE RESERVE AND ADDRESS OF THE PARTY OF THE	0	(
							3		-				
								-	-				
								40			440		
		0.22				0.22	4.	12			4.12		
		0.040				2 240	0.0	40			0.040		
		1.000					12	40	-		1404		
								70		300		*	
768	/36			627	602	-		-	-		*		
0.45	404	705			000	070	40		-				
		735				876	12	40		*	1404		
		-				-		•	-	•	2		
		7.				-		*	-	•		-	
686	727			578	582	*		*			-		
EB				WB				NB			SB		
14.6				12.2			(	0.6			0.8		
В				В									
NBI	NBT	NBR	EBLn1V	VBl n1	SBI	SBT	SBR						
		.,											
							2						
						0	8						
							1						
0	^		0.4	0.6	0.1	_							
	EBL  21 21 0 Stop 89 2 24  Minor2 619 384 235 7.12 6.12 6.12 3.518 401 639 768 345 631 686  EB 14.6	## Company Com	EBL EBT EBR  21 13 14 21 13 14 0 0 0 0 Stop Stop Stop - None - 0 - 89 89 89 2 2 2 24 15 16  Minor2  619 584 305 384 384 - 235 200 - 7.12 6.52 6.22 6.12 5.52 - 6.12 5.52 - 3.518 4.018 3.318 401 423 735 639 611 - 768 736 -  345 404 735 345 404 - 631 590 - 686 727 -  EB  14.6 B  NBL NBT NBR  1240 0.011 7.9 0 -	EBL EBT EBR  21 13 14 21 13 14 0 0 0 0 Stop Stop Stop - None - O O 89 89 89 2 2 2 24 15 16  Minor2  619 584 305 384 384 - 235 200 - 7.12 6.52 6.22 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 3.518 4.018 3.318 401 423 735 639 611 - 768 736 - 345 404 735 345 404 735 345 404 - 631 590 - 686 727 -  EB  14.6 B  NBL NBT NBR EBLn1v  1240 - 428 0.011 - 0.126 7.9 0 - 14.6 A A - B	EBL EBT EBR WBL  21 13 14 11 21 13 14 11 0 0 0 0 0 0 Stop Stop Stop Stop - None None 0 89 89 89 89 2 2 2 2 2 24 15 16 12  Minor2 Minor1  619 584 305 594 384 384 - 195 235 200 - 399 7.12 6.52 6.22 7.12 6.12 5.52 - 6.12 3.518 4.018 3.318 3.518 401 423 735 417 639 611 - 807 768 736 - 627  345 404 735 383 345 404 - 383 631 590 - 797 686 727 - 578  EB WB  14.6 B  NBL NBT NBR EBLn1WBLn1 1240 - 428 595 0.011 - 0.126 0.157 7.9 0 - 14.6 12.2 A A B B	## Company Co	EBL EBT EBR WBL WBT WBR  21 13 14 11 21 51 21 13 14 11 21 51 0 0 0 0 0 0 0 0 Stop Stop Stop Stop Stop Stop - None - None None 0 - 0 - 0 89 89 89 89 89 89 89 2 2 2 2 2 2 2 2 2 24 15 16 12 24 57  Minor2 Minor1  619 584 305 594 594 168 384 384 - 195 195 - 235 200 - 399 399 - 7.12 6.52 6.22 7.12 6.52 6.22 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 3.518 4.018 3.318 3.518 4.018 3.318 401 423 735 417 418 876 639 611 - 807 739 - 768 736 - 627 602 -   BB WB  14.6 12.2 B  NBL NBT NBR EBLn1WBLn1 SBL SBT  1240 - 428 595 1404 - 0.011 - 0.126 0.157 0.028 - 7.9 0 - 14.6 12.2 7.6 0 A A A - B B A A	EBL EBT EBR WBL WBT WBR N  21 13 14 11 21 51 0 0 0 0 0 0 0 0 Stop Stop Stop Stop Stop Stop Stop Stop	## Company Com	### Company   Co	## Company Co	BBL   BBT   BBR   WBL   WBT   WBR   NBL   NBT   NBR   SBL	EBL   EBT   EBR   WBL   WBT   WBR   NBL   NBT   NBR   SBL   SBT

Intersection														
Int Delay, s/veh	5													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4				4			4	8
Traffic Vol, veh/h	5	16	36		9	23	3		27	27	1	5	49	33
Future Vol, veh/h	5	16	36		9	23	3		27	27	1	5	49	33
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	(
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Free
RT Channelized		-	None				None				None			None
Storage Length	2.5		-				-							1
Veh in Median Storage, #	-	0	- 2			0	-			0	-	2	0	
Grade, %		0	- 2			0	-			0			0	
Peak Hour Factor	73	73	73		73	73	73		73	73	73	73	73	73
Heavy Vehicles, %	2	2			2		2		2	2	2	2	2	2
Mvmt Flow	7	22	49		12	32	4		37	37	1	7	67	45
Major/Minor	Minor2				Minor1				Major1			Major2		
Conflicting Flow All	232	215	90		251	238	38		112	0	0	38	0	(
Stage 1	103	103	-		112	112	-		112	-	-	-	-	
Stage 2	129	112	- 5		139	126	0			- 65				
Critical Hdwy	7.12	6.52	6.22		7.12	6.52	6.22		4.12			4.12		2 5
Critical Hdwy Stg 1	6.12	5.52	0.22		6.12	5.52	0.22		7.12			7.12		
Critical Hdwy Stg 2	6.12	5.52			6.12	5.52	- 2							
Follow-up Hdwy	3.518		3.318			4.018	3.318		2.218			2.218		0 (2 0 (2
Pot Cap-1 Maneuver	723	683	968		702	663	1034		1478			1572		
Stage 1	903	810	300		893	803	1054		1410	- 2		1012	- 3	
Stage 2	875	803	- 0		864	792	- 8		- 6			- 9		1 6
Platoon blocked, %	0/3	003			004	132	-		-			-		
Mov Cap-1 Maneuver	677	662	968		634	643	1034		1478			1572		
Mov Cap-1 Maneuver	677	662	300		634	643	1034		1470	100	-	13/2	- 0	) 33 1
Stage 1	880	806			870	782						- 8		
Stage 2	815	782	2		794	788	2			120		*	-	6 4
Approach	EB				WB				NB			SB		
HCM Control Delay, s	9.8				10.9				3.7			0.4		
HCM LOS	9.6 A				10.9 B				3.1			0,4		
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1\	WBLn1	SBL	SBT	SBR						
Capacity (veh/h)	1478			829	662		-							
HCM Lane V/C Ratio	0.025			0.094		0.004								
HCM Control Delay (s)	7.5	0		9.8	10.9	7.3	0							
HCM Lane LOS	Α.	A	- 2	Α.	В	Α.	A	1						
HCM 95th %tile Q(veh)	0.1	71		0.3	0.2		-	- 5						

Intersection														
Int Delay, s/veh	5.7													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4				4			4	
Traffic Vol, veh/h	16	16	62		12	38	12		3	29	3	5	74	3
Future Vol, veh/h	16	16	62		12	38	12		3	29	3	5	74	3
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	(
Sign Control	Free	Free	Free		Free	Free	Free		Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized			None				None				None			None
Storage Length											-			2 2
Veh in Median Storage, #		0	- 2			0	-			0	- 2		0	7
Grade, %		0				0				0			0	
Peak Hour Factor	69	69	69		69	69	69		69	69	69	69	69	69
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	23	23	90		17	55	17		4	42	4	7	107	4
Major/Minor	Major1				Major2			,	Minor1			Minor2		
Conflicting Flow All	72	0	0		113	0	0		268	221	68	237	258	64
Stage 1	-	-	-		110	-			114	114	-	99	99	0-
Stage 2									154	107		138	159	
Critical Hdwy	4.12	2	2		4.12		- 0		7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	4.12				4.12				6.12	5.52	0.22	6.12	5.52	0.22
Critical Hdwy Stg 2	1.7	- 2			- 170				6.12	5.52		6.12	5.52	
Follow-up Hdwy	2.218	-	8		2.218		9				3.318	3.518		3.318
Pot Cap-1 Maneuver	1528				1476				685	678	995	717	646	1000
Stage 1	1020				1470				891	801	333	907	813	1000
Stage 2			- 0						848	807		865	766	
Platoon blocked, %									040	001	0	000	100	
Mov Cap-1 Maneuver	1528				1476		- 0		580	659	995	665	628	1000
Mov Cap-1 Maneuver	1020	- 0					0		580	659	-	665	628	1000
Stage 1						- 3			877	788		892	803	
Stage 2									723	797	2	802	754	3
Approach	EB				WB				NB			SB		
HCM Control Delay, s	1.3				1.4				10.8			11.9		
HCM LOS	1.5				1.9				В			В		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	671		-		1476			639						
HCM Lane V/C Ratio		0.015			0.012									
HCM Control Delay (s)	10.8	7.4	0		7.5	0		11.9						
HCM Lane LOS	В	A	A		A	A	-	В						
HCM 95th %tile Q(veh)	0.2	0	100		0	10.5		0.7						

5.2													
EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
					4				4			4	
54	43	66		9	8	40		11	255	9	33	227	12
54	43	66		9	8	40		11	255	9	33	227	12
0	0	0		0	0	0		0	0	0	0	0	0
Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Free
		None		7		None		-	-	None		-	None
						-		-				-	
0	0			2	0				0	4	-	0	
-	0				0	-			0			0	
91		91		91		91		91		91	91		91
						2							2
59	47	73		10	9	44		12	280	10	36	249	13
Minor?			_71	Minor1				Major1			Major2		
	642	256			644	285			٥	0	-	0	0
						200		203	U		230		
						- 1		76	-		(2)		
								4 12			4 12		
								4.12			4.12		
								-				-	
		2 240				2 240		2 240			2 240	-	
									-			-	
								1301			1212	-	
								-		-	-		
6/8	656			636	643	•		-	*			*	
204	075	700		000	074	754		4004			4070		11 2
								1301			12/2	*	
						•		*	*	*			
						-		~					
623	649	-		516	622	-		-				-	
EB				WB				NB			SB		
18.1				12.6				0.3			1		
С				В									
NBI	NBT	NBR	EBLn1V	VBL n1	SBI	SBT	SBR						
							110						
							Ye						
	^					^							
	54 54 54 0 Stop 91 2 59 Minor2 665 329 336 7.12 6.12 3.518 374 684 678 334 676 623 EB	## BBL EBT    54	EBL EBT EBR  54 43 66 54 43 66 0 0 0 0 Stop Stop Stop None 0 0 0 - 91 91 91 2 2 2 2 59 47 73  Minor2  665 643 256 329 329 - 336 314 - 7.12 6.52 6.22 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 3.518 4.018 3.318 374 392 783 684 646 - 678 656 - 334 375 783 334 375 783 334 375 783 334 375 - 676 625 - 623 649 -  EB  18.1 C  NBL NBT NBR  1301 0.009 7.8 0 - A A A -	EBL EBT EBR  54 43 66 54 43 66 0 0 0 0 Stop Stop Stop None - 0 - 0 0 - 91 91 91 2 2 2 2 59 47 73  Minor2  665 643 256 329 329 - 336 314 - 7.12 6.52 6.22 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 3.518 4.018 3.318 374 392 783 684 646 - 678 656 - 334 375 783 334 375 783 334 375 783 334 375 783 334 375 783 334 375 783 334 375 - 676 625 - 623 649 -  EB  18.1 C  NBL NBT NBR EBLn1V  1301 - 452 0.009 - 0.396 7.8 0 - 18.1 A A - C	## BBL BBT BBR WBL    54	## Company Co	EBL         EBT         EBR         WBL         WBT         WBR           54         43         66         9         8         40           54         43         66         9         8         40           0         0         0         0         0         0           Stop         Stop         Stop         Stop         Stop           -         None         -         -         None           -         0         -         -         0         -           -         0         -         -         0         -           91         91         91         91         91         91         91           2 <t< td=""><td>## BBL EBT EBR WBL WBT WBR   </td><td>## Company Co</td><td>### Company   Co</td><td>## Company   Fig.   Fi</td><td>  BBL   BBT   BBR   WBL   WBT   WBR   NBL   NBT   NBR   SBL  </td><td>  Fig.   Fig.  </td></t<>	## BBL EBT EBR WBL WBT WBR	## Company Co	### Company   Co	## Company   Fig.   Fi	BBL   BBT   BBR   WBL   WBT   WBR   NBL   NBT   NBR   SBL	Fig.   Fig.

6.2 EBL	EBT	ON SEC.											
2500	EBT												
14		EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
14	4				4				4			4	
17	36	35		5	36	9		16	47	4	10	34	
14	36	35		5	36	9		16	47	4	10	34	
0	0	0		0	0	0		0	0	0	0	0	(
Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Free
-	-	10000 CO		-		5000 CO		100000 (#)		None	*	5 (5 mm) 7 (	None
*	-	~		-	- 2	2			-	4			126
	0	-			0	2			0	-	-	0	
	0	-			0	-				-			
80		80		80		80		80		80			80
18	45	44		6	45	11		20	59	5	13	43	(
Minor2			,	Minor1			Λ.	Aaior1			Major2		
	175	46			175	61	- 14		٥	0		0	(
		40				1000		45	0.70				,
						- 5				- 5			
		6 22				6 22		1 12		3			
		- 20											
		2 210				2 210		2 210		-	2 210		
													1/1
		1023				1004		1000					
		-				-							
0/0	009	-		090	033	-					(7)		
700	700	4000		000	700	4004		4550	*		4500		1
								1000					
									*.	7			3
										-			
806	798			798	826	-			*	*	-		
EB				WB				NB			SB		
10.1				10.3				1.8			1.5		
В				В									
NBI	NBT	NBR	EBLn1V	VBLn1	SBI	SBT	SBR						
	_			NAME AND ADDRESS OF THE OWNER, WHEN		-	The second second second						
		r r				12	-50						
		ŝ				0							
	Stop	Stop Stop 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	Stop Stop Stop None - 0 0 0 0 0 80 80 80 2 2 2 2 18 45 44  Minor2  200 175 46 71 71 129 104 7.12 6.52 6.22 6.12 5.52 6.12 5.52 6.12 5.52 3.518 4.018 3.318 759 718 1023 939 836 875 809 702 702 1023 702 702 927 828 806 798  EB  10.1 B  NBL NBT NBR  1558 0.013 7.3 0 A A	Stop Stop Stop None - 0 0 0 80 80 80 2 2 2 2 18 45 44  Minor2  200 175 46 71 71 - 129 104 - 7.12 6.52 6.22 6.12 5.52 - 6.12 5.52 - 6.12 5.52 - 3.518 4.018 3.318 759 718 1023 939 836 - 875 809 - 702 702 1023 702 702 - 927 828 - 806 798 -  EB  10.1 B  NBL NBT NBREBLn1V  1558 - 806 0.013 - 0.132 7.3 0 - 10.1 A A B	Stop         Stop         Stop         Stop           -         None         -           -         0         -         -           -         0         -         -           80         80         80         80           2         2         2         2         2           18         45         44         6           Minor1         Minor1         200         175         46         216         216         71         71         -         101         129         104         -         115         7.12         6.52         6.22         7.12         6.12         5.52         -         6.12         6.12         5.52         -         6.12         6.12         5.52         -         6.12         3.518         7.59         718         1023         740         939         836         -         905         875         809         -         890           702         702         702         1023         663         702         702         -         663         905         890         890         890         890         890         890         890         890         890	Stop         Stop         Stop         Stop         Stop           -         -         None         -         -           -         0         -         -         0           -         0         -         -         0           80         80         80         80         80           2         2         2         2         2         2           18         45         44         6         45           Minor1         -         101         101         101           120         175         46         216         175         74           71         71         -         101         102         102         652         6.22         7.12         6.52         6.12         5.52         6.12         5.52         6.12         5.52         3.518         4.018         740         718         939 <td< td=""><td>Stop         Stop         Stop         Stop         Stop         None           -         -         None         -         -         None           -         0         -         -         0         -           -         0         -         -         0         -           80         80         80         80         80         80           2         2         2         2         2         2         2         11           Minor1           200         175         46         216         175         61         71         71         71         -         101         101         -         11         102         104         -         115         74         -         71         71         71         -         101         101         -         11         102         102         102         6.52         6.22         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -</td><td>Stop         Stop         Stop         Stop         Stop         None           -         None         -         None         -         None           -         0         -         0         -         0         -           -         0         -         0         -         0         -         -           80</td><td>Stop         Stop         Stop         Stop         Stop         Free           -         -         None         -         -         None         -           -         -         -         -         -         -         -           -         0         -         -         -         -         -           -         0         -         -         -         -         -         -           80         <td< td=""><td>Stop         Stop         Stop         Stop         Stop         Free         52         2</td><td>Stop         Stop         Stop         Stop         Stop         Stop         Free         None         -         None         -         None         -         None         -<td>Stop         Stop         Stop         Stop         Free         Non           -         0         -         -         0         -</td><td>  Stop   Stop  </td></td></td<></td></td<>	Stop         Stop         Stop         Stop         Stop         None           -         -         None         -         -         None           -         0         -         -         0         -           -         0         -         -         0         -           80         80         80         80         80         80           2         2         2         2         2         2         2         11           Minor1           200         175         46         216         175         61         71         71         71         -         101         101         -         11         102         104         -         115         74         -         71         71         71         -         101         101         -         11         102         102         102         6.52         6.22         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -         6.12         5.52         -	Stop         Stop         Stop         Stop         Stop         None           -         None         -         None         -         None           -         0         -         0         -         0         -           -         0         -         0         -         0         -         -           80	Stop         Stop         Stop         Stop         Stop         Free           -         -         None         -         -         None         -           -         -         -         -         -         -         -           -         0         -         -         -         -         -           -         0         -         -         -         -         -         -           80 <td< td=""><td>Stop         Stop         Stop         Stop         Stop         Free         52         2</td><td>Stop         Stop         Stop         Stop         Stop         Stop         Free         None         -         None         -         None         -         None         -<td>Stop         Stop         Stop         Stop         Free         Non           -         0         -         -         0         -</td><td>  Stop   Stop  </td></td></td<>	Stop         Stop         Stop         Stop         Stop         Free         52         2	Stop         Stop         Stop         Stop         Stop         Stop         Free         None         -         None         -         None         -         None         - <td>Stop         Stop         Stop         Stop         Free         Non           -         0         -         -         0         -</td> <td>  Stop   Stop  </td>	Stop         Stop         Stop         Stop         Free         Non           -         0         -         -         0         -	Stop   Stop

Intersection														
Int Delay, s/veh	6.1													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBI
Lane Configurations		4				4				4			4	
Traffic Vol, veh/h	11	45	3		3	41	12		10	57	3	10	43	14
Future Vol, veh/h	11	45	3		3	41	12		10	57	3	10	43	14
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	(
Sign Control	Free	Free	Free		Free	Free	Free		Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-		None		-		None				None	G.		None
Storage Length		-									1997		-	
Veh in Median Storage, #		0				0				0		-	0	
Grade, %		0	100			0				0			0	
Peak Hour Factor	80	80	80		80	80	80		80	80	80	80	80	80
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	
Mvmt Flow	14	56	4		4	51	15		13	71	4	13	54	18
Major/Minor	Major1			1	Major2				Minor1			Minor2		
Conflicting Flow All	66	0	0		60	0	0		188	160	58	189	154	59
Stage 1			-			-			86	86	30	66	66	0.
Stage 2	(8				*	- 2			102	74	- 0	123	88	
Critical Hdwy	4.12				4.12		100		7.12	6.52	6.22	7.12	6.52	6.2
Critical Hdwy Stg 1	4.12				4.12	- 12			6.12	5.52	0.22	6.12	5.52	0.2.
Critical Hdwy Stg 2					- 0				6.12	5.52		6.12	5.52	
Follow-up Hdwy	2.218		1725		2.218				3.518	4.018	3.318	3.518		3.31
Pot Cap-1 Maneuver	1536				1544				772	732	1008	771	738	100
Stage 1	1550		100		1044	- 7			922	824	1000	945	840	100
			5 50 <del>0</del> 0						904	833		881	822	
Stage 2 Platoon blocked, %							-		904	033	-	001	022	
Mov Cap-1 Maneuver	1536				1544				709	723	1008	704	729	100
			5 5/40 5 5/55		1344				709	723		704	729	100
Mov Cap-2 Maneuver			-				*		914	817	- 1	936	837	
Stage 1 Stage 2						-			829	831	*	794	815	
Anneach	ED.				WD				ND			CD		
Approach	EB			_	WB				NB			SB		
HCM Control Delay, s HCM LOS	1.4				0.4				10.6 B			10.3 B		
TIOM LOS												b		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	730				1544	*	-	769						
HCM Lane V/C Ratio		0.009			0.002		7.95	7117						
HCM Control Delay (s)	10.6	7.4	0	-	7.3	0		10.3						
HCM Lane LOS	В	Α	Α	-	Α	Α	25	В						
HCM 95th %tile Q(veh)	0.4	0	-		0			0.4						

Intersection													
Int Delay, s/veh	3.6												
Movement	EBL	EBT	EBR		WBL	WBT	WBR	NB	L NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4			4	81		4	
Traffic Vol, veh/h	39	13	14		11	21	51	1		9	35	303	49
Future Vol, veh/h	39	13	14		11	21	51	1	2 180	9	35	303	49
Conflicting Peds, #/hr	0	0	0		0	0	0		0 0	0	0	0	(
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop	Fre	e Free	Free	Free	Free	Free
RT Channelized			None				None			None	-		None
Storage Length										1			
Veh in Median Storage, #		0	4			0			- 0	(4.5		0	
Grade, %		0				0			- 0		-	0	5
Peak Hour Factor	89	89	89		89	89	89	8		89	89	89	89
Heavy Vehicles, %	2	2	2		2	2	2		2 2		2	2	
Mvmt Flow	44	15	16		12	24	57	1		10	39	340	
Major/Minor	Minor2				Minor1			Major	1		Major2		
Conflicting Flow All	722	686	368		696	708	207	39		0	212	0	(
Stage 1	447	447	300		234	234	201	00			212	-	
Stage 2	275	239	. 3		462	474					- 3		
Critical Hdwy	7.12	6.52	6.22		7.12	6.52	6.22	4.1		0 ( <del>3</del> )	4.12		
Critical Hdwy Stg 1	6.12	5.52	0.22		6.12	5.52	0.22	4.1			4.12		
Critical Hdwy Stg 2	6.12	5.52			6.12	5.52							
Follow-up Hdwy	3.518		3.318		3.518	4.018	3.318	2.21	0		2.218		
Pot Cap-1 Maneuver	3.310	370	677		356	360	833	116			1358		
Stage 1	591	573	011		769	711	000	110			1000		
Stage 2	731	708			580	558	-						
Platoon blocked, %	131	100	-		300	330	-				•		
Mov Cap-1 Maneuver	290	352	677		324	342	833	116	3 -		1358		
Mov Cap-1 Maneuver	290	352	0//		324	342	000	110			1330		
마이트(CONTROL OF STATES TO BE STATE STATES TO THE		552	-		759	702				-			
Stage 1 Stage 2	583 649	699			531	537							
Approach	EB				WB			N			SB		
Approach			_	_									
HCM Control Delay, s HCM LOS	18.3 C				13.2 B			0.	5		0.7		
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1V	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1163		-	344	530	1358	16						
HCM Lane V/C Ratio	0.012					0.029							
HCM Control Delay (s)	8.1	0		18.3	13.2	7.7	0	2					
HCM Lane LOS	A	A		C	В	Α	A						
HCM 95th %tile Q(veh)	0	- 53		0.8	0.6	0.1							

Int Delay, s/veh	5.1													
Movement	EBL	EBT	EBR	W	BL W	VBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4				4			4	
Traffic Vol, veh/h	5	16	36		9	23	9		27	33	1	19	57	33
Future Vol, veh/h	5	16	36		9	23	9		27	33	1	19	57	33
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	St	op S	Stop	Stop		Free	Free	Free	Free	Free	Free
RT Channelized			None			-	None				None			None
Storage Length	-		-			-	060		*		30	*	-	
Veh in Median Storage, #		0	-			0			-	0		2	0	100
Grade, %		0	-			0				0		-	0	
Peak Hour Factor	73	73	73		73	73	73		73	73	73	73	73	73
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	7	22			12	32	12		37	45	1	26	78	45
Major/Minor	Minor2			Mino	or1			N	Najor1			Major2		
Conflicting Flow All	295	274	101			295	46		123	0	0	47	0	0
Stage 1	153	153				120	-		120	-	-			
Stage 2	142	121	_			175	-							
Critical Hdwy	7.12	6.52	6.22			5.52	6.22		4.12			4.12		
Critical Hdwy Stg 1	6.12	5.52	-			5.52	-							
Critical Hdwy Stg 2	6.12	5.52				5.52	-							
Follow-up Hdwy	3.518		3.318	3.5			3.318		2.218		-	2.218		
Pot Cap-1 Maneuver	657	633	954			616	1023		1464			1560		
Stage 1	849	771	-			796	.020					1000	-	
Stage 2	861	796	2			754	-						-	
Platoon blocked, %	001	,,,,											-	
Mov Cap-1 Maneuver	602	605	954	5	74	589	1023		1464			1560		
Mov Cap-2 Maneuver	602	605	-			589	.020					1000	-	
Stage 1	827	757				775	-			-				
Stage 2	795	775	٠			740				-				
Approach	EB			V	VB				NB			SB		
HCM Control Delay, s	10.1				1.1				3.3			1.3		
HCM LOS	В			1.	В				0.0			1.0		
Minor Lane/Major Mvmt	NBL	NBT	NRR	EBLn1WBL	n1 <sup>9</sup>	SBL	SBT	SBR						
Capacity (veh/h)	1464	NO.	INDIC			560	-	-						
HCM Lane V/C Ratio	0.025			0.099 0.0				9						
HCM Control Delay (s)	7.5	0				7.3	0							
HCM Lane LOS	7.5 A	0				7.3 A	A							
HCM 95th %tile Q(veh)		Α	5	B 0.3 (	B ).3	0.1		-						
HOW SOUL WINE CALVELL)	0.1	-		0.5	7.3	0.1		0						

Intersection														
Int Delay, s/veh	5.5													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				44				4			4	
Traffic Vol, veh/h	16	16	62		12	38	12		3	51	3	5	91	
Future Vol, veh/h	16	16	62		12	38	12		3	51	3	5	91	
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	(
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Free
RT Channelized	-		None				None		(4)		None			None
Storage Length			12				-				-			
Veh in Median Storage, #		0				0				0	-		0	
Grade, %		0	1			0	-		-	0	- 2		0	
Peak Hour Factor	69	69	69		69	69	69		69	69	69	69	69	69
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	23	23	90		17	55	17		4	74	4	7	132	4
Major/Minor	Minor2				Minor1			M	lajor1			Major2		
Conflicting Flow All	270	236	134		290	236	76		136	0	0	78	0	(
Stage 1	149	149	104		85	85	70		100	-	. 0	70	-	
Stage 2	121	87	-		205	151			708					
Critical Hdwy	7.12	6.52	6.22		7.12	6.52	6.22		4.12		0	4.12		
	6.12	5.52	0.22		6.12	5.52	0.22		4.12			4.12		
Critical Howy Stg 1	6.12	5.52	-		6.12	5.52	-							
Critical Hdwy Stg 2		4.018	3.318			4.018	3.318		2.218		7	2.218		
Follow-up Hdwy			915		662		985		1448		*	1520		
Pot Cap-1 Maneuver	683	665	915			665	900		1440		-	1320		
Stage 1	854	774	-		923	824	-				-			
Stage 2	883	823			797	772	*		180	*				
Platoon blocked, %	004	000	045			000	005		4440			4500		
Mov Cap-1 Maneuver	624	660	915		577	660	985		1448			1520		
Mov Cap-2 Maneuver	624	660	-		577	660	-		*	-				
Stage 1	851	770			920	822	-			*			-	
Stage 2	807	821	-		694	768	17		#			. **		8
Approach	EB				WB				NB			SB		
HCM Control Delay, s	10.4				11				0.4			0.4		
HCM LOS	В				В									
Minor Lane/Major Mvmt	NBL	NBT	NRP	EBLn1\	WRI n1	SBL	SBT	SBR						
Capacity (veh/h)	1448		NUN	799	685	1520								
HCM Lane V/C Ratio	0.003	-				0.005								
		0					-							
HCM Control Delay (s)	7.5	0		10.4	11	7.4	0	151						
HCM Lane LOS	A	Α	-	В	В	A	Α							
HCM 95th %tile Q(veh)	0			0.6	0.5	0	- 5	*						

Intersection										
nt Delay, s/veh	2.6									
Movement	WBL		WBR		NB	Т	NBR	SBL	SBT	
Lane Configurations	W					4			4	
Traffic Vol, veh/h	67		44		21		53	35	320	
Future Vol, veh/h	67		44		21		53	35	320	
Conflicting Peds, #/hr	0		0			0	0	0	0	
Sign Control	Stop		Stop		Fre		Free	Free	Free	
RT Channelized	-		None		.,,	-	None		None	
Storage Length	0		-				-		-	
Veh in Median Storage, #			12			0			0	
Grade, %	0					0			0	
Peak Hour Factor	92		92			2	92	92	92	
Heavy Vehicles, %	2		2			2	2	2	2	
Mvmt Flow	73		48		23		58	38	348	
WINTEROW	13		40		23	U	50	30	540	
Major/Minor	Minor1				Major	1		Major2		
Conflicting Flow All	689		265			0	0	293	0	
Stage 1	265		177.75						-	
Stage 2	424		-				-		-	
Critical Hdwy	6.42		6.22					4.12		
Critical Hdwy Stg 1	5.42		0.22							
Critical Hdwy Stg 2	5.42									
Follow-up Hdwy	3.518		3.318					2.218		
Pot Cap-1 Maneuver	412		774				-	1269	-	
Stage 1	779		114			0		1200		
Stage 2	660									
Platoon blocked, %	000					-			- 8	
	397		774			-	.61	1269	-	
Mov Cap-1 Maneuver							-	1209		
Mov Cap-2 Maneuver	397	140				•		-		
Stage 1	779					•	*			
Stage 2	636		-			•	-	-	-	
Approach	WB				N	В		SB		
HCM Control Delay, s	14.7					0		0.8		
HCM LOS	В									
Minor Lane/Major Mvmt	NBT	NRRV	VBLn1	SBL	SBT					
Capacity (veh/h)	1101	TADIA	492	1269						
HCM Lane V/C Ratio		- 6	0.245	0.03						
					0					
HCM Control Delay (s)	_		14.7	7.9	0					
HCM Lane LOS	*	ै	В	A	Α					
HCM 95th %tile Q(veh)	*		1	0.1	*					

Intersection							
int Delay, s/veh	2.2						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	N/			र्स	↑		
Traffic Vol, veh/h	22	15	12		94	17	
Future Vol, veh/h	22	15	12		94	17	
Conflicting Peds, #/hr	0	0	(		0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized		None	****	A STATE OF		None	
Storage Length	0						
Veh in Median Storage, #		343		0	0		
Grade, %	0			0	0		
Peak Hour Factor	92	92	92		92	92	
Heavy Vehicles, %	2	2	2		2		
Mymt Flow	24	16	13		102	18	
minute ion	27	10	10	00	102	10	
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	175	111	121			0	
Stage 1	111					4	
Stage 2	64	-					
Critical Hdwy	6.42	6.22	4.12	201		-	
Critical Hdwy Stg 1	5.42	-					
Critical Hdwy Stg 2	5.42			3.0			
Follow-up Hdwy	3.518	3.318	2.218				
Pot Cap-1 Maneuver	815	942	1467			-	
Stage 1	914			(4.5			
Stage 2	959						
Platoon blocked, %							
Mov Cap-1 Maneuver	808	942	1467	*			
Mov Cap-2 Maneuver	808			(4)			
Stage 1	914						
Stage 2	950						
21000000000							
Approach	EB		NE		SB		
HCM Control Delay, s	9.4		1.9		0		
HCM LOS	Α						
Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT SBR				
Capacity (veh/h)	1467						
HCM Lane V/C Ratio							
	0.009		* *				
HCM Control Delay (s)	7.5	0 9.4					
HCM Lane LOS	A	A A	*				
HCM 95th %tile Q(veh)	0	- 0.1					

Int Delay, s/veh	5.7													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4				4			4	
Traffic Vol, veh/h	65	43	66		9	8	40		11	277	9	33	244	20
Future Vol, veh/h	65	43	66		9	8	40		11	277	9	33	244	20
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	(
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Free
RT Channelized	_		None		-		None			_	None		_	None
Storage Length	*	8				-			-	*	-			
Veh in Median Storage, #	114	0				0	-		-	0			0	
Grade, %		0	- 5			0	-			0	-		0	
Peak Hour Factor	91	91	91		91	91	91		91	91	91	91	91	91
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	2
Mvmt Flow	71	47	73		10	9	44		12	304	10	36	268	22
Major/Minor	Minor2				Minor1				Major1			Major2		
Conflicting Flow All	712	690	279		746	697	309		290	0	0	314	0	0
Stage 1	352		2,0		334	334	-		-	-	-	0.1		
Stage 2	360	338			412	363	-				*			
Critical Hdwy	7.12		6.22		7.12	6.52	6.22		4.12		0	4.12		
Critical Hdwy Stg 1	6.12	5.52	0.22		6.12	5.52	0.22			-	-		-	
Critical Hdwy Stg 2	6.12	5.52			6.12	5.52	-				-		-	
Follow-up Hdwy	3.518	4.018	3.318		3.518		3.318		2.218		4	2.218	4	
Pot Cap-1 Maneuver	347	368	760		330	365	731		1272		-	1246		
Stage 1	665	632			680	643	-		-			12.10		
Stage 2	658	641			617	625	2					4		
Platoon blocked, %	-	•			•	020								
Mov Cap-1 Maneuver	309	351	760		259	348	731		1272	2		1246		
Mov Cap-2 Maneuver	309	351			259	348			-	20	-	15.15		
Stage 1	658	610			673	636	-							
Stage 2	603	634	-		497	603	¥		(4)	1	×		*	
Approach	EB				WB				NB			SB		
HCM Control Delay, s	20.9				13.1				0.3			0.9		
HCM LOS	С				В									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR						
Capacity (veh/h)	1272	-	,,,,,,,	415	507	1246	-	-						
HCM Lane V/C Ratio	0.01			0.461		0.029	- 5							
HCM Control Delay (s)	7.9	0	1 2	20.9	13.1	8	0	370 320						
HCM Lane LOS	Α.	A		20.5 C	В	A	A							
HCM 95th %tile Q(veh)	0	-	- 2	2.4	0.4	0.1	1	31						

Intersection Int Delay, s/veh 6	.2													_
			EDD		ME	WOT	MDD		MBI	NET	NDD.	0.51	007	005
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	11212	4				4				4	040		4	6
Traffic Vol, veh/h	14	36	35		5	36	12		16	51	4	13	37	
Future Vol, veh/h	14	36	35		5	36	12		16	51	4	13	37	
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	(
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None				None		-	-	None		-	None
Storage Length			-		*	- 5	- 2		20				7	
Veh in Median Storage, #	-	0	~			0	-			0	-		0	
Grade, %	-	0	-		-	0				0			0	
Peak Hour Factor	80	80	80		80	80	80		80	80	80	80	80	80
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	
Mvmt Flow	18	45	44		6	45	15		20	64	5	16	46	(
Major/Minor	Minor2			N	linor1			N	lajor1			Major2		
Conflicting Flow All	218	191	49		232	191	66		53	0	0	69	0	(
Stage 1	82	82			106	106			-				į.	
Stage 2	136	109	_		126	85	-							
Critical Hdwy	7.12	6.52	6.22		7.12	6.52	6.22		4.12			4.12		
Critical Hdwy Stg 1	6.12	5.52	0.22		6.12	5.52	-							
Critical Hdwy Stg 2	6.12	5.52			6.12	5.52					-			
Follow-up Hdwy		4.018	3.318		3.518	4.018			2.218		32	2.218	-	
Pot Cap-1 Maneuver	738	704	1020		723	704	998		1553		-	1532		
Stage 1	926	827	1020		900	807	550		1000	950	*	1002		
Stage 2	867	805			878	824			-			2		
Platoon blocked, %	007	000			010	024								
Mov Cap-1 Maneuver	678	687	1020		646	687	998		1553		.5	1532		
Mov Cap-2 Maneuver	678	687	1020		646	687	330		1000	250	100	1002		
Stage 1	914	818	-		888	797								
Stage 2	795	795			785	815	-		-				-	
Approach	EB				WB				NB			SB		
HCM Control Delay, s	10.2				10.4				1.7			1.7		
HCM LOS	В				В				1.7			1.7		
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1W	/BLn1	SBL	SBT	SBR						
Capacity (veh/h)	1553	-	-	792	734	1532	-							
HCM Lane V/C Ratio	0.013		-	0.134		0.011								
HCM Control Delay (s)	7.3	0		10.2	10.4	7.4	0							
HCM Lane LOS	Α.	A	_	В	В	A	A							
HCM 95th %tile Q(veh)	0			0.5	0.3	0	11							

Intersection														
Int Delay, s/veh	5.1													
Movement	EBL	EBT	EBR		WBL	WBT	WBR		NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4				4	6			4			4	
Traffic Vol, veh/h	11	45	3		3	41	12		10	65	3	10	54	1
Future Vol, veh/h	11	45	3		3	41	12		10	65	3	10	54	1
Conflicting Peds, #/hr	0	0	0		0	0	0		0	0	0	0	0	
Sign Control	Stop	Stop	Stop		Stop	Stop	Stop		Free	Free	Free	Free	Free	Fre
RT Channelized			None			1	None				None	•		Non
Storage Length			-			-								
Veh in Median Storage, #		0	- 2		-	0	-		2	0	4	2	0	
Grade, %		0	-			0			Ú,	0			0	
Peak Hour Factor	80	80	80		80	80	80		80	80	80	80	80	8
Heavy Vehicles, %	2	2	2		2	2	2		2	2	2	2	2	
Mvmt Flow	14	56	4		4	51	15		13	81	4	13	68	1
Major/Minor	Minor2				Minor1			NA:	ajor1			Major2		
		044	70			040	00	IVIC	_	^	^		0	_
Conflicting Flow All	242	211	76		239	218	83		85	0	0	85	0	
Stage 1	101	101			108	108			-		*			
Stage 2	141	110			131	110			4.40			4.40	*	
Critical Hdwy	7.12	6.52	6.22		7.12	6.52	6.22		4.12	*	-	4.12	-	
Critical Hdwy Stg 1	6.12	5.52	1.5		6.12	5.52	-		7		-	*	-	
Critical Hdwy Stg 2	6.12	5.52			6.12	5.52	-		-	-	*			
Follow-up Hdwy	3.518		3.318		3.518	4.018			.218	-	-	2.218		
Pot Cap-1 Maneuver	712	686	985		715	680	976	1	1512		*	1512		
Stage 1	905	811			897	806			-		*		-	
Stage 2	862	804			873	804	-		-	-		-	-	
Platoon blocked, %											-		-	
Mov Cap-1 Maneuver	651	674	985		658	668	976		1512	×	*	1512		
Mov Cap-2 Maneuver	651	674	-		658	668			-			-		
Stage 1	897	804	-		889	799						(5)		
Stage 2	787	797			802	797	2742		-	-	*		-	
Approach	EB				WB				NB			SB		
HCM Control Delay, s	10.9				10.6				0.9			0.9		
HCM LOS	В				В									
Minor Lane/Major Mvmt	NBL	NBT	NRP	EBLn1V	WRI n1	SBL	SBT	SBR						
Capacity (veh/h)	1512			680	716	1512		ODIN -						
HCM Lane V/C Ratio	0.008				0.098		*	5						
		0					0	**						
HCM Control Delay (s)	7.4	0		10.9	10.6	7.4	0							
HCM Lane LOS	A	Α	-	В	В	A	Α	5						
HCM 95th %tile Q(veh)	0	-		0.4	0.3	0	-	S.						

Intersection										
Int Delay, s/veh	1									
Movement	WBL	١	NBR		NBT	N	BR	SBL	SBT	
Lane Configurations	*V*				1,				4	
Traffic Vol, veh/h	25		16		349		33	22	272	
Future Vol, veh/h	25		16		349		33	22	272	
Conflicting Peds, #/hr	0		0		0		0	0	0	
Sign Control	Stop	8	Stop		Free		ree	Free	Free	
RT Channelized	Olop -		Vone		,,,,,		one	. 100		
Storage Length	0		-				-	-	-	
Veh in Median Storage, #	0		-		0	į.	2		0	
Grade, %	0				Č		-		0	
Peak Hour Factor	92		92		92		92	92	92	
Heavy Vehicles, %	2		2		2		2	2	2	
Mymt Flow	27		17		379		36	24	296	
WINTERIOW	21		17.		3/8	18	30	24	230	
Major/Minor	Minor1				Major1			Major2		
Conflicting Flow All	740		397		0		0	415	0	
Stage 1	397								-	
Stage 2	343		-				~		160	
Critical Hdwy	6.42		6.22				2	4.12	-	
Critical Hdwy Stg 1	5.42									
Critical Hdwy Stg 2	5.42		-							
Follow-up Hdwy	3.518	3	3.318				3	2.218		
Pot Cap-1 Maneuver	384		652				ĵ.	1144	171	
Stage 1	679		002				0	1144	10	
Stage 2	719						1			
Platoon blocked, %	119					5	5		ē0	
Mov Cap-1 Maneuver	374		652			5	(A.	1144	70	
							•	1144	-	
Mov Cap-2 Maneuver	374		7				7	1/2		
Stage 1	679						*	•	*	
Stage 2	701		-						•	
Approach	WB				NE	1		SB		
HCM Control Delay, s	13.9				(			0.6		
HCM LOS	В							0,0		
Minor Lane/Major Mvmt	NBT	NBRW	Name and Address of the Owner, where	SBL	SBT					
Capacity (veh/h)				1144	*					
HCM Lane V/C Ratio		- 0		0.021						
HCM Control Delay (s)		~	13.9	8.2	0					
HCM Lane LOS		*	В	Α	A					
HCM 95th %tile Q(veh)		14	0.3	0.1	×2					

Intersection							
Int Delay, s/veh	1.2						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	¥			4	\$		
Traffic Vol, veh/h	8	6	7		49	11	
Future Vol, veh/h	8	6	7		49	11	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized		None	-	None	-	None	
Storage Length	0	-					
Veh in Median Storage, #	0	23	5	0	0		
Grade, %	0	-			0		
Peak Hour Factor	92	92	92		92	92	
Heavy Vehicles, %	2	2	2		2	2	
Mymt Flow	9	7	8		53	12	
	_				-		
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	150	59	65			0	
Stage 1	59			-		-	
Stage 2	91						
Critical Hdwy	6.42	6.22	4.12	(4)	12		
Critical Hdwy Stg 1	5.42	-			-		
Critical Hdwy Stg 2	5.42						
Follow-up Hdwy	3.518	3.318	2.218	127		- 2	
Pot Cap-1 Maneuver	842	1007	1537				
Stage 1	964	-				90	
Stage 2	933	2		4			
Platoon blocked, %							
Mov Cap-1 Maneuver	838	1007	1537	-			
Mov Cap-2 Maneuver	838						
Stage 1	964				-		
Stage 2	928						
10/1000- <del>10</del> /100-10							
Approach	EB		NE		SB		
HCM Control Delay, s	9.1		0.7		0		
HCM LOS	Α						
Marsharaktaraktarak	NO	NOT FOL 4	ODT ODT	í			
Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT SBF				
Capacity (veh/h)	1537	- 903	-				
HCM Lane V/C Ratio	0.005	- 0.017					
HCM Control Delay (s)	7.4	0 9.1					
HCM Lane LOS	A	A A					
HCM 95th %tile Q(veh)	0	- 0.1	* 8				

4343 Cox Road Glen Allen, Virginia 23060

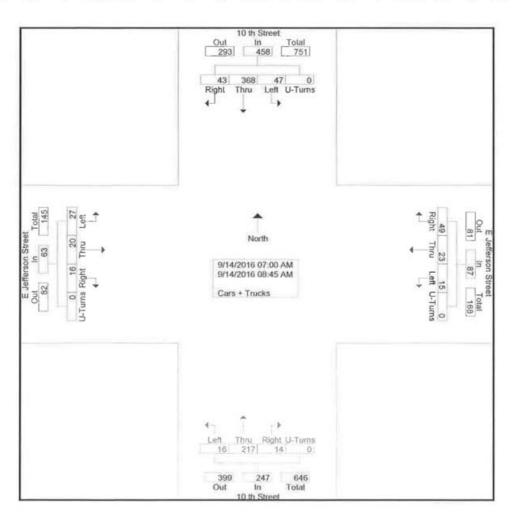
File Name: Jefferson at 10th - AM

Site Code : 00000002 Start Date : 9/14/2016

Page No : 1

Counted By: Lee Weather: Clear Equipment ID: 4792

		4/	th Str	tool			E lof	forman	Street	William Colored		40	th Str	toot			E lot	ferson	Circal		I
				T T T						E		10.7									
		THE RESERVE AND ADDRESS OF THE PERSON NAMED IN	outhbo	una			THE RESERVE OF THE PARTY OF THE	estbou	ına		2007.000		orthbo	una			Bit or street, or J.L.	astbou	ina		The section of
Start Time	Right	Thru	Left	ti-Tuern	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App Total	Int. Total
07:00 AM	0	20	2	0	22	1	1	0	0	2	0	12	2	0	14	0	0	4	0	4	42
07:15 AM	3	28	2	0	33	3	1	2	0	6	4	19	1	0	24	0	0	1	0	1	64
07:30 AM	4	27	5	0	36	3	1	2	0	6	1	30	1	0	32	1	4	1	0	6	80
07:45 AM	11	57	6	0	74	2	1	1	0	4	1	23	1	0	25	2	4	2	0	8	111
Total	18	132	15	0	165	9	4	5	0	18	6	84	5	0	95	3	8	8	0	19	297
08:00 AM	5	51	6	0	62	8	2	2	0	12	1	34	3	0	38	0	3	2	0	5	117
08:15 AM	7	52	9	0	68	21	6	2	0	29	4	39	0	0	43	5	4	8	0	17	157
08:30 AM	8	58	9	0	75	9	6	4	0	19	1	31	6	0	38	4	1	3	0	8	140
08:45 AM	5	75	8	0	88	2	5	2	0	9	2	29	2	0	33	4	4	6	0	14	144
Total	25	236	32	0	293	40	19	10	0	69	8	133	11	0	152	13	12	19	0	44	558
Grand Total	43	368	47	0	458	49	23	15	0	87	14	217	16	0	247	16	20	27	0	63	855
Apprch %	9.4	80.3	10.3	0		56.3	26.4	17.2	0		5.7	87.9	6.5	0		25.4	31.7	42.9	0		
Total %	5	43	5.5	0	53.6	5.7	2.7	1.8	0	10.2	1.6	25.4	1.9	0	28.9	1.9	2.3	3.2	0	7.4	



4343 Cox Road Glen Allen, Virginia 23060

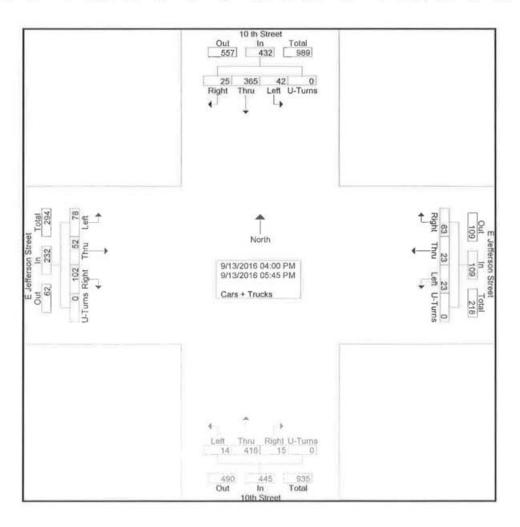
File Name: Jefferson at 10th - PM

Site Code : 00000001 Start Date : 9/13/2016

Page No : 1

Counted By: Lee Weather: Clear Equipment ID: 4791

										rinted-	Cars +								ونستويدون		
		1970390	th Str outhbo	0.00				ferson lestbo	Street			0.359	Oth Str					ferson aslbou			
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turra	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Tota
04:00 PM	5	32	2	0	39	7	4	3	0	14	0	40	3	0	43	16	8	5	0	29	12
04:15 PM	5	45	3	0	53	3	3	3	0	9	1	43	1	0	45	6	2	8	0	16	123
04:30 PM	3	33	8	0	44	10	6	7	0	23	2	44	0	0	46	13	8	12	0	33	146
04:45 PM	6	41	4	0	51	9	2	3	0	14	3	47	5	0	55	10	6	9	0	25	145
Total	19	151	17	0	187	29	15	16	0	60	6	174	9	0	189	45	24	34	0	103	539
05:00 PM	2	47	6	0	55	14	3	3	0	20	2	63	3	0	68	21	10	15	0	46	189
05:15 PM	2	60	7	0	69	5	1	2	0	8	0	66	0	0	66	11	6	12	0	29	17
05:30 PM	1	60	8	0	69	9	1	0	0	10	2	57	2	0	61	18	7	13	0	38	178
05:45 PM	1	47	4	0	52	6	3	2	0	11	5	56	0	0	61	7	5	4	0	16	140
Total	6	214	25	0	245	34	8	7	0	49	9	242	5	0	256	57	28	44	0	129	679
Grand Total	25	365	42	0	432	63	23	23	0	109	15	416	14	0	445	102	52	78	0	232	121
Apprch %	5.8	84.5	9.7	0		57.8	21.1	21.1	0		3.4	93.5	3.1	0		44	22.4	33.6	0		
Total %	2.1	30	3.4	0	35.5	5.2	1.9	1.9	0	8.9	1.2	34.2	1.1	0	36.5	8.4	4.3	6.4	0	19	



4343 Cox Road Glen Allen, Virginia 23060

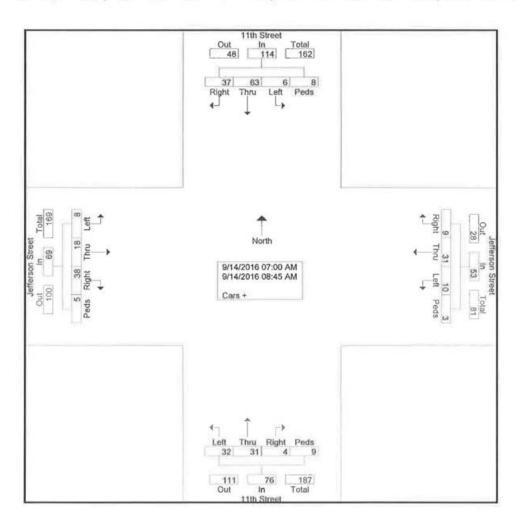
Counted By: Burns Service, Inc. File Name: Charlottesville(Jefferson and 11th) AM Peak

Site Code :

Start Date : 9/14/2016

Page No : 1

									Grou	ips Printe	ed- Car	s +									
			1th Strouthbo					erson :					1th Str orthbo					erson (			
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App Total	Int. Total
07:00 AM	3	4	0	0	7	0	1	0	0	1	2	0	0	0	2	1	0	1	0	2	12
07:15 AM	2	5	0	0	7	1	2	0	0	3	2	1	3	0	6	2	1	1	1	5	21
07:30 AM	1	5	1	1	8	1	2	1	0	4	0	3	4	0	7	3	5	0	0	8	27
07:45 AM	- 1	4	0	1	6	4	5	1	0	10	0	3	0	0	3	8	1	1	0	10	29
Total	7	18	1	2	28	6	10	2	0	18	4	7	7	0	18	14	7	3	1	25	89
08:00 AM	6	3	2	0	11	1	4	3	0	8	0	5	6	3	14	3	4	3	3	13	46
08:15 AM	12	25	0	1	38	1	6	3	3	13	0	3	11	2	16	6	1	1	1	9	76
08:30 AM	12	11	1	1	25	0	7	2	0	9	0	6	3	3	12	5	2	0	0	7	53
08:45 AM	0	6	2	4	12	1	4	0	0	- 5	0	10	5	1	16	10	4	1	0	15	48
Total	30	45	5	6	86	3	21	8	3	35	0	24	25	9	58	24	11	5	4	44	223
Grand Total	37	63	6	8	114	9	31	10	3	53	4	31	32	9	76	38	18	8	5	69	312
Apprch %	32.5	55.3	5.3	7		17	58.5	18.9	5.7		5.3	40.8	42.1	11.8		55.1	26.1	11.6	7.2		1000000
Total %	11.9	20.2	1.9	2.6	36.5	2.9	9.9	3.2	1	17	1.3	9.9	10.3	2.9	24.4	12.2	5.8	2.6	1.6	22.1	



4343 Cox Road Glen Allen, Virginia 23060

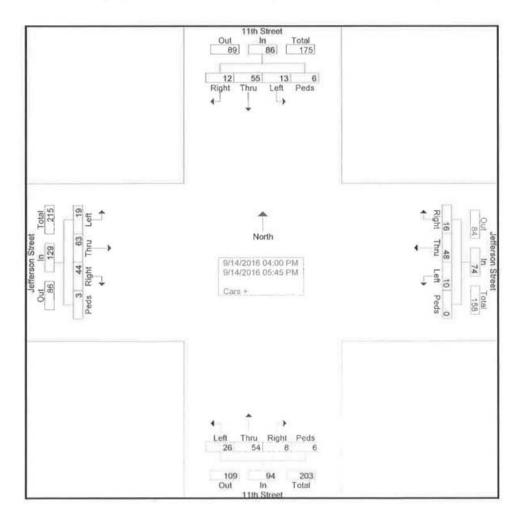
Counted By: Burns Service, Inc. File Name: Charlottesville(Jefferson and 11th) PM Peak

Site Code :

Start Date : 9/14/2016

Page No : 1

									Grou	ips Printe	ed- Car	s +									
		10.7	1th Str outhbo	27.00.5			(7) (7) (7)	erson : /estbo					1th Str orthbo				2.000	erson (			
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	2	2	1	0	5	3	7	0	0	10	1	3	2	1	7	3	6	1	1	11	33
04:15 PM	2	7	2	1	12	3	5	0	0	8	2	2	1	1	6	3	4	3	0	10	36
04:30 PM	0	7	1	1	9	2	8	1	0	11	1	10	2	0	13	6	9	2	0	17	50
04:45 PM	1	7	2	1	11	3	8	1	0	12	0	8	2	1	11	8	7	4	1	20	54
Total	5	23	6	3	37	11	28	2	0	41	4	23	7	3	37	20	26	10	2	58	173
05:00 PM	3	10	1	1	15	3	6	3	0	12	3	9	6	2	20	11	8	5	1	25	72
05:15 PM	1	8	5	0	14	0	4	0	0	4	0	12	5	1	18	7	9	2	0	18	54
05:30 PM	2	8	0	0	10	1	6	3	0	10	1	5	6	0	12	3	13	0	0	16	48
05:45 PM	1	6	1	2	10	1	4	2	0	7	0	5	2	0	7	3	7	2	0	12	36
Total	7	32	7	3	49	5	20	8	0	33	4	31	19	3	57	24	37	9	1	71	210
Grand Total	12	55	13	6	86	16	48	10	0	74	8	54	26	6	94	44	63	19	3	129	383
Apprch %	14	64	15.1	7		21.6	64.9	13.5	0		8.5	57.4	27.7	6.4		34.1	48.8	14.7	2.3		
Total %	3.1	14.4	3.4	1.6	22.5	4.2	12.5	2.6	0	19.3	2.1	14.1	6.8	1.6	24.5	11.5	16.4	5	0.8	33.7	



### Burns Service Inc.

1202 Langdon Terrace Drive Raleigh, NC, 27615

File Name : charlottesville(little high and 11th) 14 hour count

Site Code :

Start Date : 5/10/2017

Page No : 1
Groups Printed- Cars + - Trucks
Little High Street 11th Street

		11th	Street			Little Hig		Printed- C	dia T-		Street			Little Hig	h Stre	et	
			bound				bound	CI			bound				ound	Ci	
Start Time	Right	Thru	Left	App, Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. To
06:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	
06:15	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	
06:30	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	
06:45	0		0	1	0	0	0	0	0	3	0	3	0	0	0	0	
Total	0	1	0	1	0	3	0	3	0	4	0	4	0	0	0	0	
07:00	0	4	0	4	0	1	0	1	1	1	0	2	0	1	0	1	
07:15	1	8	0	9	2	5	0	7	0	4	0	4	1	1	0	2	
07:30	2	10	0	12	2	6	0	8	0	5	0	5	1	3	0	. 4	
07:45 Total	3	30	3	11 36	5	7 19	1	13 29	2	11	1	3 14	6 8	5 10	0	11	
08:00	0	11	3	14	1	8	3	12	0	5	-1	6	16	3	5	24	1
08:15	2	27	0	29	4	10	3	17	0	7	1	8	28	5	5	38	
08:30	ő	24	3	27	2	4	2	8	2	6	o	8	9	5	4	18	
08:45	1	8	0	9	4	14	3	21	1	5	1	7	5	2	- 1	8	
Total	3	70	6	79	11	36	11	58	3	23	3	29	58	15	15	88	2
09:00	2	5	3	10	0	4	1	5	1	7	1	9	0	5	1	6	(
09:15	1	8	1	10	0	5	0	5	0	9	2	11	2	3	1	6	
09:30	0	8	0	8	- 1	4	1	6	0	2	1	3	1	3	1	5	
09:45	2	10	1	13	2	7	0	9	0	9	0	9	3	4	4	11	
Total	5	31	5	41	3	20	2	25	1	27	4	32	6	15	7	28	1
10:00	1	6	0	7	1	5	2	8	0	4	1	5	1	3	2	6	
10:15	0	6	1	7	1	4	0	5	1	7	2	10	0	2	3	5	
10:30	2	8	0	10	2	3	0	5	0	9	1	10	1	2	1	4	
10:45 Total	1 4	24	1 2	6 30	2 6	20	0	10 28	1 2	7 27	5	9	0 2	11	0	19	1
11:00	2	6	0	8	2	2	0	4	2	7	1	10	0	4	0	4	
11:15 11:30	1	6 5	0	7 5	0	4 2	0	4 2	2	10	3	9	2	1 2	2	5	
11:45	1	7	2	10	1	3	0	4	1	5	1	7	2	5	1	8	
Total	4	24	2	30	3	11	0	14	6	26	6	38	5	12	4	21	1
12:00	1	6	2	9	4	6	0	10	1	8	1	10	2	12	4	18	1
12:15	3	4	1	8	1	6	0	7	0	17	3	20	3	5	2	10	
12:30	1	11	1	13	2	8	0	10	0	12	0	12	1	5	1	7	
12:45	3	5	0	8	0	3	2	5	- 1	10	1	12	2	6	3	11	
Total	8	26	4	38	7	23	2	32	2	47	5	54	8	28	10	46	1
13:00	0	10	0	10	2	3	0	5	1	8	0	9	2	3	0	5	
13:15	2	24	3	29	2	5	0	7	3	10	1	14	11	9	2	22	
13:30	0	1	0	1	0	2	0	2	0	1	0	1	0	1	0	1	
13:45 Total	2	11 46	0	13 53	6	17	0	23	5	27	0	33	3 16	5 18	1	9 37	1
14:00 14:15	2	7	3	12	2	3	1	6	1	10	0	6 11	0	7	0	12	
14:15	2	7	2	11	0	1	0	1	0	4	4	8	2	4	1	7	
14:45	3	6	0	9	3	1	0	4	0	8	1	9	0	3	1	4	
Total	8	26	5	39	5	7	2	14	2	27	5	34	6	18	3	27	1
15:00	0	9	3	12	2	5	1	8	1	6	2	9	2	9	1	12	
15:15	3	7	3	13	1	5	3	9	0	5	0	5	1	4	1	6	
15:30	1	8	1	10	1	11	0	12	0	10	3	13	8	8	7	23	
15:45	0	8	2	10	2	8	3	13	1	9	1	11	. 1	3	2	6	
Total	4	32	9	45	6	29	7	42	2	30	6	38	12	24	11	47	
16:00	2	7	3	12	1	6	0	7	0	10	2	12	1	5	1	7	
16:15	2	4	3	9	1	5	1	7	0	6	2	8	2	4	5	11	
16:30	2	2	1	5	1	6	1	8	1	5	2	8	1	8	1	10	
16:45	1	12	1	14	2	6	0	8	1	16	7	18	0	5	2 9	7 35	1
Total	7	25	8	40	. 5	23	2	30	2	37		46	4	22			
17:00	4	10	2	16	0	6	1	7	1	12	2	15	0	7	4	11	

## Burns Service Inc.

1202 Langdon Terrace Drive Raleigh, NC, 27615

File Name: charlottesville(little high and 11th) 14 hour count

Site Code :

Start Date : 5/10/2017

Page No : 2 Groups Printed- Cars + - Trucks

			Street bound		- 1	Little Hig		et		11th	Street bound				gh Stre	et	
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App, Total	Int. Tota
17:15	4	7	2	13	6	20	2	28	1	15	4	20	2	8	2	12	73
17:30	4	8	4	16	3	7	0	10	0	11	2	13	1	22	2	25	64
17:45	1	10	4	15	1	4	1	6	0	11	0	11	1	9	0	10	42
Total	13	35	12	60	10	37	4	51	2	49	8	59	4	46	8	58	228
18:00	0	5 2	0	5	1	5	0	6	1	6	0	7	1	12	0	13	3
18:15	0	2	0	2	1	3	1	5	0	7	3	10	1	6	0	7	24
18:30	0	3	1	4	0	4	1	5	0	2	0	2	0	13	1.	14	25
18:45	0	2	2	4	- 1	1	0	2	- 1	1	- 1	3	0	5	0	5	1
Total	0	12	3	15	3	13	2	18	2	16	4	22	2	36	1	39	9
19:00	0	1	1	2	3	4	1	8	0	6	0	6	0	7	1	8	24
19:15	0	0	1	1	0	8	0	8	0	1	0	1	0	3	0	3	13
19:30	0	2	0	2	1	1	1	3	0	3	0	3	0	10	1	11	15
19:45	1	2	0	3	2	6	0	8	0	2	2	- 4	0	2	- 1	3	74
Total	1	5	2	8	6	19	2	27	0	12	2	14	0	22	3	25	7.
"BREAK"																	
Grand Total	64	387	64	515	80	277	37	394	31	363	57	451	131	277	80	488	1848
Apprch %	12.4	75.1	12.4		20.3	70.3	9.4		6.9	80.5	12.6		26.8	56.8	16.4		3 500000
Total %	3.5	20.9	3.5	27.9	4.3	15	2	21.3	1.7	19.6	3.1	24.4	7.1	15	4.3	26.4	
Cars +	64	386	64	514	80	277	37	394	31	363	57	451	131	277	80	488	1847
% Cars +	100	99.7	100	99.8	100	100	100	100	100	100	100	100	100	100	100	100	99.9
Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
% Trucks	0	0.3	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.

4343 Cox Road Glen Allen, Virginia 23060

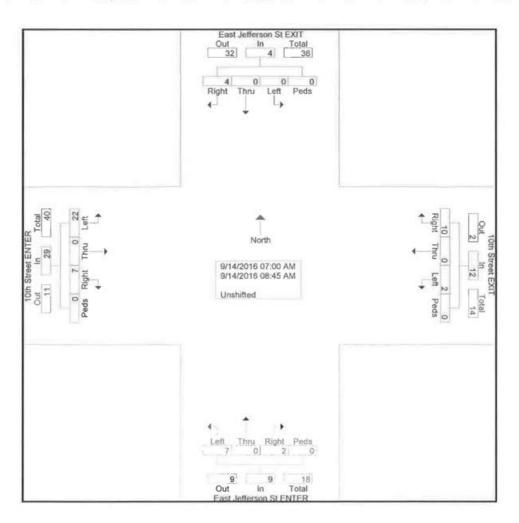
File Name: Driveways - AM

Site Code : 00000000 Start Date : 9/14/2016

Page No : 1

Counted By: Dean Weather: Clear Equipment ID: 4233

									Group:	s Printer	d- Unsl	hifted									
	Е		ffersor	n St EX	CIT			Stree			Ea		erson orthbo	St ENT	TER			Street	ENTEF and	3	
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App: Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App Total	Int. Total
*** BREAK **	*																				
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
07:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	4	0	4	0	8	10
Total	1	0	0	0	1	1	0	0	0	1	0	0	1	0	1	5	0	5	0	10	13
08:00 AM	1	0	0	0	1	1	0	0	0	1	1	0	2	0	3	0	0	4	0	4	9
08:15 AM	1	0	0	0	1	4	0	0	0	4	1	0	3	0	4	1	0	8	0	9	18
08:30 AM	1	0	0	0	1	2	0	1	0	3	0	0	1	0	1	1	0	2	0	3	8
08:45 AM	0	0	0	0	0	2	0	- 1	0	3	0	0	0	0	0	0	0	3	0	3	6
Total	3	0	0	0	3	9	0	2	0	11	2	0	6	0	8	2	0	17	0	19	41
Grand Total	4	0	0	0	4	10	0	2	0	12	2	0	7	0	9	7	0	22	0	29	54
Apprch %	100	0	0	0		83.3	0	16.7	0		22.2	0	77.8	0		24.1	0	75.9	0		1,000
Total %	7.4	0	0	0	7.4	18.5	0	3.7	0	22.2	3.7	0	13	0	16.7	13	0	40.7	0	53.7	1



4343 Cox Road Glen Allen, Virginia 23060

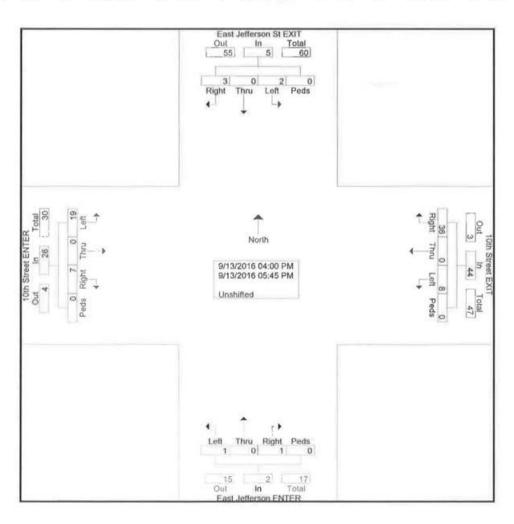
File Name: Driveways - PM

Site Code : 00000000 Start Date : 9/13/2016

Page No : 1

Counted By: Dean Weather: Clear Equipment ID: 4233

									Group	s Printed	I- Unsl	nifted									
	Е	ast Je So	outhbo	und	KIT			/estbo	-		E	ast Je No	orthbo	und	ER			astbo		₹	
Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	1	0	0	0	1	6	0	3	0	9	0	0	0	0	0	1	0	2	0	3	13
04:15 PM	0	0	0	0	0	5	0	2	0	7	1	0	0	0	1	0	0	1	0	1	9
04:30 PM	1	0	0	0	1	3	0	1	0	4	0	0	0	0	0	1	0	1	0	2	7
04:45 PM	1	0	0	0	1	3	0	0	0	3	0	0	0	0	0	2	0	6	0	8	12
Total	3	0	0	0	3	17	0	6	0	23	1	0	0	0	1	4	0	10	0	14	41
05:00 PM	0	0	1	0	1	11	0	1	0	12	0	0	1	0	1	1	0	5	0	6	20
05:15 PM	0	0	1	0	1	2	0	1	0	3	0	0	0	0	0	0	0	1	0	1	5
05:30 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	2	0	3	0	5	8
05:45 PM	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	2	0	2	19	0	2	0	21	0	0	1	0	1	3	0	9	0	12	36
Grand Total	3	0	2	0	5	36	0	8	0	44	1	0	1	0	2	7	0	19	0	26	77
Apprch %	60	0	40	0		81.8	0	18.2	0		50	0	50	0		26.9	0	73.1	0		
Total %	3.9	0	2.6	0	6.5	46.8	0	10.4	0	57.1	1.3	0	1.3	0	2.6	9.1	0	24.7	0	33.8	



4343 Cox Road Glen Allen, Virginia 23060

File Name: Charlottesville(Jefferson and Driveway#3) PM Peal-

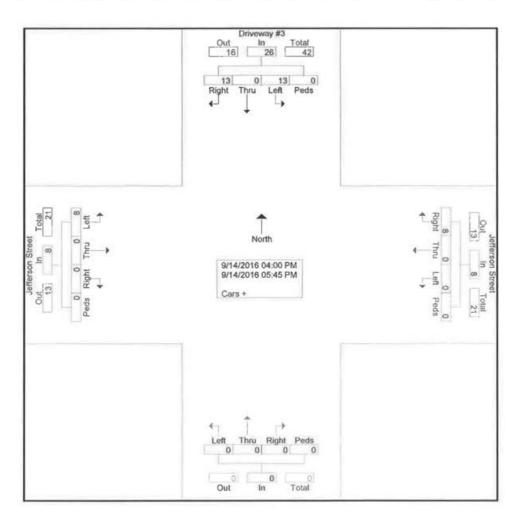
Site Code :

Start Date : 9/14/2016

Page No : 1

Counted By: Burns Service, Inc.

		_								ips Printe									· ·		45
			riveway					erson S				Ne	orthbou	und				erson (			
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
04:15 PM	4	0	2	0	6	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	8
04:30 PM	2	0	2	0	4	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	7
04:45 PM	1	0	4	0	5	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
Total	8	0	8	0	16	5	0	0	0	5	0	0	0	0	0	0	0	4	0	4	25
05:00 PM	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	5
05:15 PM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0	0	0	1	0	1	5
05:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2
05:45 PM	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	5	0	5	0	10	3	0	0	0	3	0	0	0	0	0	0	0	4	0	4	17
Grand Total	13	0	13	0	26	8	0	0	0	8	0	0	0	0	0	0	0	8	0	8	42
Apprch %	50	0	50	0		100	0	0	0		0	0	0	0		0	0	100	0		
Total %	31	0	31	0	61.9	19	0	0	0	19	0	0	0	0	0	0	0	19	0	19	



4343 Cox Road Glen Allen, Virginia 23060

Counted By:

Burns Service, Inc.

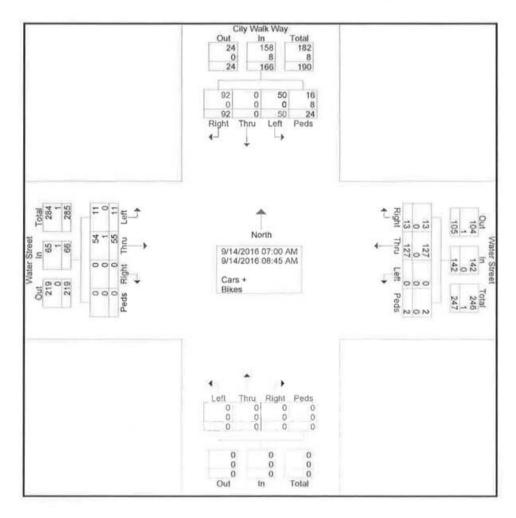
File Name: Charlottesville(Water and City Walk) AM Peak

Site Code :

Start Date : 9/14/2016

Page No : 1

										Printed-	Cars +	- Bikes									
			y Walk outhbo					ater St lestbo				N	orthbo	und				ater St astbou			
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Tota
07:00 AM	5	0	6	4	15	0	10	0	0	10	0	0	0	0	0	0	5	2	0	7	33
07:15 AM	9	0	4	4	17	0	11	0	0	11	0	0	0	0	0	0	6	3	0	9	3.
07:30 AM	11	0	5	1	17	5	9	0	1	15	0	0	0	0	0	0	4	2	0	6	38
07:45 AM	8	0	6	- 1	15	1	17	0	1	19	0	0	0	0	0	0	6	1	0	7	41
Total	33	0	21	10	64	6	47	0	2	55	0	0	0	0	0	0	21	8	0	29	148
08:00 AM	19	0	10	1	30	2	19	0	0	21	0	0	0	0	0	0	4	2	0	6	57
08:15 AM	11	0	9	4	24	1	16	0	0	17	0	0	0	0	0	0	7	0	0	7	48
08:30 AM	12	0	4	2	18	3	19	0	0	22	0	0	0	0	0	0	9	1	0	10	50
08:45 AM	17	0	6	7	30	1	26	0	0	27	0	0	0	0	0	0	14	0	0	14	7
Total	59	0	29	14	102	7	80	0	0	87	0	0	0	0	0	0	34	3	0	37	226
Grand Total	92	0	50	24	166	13	127	0	2	142	0	0	0	0	0	0	55	11	0	66	374
Apprch %	55.4	0	30.1	14.5		9.2	89.4	0	1.4		0	0	0	0	740	0	83.3	16.7	0		
Total %	24.6	0	13.4	6.4	44.4	3.5	34	0	0.5	38	0	0	- 0	0	0	0	14.7	2.9	0	17.6	
Cars + % Cars +	92	0	50 100	16 66.7	158 95.2	13	127 100	0	100	142 100	0	0	0	0	0	0	54 98.2	11	0	65 98.5	365 97.6
Bikes	0	0	0	8	8	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
% Bikes	0	0	0	33.3	4.8	0	0	0	0	0	0	Ō	0	0	0	0	1.8	0	0	1.5	2.4



## Ramey Kemp & Associates

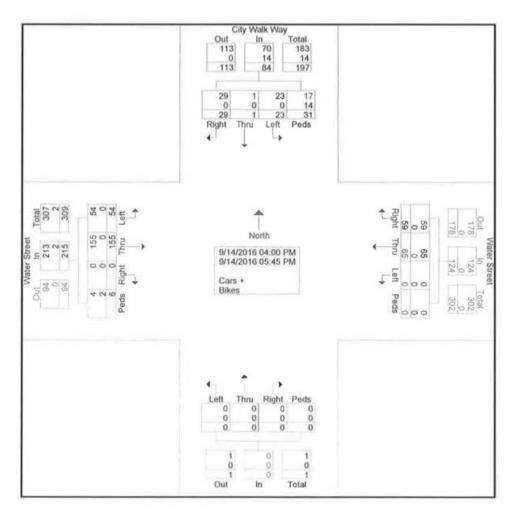
4343 Cox Road Glen Allen, Virginia 23060

Counted By: Burns Service, Inc. File Name: Charlottesville(Water and City Walk) PM Peak

Site Code :

Start Date : 9/14/2016

								G	roups l	Printed- (	Cars +	Bikes									
	City Walk Wa Southbound							ater St estbo				No	orthbo	und				ater St astbou			
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App. Total	Int. Tota
04:00 PM	3	0	3	2	8	10	7	0	0	17	0	0	0	0	0	0	10	5	0	15	4
04:15 PM	0	0	1	2	3	9	5	0	0	14	0	0	0	0	0	0	15	2	0	17	3
04:30 PM	0	0	2	7	9	3	7	0	0	10	0	0	0	0	0	0	14	5	0	19	3
04:45 PM	3	0	3	4	10	4	9	0	0	13	0	0	0	0	0	0	22	10	2	34	5
Total	6	0	9	15	30	26	28	0	0	54	0	0	0	0	0	0	61	22	2	85	16
05:00 PM	5	0	1	1	7	7	8	0	0	15	0	0	0	0	0	0	27	9	0	36	5
05:15 PM	6	1	2	8	17	9	12	0	0	21	0	0	0	0	0	0	20	11	0	31	6
05:30 PM	4	0	5	6	15	11	13	0	0	24	0	0	0	0	0	0	22	8	4	34	7
05:45 PM	8	0	6	1	15	6	4	0	0	10	0	0	0	0	0	0	25	4	0	29	5
Total	23	1	14	16	54	33	37	0	0	70	0	0	0	0	0	0	94	32	4	130	25
Grand Total	29	1	23	31	84	59	65	0	0	124	0	0	0	0	0	0	155	54	6	215	42
Apprch %	34.5	1.2	27.4	36.9		47.6	52.4	0	0		0	0	0	0		0	72.1	25.1	2.8		
Total %	6.9	0.2	5.4	7.3	19.9	13.9	15.4	0	0	29.3	0	0	0	0	0	0	36.6	12.8	1.4	50.8	
Cars +	29	1	23	17	70	59	65	0	0	124	0	0	0	0	0	0	155	54	4	213	40
% Cars +	100	100	100	54.8	83.3	100	100	0	0	100	0	0	0	0	0	0	100	100	66.7	99.1	96
Bikes	0	0	0	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1
% Bikes	0	0	0	45.2	16.7	0	0	0	0	0	0	0	0	0	0	0	0	0	33.3	0.9	3



## Burns Service Inc.

1202 Langdon Terrace Drive Raleigh, NC, 27615

File Name: Shenandoah Joe Ped Count

Site Code :

Start Date : 4/26/2017

	Into Shenandoah Joe Westbound				Shenando Iorthbound	j	Into Shenandoah Joe Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
07:00	0	4	4	4	0	4	2	0	2	10
07:15	0	6	6	6	4	10	1	0	1	17
07:30	0	7	7	5	1	6	1	0	1	14
07:45	0	5	5	9	0	9	1	0	1	15
Total	0	22	22	24	5	29	5	0	5	56
08:00	0	8	8	3	0	3	0	0	0	11
08:15	0	10	10	8	2	10	3	0	3	23
08:30	0	14	14	10	1	11	3	1	4	29
08:45	0	5	5	8	4	12	2	0	2	19
Total	0	37	37	29	7	36	8	1	9	82
Grand Total	0	59	59	53	12	65	13	1	14	138
Apprch %	0	100		81.5	18.5		92.9	7.1		
Total %	0	42.8	42.8	38.4	8.7	47.1	9.4	0.7	10.1	
Cars +	0	59	59	53	12	65	13	1	14	138
% Cars +	0	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0

## Burns Service Inc.

1202 Langdon Terrace Drive Raleigh, NC, 27615

File Name: Shenandoah Joe Ped Count Door #2

Site Code :

Start Date : 4/26/2017

		nenandoah orthbound			Shenandoa Vestbound		1076	Into Shenandoah Joe Southbound			
Int. Total	App. Total	Thru	Right	App. Total	Left	Right	App. Total	Left	Thru	Start Time	
8	4	0	4	2	2	0	2	2	0	07:00	
16	3	0	3	10	4	6	3	3	0	07:15	
11	4	0	4	4	0	4	3	3	0	07:30	
15	5	0	5	8	3	5	2	2	0	07:45	
50	16	0	16	24	9	15	10	10	0	Total	
16	6	0	6	8	6	2	2	2	0	08:00	
10	2	0	2	4	1	3	4	4	0	08:15	
21	6	0	6	11	4	7	4	4	0	08:30	
17	5	0	5	11	4	7	1	1	0	08:45	
64	19	0	19	34	15	19	11	11	0	Total	
114	35	0	35	58	24	34	21	21	0	Grand Total	
		0	100	2000	41.4	58.6	No.	100	0	Apprch %	
	30.7	0	30.7	50.9	21.1	29.8	18.4	18.4	0	Total %	
114	35	0	35	58	24	34	21	21	0	Cars +	
100	100	0	100	100	100	100	100	100	0	% Cars +	
0	0	0	0	0	0	0	0	0	0	Trucks	
0	0	0	0	0	0	0	0	0	0	% Trucks	

## Burns Service Inc.

1202 Langdon Terrace Drive Raleigh, NC, 27615

File Name: Milli Coffee Roasters Ped Count

Site Code :

Start Date : 4/26/2017

				Groups Pri	inted- Cars	5 +				
		o Milli Coff Southbound			o Milli Coff Northbound		Out			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	7	7	3	0	3	10
07:30	0	0	0	0	4	4	3	0	3	7
07:45	1	0	1	0	7	7	3	0	3	11
Total	1	0	1	0	18	18	9	0	9	28
08:00	1	0	1	0	7	7	1	0	1	9
08:15	3	0	3	0	4	4	6	0	6	13
08:30	2	0	2	0	10	10	4	0	4	16
08:45	0	0	0	0	4	4	11	0	11	15
Total	6	0	6	0	25	25	22	0	22	53
Grand Total	7	0	7	0	43	43	31	0	31	81
Apprch %	100	0		0	100		100	0		
Total %	8.6	0	8.6	0	53.1	53.1	38.3	0	38.3	



### **Multi-Way Stop Warrants**

Project Name	East Jefferson Street Apartments	
Project/File#	16147	
Scenario	Existing 2017	

Intersection Information									
Major Street (E/W Road)	Little High Street	Minor Street (N/S Road)	11th Street						
Analyzed with	1 approach lane	Analyzed with	1 Approach Lane						
Total Approach Volume	966 vehicles	Total Approach Volume	884 vehicles						
Total Ped/Bike Volume	0 crossings	Total Ped/Bike Volume	0 crossings						
Right turn reduction of	0 percent applied	Right turn reduction of	0 percent applied						

No high speed or isolated community reduction applied to the Multi-Way Stop Warrant thresholds.

Condition A - Traffi	c Signal Warrant
Condition Satisfied?	Not Satisfied
Criteria*	Traffic Signal Warranted & Justified

\* Multi-way stop control may be used as an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.

Condition B - Crash Experience									
Condition Satisfied?	Not satisfied								
Required values reached for	less than 4 correctable crashes								
Criteria - Crash Experience	5 or more correctable crashes in 12-month period								

Condition C - Intersection Volume & Delay							
Condition Satisfied?	Not Satisfied						
Required values reached for	0 hours & sec. average delay/veh						
Criteria - Major Street (veh/hr)	300 for any 8 hours of an average day						
Criteria - Minor Street (total vol-veh, ped, & bikes/hr)	200 for the same 8 hours of an average day						
Criteria - Delay (average sec/veh)	30 during the highest hour						

Condition D - Combination Volume, Crash Experience, & Delay								
Condition Satisfied?	Not Satisfied							
Required values reached for	0 hours, less than 4 crashes, & sec. average delay/veh							
Criteria - Major Street (veh/hr)	240 for any 8 hours of an average day							
Criteria - Minor Street (total vol-veh, ped, & bikes/hr)	160 for the same 8 hours of an average day							
Criteria - Crash Experience	4 or more correctable crashes in 12-month period							
Criteria - Delay (average sec/veh)	24 during the highest hour							



## Exhibit K

Market Analysis, East Jefferson Place Apartments, dated June 1, 2017

# Market Analysis East Jefferson Place Apartments Charlottesville, Virginia

Prepared for:

Jefferson Medical Building Limited Partnership c/o Great Eastern Management Company

June 8, 2017

S. Patz and Associates, Inc. 46175 Westlake Drive, Suite 400 Potomac Falls, Virginia 20165 June 8, 2017

Jefferson Medical Building Limited Partnership c/o Great Eastern Management Company 2619 Hydraulic Road Charlottesville, Virginia 22905-0526

Dear Sir:

This will submit our market study, and an accompanying Fiscal Impacts Analysis (FIA), for the proposed development of the 126-unit East Jefferson Place Apartments, planned for start of development in 2019, with project completion and apartment unit delivery by 2020/2021. The new apartments are to be built at 1011 East Jefferson Street, which currently is occupied by a mature medical office building.

Development of 1011 East Jefferson Street with new apartment units will necessitate the demolition and relocation of the office building and it's three medical office tenants. The overall development concept is to construct a new medical office building for current tenants on a nearby vacant lot, or part of a larger office building proposal, also at a nearby location, and to be built by Sentara Martha Jefferson Hospital.

The development program for the new apartment building and new office building are defined in the attached report. Both buildings are "still on the drawing board" in terms of specific sizes and designs, pending approval by Charlottesville City Council of the apartment building proposal. The approval of the proposed apartment building will be proceeded by the development of a new, similar sized office building of approximately 20,000 square feet.

The attached market study shows full market support for the 126-unit East Jefferson Place Apartments and identifies the apartment unit development proposal as the highest and best use of the study site. Our analysis is based on conservative projections of apartment unit demand, given the sizable employment growth in the City and market area and the evolving draw of the Downtown Mall in attracting new businesses. 1011 East Jefferson Street is within walking distance of the Mall.

The market study results could be interpreted as identifying a pent-up demand for downtown area apartment buildings, with demand possibly exceeding supply. We were the market consultants for several successful area apartment communities, including City Walk, Avemore, Carriage Hill, Stone Creek, Woodlands II and Lofts at Meadow Creek, which is under construction. We are fully familiar with the greater Charlottesville apartment market.

Jefferson Medical Building Limited Partnership June 8, 2017

The new office building has the commitment of the two principal tenants in the Jefferson Medical Building for approximately 20,000 square feet of space. These doctors report that the building on site is outdated for current medical needs and each requires newer space. All have committed to remain in a new office building in the immediate area.

The detailed market data that support our findings and conclusions are presented in the attached report. An appendix is included which contains the FIA for both the apartment building and new office space at build out. Using constant 2017 dollars, the development of both proposals should generate approximately \$47,510overall, in net tax revenue to the City at build out. This total includes the full economic benefit from the proposed apartment building and the net increase of a new, higher valued office building compared with the current 44 year old Jefferson Medical Building.

Please call if additional data or clarification are needed. We remain available to continue to assist you with the successful development of both proposals.

Sincerely,

Stuart M. Patz

President

SMP/mes

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#### Section I - Introduction

Following is a market study in support of the East Jefferson Place Apartment proposal that is planned for development at 1011 East Jefferson Street in the central area of Charlottesville, just northeast and within walking distance of the Downtown Pedestrian Mall. The study site is located on the east side of the block bordered by 10th Street, NE on the west, East Jefferson Street on the south, and 11th Street, NE on the east. The northern property line that abuts the site is an alley, to the north and west of the area are commercial and educational uses, including a school (Charlottesville Day School), and to the south are commercial uses and an attractive residential condominium building. Two blocks east of the site is the predominately residential Little High Street Neighborhood.

The study site is currently developed with a mature 20,000 square foot, twostory, medical office building, Jefferson Medical Building, that was built in 1973/74 and is no longer a viable building for medical office space. It is currently 90+ percent occupied with three medical practices. Many of the doctors in the building are also partners in the building ownership. Surface parking covers part of the property and, together with a nearby partnership owned surface lot, contains an adequate number of spaces for the current use. Photos of the office building follow.





The study site is proposed to be redeveloped with an attractive, three-story on 11th Street and five-story on 10th Street elevator-served apartment building with

approximately 126 units. Of these, there will be a component set aside for affordable housing in accordance with the City Zoning Ordinance and designated for residents earning incomes at 50-80% of AMI for the greater Charlottesville area. The remaining apartment units will be marketed to residents with incomes of \$50,000 and above, based on expected rents at the to-be-built apartment units and rents at new apartment properties in the Charlottesville marketplace.

The reasons behind the proposed development are three-fold. First, the Jefferson Medical Building, currently located on the study site, is 40± years old and no longer satisfactory for modern medical uses.

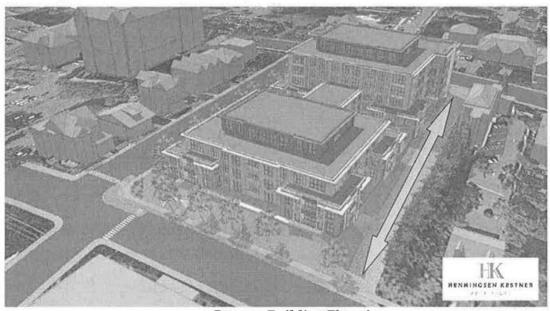
Second, the now Sentara Martha Jefferson Hospital, previously located at the corner of Locust and East High streets, moved several years ago. The medical practices currently occupying the Jefferson Medical Building have been giving consideration to moving their practices nearer the new Hospital location on Pantops. However, the recent decision by the Hospital, as discussed later in this analysis, to construct a new, state-of-the-art medical facility on remaining nearby Hospital owned parcels, together with the availability of appurtenant land owned by the partnership and currently used as a parking lot that could accommodate a similar facility. This makes remaining in the East Jefferson Street area a viable option for doctors of each existing medical practice.

Third, an evolving and expanding downtown marketplace for both retail stores and office space is creating new jobs, and changing the highest and best use of the 1011 East Jefferson Street property. Now the more viable use is multifamily housing, specifically apartment units for rent and of the type of housing proposed.

The following analysis will show full market support for the ±126 units proposed at the 1011 East Jefferson Street study site. The final development design for the apartment building is not yet set, pending approvals from Charlottesville City officials, and the results of this market study. However, the concept development plan includes:

- > ±126 apartment units with an affordable housing component in accordance with the City Zoning Ordinance.
- > A proposed unit mix of one-bedroom and two-bedroom units, with a large percentage of one-bedroom units.
- > Up to 240 structured parking spaces on two below grade levels, with some spaces possibly available for monthly neighborhood parking.
- Elevator-served building with two sets of elevators.
- ➤ A three-story building fronting on 11<sup>th</sup> Street and a five-story building fronting on 10<sup>th</sup> Street with a central common area connection and with possible roof top amenities.
- A list of amenities that are competitive with other area apartment properties, include a fitness center, TV room and lounge, extra on-site storage, on-site management, "high tech" business center, state-of-the-art security, secured parking (FOB), fully wired for high-speed internet, etc.

Following is one concept elevation for East Jefferson Place that shows the quality of the proposal. The concept is for a building with a design that blends into the neighborhood, with all parking underground. The building entrance to the parking area would be off of the alley on the north side of the building. The building will have enhanced setbacks with landscaping on all sides and two central courtyards for outdoor passive recreation. The building windows will be large for an abundance of light and air for each apartment unit. Recessed balconies are planned for select units. The wide range of amenity features will include roof top uses.

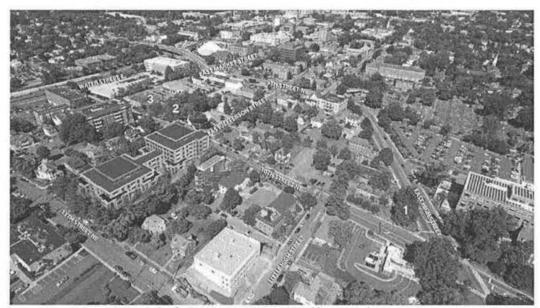


**Concept Building Elevation** 

A detailed market study follows for the apartment building proposal. The study documents market support for the proposed number of market rate apartment units proposed, based on a supply-demand analysis for apartment units of the type proposed for renters with incomes who can afford this type of housing. The appendix to this report is a Fiscal Impact Analysis (FIA) that presents the <u>net</u> fiscal benefits of the apartment proposal to the City at build out. Market support for the affordable housing will become clear based on rental rates presented in the market study.

As part of the proposal for the new apartment units is the concept for the relocation of the existing medical practices currently occupying the Jefferson Medical Building. The concept is to relocate these practices to one of two nearby locations. The relocation is fully accepted by the building owners. One option is to incorporate approximately 15,000 to 20,000 square feet into a new office building that is planned for a site at 10th and East High Street (No. 1 on aerial on Page 5). This proposal will consist of a large medical office building to be developed by Sentara Martha Jefferson Hospital. The second option is to develop a site owned by the partnership on 10th Street next to the 925 East Market Street proposal (see No. 2 on aerial). This property is now a parking lot. The adjacent property (No. 3 on aerial) is 925 East Market Street, which is planned for 56 new apartment units and three office suites.

The point to note here is that the physician services to the downtown neighborhood will remain, but at a nearby location and in modern, more efficient space designed to allow for the delivery of health care in the current new paradigm. The net fiscal impacts from the study site redevelopment will thus be quite positive for the City when the proposed East Jefferson Place Apartments and the new medical building are completed.



Aerial of Site Setting - East Jefferson Place Apartments

With this background set in place, the following analysis will show full market support for the apartment proposal. Market support is not needed for the relocation of the office building, as the space is to be committed to existing users. The overall redevelopment and relocation options will require at least two years for relocation of the current office tenants of the Jefferson Medical Building, so a construction start for the apartment building is not likely until sometime in 2019 or 2020, with the likely delivery date for the ±126 apartment units in 2020 or 2021.

#### Report Format

The market analysis for East Jefferson Place will be prepared in three separate sections. The FIA is presented in the appendix. Section I of the market study is the Introduction, which includes the statement of the purpose of the study, a detailed analysis of the site for apartment use, and the site setting near downtown Charlottesville. The development concept, as currently defined, was presented above.

The second part of Section I contains an economic overview of the greater Charlottesville economy, including the defined market area of the City and adjacent Albemarle County. The economic overview shows the level of new at-place job and employment growth, which are the basis for determining population and household growth, including renter household growth, resulting in the calculation of housing demand.

The market area that we defined for East Jefferson Place is the same market area that we used for prior market studies, including City Walk, 925 East Market Street (proposed), and Westgate and Barclay Place renovations, in addition to close-by suburban apartment communities – Avemore, Stone Creek Village, Woodlands II, etc.

The market area includes the City of Charlottesville and Albemarle County. We included all of the County in the market area, even though the far north section of the County, and the area south of I-64, are rural. This was done for ease of the demographic analysis. Interviews with on-site management at the new Terrace Greene Apartments in the Ruckersville area of Greene County reports that they do not compete with apartment properties located south of Rio Road.

The demographic analysis also shows the number of "target" renters who live in the City, which shows the City's "ability" to compete for the higher-income renter, with comparable new suburban apartment properties.

Section II is a supply-demand analysis for new apartment unit development, including the addition of East Jefferson Place. First presented is a demographic study of the market area that solves for the number and growth of renter households with incomes of \$50,000 and above, when incomes are studied in constant 2017 dollars. The forecast date for the demographic analysis is 2021, as this is the likely time frame for the lease-up at the proposed apartments.

Following the demographic analysis is the study of the current "high rent", nonstudent, apartment communities in the market area, with the apartment properties separated by post-2012 construction and pre-2012 construction. We included 14 apartment communities in this subsection for study, including two properties that just opened in Spring, 2017.

We excluded almost all of the market area's apartment properties that were built prior to 2000, as they generate lower rents. This includes attractive apartment communities such as Westgate, Barclay Place, Abington Crossing, Lofts at McIntire, etc. Westgate, in particular, was recently renovated, but rents are lower than the "comps" used for this study. We excluded all condominium units that are being rented, agerestricted apartment properties and student-designed apartment properties. The exclusion of rented condominium units deems our report somewhat conservative.

The defined competitive apartment properties are studied for occupancy, rental rates, unit characteristics, property features and amenities. These are compared with the East Jefferson Place proposal.

The third and final section presents the market study conclusions related to market support for East Jefferson Place. The conclusions "verify" the most marketable unit rents, unit mix and features, such as elevations, covered parking and amenities. The market study conclusions are the basis for the calculation of the FIA.

#### East Jefferson Place

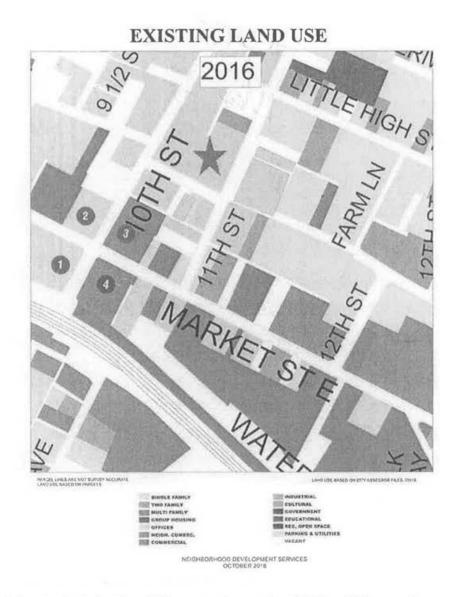
#### Site Setting

The proposed East Jefferson Place Apartments are located in a mixed-use neighborhood that was largely developed during the 1960's. There are several small office buildings in the area, primarily along 10th Street and near the Jefferson Medical Building and adjacent to the property along 11th Street. These buildings date back to the time when the nearby Martha Jefferson Hospital was in operation and expanding. On the east side of 11th Street and farther east are mature, but attractive single family homes on small lots and along tree covered streets. Commercial uses exist along East Jefferson

Street and small commercial buildings are scattered near and on all sides of the subject study site.

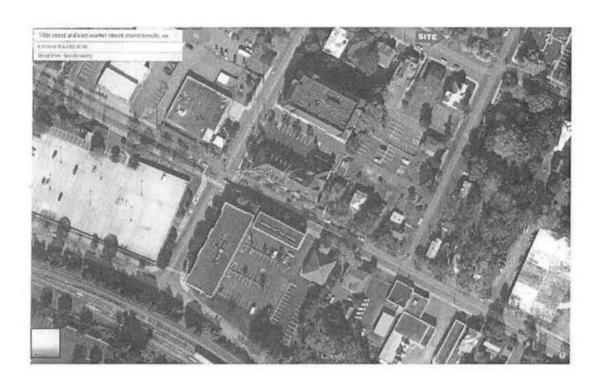
Number 1 on Map A below shows the location of the 925 East Market Street apartment and office space proposal. Adjacent (No. 2) is the parking lot that may be developed for replacement office space for the existing practices in the Jefferson Medical Building. The location of a five-story upscale condominium building is noted by Number 3, and the adjacent building (No. 4) is a condominium office building.

South of Water Street are railroad tracks. This area has a number of commercial and industrial uses. The Downtown Pedestrian Mall is to the west and the 10<sup>th</sup> and Market streets intersection is considered part of the downtown. The existing Jefferson Medical Building study site is two blocks east. Map A shows the immediate neighborhood to be largely commercial on all sides, but with more residential further east and north and towards 12<sup>th</sup> Street.



Map A - Existing Land Uses at and near the 1011 East Jefferson Street

The point made here is that the study site is close to the expanding Charlottesville downtown and near existing and planned multifamily apartment and condominium buildings. The following aerial shows that, with East Jefferson Street being one full block from East Market Street, and East Market Street at this location being the east end of downtown Charlottesville, the study site is within two blocks of the downtown commercial center.



Aerial of East Market Street and 10th Intersection

Photo A is the condominium building along 10th Street and north of East Market Street, and one block from the study site. Photo B is the 925 East Market Street property with the parking lot that is one option for a new office building adjacent. Photo B shows a view into the east portion of the downtown area and the commercial land uses in this area.



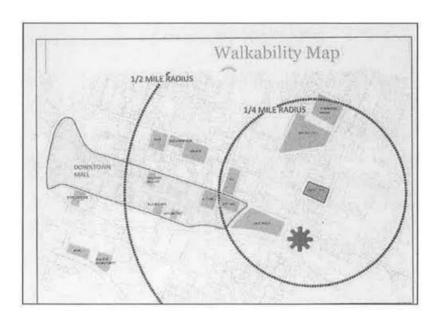
Photo A



Photo B

Map B below shows a street map of the center area of Charlottesville, the Downtown Pedestrian Mall and the location of 1101 East Jefferson Street. The Downtown Pedestrian Mall is the shaded area to the west. Around and on the mall are City Hall, a public library, specialty shopping, entertainment shopping, a nearby police department, several churches and an expanding employment base of new and existing businesses.

The location of the former Martha Jefferson Hospital is also noted on Map B, as is the existing Jefferson Medical Building. The "star" denotes the generalized location of the recently built City Walk Apartment community. The Downtown Mall is within easy walking distance of the study site.

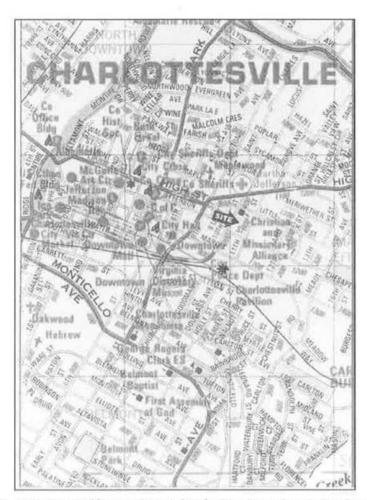


Map B - Study Site's Proximity to Downtown Pedestrian Mall

As shown on the following Map C, automobile access to U.S. Route 250 is via High Street or Park Street. U.S. Route 250 east provides direct access to the new location of Martha Jefferson Hospital. U.S. 250 west intersects with Route 29 and the Charlottesville area's primary commercial corridor – Pantops, with close by shopping is directly accessible via Route 250 east. Fifth Street/Ridge Street is accessed by High Street east or south on Avon Street and west on Monticello.

Of importance for the study site is its proximity to the University of Virginia (UVA) Grounds. The Grounds are located on the west side of Charlottesville and bordered by U.S. 250 and Route 29 bypass on the west. Several options offer access to UVA:

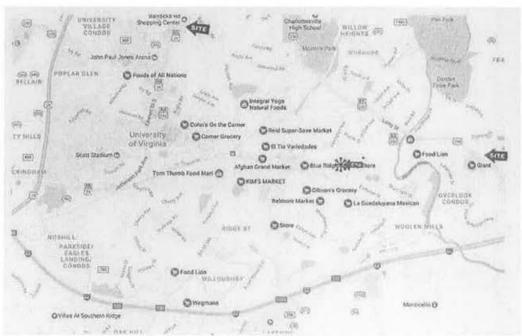
- U.S. 250 west past to Emmet Street (29 Business) or past U.S. 29 to one of several access roads into the campus.
- Monticello west to Main Street west and along Ivy Street into one of several connection streets into campus.
- High Street west to Preston Avenue to Grady Avenue and south of Rugby Road.



Map C - 1011 East Jefferson Street Study Site Location & Setting

Area Shopping. In spite of the urban setting, the study site is well located for shopping. Pantops is close by and has a large retail areas anchored by Giant Food and Food Lion. A new Wegmans opened on Fifth Street, just north of I-64. Barracks Road Shopping Center is located on U.S. 29, where 29 intersects with U.S. Route 250. This center has a wide range of new shops and restaurants. The Hydraulic Road/Route 29/Hillsdale Drive area is also easily accessible to Kroger, Whole Foods, Marshalls, the Shops at Stonefield and a variety of additional shopping and dining alternatives. Small grocery stores are scattered throughout the City and in close proximity to the study site.

Comparison shopping, including Fashion Square Mall, is located north of U.S. 250 on Route 29. The larger site arrows show the location of larger shopping locations.



Map D - Nearby Grocery Stores

#### Market Area Economic Overview

The Economic Overview Analysis is presented in this part of the report. The intent is to show the level of job growth in the market area, as a prelude to determining

housing unit demand. First presented are trends in market area at-place jobs. This is followed by employment and labor force data and then by a description of active developments, and the likely magnitude of new jobs that these projects will generate. These data and trends will be used to determine demographic growth and the resulting housing unit demand.

#### At-Place Jobs

At-place jobs refer to the number of jobs in the defined market area of both the City of Charlottesville and Albemarle County. As of year-end 2015, the total number of at-place jobs in the market area was 91,260. The most recent at-place job totals are 10,000± more than in 2005, indicating an average annual growth of 910± jobs since 2005.

Data in Table 1 show a decrease in total jobs in the key recession year of 2009, after sizable growth for the first eight years of the 2000 decade. The recession years of 2009 and 2010 were not growth years. That changed, with net growth between 2011 and 2015. For the period of 2010 to 2015, net job growth was 8,060± or approximately 1,610 per year on average. The current at-place job totals for year-end 2015 are at 91,260, which is over 4,880 above the pre-recession peak year of 2008. Thus, current at-place job totals are at an "all time" high for the market area and expanding. Over 3,300 new jobs were created in 2015.

The market area has a very diversified job market with no dominant industry. The industrial categories of Retail Trade, Health Care and Accommodations and Food are the largest categories. State Government should likely be included in that group with the large number of employees at UVA, but these data are not published. Industrial job sectors with significant growth over the past decade include Admin./Waste Services (2,020± new jobs), Health Care (1,850± new jobs), Accommodations/Food (1,580± new jobs), Professional/Tech/ Services (960± new jobs), Arts/Enter./Recreation (840± new jobs), Educational Services (700± new jobs) and Other Services (610± new jobs).

Since 2005, the industrial sectors with the most pronounced job losses have been Construction and Manufacturing. Notable manufacturing losses during this period include Badger Fire Protection (170± layoffs in 2007), Avionics Specialties (100± layoffs in 2007), GE Fanuc Intelligent Platforms (50± layoffs in 2009), Biotage (70± layoffs in 2009), LexisNexis (60± layoffs in 2010), and Hyosung America (110± layoffs in 2010). Despite the loss of over 5,000 construction jobs, this sector added nearly 330 jobs in 2015.

Industry	2005	2008	2009	2010	2011	2012	2013	2014	2015	Net Change
Agriculture, Forestry, Fishing	524	519	476	479	447	ND	ND	ND	ND	
Mining	ND									
Utilities	ND	**								
Construction	5,066	4,951	4,167	3,964	3,771	3,803	3,771	3,696	4,021	-5,062
Manufacturing	3,679	3,745	3,406	3,058	2,948	ND	ND	ND	ND	-749
Wholesale Trade	ND	ND	ND	ND	1,354	1,392	1,297	1,325	1,282	300 L
Retail Trade	9,865	9,831	9,054	8,736	8,915	8,963	9,122	9,124	9,281	-584
Transport. & Warehousing	ND									
Information	2,109	2,193	2,051	2,035	2,021	2,108	2,094	2,035	2,018	-91
Finance/Insurance	2,033	1,858	1,794	1,797	1,779	1,747	2,245	2,305	2,336	303
Real Estate	1,359	1,358	1,255	1,226	1,252	1,319	1,473	1,461	1,500	141
Professional/Tech. Services	4,994	6,069	5,931	5,668	5,581	5,493	5,635	5,644	5,955	961
Management of Companies	1,702	1,802	1,906	1,884	1,850	1,920	1,943	1,903	1,916	214
Admin./Waste Services	2,447	3,035	2,842	2,830	2,889	3,505	3,541	4,099	4,471	2,024
Educational Services	1,022	1,217	1,248	1,298	1,388	1,523	1,583	1,604	1,720	698
Health Care	7,265	8,005	8,316	8,479	8,588	8,521	8,615	8,608	9,115	1,850
Arts/Enter./Recreation	1,306	1,515	1,541	1,812	1,883	1,909	1,914	2,006	2,142	836
Accommodations/Food	7,502	8,357	8,124	8,116	8,163	8,318	8,423	8,827	9,083	1,581
Other Services	3,194	3,369	3,375	3,435	3,587	3,644	3,615	3,782	3,808	614
Local Government	ND									
State Government	ND									
Federal Government	1,323	1,309	1,354	1,365	1,250	1,249	1,236	1,220	1,247	-76
Total	81,245	86,381	83,872	83,199	84,237	85,611	86,179	87,939	91,263	10,018

Notes: ND = Data do not meet BLS or State agency disclosure standards.

Source: United States Department of Labor, Bureau of Labor Statistics

Overall, at-place job trends in the market area are positive. The at-place job totals did not decrease much during the recession, and in fact, remained higher than the pre-recession totals of 2005. The recession resulted in job losses in 2009 and 2010, but net growth has occurred since 2010 and the 2014 job totals area above the pre-recession year of 2008.

#### **Employment and Labor Force**

Employment differs from at-place jobs, as it refers to the number of market area residents who are employed no matter where the job is located. Year-end 2016 employment data are available. Nearly 76,200 employees exist in the market area, approximately 15,000 below at-place jobs.

The comparison of at-place jobs and employment indicates in-commuting into the market area for employment, likely from all of the adjacent counties – Greene, Nelson, and Augusta. Persons in these counties seek more affordable housing, but work within the market area. Employment in the market area grew in 2015 by 1,320± and by 750± jobs in 2016. Employment increased by 5,403± since 2007, which is less than the increases of at-place jobs.

The number of persons in the Labor Force grew at a larger total than employment. That is one reason that the market area unemployment rate has not decreased more in spite of the net employment growth. The market area unemployment rate is a moderate 3.5 percent as of year-end 2016. This is down from the previous year's rate of 3.8 percent. Trend data show that the market area's unemployment rate is well below the national average and has remained relatively low even during the past recession of the late-2000's.

Employment is a better indicator of housing unit demand, as it refers to where people live. The market area has had net employment growth and has a large labor force to support additional growth.

Table 2: Trends in Employment and Unemployment, Charlottesville Market Area 1/, 2007-2015 Labor Force Employment Unemployment Percent Unemployed 2007 72,572 70,773 1,799 2.5% 2008 74,380 71,967 2,413 3.2% 2009 69,586 4,064 5.5% 73,650 2010 6.0% 74,190 69,727 4,463 2011 75,408 71,199 4,209 5.6% 2012 76,070 72,117 3,953 5.2% 2013 75,914 72,273 3,641 4.8% 2014 74,427 77,899 3,472 4.5% 2015 3.8% 78,468 75,453 3,015 2016 76,199 78,922 2,723 3.5% **Net Change** 1.0% 6,350 5,426 924

Notes: 1/ Market area includes Charlottesville City and Albemarle County.

Source: United States Department of Labor, Bureau of Labor Statistics

#### Market Area Development Activity

UVA is by far the largest area employer. Second, is likely to be the National Ground Intelligence Center (NGIC) and the associated Defense Intelligence Agencies (DIA) located at Rivanna Station near the Airport in northern Albemarle County. The trend that these large employers project is presented below, followed by a list and description of active new developments.

<u>University of Virginia (UVA).</u> UVA is a key economic "driver" in the market area. Thus, the growth trends at UVA are included in our Economic Overview.

Table 3 shows the enrollment trends at UVA for the ten-year period between 2007 and 2016. These data represent total on-campus fall headcount enrollment totals. The enrollment data show a net growth of 1,600± students over this period, or an 8.2 percent increase. This represents an average enrollment growth rate of 160± students per year. Net growth has been recorded in both the undergraduate and graduate populations. Undergraduate enrollment grew by 14.5 percent and graduate enrollment grew by 1.2 percent during this period. Enrollment of First Professionals and Continuing Education students fell over the past decade.

	<u>Undergraduate</u>	Graduate	First-Prof.	Cont. & Prof. Studies	Total
Fall 2007	13,636	4,830	1,724	644	20,834
Fall 2008	13,762	4,904	1,725	666	21,057
Fall 2009	13,928	4,835	1,695	437	20,895
Fall 2010	14,015	4,831	1,694	509	21,049
Fall 2011	14,256	4,759	1,702	389	21,106
Fall 2012	14,256	4,689	1,699	341	21,095
Fall 2013	14,610	4,558	1,746	324	21,238
Fall 2014	15,122	4,653	1,687	338	21,800
Fall 2015	15,421	4,647	1,630	310	22,008
Fall 2016	15,611	4,887	1,579	314	22,39
Net Change	1,975	57	-145	-330	1,557
Percent Change	14.5%	1.2%	-8.4%	-51.2%	7.5%

Data in Table 4 show the projection for total enrollment to a 2022 forecast date and a breakout of student enrollment projections by category. Projection data show minimal growth, with enrollment expanding by only 300± students by 2022. Undergraduate enrollment is projected to increase by 80± students in the Fall, 2018 semester and not increase until at least 2022. Graduate enrollment is projected to increase by 160± students by 2022.

	Undergraduate	Graduate	First-Prof.	Cont. & Prof. Studies	Total
Fall 2016 (Realized)	15,611	4,887	1,579	314	22,391
Fall 2017	15,688	4,910	1,585	353	22,536
Fall 2018	15,688	4,958	1,585	358	22,589
Fall 2019	15,688	5,010	1,585	363	22,646
Fall 2020	15,688	5,018	1,585	368	22,659
Fall 2021	15,688	5,030	1,585	373	22,676
Fall 2022	15,688	5,043	1,585	378	22,694
Net Change	77	156	6	64	303
Percent Change	0.5%	3.2%	0.4%	20.4%	1.4%

Often, student enrollment growth projections are conservative, so these numbers, shown in Table 4, may change. However, more modest student growth is likely after 2017.

Employment at UVA. Employment at the University of Virginia currently stands at 19,020± persons, which is up 2,330± over the 2007 total. UVA is the region's largest employer. About 72 percent of employees are full-time staff, compared to 15 percent who are full-time faculty. Approximately 15 percent of total employees are part-time workers. The following table shows the significant growth of employment at the University since 2007.

	Full-Time Staff	Part-Time Staff	Full-Time Faculty	Part-Time Faculty	Total
Fall 2007	12,170	1,383	2,901	241	16,695
Fall 2008	12,401	1,521	2,985	237	17,144
Fall 2009	12,206	1,512	2,966	193	16,877
Fall 2010	12,189	1,550	2,810	193	16,742
Fall 2011	12,181	1,777	2,741	175	16,874
Fall 2012	12,159	1,773	2,704	183	16,819
Fall 2013	12,175	1,755	2,687	186	16,803
Fall 2014	12,466	2,428	2,784	186	17,864
Fall 2015	12,845	2,667	2,775	197	18,484
Fall 2016	13,362	2,644	2,830	184	19,020
Change	1,192	1,261	-71	-57	2,325

Non-Residential Development. Several non-residential construction projects were recently completed, are planned, and are ongoing at UVA. These are detailed in the paragraphs below. They will add net job growth at the University

<u>UVA Medical Center</u>. Ground was broken in June, 2016 on the renovation and expansion of the Emergency Department on the site of the former ground helipad. A larger expanded procedural and recover space will be built one floor above the existing Emergency Department. In addition, a six story tower will be built above the procedural space. Three floors will be used for private inpatient rooms, enabling UVA to convert most of its semi-private rooms into private rooms. The remaining three floors will be unfinished space reserved for future health care needs. This project also includes a rooftop helipad. The Emergency

Department and procedural space are expected to be completed in the summer of 2019. The bed tower is projected to be completed by the end of 2019.

- Education Resource Center (ERC). Construction was recently completed on this four story, 45,200± square foot facility that acts as an education resource center with a new pharmacy, an outpatient imaging center and conference rooms.
- Tennis Facility. A new 12-court outdoor tennis facility is planned to be constructed at the Boar's Head Inn. The new facility will also include locker rooms, meeting rooms and lounges housed in a pavilion. There will also be a viewing platform from where visitors will be able to watch matches, along with seating for up to 3,500 spectators.
- The Outpatient Procedure Center. Construction was completed in April, 2017 on this renovation project that allows the Digestive Health Department to expand the Endoscopy Procedure Space by providing five new procedure rooms and twenty new prep/recovery rooms as well as scope disinfection and support space. The project is located at 500 Monroe Lane. The renovation encompasses approximately 21,000 square feet on the first floor of the building.
- Gilmer Hall and Chemistry Building Renovation. This is the ongoing renovation of the 232,000± square foot Gilmer Hall and 273,000± square foot Chemistry Building. The project scope includes infrastructure upgrades, space renewals to meet the needs of STEM program growth, and necessary improvements to position the buildings as important teaching and research resources for the University.
- Skipwith Hall. This new 14,350± square foot building was completed in January, 2016. It contains primarily open office areas, as well as several enclosed offices for a variety of Facilities Management staff. The building also accommodates four conference rooms and two small kitchenettes.
- Ivy Orthopedic & Medical Center. This very recently announced project, to be constructed along Ivy Road, is planned for 200,000± square feet of medical office space to accommodate the University Hospital's orthopedic office and procedure practices. The time horizon for this new facility is two-three years out.

#### The National Ground Intelligence Center (NGIC)

This large employment facility is part of the United States Army Intelligence and Security Command. It is located in Albemarle County on Route 29, near the Airport and north of Charlottesville. The exact number of employees at NGIC and DIA is classified, but the Charlottesville Regional Chamber of Commerce estimates that approximately

600± people are employed by NGIC. The average salary is approximately \$80,000. Additional agencies associated with NGIC nearby include the US Department of Defense Intelligence Agency Joint Use Intelligence Analysis Facility, several private defense contracting firms, the US Army Judge Advocate General School (JAG School), and the US Federal Executive Institute. Combined, these account for approximately 3,000± jobs. Growth at these federal facilities is stagnant at this time.

#### Charlottesville/Albemarle Development Activity

Following is a list and description of the recent new area developments that have, or will, add new jobs to the market area. These projects are scattered throughout the market area.

- <u>Country Inn & Suites</u>. Construction was completed in August, 2016 on this 86-room hotel on Seminole Trail in Charlottesville.
- Marriott Residence Inn. Construction was completed in early-2016 on this 120,000± square foot hotel at 301 W Main Street. The seven-story hotel has 124 rooms.
- Fifth Street Station. Construction was completed in early-2017 on this shopping center in Albemarle County near I-64. In addition to a 140,000± square foot Wegmans grocery store, the shopping center contains an additional 335,000± square feet of retail space. Over 1,000 persons could be employed at this location.
- West2nd. This is a proposed mixed use development on the site of the existing City Market in downtown Charlottesville. Plans call for 68 condos, ranging from \$400,000 to over \$1 million, event space, 55,000 square foot of office space and a parking garage. A start date for construction is not yet set.
- Marriott Autograph Collection. This is a planned ten-story, 150-room hotel to be built at 1106 W Main Street. The hotel is expected to employ 70 people when built. On-site amenities will include a restaurant, fitness center, business center and 3,000 square feet of meeting space. The hotel is expected to open in late-2017.
- Apex Clean Energy, an alternative energy development company, announced in June, 2016 that it would expand its Charlottesville headquarters by adding 184 new employees.

- Mikro Systems, a manufacturer of hand and edge tools, announced in October, 2016 that it would expand its Albemarle County operations by adding 38 new employees.
- <u>Texas Roadhouse</u> opened a new restaurant at 455 Albemarle Square in February, 2017 where 180 people are employed.
- <u>Lidl</u>, a German grocery store chain, filed a site plan for a second location in Albemarle County in March, 2017. The 36,000± square foot store will be located at 405 Premier Circle on the west side of U.S. 29. Currently, a motel is on the site. The grocery store should open in 2018.
- ACAC Fitness & Wellness Centers is currently building a health club at Sentara Martha Jefferson Hospital's outpatient clinic, across the road from the hospital. The club will offer members cardio workouts, weight machines, free weights, stretching, group exercise classes and physical therapy sessions. It will also partner with the hospital for wellness programs. The facility is expected to open in the fall of 2017.
- Comcast Xfinity Store. This 5,000± square foot store opened in February, 2017 at the Shops at Stonefield in Albemarle County. The store has a seating area and informational, interactive displays where customers can learn more about Comcast's products and services.
- 323 Second Street SE. This is a proposed 120,000 square foot building with five stories of office space over a four-story parking structure. Construction could begin as soon as late-2017.
- Fairfield Inn & Suites. Ground was broken in late-2016 on this 117-room hotel to be part of the mixed-use William Taylor Plaza.
- The Blake at Charlottesville. Quality Senior Living announced in December, 2016 that it would construct a 56,000± square foot senior living facility on West Rio Road. The facility will offer independent living, assisted living and memory care services. The 115-bed facility is expected to employ 70 people and open in 2018.
- The Dewberry. The Charlottesville City Council recently approved a Tax Increment Financing incentive that is intended to facilitate the restart of construction on what is planned to become a 100± room upscale hotel and restaurant on the Downtown Mall. Located on the former site of Citizens Bank and Trust Company, it is expected to create as many as 60 new jobs.
- <u>Barracks Row.</u> The Charlottesville Planning Commission granted design approval for a new building at a corner of Barracks Road and Emmet Street. Under the site plan, three existing buildings will be demolished to make way for a CVS.

- Home2Suites by Hilton. Site plans were recently approved for this four story, 113-room hotel to be located at 201 Monticello Avenue. This will be an amenitized hotel with a fitness center and indoor swimming pool.
- Ferguson Bath, Kitchen & Lighting. Construction began in March, 2017 on this 25,000± square foot showroom and sales center for Ferguson Bath, Kitchen & Lighting, which is relocating to the Seminole Square shopping center. Construction of the showroom is expected to be completed by late-summer, 2017. The center will replace Ferguson's current location in the former Riverside Center at 2335 Seminole Trail Lane.
- Riverside Medical Center. The former Riverside Center shopping center, located on Route 29 north of Hilton Heights Road, is being converted into 110,000± square feet of medical office space. Completion is scheduled for the summer of 2017.
- Quirk Hotel announced in November, 2016 that it would build a 75-room hotel and gallery at 425, 501 and 503 W. Main St. in Charlottesville. The property includes two older buildings that would be incorporated with a new ground-up development on an existing parking lot.

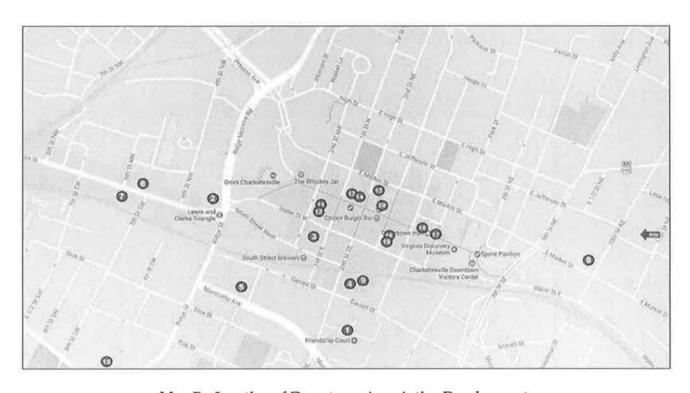
Excluding construction workers, these announced projects will add 2,000± jobs to the market area.

<u>Downtown Charlottesville</u>. To emphasize, the study site is located only a few blocks east of Charlottesville's Downtown Pedestrian Mall, which is an eight-block commercial and historic district with a mix of arts and entrainment, shopping, dining and cultural events. It contains more than 120 shops and 30 restaurants. It has become a focal point of new activity in the City.

Several stores have expanded or moved locations on the Downtown Pedestrian Mall over the past year, and some new spaces are scheduled to be occupied. Recent openings include Moonlight Collections (Note 11), Piedmont Council for the Arts (Note 12), West 2nd Sales Gallery (Note 13), Brassiere Saison (Note 14), Let it be Yoga (Note 15), Draft Taproom (Note 16), City of Charlottesville City Manager's Office (Note 17), Common House (Note 18), The Salad Maker (Note 19) and The Front Porch (Note 20).

There is a vibrant cohort of expanding and major businesses located downtown that are large employers, including, among others, CFA (460±), WorldStrides (400), ACAC (300±), Lexis Nexis (180±), WillowTree Apps (40+), S&P (former SNL Securities (400±), Merkle (160±), and numerous financial, legal and service firms with significant employees.

In addition to the above are several residential, hotel and commercial developments. Many of these will be job-generating developments that show that the downtown area remains among the most active and attractive locations in the region for economic growth. Some of these were described above. Map E shows their locations.



Map E - Location of Downtown Area Active Developments

#### Section II Apartment Market Analysis

Section I presented a detailed analysis of the study site and its competitive setting for new apartment unit development. The analysis was positive, as East Jefferson Place is located in close proximity to existing and planned multi-story apartment buildings and condominium buildings and is within walking distance to the downtown area.

Also presented above is the vitality of the greater Charlottesville marketplace and the net growth in jobs, shown to be 2,000+ for the current period after a growth of 3,300 during 2015. The market area is realizing considerable net new job growth, with sizable percent of new jobs in professional fields.

With this background in mind, the section to follow analyzes the two key factors in the evaluation of apartment unit demand. First is a demographic analysis of the market area that "solves" for the number and growth of renter households with incomes of \$50,000 and above. The forecast date for the study is 2021, as this is the expected time frame for development of the apartment units proposed for East Jefferson Place. Renters with incomes of \$50,000 and above, when incomes are reported in constant 2017 dollars, can afford net rents of \$1,250 and above. Net rents refer to rents without any utility costs included.

Section II also includes a detailed analysis of the more directly competitive apartment properties, with emphasis on apartment unit demand and project features. This analysis is expanded in Section III to include pipeline proposals, which in comparison with growth in renters with incomes of \$50,000 and above, will document the demand for new apartment units and the feasibility of the 1011 East Jefferson Place proposal.

#### Demographic Analysis

#### Market Area Population Trends & Projections

The estimated 2016 population for the two jurisdictional market area, as shown in Table 7 is approximately 153,790, based on estimates from the U.S. Census American Community Survey. The market area population is estimated to have increased by approximately 11,340 since 2010, or 1,890± per year on average. Both the City of Charlottesville and Albemarle County realized net population growth since 2010. The increase in the City's population between 2010 and 2016, after a population loss during the 2000's, is due partly to employment growth. Employment growth generated some of the recent market area's net population growth, but also a sizable level of growth is due to past expansion of the UVA student enrollment. This is shown in the Group Quarters population. Based on past trends, the market area population is projected to reach 164,350± by 2021.

Table 7:	Trends and Projections of Population and Household by Tenure and Income,						
	Charlottesville-Albemarle County, 1990-2021 (Constant 2017 Dollars)						
		1990	2000	2010	2016	2021	
Market Are	ea Population	108,380	124,290	142,450	153,790 1/	161,350	
Charlottesville City		40,340	45,050	43,480	46,910	49,200	
Albemarle County		68,040	79,240	98,970	106,880	112,150	
Group Quarters Population 3/		8,490	8,370	9,300	9,950 2/	10,300 4/	
Household Population		99,890	115,920	133,150	143,840	151,050	
Persons Pe	r Household	2.47	2.38	2.38	2.38	2.37	
Total Households		40,440	48,730	55,940	60,440	63,730	
Percent Rental		44.5%	42.8%	42.1%	42.6%	42.9%	
Rental Households		17,990	20,850	23,560	25,750	27,340	
Target Ma	arket 4/						
Percent \	Within Income Category	38.9%	36.9%	35.2%	39.0%	45.0%	
Househo	lds Within Income Category	6,990	7,690	8,290	10,040	11,760	

Notes: 1/ Based on 2016 data from the U.S. Census American Community Survey.

Source: 1990, 2000 and 2010 Census, U.S. Census Bureau, U.S. Department of Commerce;

S. Patz & Associates, Inc.

<sup>2/</sup> Based on on-campus occupancy increase of 600± students at UVA.

<sup>3/</sup> Based on planned UVA residence hall capacity increase and new assisted living facility.

<sup>4/</sup> Renter households earning annual incomes exceeding \$50,000.

Group Quarters Population. The Group Quarters Population consists primarily of UVA students living in on-campus dorms, plus seniors in nursing homes or assisted living facilities and persons in hospitals, shelters, jails, etc. UVA students who live in privately owned homes, condos or apartment units located off campus are part of the household population, and thus not calculated as part of the Group Quarters Population. The Group Quarters Population of 9,950± in 2016 was deducted from total population to determine Household Population, as shown. Household Population is the basis for determining housing unit demand. The Group Quarters Population is expected to expand with an increase in on-campus housing and continued additions of assisted living beds.

Households. The market area has a total of 60,440± households (occupied housing units), as of 2016. That total is 4,500± more than the 2010 total. By 2021, forecast data show the potential for a net growth of 3,290± households based on population growth and the estimate of the average household size. Thus, there will be an estimated 63,730 households in the market area in 2021.

The current average household size in the market area is estimated at 2.38, which has been virtually unchanged since 2000. It decreased slightly over the past 20 years from 2.47 in 1990. The average household size has been low since 1990 compared with other communities of the size of the market area and this is somewhat surprising as students living off campus typically have three to four persons per household.

In addition, the greater Charlottesville area is an attractive retirement community and has a sizable number of senior/older adult households. Graduate students at UVA would typically be one- to two-person households. Whatever the case, the market area's average household size is low. By 2021, the average household size is projected to decrease slightly to 2.37.

Renter Households. The market area has 42.6 percent renter households, a percentage that has not decreased for more than 25 years. That percentage is well above the 35± percent rate for the state and country. The percentage of renters is high due to the large number of students living off campus. The fact that the percentage of renters decreased during the 1990's is due to a period of high home purchases, including several area condo conversions.

The percentage of renters declined slightly during the 2000's due to the same reasons during the first half of the decade. However, during both periods, net renter household growth was realized.

The current increase in apartment unit development was caused by an increased demand for rental housing from an expanding employment base. There was an increase of 2,200 renters in the market area during the 2010 to 2016 period, or nearly 450 per year on average.

Continued renter household growth is projected for the 2016 to 2021 forecast period, as shown.

# Renter Households by Income

The estimate for 2016 is that 36+ percent of market area renters have incomes of \$50,000 and above. This percentage has remained relatively steady up to 2010 and prior to the sizable increase in new apartment units. A higher growth projection is also shown for the forecast period to 2021. Clearly, apartment unit development trends show a considerable increase in renter household growth, particularly the higher income renters.

For the 2021 forecast period, a slight increase in the percentage of renters is expected. In 2016, the market area had 25,750± renter households. By 2021, this total is projected to increase to 27,340±, or 42.9 percent of total households.

Charlottesville's Target Income Renters. Locations within both the City and County compete for the market area's "competitive" apartment market, i.e. the market for renters with incomes of \$50,000 and above. Typically, the selection of an apartment unit is based on availability, or what is on the market. Demographic data show that approximately 34 percent of market area renters with incomes of \$50,000 and above, live in the City of Charlottesville, or a total of 3,700 in 2016. That total will likely increase by 1,720 renter households by 2021, based on past trends and the number of new apartment units to be added to the market to a total of 11,760 households.

These data show that the City is a very competitive location for new apartment unit development for quality rental housing, in general.

Table 8: Renter Household Trends Charlottesville-Albemarle				7 Dollars)	
Rental Households	1990 17,990	2000 20,850	2010 23,560	2016 25,750	2021 27,340
<u> </u>					
Percent Within Income Category	38.9%	36.9%	35.2%	39.0%	43.0%
Households Within Income Category	6,990	7,690	8,290	10,040	11,760
Charlottesville City					
Percent Within Income Category	17.0%	13.6%	12.5%	13.8%	15.2%
Households Within Income Category	3,060	2,840	2,940	3,540	4,160
Albemarle County					
Percent Within Income Category	21.9%	23.3%	22.7%	23.2%	27.8%
Households Within Income Category	3,930	4,860	5,350	6,500	7,600

## Competitive Apartment Market

## Characteristics of the Market

S. Patz & Associates, Inc.

We identified fourteen apartment properties to study for the evaluation of market support for the proposed East Jefferson Place Apartments. These are listed in Table 9, number-keyed to Map F and shown in the attached photos. The "comps" include seven new, post-2012 built apartment properties, two of which are in initial lease-up. One of the newest communities, Beacon on 5th, began leasing in early-2017. Woodlands II also started their preleasing and unit occupancy in 2017. The separation of Woodlands I and II calculates to 15 apartment properties under study.

The newer apartment properties are those built in 2012 and after. 2012 appears to be the time frame, after the past recession that an abundance of new apartment communities were built in the market area. For the past 6+ years, 1,500+ new units were placed on the market or placed under construction. City Walk, Locust Grove and Beacon on 5th are located in Charlottesville. To date, approximately 1,150 of these newer units have been leased, an average annual pace of nearly 300 units, indicating that current inventory of available and unfinished apartment units equals about a one-year supply.

The five newer apartment complexes that are at stabilized occupancy and were built prior to 2016, are at or near full occupancy. The only vacancy is at the two new apartment communities that recently opened.

The other seven apartment properties listed in Table 9 were built between 1995 and 2006. No new communities that are comparable with the defined "comps" opened between 2007 and 2011, the period most affected by the recession of the late-2000's. These apartment communities are also full or at near full occupancy. Of these, Norcross Station and York Place are within the City of Charlottesville.

The two new apartment properties that are still partly under construction add 400± units to the market. Both of these new properties currently have a considerable number of unfinished ("vacant") units that will become available for lease once they are completed.

Table 9: Characteristics of Competitive Non-Student Apartment Communities,
Charlottesville Market Area, May, 2017

	Map F	Year	Total	Vacant/Unfinished
	Key	Built	Units	Units
Newer Properties (2012+)	Sr 22	H-1-1-0	A	80
Arden Place	1	2012	212	227
Beacon on 5th	2	03/2017	241	1/
City Walk	3	2014	301	***
Locust Grove	4	2015	43	
Reserve at Belvedere	5	2012	294	
Stonefield Commons	6	2012	251	
Woodlands of Charlottesville	13	2003/17	300 4/	1/
(Subtotal)			(1,642)	(350)
Properties Opened Before 2012			\$4.500.00 L 40 <b>0</b> 00	
Avemore	7	2006	280	
Carriage Hill	8	1999/02	140 2/	
Jefferson Ridge	9	2005	234	
Lakeside	10	1995/98	348	
Norcross Station	11	2004/09	88	
Stone Creek Village	12	2003	264	
York Place 6/	14	NA	50	
Scattered Smaller Quality Units 3/	NA	NA	260	
(Subtotal)			(1.664)	(4)
Total			3,306	354

Notes: 1/ Still in lease-up.

2/ Units available for rent at condominium.

3/ Apartment units in quality smaller properties and in converted condominiums.

4/ 141 units in Phase I. 159 units in Phase II.

5/ Excludes properties in lease-up. Phase I of Woodlands of Charlottesville is fully leased.

6/ Six buildings in Downtown Charlottesville.

Source: Field and Telephone Survey by S. Patz and Associates, Inc.

In addition to these fourteen apartment properties, there are several older and smaller properties – Lofts at McIntire, Old Trail Apartments, Abington Place, Westgate, Barclay Place – with 250± apartment units that are somewhat competitive. Lofts at McIntire is a mid-rise building located just outside of the downtown. Old Trail Apartment is located in Crozet with apartment units above retail. Abington Place is a small two-story apartment building located in the Hollymeade Town Center in Albemarle County. Westgate and Barclay Place are mature apartment properties that have been extensively renovated. These are not fully amenitized properties, some are smaller, and in some cases mature, but they generate high rents. However, they do not compete directly with those properties listed in Table 9. These apartment properties are

reported to be at or near full occupancy, but at rents slightly below the apartment properties under study.

Also, during the mid-2000's, there were a number of apartment buildings that were converted to condominium ownership. The better of these include:

- > 162 units at Carriage Hill
- > 150± units at River Bend Apartments
- > 150 units at Walker Square Apartments
- > 44 units at Woodlands at Charlottesville

Of these 510± units, a few units still remain in rental occupancy. These would be at competitive rents, but the total number of rentals is modest and data are hard to collect. There are also some more mature apartment properties that were converted, but these were not at the same rental rates.

Thus, in total, the market area has approximately 3,300 apartment units that are at or near the competitive rents for the market area and that are expected at East Jefferson Place. They are studied as "comps", although other apartment properties in the market area also have rents of \$1,000+.

The current vacancy rate for the 3,300 better rental units is approximately 11 percent. However, almost all of the vacancies are at units being built at Beacon on 5<sup>th</sup> and Woodlands II. Some of these units are not yet complete. The vacancy rate for newer apartment properties with stabilized occupancy is a very low 0.7 percent.

The apartment market had three new 2012-built properties with 757 units, plus the 301-unit City Walk, which opened in early-2014 and was fully completed in mid-December, 2014. The 43-unit Locust Grove was constructed in 2015. This is an adaptive-reuse of a historic medical office building constructed in the early-1900's. Leasing began in March, 2017 for Beacon on 5th, which will have 241 units at build out. Leasing recently began on the second phase of 159 units at Woodlands of Charlottesville.

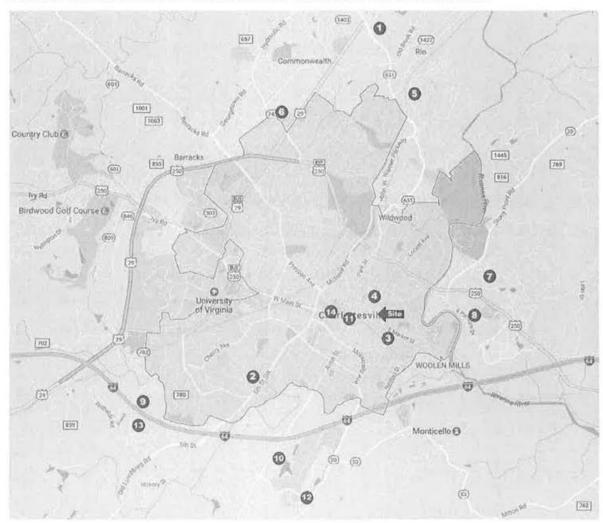
There were eight apartment properties with 830 units that opened during the last half of the 2000 decade, including several of the smaller properties. These are at a near 100 percent occupancy rate, meaning that the addition of the newer apartment complexes since 2012 did not affect occupancy at existing properties.

The Charlottesville area apartment market has significantly evolved since 2000. The current vacancy rate is low. Five new, sizable apartment complexes successfully opened since 2012, in addition to one smaller community, and the second phase of Woodlands of Charlottesville. All new apartment properties have leased quickly.

In addition to the fourteen apartment properties listed in Table 9, there has been a considerable amount of apartment unit development to house the off-campus student market at UVA. These add to the household growth, but these additions have "removed" college students from renting at the new apartment communities under study, as much of the net growth of off-campus student housing demand is being served by new student-designed housing.

The apartment properties under study are number-keyed to Map F. As shown, all of the comps are located in or near the City of Charlottesville. Three communities, City Walk, Locust Grove and Norcross Station, are located near the downtown. Two of these are newer communities. Three communities (Arden Place, Reserve at Belvedere, and Stonefield Commons) are located just north of Charlottesville, generally off Route 29. Avemore and Carriage Hill are located east of Charlottesville in Pantops and near Sentara Martha Jefferson Hospital. Beacon on 5th is the only competitive apartment community located in Charlottesville, but outside the downtown area. It is located of 5th Street SW, north of the recently opened Wegmans-anchored 5th Street Station shopping center. The remaining four communities are located south of the City near I-64. York Place apartment units are scattered throughout downtown Charlottesville in attractive adaptive reuse buildings.

Of note, four of these apartment properties are located in downtown and near the proposed East Jefferson Place site. Map F shows the location of these properties. None are located near the UVA Grounds and do not market to UVA students.



Map F - Locations of Competitive Apartments

Next shown are photos of each of the competitive apartment properties under study. Most are multi-level garden communities. Norcross Station is the adaptive-reuse of the former Norcross Transfer and Storage Building that was originally constructed in 1924. It is an elevator served community. Locust Grove is an adaptive-reuse of a portion of the former Martha Jefferson Hospital and it, too, is served by an elevator. Stonefield

Commons and City Walk are the only new-construction communities served by elevators. York Place is comprised of five attractive downtown adaptive-reuse buildings.

Beacon on 5th contains a mix of both garden and townhome style buildings. This is also the case for Terrace Greene Apartments in Ruckersville.

The apartment units at Woodlands II are identical to those built in Phase I. City Walk, Reserve at Belvedere, Stonefield Commons, and Avemore are the more upscale of these apartment properties.





Beacon on 5th - Completed Buildings



City Walk



Locust Grove



Reserve at Belvedere



Stonefield Commons



Avemore



Carriage Hill



Jefferson Ridge



Lakeside



Norcross Station



Stone Creek Village



Arden Place



Woodlands I of Charlottesville

# **Net Rental Rates**

Following in Table 10 are the current rents at each of the apartment communities under study. All of these units have individual washer/dryers included in the rent. For the sake of consistency, rents have been adjusted to exclude all utilities. The rents shown are clearly being accepted, as evidenced by the high occupancy rate in the market area.

Of these apartment properties, City Walk is the only apartment community with structured parking. There is no charge for parking at this apartment property.

As shown, the average one-bedroom rents at the newer properties averages \$1,329. This is compared to an average of \$1,692 for the two-bedroom and \$1,885 for the three bedroom units. The newer one-bedroom apartments, on average, are \$150± more expensive than the older properties. This is compared to a difference of \$250± for the two-bedroom and \$270± for the three-bedroom units.

	Rates at Competitive Non-Stu- tesville Market Area, May, 20		mmunities,
NO 420 NO 4440	One-Bedroom	Two-Bedroom	Three-Bedroom
Newer Properties (20	12+)		
Arden Place	\$1,195-\$1,265	\$1,490-\$1,575	\$1,810
Beacon on 5th 2/	\$1,317-\$1,537	\$1,436-\$2,336	\$1,645-\$2,045
City Walk	\$1,135-\$1,420	\$1,580-\$1,830	
Locust Grove 1/	\$1,158-\$1,633	\$1,587-\$1,637	**
Reserve at Belvedere	3/ \$1,155-\$1,355	\$1,420-\$1,620	\$1,635-\$1,835
Stonefield Commons	\$1,313-\$1,468	\$1,823-\$1,973	\$2,100-\$2,200 1
(Average)	(\$1,329)	(\$1,692)	(\$1,885)
Properties Opened Be		37034700 1- 54	U1-7050547A
Avemore 4/	\$1,170-\$1,405	\$1,445-\$1,520	\$1,545-\$1,660
Carriage Hill	\$1,050-\$1,290	\$1,245-\$1,770	\$1,490-\$1,820
Jefferson Ridge	\$1,099-\$1,175	\$1,345-\$1,385	\$1,675
Lakeside	\$995-\$1,195	\$1,185-\$1,385	\$1,375-\$1,515
Norcross Station	\$988-\$1,543	\$1,347-\$1,567	
Stone Creek Village 5	5/ \$1,089-\$1,279	\$1,349-\$1,599	\$1,549-\$1,709
Woodlands of Charlo	ttesville	\$1,380-\$1,600	\$1,650-\$1,750
York Place	\$858-\$1,408	\$1,432-\$1,587	
(Average)	(\$1,182)	(\$1,446)	(\$1,618)
Average	\$1,250	\$1,552	\$1,725

Notes: 1/ Estimate

- 2/ Three-bedroom units are townhomes.
- 3/ Larger two-bedroom units are townhome units
- 4/ Larger two-bedroom units have attached garages.
- 5/ Larger units are lofts.

Source: Field and Telephone Survey by S. Patz and Associates, Inc.

# Rent Per Square Foot

This calculation is shown for the competitive apartment properties. The one-bedroom units have an average rent per square foot of \$1.47. This is compared to \$1.31 for the two-bedroom and \$1.19 for the three-bedroom units. Of note is that the average rent per square at the newer apartment properties is higher than those of the pre-2012 built properties by:

- One-bedroom \$0.34
- > Two-bedroom \$0.33
- > Three-bedroom \$0.21

Table 11: Rent per Square Foot at Competitive Non-Student Apartment Communities, Charlottesville Market Area, May, 2017 One-Bedroom Two-Bedroom Three-Bedroom Newer Properties (2012+) Arden Place \$1.64 \$1.29 \$1.27 Beacon on 5th \$1.62 \$1.32 \$1.18 City Walk \$1.76 \$1.48 Locust Grove \$1.74 \$1.84 Reserve at Belvedere \$1.41 \$1.26 \$1.25 Stonefield Commons \$1.68 \$1.74 \$1.59 (Average) (\$1.64) (\$1.49)(\$1.32)Properties Opened Before 2012 Avemore \$1.42 \$1.23 \$1.08 Carriage Hill \$1.31 \$1.13 \$1.02 Jefferson Ridge \$1.25 \$1.02 \$1.05 Lakeside \$1.45 \$1.24 \$1.18 Norcross Station \$1.19 \$1.08 Stone Creek Village \$1.17 \$1.12 \$1.07 Woodlands of Charlottesville \$1.31 \$1.26 100.00 (Average) (\$1.30) (\$1.16)(\$1.11) \$1.47 \$1.31 \$1.19 Average Source: Field and Telephone Survey by S. Patz and Associates, Inc.

#### **Apartment Unit Sizes**

Data in Table 12 show the apartment unit sizes at the comps under study. The six new apartment properties have slightly smaller unit sizes compared with the pre-2012 built apartment properties. Overall, the apartment unit sizes are spacious, generally at 800+ square feet for the one's, 1,100+ square feet for the two's, and 1,400 square feet for the three-bedroom apartment units. City Walk has smaller units, due likely to its "downtown" location.

	One-Bedroom	Two-Bedroom	Three-Bedroom
Newer Properties (2012+)			
Arden Place	589-913	1,168-1,203	1,421
Beacon on 5th	881	1,150-1,713	1,394-1,733
City Walk	597-853	1,083-1,227	
Locust Grove	750-950	850-900	
Reserve at Belvedere	805-980	1,085-1,320	1,320-1,460
Stonefield Commons	628-1,029	1,049-1,136	1,278-1,426
(Average)	(813)	(1,157)	(1,432)
Properties Opened Before 2012			
Avemore	649-1,165	1,209	1,479
Carriage Hill	831-954	1,142-1,533	1,627
Jefferson Ridge	877-948	1,300-1,384	1,600
Lakeside	754	1,040	1,220
Norcross Station	693-1,441	1,046-1,661	
Stone Creek Village	814-1,212	1,145-1,479	1,352-1,706
Woodlands of Charlottesville		1,120-1,150	1,350
(Average)	(924)	(1,247)	(1,468)
Average	869	1,206	1,456

# **Apartment Unit Mix**

For the competitive apartment units under study, 38 percent are one-bedroom units, 47 percent are two-bedroom units and nearly 15 percent are three-bedroom units. The newer apartment properties have very few three's (6.2 percent). Only six percent of the apartment units built after 2012 are three-bedroom units. City Walk has no three-bedroom units.

Table 13: Unit Mix at Competitive Non-Student Apartment Communities, Charlottesville Market Area, May, 2017 1/ One-Three-**Total Units** Bedroom Bedroom Bedroom Newer Properties (2012+) Arden Place 90 112 10 212 City Walk 147 154 0 301 Locust Grove 31 12 0 43 Reserve at Belvedere 89 161 44 294 Stonefield Commons 116 121 14 251 (Subtotal) (473)(560)(68)(1,101)**Properties Opened Before 2012** 122 280 Avemore 130 28 Carriage Hill 40 70 30 140 Jefferson Ridge 104 120 234 10 Lakeside 110 183 55 348 Norcross Station 65 23 0 88 Stone Creek Village 126 72 66 264 Woodlands of Charlottesville 150 0 150 300 (Subtotal) (575)(740)(1,654)(339)Total 1,048 1,300 407 2,755 Percent of Total 38.0% 47.2% 14.8% 100.0%

Notes: 1/ Where data is available.

Source: Field and Telephone Survey by S. Patz and Associates, Inc.

# **Apartment Amenities**

Almost all of the apartment communities under study are amenitized. All of the newer properties have both a clubhouse and fitness center. All, with the exception of Locust Grove, have an outdoor swimming pool. Business centers are also fairly common among the newer properties.

In terms of the older properties, all but York Place and Norcross Station are fully amenitized with a clubhouse, business center, fitness center and playground. Most of the older properties also have lighted tennis courts and outdoor swimming pools.

Table 14: Community Amenities at Competitive Apartments, Charlottesville Market Area, May, 2017 Clubhouse Business Tennis Pool Fitness Playground Newer Properties (2012+) Arden Place . 0 Beacon on 5th 0 City Walk Locust Grove 0 Reserve at Belvedere 0 Stonefield Commons Properties Opened Before 2012 Avemore . Carriage Hill Jefferson Ridge Lakeside Norcross Station 0 Stone Creek Village • Woodlands of Charlottesville . York Place 0 Source: Field and Telephone Survey by S. Patz and Associates, Inc.

## Section III Conclusions

Currently, the competitive apartment market for Charlottesville is effectively at 100 percent occupancy, except for two newly opened apartment properties. These two properties have 350± apartment units that are still available for lease and/or yet to be finished. Past lease-up trends since 2012 show an average annual absorption of new units, indicating that the current market for just over a one-year's supply of units.

There are new apartment units planned at up to nine new apartment communities. Four of these apartment properties, with 311 units, are under construction – two are in the City of Charlottesville. Five other pipeline proposals exist.

Following is the demand analysis that shows the level of demand that exists for new apartment units of the type under study. Included in this analysis is a detailed description of current pipeline units and a comparison of these, plus current inventory, with projected demand.

# Analysis of Apartment Units Planned

# **Apartment Pipeline**

There are currently four apartment properties under construction and five in active planning in both Charlottesville and Albemarle County. The four under construction total 311 units, most of which will deliver in the summer of 2017 or shortly after. The five apartments still in planning will add a total of 357 units to the market area. These will likely deliver between late-2018 and late-2019. In total, 668 units could be built by 2019, a rate of 220± per year on average, which is consistent with current leasing trends.

	Map G Key	Location	Units	Delivery Date
Under Construction				
Burnet on Elliott	1	Charlottesville	10	Summer, 2017
Lofts at Meadowcreek	2 3	Albemarle	65	Early-2018
Fifth Street Place	3	Albemarle	200	Fall, 2017
McIntire Place	4	Charlottesville	_36	Fall, 2017
(Subtotal)			(311)	
Planned			0 3	
600 West Main	5	Charlottesville	53	Late-2018
Woolen Mills Factory	6	Albemarle	94	Late-2018
William Taylor Plaza Apartments	6 7 8	Charlottesville	27	Late-2018
The Vue	8	Albemarle (Crozet)	126	Early-2019
925 E Market Street	9	Charlottesville	57	Late-2019
(Subtotal)			(357)	
Total			668	

Map G shows the locations of the apartments in planning and under construction. The small Burnet on Elliot building is one of two apartment properties under construction in the City of Charlottesville. The second is McIntire Place, located off of Harris Street and near U.S. Route 250. Lofts at Meadowcreek is being built along Rio Road north of Pen Park in Albemarle County. Fifth Street Place is being constructed just south of the City and south of I-64 along 5th Street.

In terms of the planned apartments, The Vue is planned for a site on Blue Ridge Avenue in Crozet, approximately thirteen miles west of Charlottesville. 600 West Main, William Taylor Plaza and 925 E Main Street are planned for sites near the center of Charlottesville. The Woolen Mills Factory Redevelopment is located near the southeastern edge of Charlottesville, north of I-64. Of this, 925 E. Main Street is "on hold" but may be restarted later in 2017.

There may be other proposals, but the one's listed in Table 15 are the one's that have been announced and are known to the staff at each jurisdiction in the market area. It should be noted that there is a very high and somewhat costly regulatory hurdle to traverse in both Charlottesville and Albemarle County, which limits the market ease of entry and raises relative costs of development.



Map G - Locations of Pipeline Apartments

The paragraphs below detail the status and development concept of each of the apartments under construction and in active planning.

- Burnet on Elliott. Construction could be completed in July, 2017 on this 10-unit apartment building on the corner of Elliott Avenue and Ridge Street in Charlottesville. All of the units has already been pre-leased at rents of \$1,050 to \$1,200 for the one-bedroom and \$1,450 to \$1,600 for the two's.
- Lofts at Meadowcreek. Construction is in the early stages on this 65-unit apartment community located at 605 East Rio Road, just north of Pen Park in Albemarle County. Planned are 35 one-bedroom units, with rents between \$1,150 and \$1,250, and 28 two-bedroom units, with rents between \$1,350 and \$1,550, the two three-bedroom units will rent for \$1,650.
- Fifth Street Place. Construction is ongoing on this 200-unit apartment community on 5th Street south of I-64 at exit 120. The community will contain five buildings with a mix of one- and two-bedroom units. The apartment buildings range from three to four stories. The average unit size will be 939 square feet with features such as 9-foot ceilings, Energy Star appliances, balconies or patios and walk-in closets. Community amenities will include a clubhouse with Wi-Fi, fitness center, coffee bar, business center and a large swimming pool with a grilling area. The community will also have green and sustainability concepts. The community is scheduled to open in the summer of 2017, but an early-2018 opening is more realistic given the status of development.



• McIntire Place is a 36-unit apartment building primarily under construction on Allied Street, off of Harris Street and just south of U.S. 250. The site is part of a small commercial/industrial node at this location, with a four-story apartment building at the back of the site. A mix of one- and two-bedroom units are planned. Project opening is possible by Fall, 2017.



- 600 West Main. This is a planned six-story, 53-unit apartment complex at 510-600 W Main Street near downtown Charlottesville. Two buildings currently on the site will be retained as part of the project. One is the home of the Blue Moon Diner and the other is a convenience store. Parts of the convenience store will be removed. The project will total 53 residential units that will be a mix of studios and one- and two-bedroom units. There will be a common courtyard for residents. Parking for automobiles and bicycles will be beneath the building and accessed through a two-lane driveway at the eastern section of the structure. The developer does not have an approved site plan yet, but the project is reported to be close to being approved. Construction is likely to begin in late-2017.
- Woolen Mills Factory Redevelopment. This is the redevelopment the historic Woolen Mills building, built in the early-1900's and located within a landlocked section of Albemarle County. The building recently was used as a storage space for a moving company. Plans call for converting the building into 94 apartment units. Plans also call for the conversion of an existing 15,000± square foot building into a restaurant and the construction of a new 40,000± square for light industrial building. Another 7,230± square foot building would be preserved for commercial uses. Construction on the apartments is scheduled to begin in the summer of 2017.
- William Taylor Plaza Apartments. This is the apartment component of a mixeduse development planned by Management Services Corp. in the City of Charlottesville. Plans call for 27 apartment units in a three-story apartment building at Cherry Avenue and Ridge Street. Plans also call for structured parking for 32 cars. Construction may begin in late-2017.
- The Vue. This proposal is a proposal for the construction of a 126-unit apartment community in nine two-story buildings at 1194 Blue Ridge Avenue in Crozet. Plans also call for a one-story clubhouse and a pool with a concrete deck. Construction is expected to begin in mid- to late-summer 2017. While this site is within the market area, it is likely too far west of downtown Charlottesville to be directly competitive, as is the case with Terrace Greene.

Total units in active pipeline and in a competitive setting equal 485.

925 E. Market Street. This apartment community, which is currently on hold, is planned for 57 units and 18,300± square feet of commercial space. This will be a six-story elevator building. Construction is not expected to begin until April or May of 2018. There are development issues that need to be resolved before the proposal can be approved. Thus, until there is "closure" to the existing development issues, "925" will not be include as an active pipeline proposal.

Also in long-term planning is the redevelopment of Friendship Court Apartments into a mixed-use community. The community will be redeveloped into 600 units. 150 will be reserved for households earning 30% of AMI. 50 units will be reserved for this earning 60% of AMI. 30 will be reserved for those earning 100% of AMI. The remaining 370 will be market rate units. This is a long-term project and construction is not anticipated to begin until 2019 on the initial phase of 150 affordable units. There is no set timeline for the development of market rate units at this time.

A second apartment in long-term planning is the proposed 80-unit Glass Building Apartments at 201 Garett Street. This community has no timeline and is likely years from being built.

# **Pipeline of Apartment Units**

The demand analysis is difficult to calculate in the market area, as (1) several of the pre-2000 built apartment properties that converted to condominium ownership represented competitive apartment properties prior to 2000; (2) several existing apartment properties, as listed above, compete for the \$50,000+ income renter but are not direct "comps" with the apartments under study; and (3) prior to the recent construction of off-campus housing for students, some students opted to reside in the apartment communities under study.

Thus, the trends are more accurate in recent years and from the late-2000's to 2017, in particular. Also, the penetration rates shown in Table 16 are low, as they exclude renters in condominium units, some higher income renters in other apartment properties, and higher income renters in homes built for owner occupancy. The comparison trends are a good indicator of current apartment market trends.

With these points in mind, we calculated apartment unit demand in 2021 based on the best trend data available. The projection, shown in Table 16, is a comparison of the number of renter households with incomes of \$50,000 and above, expressed in constant 2017 dollars, with the number of these renters who occupy the apartment units under study and trends for these data over the 2000 to 2021 period.

Charlottesville Mark (2017 cc	et Area, 2000 Instant dollar			
	2000	2010	2016	2021
Target Households 1/	7,690	8,290	10,040	11,760
Occupied Apartment Units 2/	500	1,700	3,000	4,300
Penetration Rate	6.5%	20.5%	30.0%	36.5%

The study results show a demand for 4,300 new apartment units at full occupancy. The demand increases to approximately 4,400 units at a 97 percent market area occupancy. Net demand, subtracting current vacant units and pipeline units, equals 460 apartment units.

Net Apartment Unit D (2017-2021)	Demand
,	Number of Units (rounded)
Net Total Demand	98004.009.0004.2099.504
(at 97% occupancy)	1,400
Less:	
Current Unfinished & Vacant Units 1/	350
Pipeline Units 2/	611
(Subtotal)	(961)
Net Demand	439
Less: East Jefferson Place	126
Surplus Demand	310 (rounded)
Notes: 1/ See Table 9	The state of the s
2/ Excludes 925 East Market.	

The conclusion shows a net demand for 460 apartment units by 2021 at a 97 percent market area occupancy rate. Minus an estimated 126 market rent units at East

Jefferson Place, the surplus demand is 310± units (rounded). That is the calculated apartment unit demand for new pipeline proposals at this time and could be subject to change if new properties are announced in the future, or some of those in the pipeline are not built.

#### Conclusions

The market analysis shows full market support for the ±126 apartment units proposed for East Jefferson Place and that the greater Charlottesville apartment market may even be able to support additional apartment unit development. There is a need for additional apartment unit development in Charlottesville, as evidenced by current and evolving trends in the market area. A case can be made that our projections of apartment unit demand are conservative, given the considerable employment growth that is occurring.

Projecting into the future is always challenging, so a conservative project is warranted. The expanding employment base in and near Downtown Charlottesville will make that location increasingly more desirable for housing, particularly for attractive apartment units.

In addition, it should be noted that there is significant and growing demand from the millennial demographic cohort that has a desire to live within walking distance of increasing downtown jobs, and who like to be able to walk to nearby dining, entertainment and other social venues. The demand for this type of living based on downtown area apartment occupancy rates and past development trends, is currently not being met, partly due to the limited number of readily available sites. East Jefferson Place has the potential to be one of the better located apartment buildings in downtown Charlottesville.

At this time, we support the East Jefferson Place proposal, as summarized above. Rents, in constant 2017 dollar values, are likely to be consistent with current rents shown

for new area apartment communities. Appendix A, to follow, presents the FIA for the East Jefferson Place Apartment proposal, and the new medical office space to be built.

Appendix A: Fiscal Impact Analysis

The fiscal impact analysis for the East Jefferson Place Apartments, and the proposed new medical office building, is presented here. To restate the concept, 126 apartment units are planned to be built at 1011 East Jefferson Street. Prior to the start of construction, the current Jefferson Medical Building will need to be demolished. The building contains three currently-occupied medical offices and one small vacant suite. The three operating practices are to remain in the immediate area in a new building to be built for medical use.

The FIA evaluates the <u>net</u> tax benefits from the new apartment building and one <u>net</u> benefits from the new office building, which refers to the net gain in <u>taxes</u> for the new building compared with the existing building. Combined, the totals equal the full revenue benefits from the development of East Jefferson Place. The following section is a detailed Fiscal Impact Analysis. Fiscal impacts are treated in two ways: first, those impacts which occur directly from activities on-site at each property; and, second, those impacts which occur off-site due to the multiplier, spin-off or ripple effect of expenditures by residents and/or businesses on site. On-site and off-site impacts are computed for both the proposed apartments at the site and the proposed office building. The off-site impacts are explained further on in this report. This section deals with the on-site impacts and off-site impacts for the apartments, followed by similar treatment for the office building. Revenues considered are taxes for the City of Charlottesville. These include taxes generated by East Jefferson Place and its residents on-site.

There is currently a 20,000 square foot medical office building on the site, which will be demolished and replaced with a new medical office building to be constructed on one of two nearby properties. One property is owned by Jefferson Medical Building Limited Partnership and currently used as an auxiliary parking lot fronting on 10<sup>th</sup> Street. The other potential site is a property at the corner of 10<sup>th</sup> and East High Streets that is owned by Sentara Martha Jefferson Hospital. Hospital officials have recently submitted a by-right site development plan that is under review by the city.

Under either of these circumstances, the assessed value of the new office building real estate will be increased compared with the current building, as well as an increase in the value of medical equipment, which will be upgraded and new. All other aspects of the medical building are assumed unchanged. Those aspects should not lead to further fiscal impacts, including employment, if the partnership-owned property is developed for the existing practices.

However, if a joint venture is consummated with Martha Jefferson for development of the Hospital-owned 10<sup>th</sup> and East High Street property, there will be enhanced net fiscal impacts and employment associated with construction of a building that would likely be ± double the size of the building required to accommodate just the Jefferson Medical Building practices. However, our analysis only studies the net impact for a 20,000 square foot new office space.

The fiscal impact analysis also projects the public service and facility costs to be incurred by the City of Charlottesville by development on-site and for off-site spin-off impacts. The results of the fiscal impact analysis will be to compare the tax revenues generated by the properties with the <u>tax-supported</u> costs incurred by the City to determine the net fiscal impacts in terms of a revenue surplus or deficit over costs. This is done for both on-site and off-site impacts, for both the apartments and a new like sized office building. Total annual impacts for the property are projected at complete buildout of the project. Results are given in constant year 2017 dollars, rounded to the nearest ten dollars.

#### Summary of Fiscal Impacts

The following chart summarizes the total on-site and off-site (spin-off) effects that will accrue to the City of Charlottesville once East Jefferson Place has been fully built out and once a new office building is constructed. The chart shows a small revenue surplus of \$16,650 in impacts for the apartments. There is also a modest net fiscal benefit -- \$30,860 -- from the new office building, based solely on the incremental increase in value of the real estate and business personal property for a new building compared with the current building.

Even though few public school pupils are expected at East Jefferson Place, the costs per pupil contribute to total costs at the apartment that negate much of the apartment's tax revenue.

Overall, the proposed developments should generate a net revenue surplus of \$47,510 annually for the City, when data are presented in constant 2017 dollars. The remainder of this report will give the derivation of these figures. The presentation will address the apartments first, then the office building.

5	Summary of Net Benefits		
		Office Bldg.	
	<b>Apartments</b>	(incremental)	<b>Total</b>
Total Taxes	\$437,350	\$30,860	\$468,210
Tax-supported Costs	-\$420,700	\$0	-\$420,700
Net Fiscal Benefit	\$16,650	\$30,860	\$47,510

# **East Jefferson Place Apartments**

The derivation of the on-site and off-site tax revenues for the apartments follow, with on-site and off-site tax-supported costs. The conclusion presents the net fiscal benefit from the apartments, being the difference between tax revenues and tax-supported costs.

## On-site Impacts: Tax Revenues for the Apartments

The revenues to be considered in this report are taxes collected by the City of Charlottesville for General Fund use. These include property taxes, utility tax, and other smaller taxes. The paragraphs to follow document the derivation of the tax amounts for the on-site development at the property.

Real Property Tax. This is a tax on the assessed value of real estate. The average cost of an apartment unit at East Jefferson Place Apartments is projected in the \$160,000

range, or an estimated total development cost of \$20.0 million. For 126 apartments at this cost, taxed at the rate of \$0.95 per \$100 of valuation, the total real property tax at the site would be \$190,000 each year, in constant 2017 dollars, as the following chart shows.

126 Apartments	Amount
Development Cost	\$20,000,000
Tax Rate at \$0.95/\$100	0.0095
Real Estate Tax	\$190,000

<u>Personal Property Taxes</u>. Residences are assessed personal property taxes. This is a tax on the assessed value of motor vehicles. To address residential personal property taxes, the first step is to estimate the average depreciated value per vehicle in the City. The sequence of calculation to achieve this are shown in Table A-1 and summarized as follows:

- The FY2016-FY2017 Adopted Budget for Charlottesville gives an allocation of \$7.7 million for expected personal property taxes.
- Based on the percent of real estate assessments that are residential 55 percent it is estimated that residential personal property taxes are \$4.2 million.
- To this base is added the amount of Personal Property Tax Relief Act (PPTRA) funding the City is expected to receive from the State of Virginia, which has been set at \$3.9 million, bringing the total to \$8.1 million.
- Dividing the total residential personal property tax by the tax rate of \$4.20 per \$100 of assessed valuation produces the total assessed value of vehicles in the City, \$193 million.
- It is estimated that there are 27,500 vehicles in the City. Dividing the number of vehicles into the total assessed value of vehicles gives an average assessed value per vehicle of \$7,000.

Table A-1. Estimation of the Average

Depreciated Assessed Value of

Residential Vehicles, City of

Charlottesville, Virginia

(constant \$2017)

	Amount
Personal Property Tax	\$7,668,696
Percent Residential	55.0%
Residential Property Tax	4,220,369
PPTRA	3,905,957
Total Residential Tax	8,126,326
Personal Prop. Tax Rate	0.042
Total Assessed Value of Vehicles	\$193,483,958
Number Of Vehicles	27,493
Assessed Value Per Vehicle	\$7,038

Sources: FY2016-FY 2017 Adopted Budget for the City of Charlottesville, Virginia

The last step in deriving the personal property tax for East Jefferson Place is to estimate the number of vehicles at the site, apply the average vehicle depreciated value, and compute the property tax at the City rate of \$4.20 per \$100. In the analysis, an occupancy rate of 97 percent is assumed to account for normal turnover. The result is a projection of the personal property tax at about \$54,190 annually.

Table A-2. Derivation of Personal Property Taxes at East Jefferson Place at Buildout, Charlottesville City, Virginia (constant \$2017) Amount Number of Apartments 126 97% Percent Occupied Number of Households 122 Vehicles Per Household 1.5 Number of Vehicles 183 \$7,038 Assessed Value/Vehicle Total Assessed Value \$1,290,198 Tax at \$4.20 Per \$100 \$54,190 Sources: FY2016-FY 2017 Adopted Budget, City of Charlottesville, Virginia, and S. Patz & Associates.,, Inc.

Consumer Utility Taxes. Expenditures on utilities are typically taxed in Virginia municipalities on the following utilities: electric, gas, water, land line, cell phone, and internet. For households, most utility taxes are approximately \$2.50 per month per utility. For five utilities, this is \$150 per household per year. For 122 <a href="households">households</a> at the site, utility taxes would come to over \$18,300 annually, as the following chart shows.

	Amount
Number of Utilities	5
Ave. Monthly Tax Per	
Utility	2.5
Number of Months	12
Annual Utility Tax	\$150
Households	122
Utility Tax	\$18,330

Motor Vehicle License Fees. It was shown above that there would be an estimated 183 vehicles at East Jefferson Place. Motor vehicle license fees in the City are \$28.50 per vehicle, yielding total fees at the site of \$5,220.

Recordation Tax. The last tax to be considered is the recordation tax, which yields a small amount per year, on average, for the property. At a total property value of \$20 million, and assuming a resale every twenty years plus the initial recordation, and further assuming two mortgage financings of \$15 million each during those years, the total consideration over 20 years subject to the recordation tax would be \$70 million. The state taxes the (re-)sales and mortgage deeds of trust at \$3.00 per \$1,000 of valuation, of which one third is returned to the City. Total taxes over 20 years allocated to the city would come to \$70,000, or \$3,500 annually.

<u>Summary of Tax Revenues</u>. Table A-3 summarizes the tax revenues that could be expected to flow directly from the homes at East Jefferson Place annually after buildout, in constant 2017 dollars. The total would come to \$271,240 each year.

Charlottesville from East Jefferson Place
Annually at Buildout
(constant \$2017)

	Amount	Percent
Real Estate Tax	\$190,000	70.0%
Personal Property	54,190	20.0%
Consumer Utility	18,330	6.8%
Motor Vehicle	5,220	1.9%
Recordation	3,500	1.3%
Total Taxes	\$271,240	100.0%

Source: S. Patz & Associates.,, Inc.

# On-site Costs to the City of Charlottesville

The previous section has derived the major tax revenues that would accrue to the City of Charlottesville from the on-site development at the property. The fiscal impacts analysis compares revenues with costs. In this case, since taxes are deposited in the City's General Fund, those revenues for the site are compared with the <a href="tax-supported">tax-supported</a> costs that the City would incur in serving the residents at the site. Other sources of revenue can be "ignored", since they accrue to separate funds in which expenditures generally equal revenues.

The source for determining the tax-supported costs the City would incur for service to the site is the City's FY2016-FY2017 Adopted Budget. In the succeeding paragraphs, the budget will be presented both in terms of budgeted expenses and the portion that must be tax supported. The tax-supported portion of the budgeted expenditures will be derived and expressed on a per capita basis – for population (representing residents), employment (representing business), and pupils (representing costs of public education). The per capita costs to the City will be applied to the population and pupils at the site to determine the overall costs to the City from the development of the site.

Relative Tax Burden. The fiscal impacts analysis compares taxes generated by the proposed apartment to the costs Charlottesville provides for facilities and services to apartment residents. To be comparable, the costs must be expressed as <a href="mailto:tax-supported">tax-supported</a>
<a href="mailto:costs">costs</a> to be consistent with tax revenues from the development. This is done by applying the share of City revenues which must be supported by taxes – the relative tax burden – to the expenditures detailed in the FY2016-2017 Budget. The chart below shows 62.7% of the budget is supported by local taxes; that is the relative tax burden.

Revenue Sources	Amount
Local Taxes	\$101,650,460
Non-tax Revenue	60,368,277
Total City Budget	\$162,018,737
Relative Tax Burden	62.7%

<u>Per Capita City Costs</u>. In Table A-4 below, budgeted government expenditures for FY2016-FY2017 are allocated to population (residents), employment (businesses), and public school pupils (education). For most functional non-school departments, total FY2016-FY2017 expenditures are allocated to population and employment in proportion to their numbers – 69.9 percent for population and 30.1 percent for employment. The exceptions are health and welfare, and parks and recreation and culture, which are allocated in their entirety to population.

The table shows that the per capita tax supported cost of services and facilities for the population average \$1,096 per capita; for employment, \$743 per capita; and per pupil cost, \$8,363. This figure for pupils is tax-support costs. Total costs per pupil is net of revenues from other sources.

Table A-4 Allocation of FY2016-FY2017 Budgeted Expenditures to Tax-supported

Costs for Residents, Employment and Public School Pupils, Charlottesville

City, Virginia

Departments or Functions	Total Budget	Population	Employment
Management	\$4,243,274	\$2,967,685	\$1,275,589
Employee Comp. & Training	1,035,000	723,864	311,136
Non-departmental	608,415	425,517	182,898
Debt Service	7,468,000	5,223,013	2,244,987
Internal Services	1,417,216	991,181	426,035
Financial Services	4,684,748	3,276,446	1,408,302
Recreation and Culture	11,861,356	11,861,356	C
Convention & Visitors Bureau	791,577	553,618	237,959
Health and Welfare	14,542,797	14,542,797	(
Public Works	14,121,713	9,876,525	4,245,188
Public Safety & Justice	37,509,727	26,233,769	11,275,958
Transfers	7,535,164	5,269,986	2,265,178
Subtotal Except Schools	\$105,818,987	\$81,945,758	\$23,873,229
Relative Tax Burden	62.7%	62.7%	62.7%
Tax-supported Expenditures	\$66,390,770	\$51,412,720	\$14,978,050
Persons	67,076	46,912	20,164
Tax Expenditures Per Capita	\$990	\$1,096	\$743
Tax Support Public Schools	\$34,949,378	\$34,949,378	\$0
Enrollment	4,179	4,179	(
Expenditures Per Pupil	\$8,363	\$8,363	\$0
Total City Budget	\$162,018,737	\$137,650,907	\$23,873,229

Sources: FY2016-FY2017 Budget for the City of Charlottesville, Virginia; Charlottesville Schools; U.S. Census of Population; Virginia Employment Commission.

Table A-5 below provides details for expenditures for City schools, showing sources, relative tax burden, and per pupil expenditures (costs). Total expenditures for schools in the City are \$55.7 million. Of this, \$49.3 million (89 percent) are local contributions to the schools by way of budgeted transfers. The table also shows additional transfers for transportation and school building maintenance.

Table A-5 Allocation of Budgeted FY2016-FY2017 Expenditures to Taxsupported Costs for Public School Pupils, City of Charlottesville, Virginia

	Education	
Source	Budget	
Local Contribution to Schools	\$49,330,604	
Pupil Transportation	2,694,065	
School Bldg. Maintenance	3,680,480	
Subtotal Schools	\$55,705,149	
Relative Tax Burden	62.7%	
Tax-supported Expenditures	\$34,949,378	
Enrollment	4,179	
Expenditures Per Pupil	\$8,363	

Sources: FY2016-FY2017 Budget for

Charlottesville, Virginia, and City of Charlottesville Public Schools

Total On-site Costs to the City for the Apartments. Both residents and public school pupils living on-site at East Jefferson Place would incur costs to Charlottesville City for services and facilities. The analysis above derived the per capita costs for each of these. The discussion to follow estimates the numbers of residents and pupils which would be living at the site after buildout. The estimation of the number of residents is straightforward. The 122 households (occupied dwelling units) are expected to have an average of 1.5 persons per apartment (we have data from existing apartments, some with three bedrooms that have an average persons per household for apartment units at 1.70. These apartments have a different unit mix, some with three-bedroom apartment units. Thus, the 1.5 estimate used for this report appears reasonable). This is a total of 183 people. At a tax-supported cost of \$1,096 per person, the resident cost (including children) would come to \$288,040.

City and school staff have not surveyed subdivisions in the City to determine the pupil generation rate for different types of housing units. The Weldon Cooper Center at

the University of Virginia is currently studying the issue, but the study has not been completed. Appendix Table -B-1 provides data on pupil generation for multi-family apartments at nine properties in three Virginia cities where we have undertaken similar Fiscal Impacts Analyses -- Winchester, Fredericksburg, and Lynchburg. The average number of pupils for these apartments range from 0.09 per unit to 0.16 per unit, with an average of 0.14 per unit. As an estimate for East Jefferson Place, that average will be applied - of 0.14 for multi-family homes. For 122 households, this generates 17 pupils. At \$8,363 in tax-supported expenditures per pupil, the cost of education is \$138,560.

We interviewed on-site management at the one apartment community in Charlottesville (City Walk) to get data on school children. That data was not provided to us. We also contacted the City school department. Data was not available from that source either. Thus, we used the best data we had available and believe it to be credible.

Based on these data, total tax-supported annual costs to the City at build -out of East Jefferson Place would be almost \$339,500, as shown in the following chart:

Apartment Costs	Amount
Population Costs	\$200,920
Pupil Costs	138,560
Total Tax-supported Cost	\$339,480

### Summary of On-site Fiscal Impacts

There are few public school pupils expected to reside at the East Jefferson Place. The cost of educating pupils causes the overall net fiscal impact from activities on-site at the apartments to be a net revenue deficit of \$68,000. It will be shown below that off-site spin-off impacts will more than compensate for this deficit.

On-site Impacts – Apts.	Amount
Total Taxes	\$271,240
Tax-supported Costs	-339,480
Net Fiscal Benefit	-\$68,240

### Off-site Fiscal Impacts

In addition to the revenues and costs that accrue to the City of Charlottesville from the development "on-site," as described above, there are also off-site impacts that occur as residents on-site spend their income off-site in the City, and as local businesses then re-spend the receipts off-site for the purchase of goods and services from other vendors in the city. This is referred to as the multiplier effect. The multipliers used in this analysis are specific to the City of Charlottesville, Virginia. Consumer budgets are identified by the U.S. Bureau of Labor Statistics by area and income level.

Consumer expenditures made off-site in the City are translated into economic impacts specifically for the City, using multiplier matrices provided for the local area by the U.S. Bureau of Economic Analysis. These multipliers capture the round-by-round flows of expenditures in the City initiated by residents and businesses on-site. There are separate matrices to calculate off-site business receipts, employment and employee earnings. The resident expenditures and business receipts on-site are multiplied in turn by these expenditure-specific categories in each matrix and summed to give the "ripple effect," "spin-off," or "multiplier effect" of circulation of money through the economy. The ripple effects, plus the original consumer expenditures, equal the total economic impacts of apartment residents and office building businesses on the city economy.

The methodology used in projecting fiscal impacts off-site mirror those used to project fiscal impacts on-site. Revenues are limited to taxes, and costs are those that are tax-supported. The RIMS II multipliers from the Bureau of Economic Analysis separate receipts, employment and earnings impacts down into 21 different sectors, and the impact dollar amounts (business revenues) in the sectors form the basis for determining taxes.

Many taxes can be calculated directly from these receipts, such as the retail sales tax, the lodging tax and the meals tax. Other taxes are based on employment impacts in particular sectors. For example, utility taxes in the City accrue from businesses at the rate of \$29 per employee. Similar relations to employment can be derived for real property taxes and personal property taxes, based on square footage per employee and costs per square foot for real property and personal property, from experience on-site and at other developments.

To calculate each tax for 21 sectors for the impacts for the residential use on site would be tedious, so the results will be presented here in summary form according to the type of use on-site that generates the off-site spin-off impacts.

### Off-site Fiscal Impacts for the Apartments

The residences of the apartment units would generate \$166,000 in taxes off-site for the City annually, sometime after buildout, and at stabilized occupancies at the apartment building. Off-site impacts would not be immediate, but would build over time as businesses gradually expanded to meet increased demand for goods and services.

The cost to the City for serving expanded business off-site from the apartments is based on projected employment. The apartment property would generate about 109 jobs off-site in the City based on resident expenditures. It was shown that each job represents about \$743 in costs to the City, for a total of about \$81,200 from off-site costs due to apartment resident expenditures. Deducting these tax-supported costs from projected tax revenues calculate to a net fiscal benefit (tax revenue surplus) of over \$84,900 off-site from the apartments annually, in constant year 2017 dollars. These impacts are shown in the chart below.

Apartments Off-site Impacts	Amount
Property Taxes	\$70,850
Business Taxes	87,980
Other Taxes	7,280
Total Taxes	\$166,110
Tax-supported Costs	-\$81,220
Net Fiscal Benefit	\$84,890

### **Total Fiscal Impacts for the Apartments**

With an off-site fiscal surplus of \$84,900 and an on-site deficit of \$68,240 per year, the net fiscal benefit to the City of Charlottesville from the Jefferson East Place would be approximately \$17,000 per year. The off-site impacts may not all coincide with the on-site impacts, as the expansion of the local economy from the development will lag slightly behind on-site development as businesses adjust to increased demand for their goods and services. The chart below summarizes the on-site and off-site fiscal impacts for East Jefferson Place, in constant year 2017 dollars.

Summary of Total Fiscal Impacts	On-site	Off-site	Total
For the Apartments	<b>Impacts</b>	<b>Impacts</b>	<b>Impacts</b>
Total Tax Revenue	\$271,240	\$166,110	\$437,350
Tax-supportable Costs	339,480	-81,220	-420,700
Net Fiscal Benefit	-\$68,240	\$84,890	\$16,650

### Proposed Office Building

The following paragraphs derive the on-site and off-site impacts for a new medical office building of approximately 20,000 square feet. The existing medical office building is planned to be replaced on a nearby site. Therefore, only the <u>incremental</u> increase in value for real estate and business property taxes for the new building will have fiscal impacts for the City. The current revenues for the Jefferson Medical

Building, assessed at \$3.762 million, is held at the same rate, with an increase adjusted for a new building. Costs to the City are kept at current levels.

### On-site Tax Revenues for the Office Building

Real Property Tax. Development costs for the 20,000 square foot office building are estimated at \$4.0 million. Adding 20 percent for land costs, brings the total cost of a new building to \$4.8 million. Current assessments for the property are \$3,761,700. Net new real estate taxes will be on the net change, or \$1,038,300. At the current tax rate (\$0.95 per \$100), the net increment to the real estate taxes for the office building will be \$9,860.

<u>Business Property Taxes</u>. Businesses are taxed on personal property, business personal property being the value of furniture, fixtures and equipment (FF&E). It is estimated that FF&E at the new building will be increased by 50 percent, as older equipment is replaced. This is estimated to be a change from \$50 per square foot to \$75 per square foot. For 20,000 square feet of medical office space, FF&E at \$75 per square foot – medical equipment being particularly expensive – will yield \$0.5 million in value. At the tax rate of \$4.20 per \$100, business property taxes will come to \$21,000.

Other On-site Taxes. Taxes such as the business license tax and utility tax are assumed to be unchanged from the present, as the level of business conducted in the building will also be unchanged.

### Summary of On-site Taxes for the Office Building

Given that the only significant change in the medical office space will be in real estate and business property increases, only those two items will produce additional taxes on-site, as the following chart shows:

On-site Taxes for the Office Bldg.	Amount
Real Estate Tax (net)	\$9,860
Business Property Tax	21,000
Total Taxes (net of current Real Est.)	\$30,860

### On-site Costs to the City for the Office Building

Among other characteristics that are assumed to remain the same for the office building is on-site employment. Costs to the City can be estimated on the basis of employment, as shown in the budget material above. Thus, no additional costs of services from the City are anticipated.

### Net Fiscal Impact On-site for the Office Building

The new office building at build out will have a revenue surplus of almost \$31,000 annually, in constant year 2017 dollars.

On-site Fiscal Impacts	Office Bldg.
Total Taxes	\$30,860
Tax-supported Costs	==
Net Fiscal Benefit	\$30,860

### Off-site Impacts from the Office Building

Off-site impacts from office building depend on business receipts for medical services. It is likely that these will remain unchanged in the new building and no increase realized off-site impacts from the office building. Based on the analysis above, the office building will only have impacts in increased revenue from real estate and business property, of \$30,860.

### **Total Fiscal Impacts**

The paragraphs to follow summarize the on-site and off-site impacts for both East Jefferson Place and the proposed new 20,000 square foot office building, giving total tax revenues, tax-supported costs and net fiscal benefit for each.

The chart below summarizes the findings for the two components of the development. Together, the two components of the development will yield \$47,510 in surplus revenue each year for the City of Charlottesville.

Total Fiscal Impacts	<b>Apartments</b>	Office Bldg.	Total Impacts
Total Tax Revenue	\$437,350	\$30,860	\$468,210
Tax-supported Costs	-420,700		-420,700
Net fiscal Benefit	\$16,650	\$30,860	\$47,510

Appendix B: Table

## Appendix Table B

### <u>Pupil Generation Rates -- Pupils per Household -- for Selected</u> <u>Apartments in Three Virginia Cities</u>

Fredericksburg		Lynchburg	
Lakeside	0.16	The Villas	0.09
Summit Crossing	0.16	The Vistas	0.14
		Legency Apts.	0.14
		Rosedale	0.13
Winchester			
Jubal Square	0.14	Average All Apartments	0.14
Pepper Tree	0.13		
Racey Meadows	0.13		

Sources: Local municipalities and S. Patz & Associates, Inc. field surveys.

# Exhibit L

Project Narrative East Jefferson Place Apartments

# WILLIAMS MULLEN

Direct Dial: 434.951.5709 vlong@williamsmullen.com

# East Jefferson Place

PROJECT NARRATIVE

June 12, 2017



East Jefferson Place as seen from the intersection of 11th Street and East Jefferson featuring the updated '5/3 design'

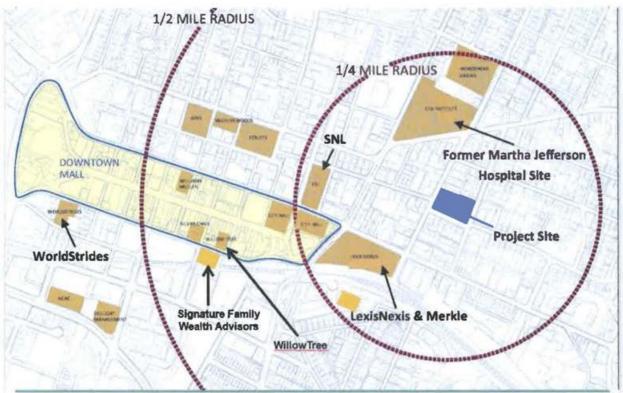
On behalf of our client, Jefferson Medical Building Partnership (the "Applicant"), the owners and developers of the property located at 1011 E. Jefferson Street (the "Property"), we are enclosing updated materials in connection with the proposed mixed use building known as East Jefferson Place (the "Project") and the special use permit application submitted in connection with the Property.

The Applicant requests the approval of a special use permit to allow an increase in the density at the Property, as permitted by Section 34-480 of the City Zoning Ordinance. The applicant proposes to increase the density from 21 dwelling units per acre ("DUA") to a maximum of 87 DUA; on the 1.45 acre site, up to 126 units would be allowed, including mid-range and affordable units.

The special use permit process has provided the unique ability to work collaboratively with City staff and the surrounding community to create a project that is far superior to what is allowed by-right in the B-1 zoning district. In this case, the special use permit application process encouraged community collaboration, led to an evolution in the building's design, and helped to identify solution to larger neighborhood issues. The result is a 40% reduction in overall building mass, and a well-articulated building that steps down in height and transitions appropriately towards the nearby lower density areas of the Little High Neighborhood. The lower height of the building along 11th Street was a specific suggestion of the Little High Street Neighborhood Association. The process has also led to a greater level of architectural detailing than originally proposed, a proven reduction in traffic, more activation of the streetscape and extensive pedestrian enhancements. Additionally, although outside the boundary of the Project, the applicant has studied safety improvements for the intersection of 11th St and Little

High. As part of the redevelopment of East Jefferson Place, the applicant has agreed to cover the cost of helpful safety improvements such as curb extensions, high visibility crosswalks and moving stop signs to Little High Street.

The Applicant proposes to replace the existing suburban style two story medical office structure and associated surface parking areas. The medical office building was constructed in 1972 and has outlived its use for medical offices; due to significant changes in the way that health care is now delivered, including the need for larger exam rooms, integrated technology, additional equipment, and new building standards.



East Jefferson Place is within an easy walk to many of Charlottesville's top employers and entertainment venues.

The 1.45 acre Property has frontages on 10<sup>th</sup> Street, East Jefferson Street and 11<sup>th</sup> Street and is located in a B-1 zoning district. Parcels immediately adjacent to the site are zoned North Downtown Mixed Use zoning on two sides of the Property and B-1 on the other two sides. The Property is surrounded entirely by commercial uses and commercially and mixed used zoned land. The Property is located just blocks off the Downtown Mall within easy walking distance of shops, restaurants, entertainment venues, and community facilities such as City Hall and the Jefferson Madison Regional Library. Also within walking distance are over 3,000 jobs including numerous major employment centers of the City, such as the CFA Institute, Lexis Nexis, Merkel (formerly Rimm-Kauffman Group), Apex Clean Energy, Worldstrides, The City of Charlottesville, Silverchair, Willow Tree Apps, HemoShear, Manchester Capital Management, Vibethink, Ting, Coronal Development Services, Quantitative Investment Management, S + P Global Market Intelligence, Red Light Management and many others. These employers are working to attract young professionals, many of whom desire to live in the downtown area. At the same time, the City has the goal of attracting even more innovative companies. Such companies insist on downtown locations and housing opportunities within walking and biking distance for their employees. As Tom Murphy, the former Mayor of Pittsburgh, stated in his remarks at the recent Urban Land Institute program on

Stimulating Entrepreneurial Culture Through Public Private Partnerships, it is important for the City to figure out "how to keep the next Mark Zuckerburg from graduating from UVA and then leaving town."

East Jefferson Place is consistent with the City's Comprehensive Plan, as most strongly evidenced by the following quote from the Housing Section of the City's Comprehensive Plan:

"The equality and diversity of the City of Charlottesville's housing stock creates the basis for viable neighborhoods and a thriving community. In order to be a truly world class city, Charlottesville must provide sufficient housing options to ensure safe, appealing, environmentally sustainable and affordable housing for all population segments and income levels, including middle income. Consequently, City neighborhoods will feature a variety of housing types, housing sizes and incomes all within convenient walking, biking or transit distances of enhanced community amenities that include mixed use, barrier free, higher density, pedestrian and transit-oriented housing at employment and cultural centers connected to facilities, parks, trails, and services."

According to the 2017 Market Analysis
by S. Patz and Associates, Inc.,
the current vacancy rate
for newer apartment properties in the Charlottesville area
is **0.7**%.

The City of Charlottesville has established priorities through the Comprehensive Plan to ensure the availability of housing for all population segments, including middle income. A Market Analysis by S. Patz and Associates, completed earlier this month, highlights the unhealthy shortage of available apartments in the Charlottesville Area. In fact, the current vacancy rate of 0.7% reveals that there is practically no availability of newer apartments.

Additional housing, and specifically multifamily housing near downtown, is essential to the continued success of our City. As determined by the City's recent *Comprehensive Housing Analysis and Policy Recommendations - Affordable and Workforce Housing*, prepared by Robert Charles Lesser & Co. Real Estate Advisors, dated January 13, 2016, there is "a strong rental market in Charlottesville that suggests an unmet demand in the City." (p. 10). The analysis further notes the following:

- "Annual absorption is the closest measure for demonstrated rental demand and has averaged over 400 units per year since 2013. Annual absorption has exceeded the new supply delivered and suggests pent-up demand for additional rental units." (p. 10)
- "Young Singles and Couples are the only key market segment identified in the matrix that
  primarily rent their homes, and a lack of available rental product has likely limited their ability to
  obtain housing in the City. This market segment could be much larger if desirable housing was
  available." (p. 16)

By allowing a density of 87 dwellings per acre, City Council can encourage mid-range and affordable housing in the area where it is needed most, close to services and employment. Otherwise, by-right densities ensure that only luxury condominiums or 4 bedroom student housing units will be built near downtown, and housing costs will continue to rise. Developing the Property by right with four bedroom

units on this site yields a maximum of 120 bedrooms (and the potential for 150,000 square feet of commercial space including medical offices). A project with 87 dwelling units on this same site could yield 126 one bedroom units, or 126 bedrooms. Thus, the highest density possible for B-1 district can be equivalent to a by-right project, the only difference being that smaller one bedroom units are provided.

Local regulations treat a one bedroom dwelling unit the same as a four bedroom dwelling unit in how density is defined, the impact of the one bedroom unit is much less than a four bedroom unit. By only focusing on the density of units, rather than the more logical density of bedrooms, projects with smaller, more affordable units have a higher unit density, and are perceived as a negative by nearby neighborhoods, even though the actual impacts of the project are far less than a similar low density project with larger units and more bedrooms. This results in discrimination against these smaller, more affordable units, and is in direct conflict with the City's affordable housing goals expressed in the 2013 Comprehensive Plan.

Although the Applicant is requesting a density of up to 87 DUA, the Special Use Permit request includes a condition limiting the development to a maximum of 180 bedrooms in a mixture of one and two bedroom units, or only 60 more bedrooms than permitted in the by-right scenario. A healthy unit mix of smaller apartments near downtown that target young professionals, as proposed for 1011 East Jefferson, means the City is gaining an exceptional development that directly addresses the needs identified in the City's 2016 Housing Study. In addition, the Project will be one of the first to provide actual affordable housing units near downtown. The Project will benefit the community and implement the goals of the comprehensive plan to establish mixed-income housing within convenient walking, biking and transit distances of business districts, the downtown mall, and shopping areas.

Given that the massing, height and uses of the building are allowed as of right by the Zoning Ordinance, this Special Use Permit application concerns a question of impacts specifically associated with the additional residential units requested.

We would like to highlight that our Traffic Study was resubmitted to the City Traffic Engineer for review in May 2017 to account for the proposed inclusion of up to 10,000 square feet of commercial space along 10<sup>th</sup> Street (See Exhibit I). The study confirms three primary points:

- 1. Average daily trips for the proposed development match the existing conditions.
- ITE standards were field tested at comparable existing developments in Charlottesville for both the residential and commercial element of the project, with the results confirming the traffic study is accurate.
- Nearby intersections were modelled to confirm that they function at high levels of service post development.

At the Planning Commission public hearing, there were several comments made expressing skepticism for the Traffic Study's conclusions. While we appreciate and respect any sensitivity to traffic congestion, we ask that City Council and the public recognize the fact that the Traffic Study was conducted by licensed traffic engineers who specialize solely in traffic analysis. These professionally trained engineers with decades of experience in the field, in combination with City staff, have confirmed the accuracy and reliability of the Traffic Study.

The submittal materials attached, including a full traffic study and memo summarizing the traffic study and with trip generation figure alternatives that account for the proposed flex space, clearly demonstrates there is no substantive traffic impact from the additional units or the development as a whole.

#### TRANSITION OF FORM AND USE

The Zoning Ordinance defines the intent of the B-1 district as follows,

The B-1 business district is established to provide for service-type businesses and office uses of a limited size, which are open primarily during daytime hours. The intent of the B-1 regulations is to provide a transitional district between residential areas and other commercial areas of the city.



1011 East Jefferson Street is a logical transition point from surrounding commercial properties to the west (including the Downtown Mall) and low density residential to the east, as envisioned by the purpose and intent of the B-1 zoning district stated above. The Property is immediately buffered by a mix of commercial uses and zoning; it is not adjacent to any properties zoned low density residential. Instead, the site is located along the corridor of 10<sup>th</sup> Street NE, in an area primarily zoned Downtown North Mixed Use.

The proposed mixed use development consists of all one and two bedroom residential units over hidden subsurface parking with up to 10,000 square feet of 'flex space' in the ground floor along the

10<sup>th</sup> Street frontage that can be used as either commercial or residential uses. The Applicant feels strongly that a commercial use is appropriate along 10<sup>th</sup> Street, and would be an enhancement to the proposed residences. The community has also expressed support for commercial space at this location. Unfortunately many of the uses that would be most welcomed and beneficial to the neighborhood, such as a coffee shop or deli, are not currently allowed within the B-1 zoning district, so flexibility of use is necessary until the zoning ordinance allows such uses in the B-1 district. The Project will remain entirely residential along the 11<sup>th</sup> Street frontage, matching the residential character of the neighborhood beyond.

Also in consideration of the character of the neighborhood beyond 11th street, this submittal includes a significant reduction to the proposed building height along 11th Street, recognizing the desire of nearby residents to have a smaller massing and less intense uses on this more residential side of the Project. In fact, the building height for the half of the building closest to the neighborhood is 33 feet tall, which is actually less than the 35 height maximum for low density residential districts. The exterior of the building will consist primarily of brick, and is designed to match the scale and pattern of existing neighborhood structures along East Jefferson Street with two story townhouse style units. After the first two stories, the proposed building will significantly step back from the street. Thus, the perception of the overall building mass is reduced and the form of the building mirrors that of smaller scale residential uses. Architectural renderings of the building (both older designs and updated design) in context are included with this submittal (See Exhibits E & F).

The Project is also designed to enhance the overall pedestrian experience through improvements to the streetscape such as street trees, low sitting walls, pedestrian bulb-outs and crosswalks, outdoor meeting

areas and plazas, as well as additional landscaping around the building. In addition, this site is one of the first developments to incorporate guidelines from the newly adopted Streets that Work Plan. Moreover, the Applicant is providing an abundance of garage parking spaces to accommodate all the residential and guest parking for the building, leaving on-street parking spaces available for the adjacent properties.

### UPDATED CONCEPT PLAN AND PROJECT DESIGN



Site Plan showing increased setbacks, pedestrian plazas, streetscape improvements and on-site alley.

The Special Use Permit request for 1011 East Jefferson Street has been under review by the City for approximately one year. During that time, the Applicant has worked closely with staff and community members, resulting in a Project that has been redesigned twice, with significant changes each time meant to address community input and create the best design for this specific site. The Applicant has hosted large community meetings, as well as attending several smaller meetings with the Little High Neighborhood Association and other property owners in the area. Following these meetings, the Applicant has made significant revisions to the building design and concept plan (attached), including the following:

- Reduction of building massing to be 40% smaller than the by-right massing through extensive setbacks and by stepping back the upper floors of the building.
- 2. Reduction of the building footprint by adding an on-site alley on the north side of the parcel to better accommodate residents accessing and leaving the site, in response to the community's concerns regarding the original proposal having only a single entrance and exit onto 11th Street. The alley provides sufficient space for vehicles to que up on site rather than blocking traffic along 11 Street.
- 3. Addition of townhouse style units that will have front doors with direct pedestrian access from East Jefferson Street and 11<sup>th</sup> Street, which will help activate the streetscape and create

a better sense of place. Careful articulation along East Jefferson Street to directly relate to the existing buildings on the other side of the street.

- 4. The newly designed building that steps down towards 11<sup>th</sup> Street reduces the perceived mass by creating the appearance of two separate buildings with a central courtyard. <u>Reduction of the height of the building along 11<sup>th</sup> Street to 33 feet, meaning this part of the project is shorter than the 35 foot height maximum in the R-1 zoning district.</u>
- 5. Addition of streetscape elements along East Jefferson, 10<sup>th</sup> Street, and 11<sup>th</sup> Streets to improve the streetscape, including front porches, low sitting walls, outdoor meeting areas and plazas.
- 6. The two parking levels are now entirely below-grade and thus not visible.
- Addition of solar panels to help offset the electrical usage within the common areas of the building.
- Inclusion of 10,000 square feet of Commercial/Residential "flex space" along 10<sup>th</sup> Street, which will be commercial space if the Zoning Ordinance is amended to permit coffee shops, delis, and similar uses desired by the neighbors.
- 9. A voluntary traffic study was completed to confirm that the Project will not create traffic impacts. The City Staff have confirmed that the study demonstrates that the Project will reduce traffic from the existing condition; Trip generation figures for a Mixed Use development show no impacts to traffic or function of intersections. The study includes proposed safety improvements to the intersection of 11th St and Little High Street, for which the applicant has agreed to covered the cost of installation. Detailed information, including the Traffic Study and Summary memo are attached. (See Exhibits G, H & I)

The proposed redevelopment of 1011 East Jefferson Street and the requested Special Use Permit provide a custom solution for the redevelopment of this Property without creating any adverse impacts, and that reduces the vehicle trips compared to the existing use or a by-right development. The Project adds affordable and mid-range housing options close to downtown, and supports numerous goals of the City's Comprehensive Plan, as detailed in the attached Comprehensive Plan summary document. In this case, the Special Use Permit is more beneficial to the community and much less impactful than the by-right massing and many of the by-right uses allowed. The Property serves as a good transition, both in use and massing, between residential housing to the east and office/commercial uses to the west. For more detailed information, please review the attached documents.

We appreciate your consideration of this request, and would be happy to address any questions or comments you may have about the Project. Please feel free to contact me if I can be of assistance.

Sincerely,

Valerie W. Long

Valerie W. Jong

cc: Jefferson Medical Building Partnership

33850021\_1

# Exhibit M

Cover Page to February 21, 2017 Submission

# WILLIAMS MULLEN

Direct Dial: 434.951.5709 vlong@williamsmullen.com

February 21, 2017

### Via Hand Delivery

Carrie Rainey, RLA Urban Designer Department of Neighborhood Development Services Charlottesville, VA 22903

RE: 1011 E. Jefferson Street - Proposed Mixed Use Building

Dear Ms. Rainey:

On behalf of our client, Jefferson Medical Building Partnership (the "Applicant"), the owners and developers of the property located at 1011 E. Jefferson Street (the "Property"), we are enclosing updated materials in connection with the proposed mixed use building (the "Project") and the special use permit application that was previously submitted in connection with the Property. In connection with the Project, we enclose the following documents:

Exhibit A	Compliance with General Standards for Issuance of a Special Use Permit
Exhibit B	Comprehensive Plan Goals Summary
Exhibit C	Conceptual Plan
Exhibit D	Suggested Conditions of Approval
Exhibit E	Building Renderings: Updated Design February 2017
Exhibit F	Building Renderings: June 22, 2016 Submittal Package
Exhibit G	Summary Memo of Traffic Study and Trip Generation Tables
Exhibit H	Traffic Study: September 2016
Exhibit I	Trip Generation Tables for Mixed Use: February 2017

We would like to highlight that our Traffic Study was supplemented in February 2017 from our previous proposal to account for the proposed inclusion of up to 10,000 square feet of commercial space along 10<sup>th</sup> Street (See Exhibit I). At the Planning Commission public hearing, there were several comments made expressing skepticism for the Traffic Study's conclusions. While we appreciate and respect any sensitivity to traffic congestion, we ask that City Council and the public recognize the fact that the Traffic Study was conducted by licensed traffic engineers who specialize solely in traffic analysis. These professionally trained engineers with decades of experience in the field, in combination with City staff, have confirmed the accuracy and reliability of the Traffic Study.

We would also like to highlight how we believe the Project is consistent with the City's Comprehensive Plan, as most strongly evidenced by the following quote from the Housing Section of the City's Comprehensive Plan:

"The equality and diversity of the City of Charlottesville's housing stock creates the basis for viable neighborhoods and a thriving community. In order to be a truly world class city, Charlottesville must provide sufficient housing options to ensure safe, appealing, environmentally sustainable and affordable housing for all population segments and income levels, including middle income. Consequently, City neighborhoods will feature a variety of housing types, housing sizes and incomes all within convenient walking, biking or transit distances of enhanced

community amenities that include mixed use, barrier free, higher density, pedestrian and transit-oriented housing at employment and cultural centers connected to facilities, parks, trails, and services."

With these highlights in mind, the Applicant requests the approval of a special use permit to allow an increase in the density at the Property, as permitted by Section 34-480 of the City Zoning Ordinance. The applicant proposes to increase the density from 21 dwelling units per acre ("DUA") to a maximum of 87 DUA; on the 1.45 acre site, up to 126 units would be allowed, including mid-range and affordable units.

The special use permit process provides the ability to work collaboratively with City staff and the surrounding community to create a project that is far superior to what is allowed by-right in the B-1 zoning district. In this case, the special use permit application process encouraged community collaboration and led to an evolution in the building's design. The result is a reduction in overall building mass, and a well-articulated building that steps down in height and transitions appropriately towards the nearby lower density areas of the Little High Neighborhood. The lower height of the building along 11<sup>th</sup> Street was a specific suggestion of the Little High Street Neighborhood Association. The process has also led to a greater level of architectural detailing than originally proposed, a proven reduction in traffic, more activation of the streetscape and extensive pedestrian enhancements.

The 1.45 acre Property has frontages on 10th Street, East Jefferson Street and 11th Street and is located in a B-1 zoning district. Parcels immediately adjacent to the site are zoned North Downtown Mixed Use zoning on two sides of the Property and B-1 on the other two sides. The Property is surrounded entirely by commercial uses and commercially and mixed used zoned land. The Property is located just blocks off the Downtown Mall within easy walking distance of shops, restaurants, entertainment venues, and community facilities such as City Hall and the Jefferson Madison Regional Library. Also within walking distance are over 3,000 jobs including numerous major employment centers of the City, such as the CFA Institute, Lexis Nexis, Merkel (formerly Rimm-Kauffman Group), Apex Clean Energy, Worldstrides, The City of Charlottesville, Silverchair, Willow Tree Apps, HemoShear, Manchester Capital Management, Vibethink, Ting, Coronal Development Services, Quantitative Investment Management, S + P Global Market Intelligence, Red Light Management and many others. These employers are working to attract young professionals, many of whom desire to live in the downtown area. At the same time, the City has the goal of attracting even more innovative companies. Such companies insist on downtown locations and housing opportunities within walking and biking distance for their employees. As Tom Murphy, the former Mayor of Pittsburgh, stated in his remarks at the recent Urban Land Institute program on Stimulating Entrepreneurial Culture Through Public Private Partnerships, it is important for the City to figure out "how to keep the next Mark Zuckerburg from graduating from UVA and then leaving town."

The Applicant proposes to replace the existing suburban style two story medical office structure and associated surface parking areas. The medical office building was constructed in 1972 and has outlived its use for medical offices; due to significant changes in the way that health care is now delivered, including the need for larger exam rooms, integrated technology, additional equipment, and new building standards.

#### DENSITY AND AFFORDABLE HOUSING OPTIONS

Additional housing, and specifically multifamily housing near downtown, is essential to the continued success of our City. As determined by the City's recent *Comprehensive Housing Analysis and Policy Recommendations - Affordable and Workforce Housing*, prepared by Robert Charles Lesser & Co. Real Estate Advisors, dated January 13, 2016, there is "a strong rental market in Charlottesville that suggests an unmet demand in the City." (p. 10). The analysis further notes the following:

- "Annual absorption is the closest measure for demonstrated rental demand and has averaged over 400 units per year since 2013. Annual absorption has exceeded the new supply delivered and suggests pent-up demand for additional rental units." (p. 10)
- "Young Singles and Couples are the only key market segment identified in the matrix that
  primarily rent their homes, and a lack of available rental product has likely limited their ability to
  obtain housing in the City. This market segment could be much larger if desirable housing was
  available." (p. 16)

By allowing a density of 87 dwellings per acre, City Council can encourage mid-range and affordable housing in the area where it is needed most, close to services and employment. Otherwise, by-right densities ensure that only luxury condominiums or 4 bedroom student housing units will be built near downtown, and housing costs will continue to rise. In fact, density as currently defined by the Zoning Ordinance, without reference to number of bedrooms, is meaningless as a tool to evaluate for smaller, more affordable units. For example, a <u>by right</u> project containing four bedroom units on this site yields a maximum of 120 bedrooms. A project with 87 dwelling units on this same site could yield 126 one bedroom units, or 126 bedrooms. Thus, the highest density possible for B-1 district can be equivalent to a by-right project, the only difference being that smaller one bedroom units are provided.

Local regulations treat a one bedroom dwelling unit the same as a four bedroom dwelling unit in how density is defined, the impact of the one bedroom unit is much less than a four bedroom unit. By only focusing on the density of units, rather than the more logical density of bedrooms, projects with smaller, more affordable units have a higher unit density, and are perceived as a negative by nearby neighborhoods, even though the actual impacts of the project are far less than a similar low density project with larger units and more bedrooms. This results in discrimination against these smaller, more affordable units, and is in direct conflict with the City's affordable housing goals expressed in the 2013 Comprehensive Plan.

Although the Applicant is requesting a density of up to 87 DUA, the Special Use Permit request includes a condition limiting the development to a maximum of 180 bedrooms in a mixture of one and two bedroom units, or only 60 more bedrooms than permitted in the by-right scenario. A healthy unit mix of smaller apartments near downtown that target young professionals, as proposed for 1011 East Jefferson, means the City is gaining an exceptional development that directly addresses the needs identified in the City's 2016 Housing Study. In addition, the Project will be one of the first to provide actual affordable housing units near downtown. The Project will benefit the community and implement the goals of the comprehensive plan to establish mixed-income housing within convenient walking, biking and transit distances of business districts, the downtown mall, and shopping areas.

Given that the massing, height and uses of the building are allowed as of right by the Zoning Ordinance, this Special Use Permit application concerns a question of impacts specifically associated with the additional residential units requested. The submittal materials attached, including a full traffic study and memo summarizing the traffic study and with trip generation figure alternatives that account for the proposed flex space, clearly demonstrates there is no substantive traffic impact from the additional units or the development as a whole.

### TRANSITION OF FORM AND USE

The Zoning Ordinance defines the intent of the B-1 district as follows,

The B-1 business district is established to provide for service-type businesses and office uses of a limited size, which are open primarily during daytime hours. The intent of the B-1 regulations is to provide a transitional district between residential areas and other commercial areas of the city.

1011 East Jefferson Street is a logical transition point from surrounding commercial properties to the west (including the Downtown Mall) and low density residential to the east, as envisioned by the purpose and intent of the B-1 zoning district stated above. The Property is immediately buffered by a mix of commercial uses and zoning; it is not adjacent to any properties zoned low density residential. Instead, the site is located along the corridor of 10th Street NE, in an area primarily zoned Downtown North Mixed Use.

The proposed mixed use development consists of all one and two bedroom residential units over hidden subsurface parking with up to 10,000 square feet of 'flex space' in the ground floor along the 10<sup>th</sup> Street frontage that can be used as either commercial or residential uses. The Applicant feels strongly that a commercial use is appropriate along 10<sup>th</sup> Street, and would be an enhancement to the proposed residences. The community has also expressed support for commercial space at this location. Unfortunately many of the uses that would be most welcomed and beneficial to the neighborhood, such as a coffee shop or deli, are not currently allowed within the B-1 zoning district, so flexibility of use is necessary until the zoning ordinance allows such uses in the B-1 district. The Project will remain entirely residential along the 11<sup>th</sup> Street frontage, matching the residential character of the neighborhood beyond.

Also in consideration of the character of the neighborhood beyond 11<sup>th</sup> street, this submittal includes a significant reduction to the proposed building height along 11<sup>th</sup> Street, recognizing the desire of nearby residents to have a smaller massing and less intense uses on this more residential side of the Project. In fact, the building height for the half of the building closest to the neighborhood is 33 feet tall, which is actually less than the 35 height maximum for low density residential districts. The exterior of the building will consist primarily of brick, and is designed to match the scale and pattern of existing neighborhood structures along East Jefferson Street with two story townhouse style units. After the first two stories, the proposed building will significantly step back from the street. Thus, the perception of the overall building mass is reduced and the form of the building mirrors that of smaller scale residential uses. Architectural renderings of the building (both older designs and updated design) in context are included with this submittal (See Exhibits E & F).

The Project is also designed to enhance the overall pedestrian experience through improvements to the streetscape such as street trees, low sitting walls, pedestrian bulb-outs and crosswalks, outdoor meeting areas and plazas, as well as additional landscaping around the building. In addition, this site is one of the first developments to incorporate guidelines from the newly adopted Streets that Work Plan. Moreover, the Applicant is providing an abundance of garage parking spaces to accommodate all the residential and guest parking for the building, leaving on-street parking spaces available for the adjacent properties.

### UPDATED CONCEPT PLAN AND PROJECT DESIGN

The Special Use Permit request for 1011 East Jefferson Street has been under review by the City for approximately one year. During that time, the Applicant has worked closely with staff and community members, resulting in a Project that has been redesigned twice, with significant changes each time meant to address community input and create the best design for this specific site. The Applicant has hosted large community meetings, as well as attending several smaller meetings with the Little High Neighborhood Association and other property owners in the area. Following these meetings, the Applicant has made significant revisions to the building design and concept plan, including the following:

- 1. Reduction of building massing to be 40% smaller than the by-right massing through extensive setbacks and by stepping back the upper floors of the building.
- 2. Reduction of the building footprint by adding an on-site alley on the north side of the parcel to better accommodate residents accessing and leaving the site, in response to the community's concerns regarding the original proposal having only a single entrance and exit onto 11th Street. The alley provides sufficient space for vehicles to que up on site rather than blocking traffic along 11 Street.
- 3. Addition of townhouse style units that will have front doors with direct pedestrian access from East Jefferson Street and 11<sup>th</sup> Street, which will help activate the streetscape and create a better sense of place. Careful articulation along East Jefferson Street to directly relate to the existing buildings on the other side of the street.
- 4. The newly designed building that steps down towards 11<sup>th</sup> Street reduces the perceived mass by creating the appearance of two separate buildings with a central courtyard. Reduction of the height of the building along 11<sup>th</sup> Street to 33 feet, meaning this part of the project is shorter than the 35 foot height maximum in the R-1 zoning district.
- 5. Addition of streetscape elements along East Jefferson, 10<sup>th</sup> Street, and 11<sup>th</sup> Streets to improve the streetscape, including front porches, low sitting walls, outdoor meeting areas and plazas.
- 6. The two parking levels are now entirely below-grade and thus not visible.
- Addition of solar panels to help offset the electrical usage within the common areas of the building.
- Inclusion of 10,000 square feet of Commercial/Residential "flex space" along 10<sup>th</sup> Street, which will be commercial space if the Zoning Ordinance is amended to permit coffee shops, delis, and similar uses desired by the neighbors.
- 9. A voluntary traffic study was completed to confirm that the Project will not create traffic impacts. The City Staff have confirmed that the study demonstrates that the Project will reduce traffic from the existing condition; Trip generation figures for a Mixed Use development show no impacts to traffic or function of intersections. Detailed information, including the Traffic Study and Summary memo are attached. (See Exhibits G, H & I)

The proposed redevelopment of 1011 East Jefferson Street and the requested Special Use Permit provide a custom solution for the redevelopment of this Property without creating any adverse impacts, and that reduces the vehicle trips compared to the existing use or a by-right development. The Project adds

affordable and mid-range housing options close to downtown, and supports numerous goals of the City's Comprehensive Plan, as detailed in the attached Comprehensive Plan summary document. In this case, the Special Use Permit is more beneficial to the community and much less impactful than the by-right massing and many of the by-right uses allowed. The Property serves as a good transition, both in use and massing, between residential housing to the east and office/commercial uses to the west. For more detailed information, please review the attached documents.

We appreciate your consideration of this request, and would be happy to address any questions or comments you may have about the Project. Please feel free to contact me if I can be of assistance.

Sincerely,

Valerie W. Long

Valerie W. Jong

### Attachments

General Standards for Issuance of a Special Use Permit
Comprehensive Plan Goals Summary
Conceptual Plan
Suggested Conditions
Building Renderings: Updated Design February 2017
Building Renderings: June 22, 2016 Submittal Package
Summary Memo of Traffic Study and Trip Generation Tables
Traffic Study: September 2016
Trip Generation Tables for Mixed Use: February 2017

cc: Jefferson Medical Building Partnership

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