

**City Council Agenda Items
and
Contracts, Leases or Agreements**

8/21/2012

City Council Meeting Date
Agenda Items Only

Quin Thompson
Submitted By

Planning
Division

Development Services
Department

Action Required:

RZN 12-4166: Rezone S. of Brookbury Crossing & E. of Candlewood SD, 294: Submitted by Engineering Services Inc. for property located South of BROOKBURY CROSSING and East of CANDLEWOOD developments. The Property is zoned R-A, RESIDENTIAL-AGRICULTURAL and contains approximately 20.99 acres. The request is to rezone the subject property to RSF-4, RESIDENTIAL SINGLE-FAMILY, 4 UNITS PER ACRE. The Planning commission recommended the property be rezoned to RSF-5, Single-family Residential, ONE HALF UNIT PER ACRE.

Cost of this request	\$ -	Category / Project Budget	Program Category / Project Name
Account Number	\$ -	Funds Used to Date	Program / Project Category Name
Project Number	\$ -	Remaining Balance	Fund Name

Budgeted Item

Budget Adjustment Attached

MWC Pat
 Department Director 08.03.2012 Date
World say one unit per 2 acres. We don't need half units to be built.
R. [Signature]
 City Attorney 8-3-12 Date

Previous Ordinance or Resolution # _____
 Original Contract Date: _____
 Original Contract Number: _____

Paul a. Beck
 Finance and Internal Services Director 8-3-2012 Date

Received in City Clerk's Office
 08-03-12 P01:30 RCVD
[Signature]

Don Mar
 Chief of Staff 8-3-12 Date

Received in Mayor's Office
 ENTERED
 8/3/12
[Signature]

Kevin Jordan
 Mayor 8/6/12 Date

Comments:

*Added to October 16, 2012 CC Mtg. at the 9/18/12 CC mtg.
 Added to September 18, 2012 CC mtg. at the 8/21/12 CC mtg.*



www.accessfayetteville.org

CITY COUNCIL AGENDA MEMO

To: Mayor Jordan, City Council

Thru: Don Marr, Chief of Staff
Jeremy Pate, Development Services Director JP

From: Quin Thompson, Current Planner

Date: July 25, 2012

Subject: RZN 12-4166 (South of Brookbury Crossing & East of Candlewood Developments/Riggins)

RECOMMENDATION

The Planning Commission recommends approval of an ordinance to rezone the subject property from R-A, Residential Agricultural to RSF-.5, Single-Family Residential, one half unit per acre. The applicant originally requested that the property be re-zoned to RSF-4, Single-Family Residential, 4 units per acre. This item was discussed at the Planning Commission meeting on July 23, 2012.

BACKGROUND

The subject property is located south of Skillern Road and east of Highway 265. The property is an undeveloped pasture and woodland with Flynn Creek traversing north to south on the east boundary of the site. The overall parcel contains approximately 20.99 acres. The applicant proposes to rezone the 20.99 acres, in its entirety, from R-A, Residential Agricultural to RSF-4, Single-Family Residential, 4 units per acre.

DISCUSSION

This item was heard at the Planning Commission meeting July 23, 2012. Staff recommended in favor of the proposed zoning. This site is designated as Residential Neighborhood on City Plan 2030 Future Land Use Plan. The property is surrounded on three sides by existing neighborhoods currently zoned RSF-4, Single-Family Residential, 4 units per acre. In staff's opinion the requested zoning is compatible with surrounding land use & density.

After significant public comment, primarily in opposition to the density & accompanying traffic through the Brookbury neighborhood, the Planning Commission forwarded the request to City Council with a recommendation to re-zone the property to RSF-.5, Single-Family Residential, with a maximum density of 1 unit per two acres. This lower density is equivalent to the maximum density requirement of the current R-A zoning on the property, but removes certain of the existing agricultural rights that come with an R-A zone. The primary concern of the Planning Commission was the lack of a second point of access to this property, which would place all additional traffic load onto the Brookbury neighborhood and Skillern Road.

BUDGET IMPACT

None.

ORDINANCE NO.

AN ORDINANCE REZONING THAT PROPERTY DESCRIBED IN REZONING PETITION RZN 12-4166, FOR APPROXIMATELY 20.99 ACRES, LOCATED TO THE SOUTH OF SKILLERN ROAD FROM R-A, RESIDENTIAL AGRICULTURAL TO RSF-0.5, ONE HALF SINGLE-FAMILY UNITS PER ACRE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FAYETTEVILLE, ARKANSAS:

Section 1: That the City Council of the City of Fayetteville, Arkansas hereby changes the zone classification of the following described property from R-A, Residential Agricultural to RSF-0.5, as shown on Exhibits "A" and "B" attached hereto and made a part hereof.

Section 2: That the City Council of the City of Fayetteville, Arkansas hereby amends the official zoning map of the City of Fayetteville to reflect the zoning change provided in Section 1.

PASSED and **APPROVED** this day of , 2012.

APPROVED:

ATTEST:

By: _____
LIONELD JORDAN, Mayor

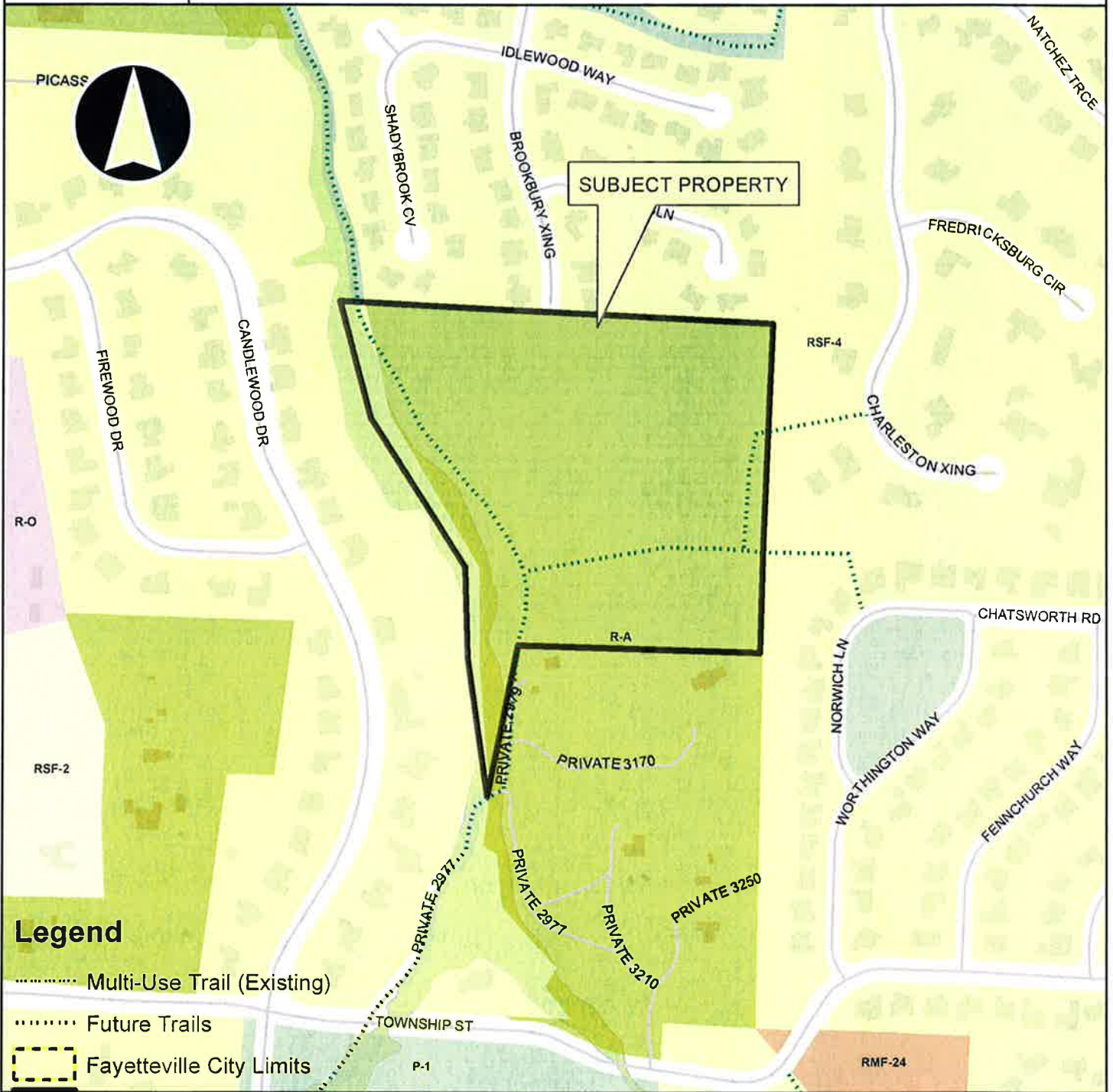
By: _____
SONDRA E. SMITH, City Clerk/Treasurer

EXHIBIT "A"

RZN12-4166

RIGGINS

Close Up View



Legend

- Multi-Use Trail (Existing)
- Future Trails
- Fayetteville City Limits

Overview

RZN12-4166

- Footprints 2010
- Hillside-Hilltop Overlay District
- Design Overlay District
- Design Overlay District
- Planning Area



EXHIBIT "B"
RZN 12-4166

Legal Description to Accompany Rezoning Application for Parcel No. 765-13292-001

LEGAL DESCRIPTION - FROM DEED BOOK 94 PAGE 21919:

Part of the East Half (E 1/2), Southwest Quarter (SW 1/4) of Section Thirty-One (31), Township Seventeen North (T-17-N), Range Twenty-nine West (R-29-W), of the Fifth Principal Meridian in Washington County, Arkansas and being more particularly described as follows:

Commencing at the Southeast Corner of said East Half (E 1/2), Southwest Quarter (SW 1/4), thence North 01°14'02" East - 1,016.00 feet to the POINT OF BEGINNING, thence South 88°45'10" West - 658.17 feet, to the center of a road thence down the center of said road South 08°25'23" West - 420.00 feet to the center of a creek, thence along the center of said creek as follows: North 11°02'24" West - 381.44 feet, North 04°18'44" West - 246.70 feet, North 35°40'24" West - 480.96 feet, North 17°31'31" West - 330.46 feet, thence East - 1,179.15 feet, thence South 0°31'45" East - 596.50 feet, thence South 01°14'02" East - 300.00 feet to the POINT OF BEGINNING Containing 20.99 acres more or less subject to easements and rights-of-way of record.

HUGH JARRATT*
ATTORNEY AT LAW
1200 EAST JOYCE BLVD., 6TH FLOOR
FAYETTEVILLE, ARKANSAS 72703
TELEPHONE 479.521.6686 / FACSIMILE 479.527.8870

B. 1
RZN 12-4166 (South of
Brookbury Crossing & East of
Candlewood Developments/Riggins)
Page 6 of 92
RECEIVED
JUL 30 2012
CITY OF FAYETTEVILLE
CITY CLERK'S OFFICE

* Licensed in Arkansas, Oklahoma
& Missouri

July 30, 2012

City of Fayetteville, Arkansas
ATTN: City Clerk
113 W. Mountain Street
Fayetteville, AR 72701

RE: RZN 12-4166
South of Brookbury Crossing

Dear City Clerk:


Please treat this letter as a formal request on behalf of the applicant, Riggins Construction, to appeal the Fayetteville Planning Commission decision regarding RZN 12-4166, a rezoning south of Brookbury Crossing.

Please place RZN 12-4166 on the agenda for consideration by the Fayetteville City Council on the first available meeting.

If there are any additional materials or information which you require, please let me know.

Thank you.

Sincerely,


Hugh Jarratt,
Attorney at Law

cc: Client



PC Meeting of July 23, 2012

THE CITY OF FAYETTEVILLE, ARKANSAS

125 W. Mountain St.
Fayetteville, AR 72701
Telephone: (479) 575-8267

PLANNING DIVISION CORRESPONDENCE

TO: Fayetteville Planning Commission
FROM: Quin Thompson, Current Planner
THRU: Jeremy Pate, Development Services Director
DATE: ~~July 12, 2012~~ *Updated July 25, 2012*

RZN 12-4166: Rezone S. of Brookbury Crossing & E. of Candlewood SD, 294: Submitted by Engineering Services Inc. for property located South of BROOKBURY CROSSING and East of CANDLEWOOD developments. The Property is zoned R-A, RESIDENTIAL-AGRICULTURAL and contains approximately 20.99 acres. The request is to rezone the subject property to RSF-4, RESIDENTIAL SINGLE-FAMILY, 4 UNITS PER ACRE.

Planner: Quin Thompson

BACKGROUND:

Background and property description: The property is zoned Residential-Agricultural and contains 20.99 acres located south of Skillern Road and the Brookbury development. The site is undeveloped pasture and wooded lot with access from Brookbury Crossing. The surrounding zoning and land use is depicted in *Table 1*. The western portion of the property adjacent to the Candlewood development is bordered by Flynn Creek.

Surrounding land use and zoning is depicted in *Table 1*.

**Table 1
Surrounding Zoning and Land Use**

Direction	Land Use	Zoning
North	Single-family residential (Brookbury)	RSF-4
South	Single-family residential	R-A
East	Single-family residential (Savannah)	RSF-4
West	Single-family residential (Candlewood)	RSF-4

Proposal: The owners of the 20.99 acres propose to rezone from R-A (Residential-Agricultural) to RSF-4, Residential Single-family/4 units per acre.

Public Comment: Staff has received significant comment from residents of surrounding neighborhoods concerning the rezoning request as well as the presumed development of this property. A copy of all written comments and e-mails are attached to this report. Many of the comments concern the limited access to the property through existing neighborhoods & traffic/streets in the area.

RECOMMENDATION:

Staff recommends forwarding **RZN 12-4166** to the City Council with a recommendation for **approval** based on the findings stated herein.

PLANNING COMMISSION ACTION: Required <u>YES</u>		
Date: <u>July 23, 2012</u>	<input type="checkbox"/> Tabled	<input checked="" type="checkbox"/> Forwarded <input type="checkbox"/> Denied
Motion: <u>Pennington</u>	Second: <u>Hoskins</u>	Vote: <u>8-1-0 (Chesser voted 'no')</u>
CITY COUNCIL ACTION: Required <u>YES</u>		
	<input type="checkbox"/> Approved	<input type="checkbox"/> Denied
Date: <u>August 7, 2012</u>		

CITY PLAN 2030 FUTURE LAND USE PLAN: *City Plan 2030 Future Land Use Plan designates this site as Residential Neighborhood Area. Residential Neighborhood Areas are primarily residential in nature and support a variety of housing types of appropriate scales and context, including single-family, multifamily, and row-houses. It encourages traditional neighborhood development that incorporates low-intensity non-residential uses intended to serve the surrounding neighborhood.*

INFRASTRUCTURE:

Streets: The site has access to Brookbury Crossing. Brookbury Crossing is a fully improved two lane city street which accesses Skillern road and Highway 265. Based on current development patterns, Brookbury Crossing can easily accommodate additional traffic without further improvements. Skillern Rd is relatively unimproved between Brookbury Crossing and Highway 265. Highway 265 is currently being widened to a 5-lane section in this vicinity. Street improvements will be evaluated at the time of development, and may include off-site improvements or the provision of additional points of access.

Water: Public water is available to the property. There is an 8" water main along Brookbury Crossing on the north side of this location. Public water main improvements will be necessary to provide fire flow for domestic service for any proposed development.

- Sewer:** Sanitary sewer is available to the site. There is an 8" main along Brookbury Crossing on the north side of this property. Public sewer main improvements will be necessary to provide service for any proposed development.
- Drainage:** Standard improvements and requirements for drainage will be required for any development. This property is affected by the 100-year floodplain and the Streamside Protection Zones.
- Police:** The Police Department does not find that this rezoning will affect calls for service or response times. A copy of the Police Department memo is attached.
- Fire:** This property will be protected by Engine No. 5, located approximately 2 miles away at the intersection of Crossover and Old Wire roads. Response time is expected to be 3 minutes to the property. The anticipated development of the property with more than 30 single family homes will require separate and approved fire access roads. The Fire Marshal has expressed concern over the limited access to this property related to future development plans. A copy of the memo from the Fire Marshal is attached, explaining Fire Code requirements pertinent to future development phase for this site.

FINDINGS OF THE STAFF

1. A determination of the degree to which the proposed zoning is consistent with land use planning objectives, principles, and policies and with land use and zoning plans.

Finding: Although a higher density zoning such as RSF-8 could be appropriate within the Future Land Use designation of Residential Area on the property, staff find that RSF-4 is consistent with the existing and surrounding land uses and infrastructure, particularly given the difficulty in access for this property. The property is surrounded to the East, West, & North by neighborhoods with RSF-4 zoning. The zoning will allow the owners to develop the property to a density and with a pattern similar to surrounding developments, if adequate access can be provided.

A primary guiding principle in the City Plan 2030 for new neighborhood development is to provide 'complete, compact, and connected' neighborhoods. The most difficult of these to achieve for this property is for it to be adequately connected, which is a result of previous decisions to not provide 'stub-out' streets from other properties as they developed. In fact, this condition may make it more difficult for the development to achieve desired density and still meet City requirements for access.

2. A determination of whether the proposed zoning is justified and/or needed at the time the rezoning is proposed.

Finding: The proposed zoning is needed at this time in order for the property to be developed at the higher density requested by the applicant. It is not a reasonable expectation that this property remain with R-A zoning, allowing for typical agricultural uses, when surrounded on three sides by developed neighborhoods that are zoned RSF-4. In fact, staff finds the current agricultural zoning could become highly incompatible to surrounding neighborhoods if developed with many of the uses currently allowed in the R-A district. As discussed in Finding No. 1, the proposed zoning is justified as it is compatible with the surrounding zoning and land uses and consistent with the City's Future Land Use Plan.

3. A determination as to whether the proposed zoning would create or appreciably increase traffic danger and congestion.

Finding: The proposed rezone would not significantly increase traffic or congestion in the area. Highway 265 is currently being expanded to higher capacity. Skillern Road, which serves this property as primary access, is unimproved and currently experiences some congestion during peak periods. Improvements to this road would need to be evaluated with future development plans, so as not appreciably create or compound any dangerous traffic condition or congestion.

4. A determination as to whether the proposed zoning would alter the population density and thereby undesirably increase the load on public services including schools, water, and sewer facilities.

Finding: Increased load on public services were taken into consideration and recommendations from the Engineering, Fire, and Police Departments and are included in this report. The proposed zoning change to RSF-4 should have no discernable impact on public services as the site is directly adjacent to public infrastructure, however future development will require improvements to public infrastructure with potential requirements for off-site improvements.

5. If there are reasons why the proposed zoning should not be approved in view of considerations under b (1) through (4) above, a determination as to whether the proposed zoning is justified and/or necessitated by peculiar circumstances such as:
 - a. It would be impractical to use the land for any of the uses permitted under its existing zoning classifications;
 - b. There are extenuating circumstances which justify the rezoning even though there are reasons under b (1) through (4) above why the proposed zoning is not desirable.

Finding: **Not applicable. Staff recommends in favor of the re-zoning request, with the understanding that development of this property is not being considered at this time. Concerns expressed both by the Fire Marshal and comments received from the public will be more appropriately considered during the [presumed] development phase to follow re-zoning, if the request is granted. It should be noted, specifically, that the single access point to the property may limit density to well below the four units per acre granted by the RSF-4 zoning district, due to safety & connectivity requirements.**

161.07 District RSF-4, Residential Single-Family – Four Units Per Acre

(A) *Purpose.* The RSF-4 Residential District is designed to permit and encourage the development of low density detached dwellings in suitable environments, as well as to protect existing development of these types.

(B) *Uses.*

(1) *Permitted uses.*

Unit 1	City-wide uses by right
Unit 8	Single-family dwellings
Unit 41	Accessory dwellings

(2) *Conditional uses.*

Unit 2	City-wide uses by conditional use permit
Unit 3	Public protection and utility facilities
Unit 4	Cultural and recreational facilities
Unit 5	Government facilities
Unit 9	Two-family dwellings
Unit 12	Limited business
Unit 24	Home occupations
Unit 36	Wireless communications facilities
Unit 44	Cottage Housing Development

(C) *Density.*

	Single-family dwellings	Two-family dwellings
Units per acre	4 or less	7 or less

(D) *Bulk and area regulations.*

	Single-family dwellings	Two-family dwellings
Lot minimum width	70 ft.	80 ft.
Lot area minimum	8,000 sq. ft.	12,000 sq.-ft.
Land area per dwelling unit	8,000 sq. ft.	6,000 sq. ft.
Hillside Overlay District Lot minimum width	60 ft.	70 ft.
Hillside Overlay District Lot area minimum	8,000 sq. ft.	12,000 sq.-ft.
Land area per dwelling unit	8,000 sq. ft.	6,000 sq. ft.

(E) *Setback requirements.*

Front	Side	Rear
15 ft.	5 ft.	15 ft.

Building Height Maximum	45 ft.
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Height regulations. Structures in this District are limited to a building height of 45 feet. Existing structures that exceed 45 feet in height shall be grandfathered in, and not considered nonconforming uses, (ord. # 4858).

(G) *Building area.* On any lot the area occupied by all buildings shall not exceed 40% of the total area of such lot.

(Code 1991, §160.031; Ord. No. 4100, §2 (Ex. A), 6-16-98; Ord. No. 4178, 8-31-99; Ord. 4858, 4-18-06; Ord. 5028, 6-19-07; Ord. 5128, 4-15-08; Ord. 5224, 3-3-09; Ord. 5312, 4-20-10; Ord. 5462, 12-6-11)

161.03 District R-A, Residential-Agricultural

(A) *Purposes.* The regulations of the agricultural district are designed to protect agricultural land until an orderly transition to urban development has been accomplished; prevent wasteful scattering of development in rural areas; obtain economy of public funds in the providing of public improvements and services of orderly growth; conserve the tax base; provide opportunity for affordable housing, increase scenic attractiveness; and conserve open space.

(B) *Uses.*

(1) *Permitted uses.*

Unit 1	City-wide uses by right
Unit 3	Public protection and utility facilities
Unit 6	Agriculture
Unit 7	Animal husbandry
Unit 8	Single-family dwellings
Unit 9	Two-family dwellings
Unit 37	Manufactured homes
Unit 41	Accessory dwellings
Unit 43	Animal boarding and training

(2) *Conditional uses.*

Unit 2	City-wide uses by conditional use permit
Unit 4	Cultural and recreational facilities
Unit 5	Government facilities
Unit 20	Commercial recreation, large sites
Unit 24	Home occupations
Unit 35	Outdoor Music Establishments
Unit 36	Wireless communications facilities
Unit 42	Clean technologies

(C) *Density.*

Units per acre	One-half
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(D) *Bulk and area regulations.*

E) *Setback requirements.*

(F) *Height requirements.* There shall be no maximum height limits in the A-1 District, provided, however, that any building which exceeds the height of 15 feet shall be setback from any boundary line of any residential district a distance of 1.0 foot for each foot of height in excess of 15 feet. Such setbacks shall be measured from the required

setback lines.

(G) *Building area.* None.

(Code 1965, App. A., Art. 5(1); Ord. No. 1747, 6-29-70; Code 1991, §160.030; Ord. No. 4100, §2 (Ex. A), 6-16-98; Ord. No. 4178, 8-31-99; Ord. 5028, 6-19-07; Ord. 5128, 4-15-08; Ord. 5195, 11-6-08; Ord. 5238, 5-5-09; Ord. 5479, 2-7-12)



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THE CITY OF FAYETTEVILLE, ARKANSAS



B. 1
RZN 12-4166 (South of
Brookley Crossing & East of
Candlewood Development/Riggins)
Page 15 of 20
650 West Center Street
Fayetteville, AR 72701
P (479) 575-8365 F (479) 575-0471

Zoning Review

To: Quin Thompson
From: Harley Hunt, Fire Marshal
Date: July 17, 2012
Re: RZN 12-4166

This development will be protected by Engine 5 located at 2979 N. Crossover. It is 2 miles from the station with an anticipated response time of 3 minutes to the beginning of the development. The anticipated development of this property with more than 30 single family homes will require separate and approved fire apparatus roads as stated in AFC D107.1. The Fayetteville Fire Department does not feel this development will affect our calls for service or our response times.

If you have any questions please feel free to contact me.

Battalion Chief Harley Hunt
479-718-7639
Fayetteville Fire Department

MEMORANDUM

To: Jeremy Pate
From: Captain Kenny Yates
Date: 7/13/12
Subject: RZN 12-4166

This document is in response to the request for comments on proposed RZN 12-4166 (S. of Brookbury Crossing / Riggins, 294) submitted by Engineering Services, Inc. for property located at south of Brookbury Crossing.

It is the opinion of the Fayetteville Police Department that this RZN (12-4166), will not substantially alter the population density. This RZN will not create an appreciable or undesirable increase in the load on police services and will not create an appreciable increase in traffic danger and congestion.

From: "Kathleen Leatherby" <dkleatherby@cox.net>
To: <qthompson@ci.fayetteville.ar.us>
CC: "Charlie Collins" <clcollins6@cox.net>, "Jerilyn Nicholson" <jernic3@att...>
Date: 7/6/2012 7:14 AM
Subject: surrounding Density - Proposed Riggins Development

Quin -

In response to the question I asked by email on 7/1 concerning whether the city had done an actual density study on the neighborhoods surrounding the property that Riggins Construction would like to have rezoned and then develop (your answer was "no"), I have spent some time at the Circuit clerk's office researching plats filed with the city. Here is what I've discovered:

Brookbury - 1.96 homes / acre

Covington - 2.2 homes / acre

Savanna - 1.2 homes / acre (Phase II Plat shows zoned R-1)

Candlewood - 1 home / acre (Plat shows zoned R-1)

Point: Compatability with surrounding neighborhoods would seem logical to zone at RSF-2 rather than RSF-4 to ensure the developer is consistent with surrounding development.

I would greatly appreciate it if you would pass this information on to the Planning Commissioners as I think it makes a strong point.

Sincerely,

Kathleen Leatherby
Brookbury Woods POA Treasurer
2731 N. Brookbury Crossing
Fayetteville, AR 72703
(479) 444-6551 (h)

From: "Jerilyn Nicholson" <jernic3@att.net>
To: <qthompson@ci.fayetteville.ar.us>
CC: "Kathleen Leatherby" <dkleatherby@cox.net>, "Charlie Collins" <cicollins...>
Date: 7/7/2012 12:01 PM
Subject: requested rezoning at end of Brookbury Crossing

Mr. Thompson, my husband and I are residents of Brookbury subdivision & would like to offer the following comments in opposition to the proposed rezoning adjoining our neighborhood with access provided through our neighborhood.

Zoning: There is a discrepancy in the initial information we received on the existing zoning of the surrounding neighborhoods. The information was that all adjoining neighborhoods were zoned RSF-4. The final plat for Candlewood shows the zoning is RSF-1. Regardless of the existing zoning, what is "on the ground" is far more significant. The following is the actual density of the surrounding neighborhoods:

Brookbury: 1.96 homes/acre
Covington: 2.2 homes/acre
Savanna: 1.2 homes/acre
Candlewood: 1 home/acre

As is apparent, the requested rezoning would more than double the surrounding densities. The developer could develop the property today as it is currently zoned and be compatible with the adjoining neighborhoods. No one is disputing the right to develop.

Traffic/Density: The proposed rezoning would permit up to 80 homes on this property. Using the nationally accepted statistics on average daily trips (ADT), 80 homes would generate an additional 800 trips per day onto Brookbury Crossing, to say nothing of the construction traffic that would result. If you look at a Brookbury plat or an aerial photograph, you will see that all of the streets in Brookbury take access into and out of the subdivision via Brookbury Crossing. Brookbury has 97 homes. Thus, what the proposed rezoning would allow comes very close to doubling the traffic count on Brookbury Crossing. You will further note by looking at our plat that Brookbury Crossing is a relatively straight street from the entry to the subdivision to its present termination point, a cul-de-sac, where access is proposed into the undeveloped 20 acre tract. The entry to Brookbury is a landscaped boulevard and the streets are only 13.9' wide. House setbacks in this area are fairly minimal with the exception of one. The boulevard intersects with Skillern, also a narrow street with sight distance problems.

Brookbury is a neighborhood filled with children, joggers, walkers and bicyclists. To add the amount of traffic which the proposed rezoning would allow is not only dangerous and disruptive but "boggles the mind" in terms of quality of planning.

Our Property Owners Association (POA) is diligent about reminding the membership via email to maintain a safe speed on Brookbury Crossing since it is such a straight street and makes high speeds very possible. We will have no influence on any traffic coming from this proposed development since it will not be a part of our POA and our internal communication system.

Infill Development and Higher Density: I understand from the City that its goal is to encourage infill development at higher densities. Encouraging infill development is certainly understandable although higher density infill development is normally focused on the inner city level and we are clearly in the suburbs. In the case of this proposed rezoning, this approach seems somewhat short sighted and ignores the impacts of such an approach. If such higher density development severely impacts an existing neighborhood, it runs the risk of destabilizing attractive and very viable areas such as Brookbury. I think that might be called, "shooting yourself in the foot". The City has also espoused "green goals" such as preservation of trees and encouragement of wildlife habitat. The proposed rezoning would allow up to 80 homes on this tract. Such density seems very incompatible with such green goals. The 20 acres will be all but denuded.

Thank you for your thoughtful attention. These are critical issues to those of us who live here and we trust that you can appreciate our strong objections to the proposed rezoning.

Richard and Jerilyn Nicholson
3101 E. Summershade Drive
Fayetteville, AR 72703

From: "Kathleen Leatherby" <dkleatherby@cox.net>
To: <qthompson@ci.fayetteville.ar.us>
CC: "Charlie Collins" <cicollins6@cox.net>, "Scott and Meggan Bell" <scottme...>
Date: 7/5/2012 11:20 PM
Subject: Rezoning - Riggins development
Attachments: DSCN4731.JPG; DSCN4730.JPG; DSCN4729.JPG

Quin -

I am submitting the attached photos as documentation of what has happened in the past when large commercial vehicles enter onto Brookbury Crossing. Not only is the landscaping disturbed, but the sprinkler heads close to the street are easily broken when run over. The turn onto Brookbury Crossing from a large vehicle that is east bound on Skillern can be difficult because of the sharp turning radius. Skillern is a narrow 2-way road with no shoulder and steep drop offs in some areas. If there is oncoming traffic, it's impossible for a large vehicle to swing out into the other lane to gain the wider radius it needs. Once school starts, traffic is often backed up on Skillern headed west (towards Crossover/265) all the way to Brookbury Crossing. Many of the construction vehicles will be arriving each morning about this same time. I will address the traffic issue further in a separate email.

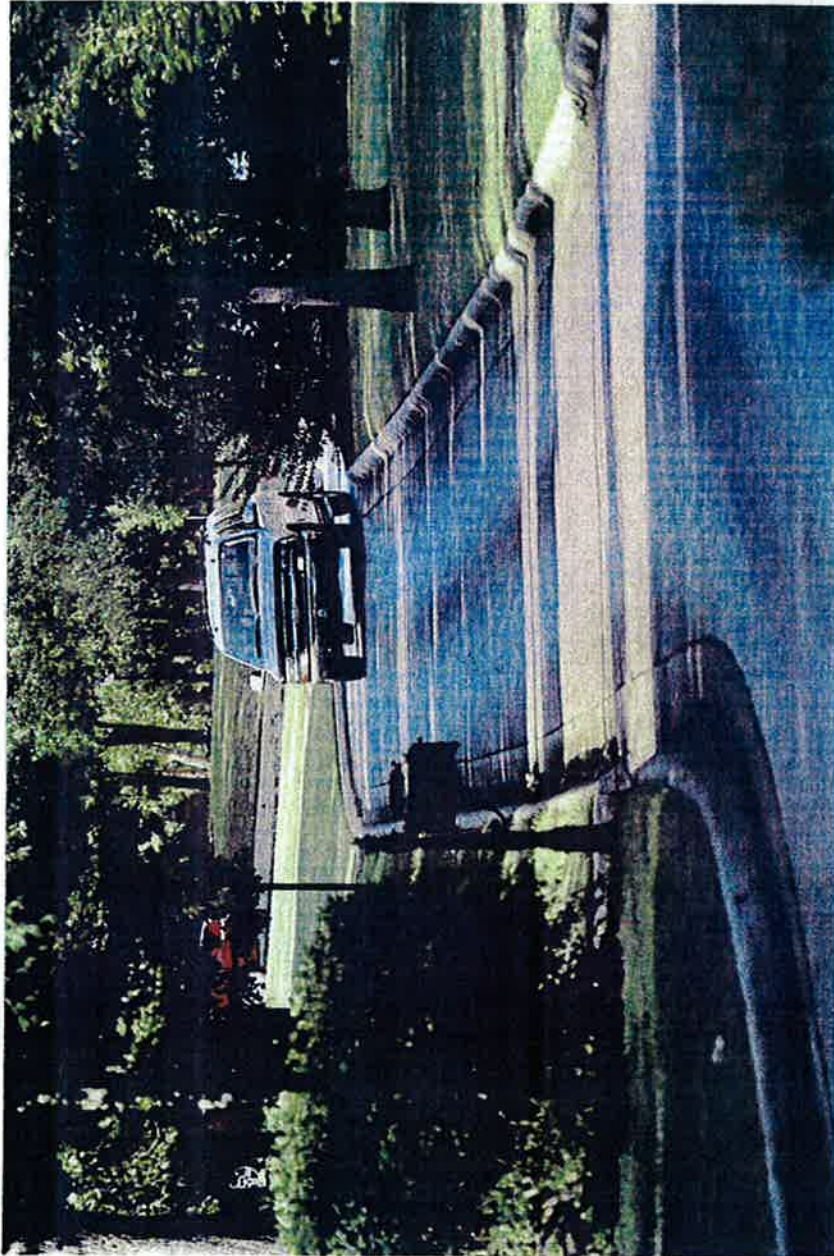
If the proposed rezoning request by Riggins Construction is passed (from RA to RSF-4) and construction begins using Brookbury Crossing as the access point; we expect a great deal more of this type of damage to the Brookbury POA landscaping for years to come. The Brookbury POA is not in a position financially to continually pay for repairs done by the ongoing construction of both the needed infrastructure and homes. It would be difficult to prove any damage done was associated with the ongoing Riggins construction unless we have an eye-witness each time that has the time to follow the vehicle to determine what it entered the neighborhood for. This then puts the financial burden on the POA. I am currently the Treasurer of the Brookbury POA and am the former Landscaping Chair so I'm familiar with all that is involved in both the landscaping and the financial end of maintaining our neighborhood.

We hope the Planning Commission will take these concerns into consideration when considering the possible rezoning and development plans of Riggins.

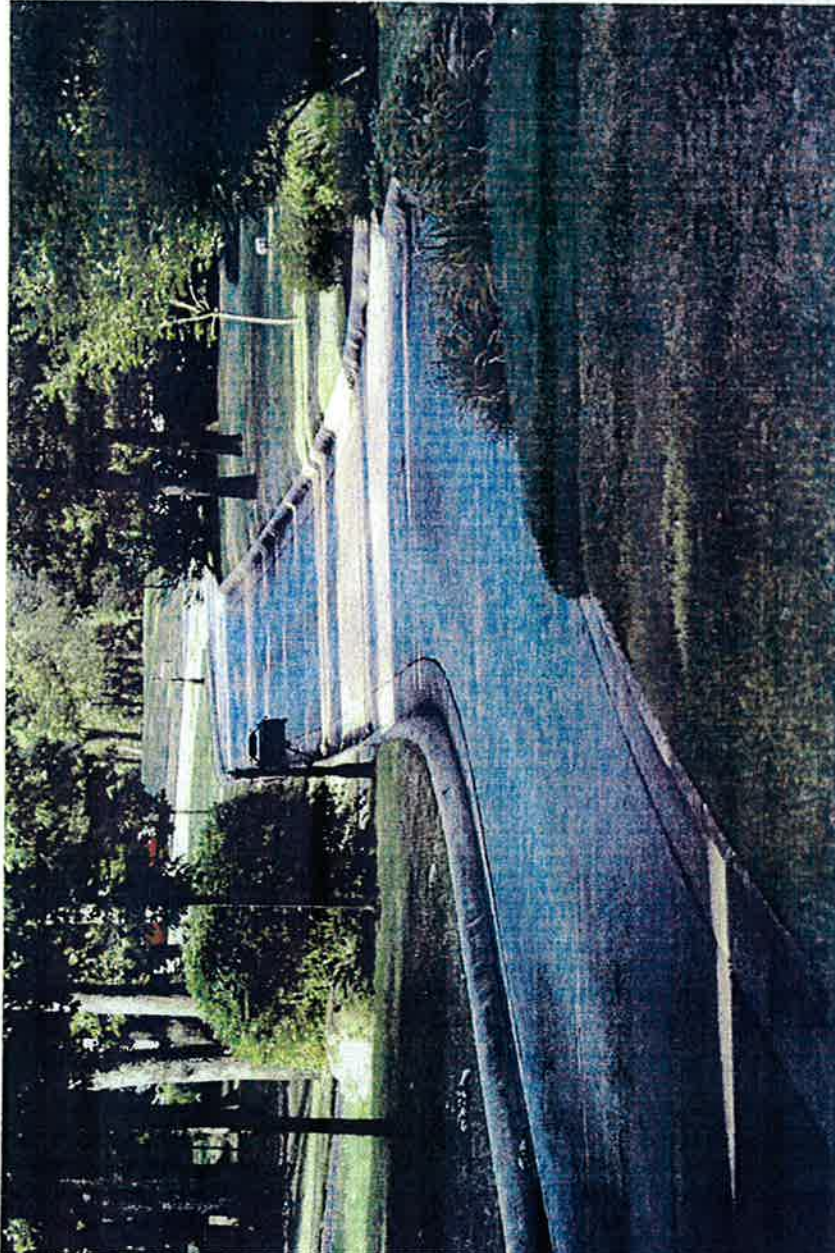
Kathleen Leatherby

Treasurer, Brookbury Woods POA

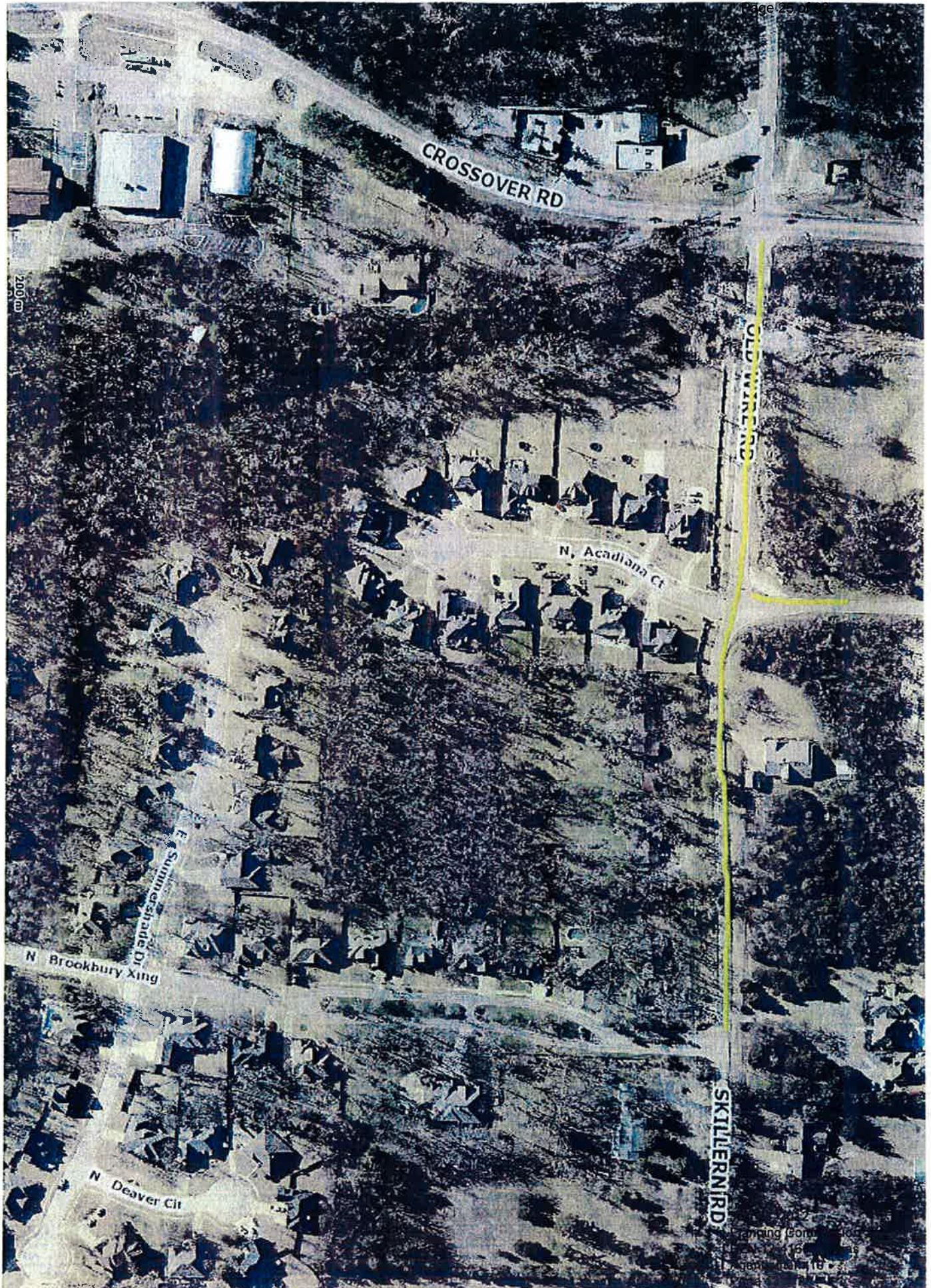
2731 N. Brookbury Crossing

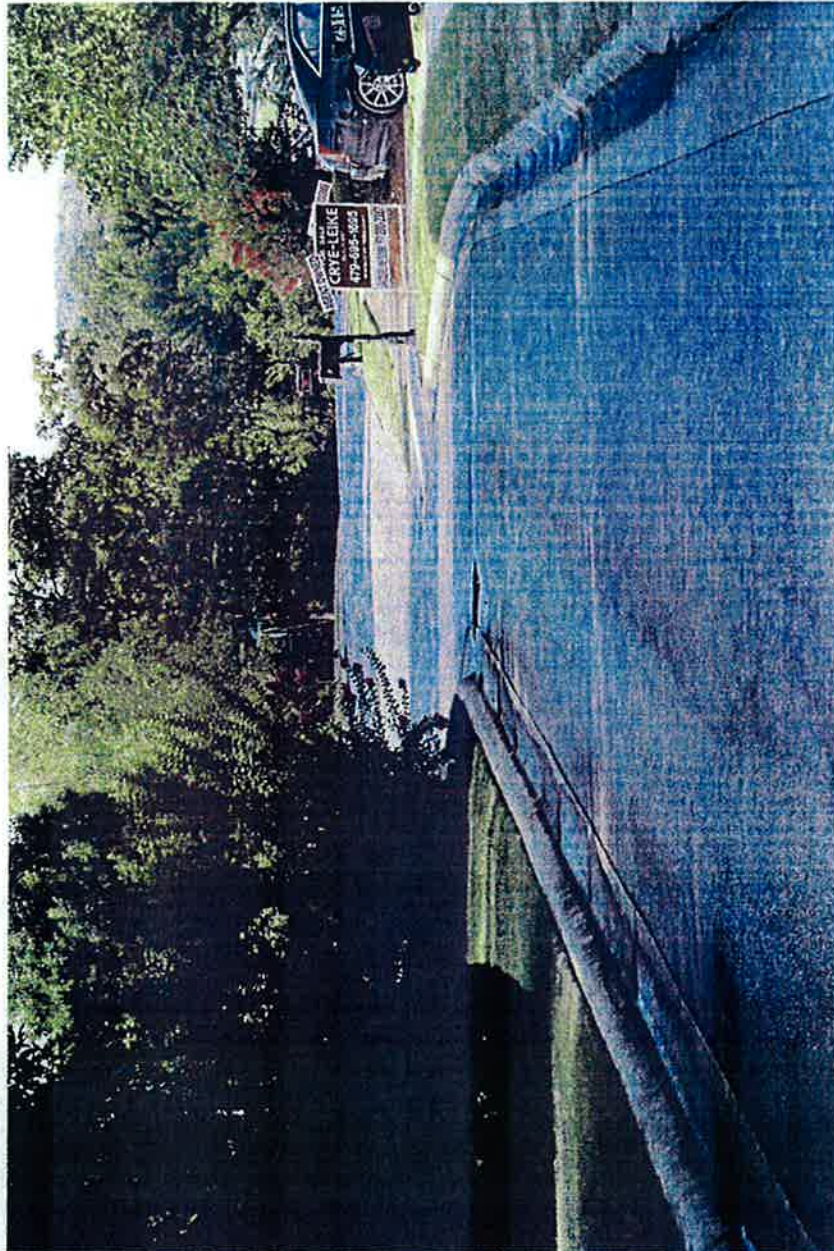












From: hogcrazy <hogcrazy_2000@yahoo.com>
To: <qthompson@ci.fayetteville.ar.us>
Date: 7/7/2012 7:36 AM
Subject: 20 acres Near Brookbury Subdivision

Dear Mr. Thompson:

As a landowner in Brookbury and one whose lot is right next to the 20 acres, I wanted to let you know of my thoughts.

As far as the zoning request for RSF-4, I realize the surrounding neighborhoods were zoned the same, this I was told, but they weren't built to those specifications. That is my concern. I would like this land to be developed in similar fashion to the surrounding neighborhoods. Both for continuity of the area and traffic concerns thru Brookbury.

I would like to let you know that I would be against RSF-4 zoning being approved and that a lower density zoning be approved instead. Why approve a zoning request that would allow up to 4 homes per acre when none of the surrounding neighborhoods were built to that density?

I also think the entrances to this area need to be addressed as Brookbury at this point will handle all the extra traffic.

Thank you very much.

Sincerely,

Linda Rogers

3285 E. Piper Glen

Fayetteville, AR 72703

From: "Kathleen Leatherby" <dkleatherby@cox.net>
To: "Quin Thompson" <qthompson@ci.fayetteville.ar.us>
Date: 7/8/2012 10:38 PM
Subject: Traffic back-up photo - Brookbury
Attachments: brookbury aerial.jpg; Brookbury-028.JPG; Brookbury-048.JPG; Brookbury-049.JPG; Brookbury-056.JPG; Brookbury-026.JPG

RE: Riggins rezoning request - South end of Brookbury Crossing

Quin -

As a member of the board of Directors for the Brookbury POA, I've had many neighbors share their concerns about the proposed rezoning and development at the south end of our neighborhood. One of the primary concerns that's been voiced is the volume of traffic that will be added - both from construction and the added homes. We have one entry / exit for the neighborhood that serves 96 homes. This one entry / exit presents a problem in the mornings once school starts. I have attached an aerial shot with the back-up of traffic at its worst highlighted in yellow. As you can see, it sometimes backs up all the way from Highway 265/Crossover to Brookbury Crossing. This makes it very difficult to get out of the neighborhood in the morning. If the RSF-4 zoning request is granted and Riggins is allowed to develop 70 additional homes (80 would be allowed but I'll be conservative given the need for easements, streets, etc.), based on the statistics you provided, this would add approximately 700 more trips per day on this single entry /exit. I have attached further photos to show the narrow split and curves at the entryway of Brookbury which add to the difficulty of seeing what's ahead (pedestrians, children, cars parked on the street, pets, etc.).

I've also had a neighbor share a story of having to wait over 10 minutes to exit Brookbury because of a large vehicle boxed in as it attempted to turn into Brookbury from Skillern without the proper turning radius. If this were an emergency situation, there is no alternative for a firetruck, ambulance or police.

We hope the Planning Commission will take all this into consideration when considering the number of homes that will be allowed to be built on the property in question and whether an alternative entry /exit is possible.

Sincerely,

Kathleen Leatherby

From: steve petruconis <srpconis@yahoo.com>
To: "cmonreal@ci.fayetteville.ar.us" <cmonreal@ci.fayetteville.ar.us>
CC: "qthompson@ci.fayetteville.ar.us" <qthompson@ci.fayetteville.ar.us>
Date: 7/1/2012 1:32 PM
Subject: Brookbury Crossing & Riggins Construction Land Development

Dear Ms. Monreal & Mr. Thompson:

Our names are Rosemary & Steve Petruconis and we reside at 2939 Brookbury Crossing, which is the third house on the west side of the boulevard as you enter the Brookbury development. We have learned that the City of Fayetteville will be considering changing the zoning status of the 21 acres of land immediately to the south of the Brookbury addition to allow Riggins Construction to develop homes under the RSF - 4 zoning designation. It is also our understanding that no entry/exit route is included in the proposed project other than the current Brookbury Crossing roadway.

Our primary concern is that Riggins would develop this property in a manner compatible with the adjoining neighborhoods and that it will consider adding an additional entry/exit route to help minimize the amount of traffic through our neighborhood. If an additional access route is not made a requirement in this project, all additional development traffic and residential owner traffic will pass directly in front of our home and others having an address on Brookbury Crossing. This will present a significant increase in the risk of potential motor vehicle accidents and personal injuries, in addition to wear and tear on the Brookbury Crossing roadway.

Brookbury Crossing is currently a very busy street because of only one entrance/exit route for the neighborhood. Adding potentially 80 more homes having one or more vehicles will unduly stress the current access route. We encourage you to require the additional or separate entry/exit route in this development if it is approved.

We thank you for your consideration of our request.

Sincerely,

Rosemary & Steve Petruconis
2939 N. Brookbury Crossing
Fayetteville, AR 72703

From: "Jerilyn Nicholson" <jernic3@att.net>
To: <qthompson@ci.fayetteville.ar.us>, <jpate@ci.fayetteville.ar.us>
Date: 7/19/2012 11:23 AM
Subject: rezoning request adjoining Brookbury Subdivision

I sent an email to Mr. Thompson a couple of weeks ago on this rezoning request, outlining some of my major concerns regarding this proposed rezoning. I wanted to get it to you early so that it would be included in the material given to the Planning Commissioners prior to the meeting. While I have contact information on the Planning Commissioners, there is only one person's email address listed and I hate to bother these folks by telephone with my added comments. Thus, I am sending this to you with the request that it be included in the information provided to the Commissioners, if there is still time to do so.

The feedback I am receiving from the city is that all of the issues that are of paramount concern to us will be addressed at the plat review stage if the requested RSF-4 zoning is approved. I would submit to you that the zoning dictates the parameters of the plat and should this rezoning be approved, the "die is cast". To not seriously consider the onerous effects this rezoning could have on Brookbury seems to be akin to putting one's head in the sand. I would add that the effects extend beyond Brookbury & include Skillern, Old Wire & Crossover. I would urge you and the Commissioners to face the issues head on now. I have always believed that it is better to be safe than sorry and I do indeed believe that such a rezoning, if approved, will provide ample opportunity to be sorry.

Thank you very much.

Jerilyn Nicholson
3101 E. Summershade

Public Comment for RZN 12-4166

Phone Message:

07-06-2012
Aaron Marooner
(479) 443-1997

Mr. Marooner(sp?), resident at Covington Park development stated that in his opinion the proposed rezone should be denied since the surrounding neighborhoods are not built to RSF-4 density.

Phone record:

07-07-2012
Manny Terminella
(479) 263-4749

Mr. Terminella had questions pertaining to city access requirements for new developments, specifically if the any future development on the subject property would be required to have more than one entry/exit. He owns property to the South and it would be necessary to cross his property if the developer wishes to have a South entry.

Staff responded that it is not a city requirement that a development have two entries/exits, but that once an entry/exit serves 80 homes, there are increased requirements according to fire code.

07-10-2012
Scott Stokenbury

Mr. Stokenbury is a resident of Brookbury development. He called with general questions regarding the re-zoning request.

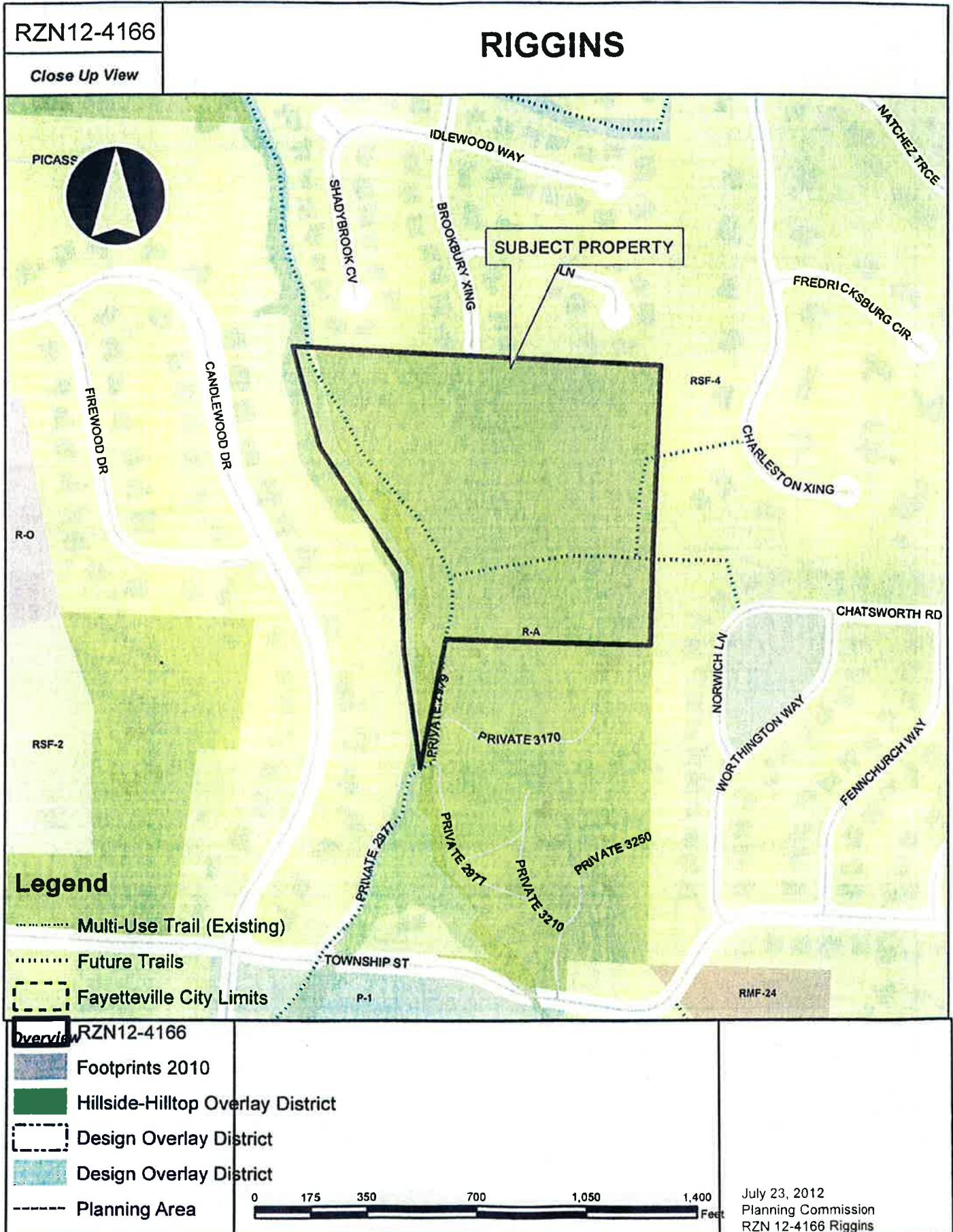
07-18-2012
Christine Smith

Mrs. Smith called to voice opinion against the requested re-zone, citing concerns about increased traffic and the likelihood that existing problems with high traffic speeds on Brookbury Crossing will be made worse. She is concerned about already difficult conditions caused by congestion at Brookbury Crossing, Skillern Road, and Highway 265 during peak traffic times

RZN12-4166	<h1>RIGGINS</h1>
Current Land Use	



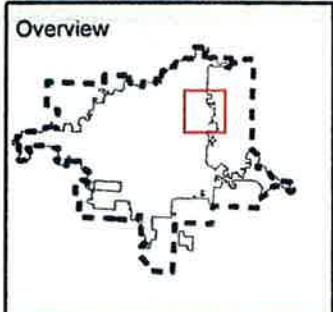
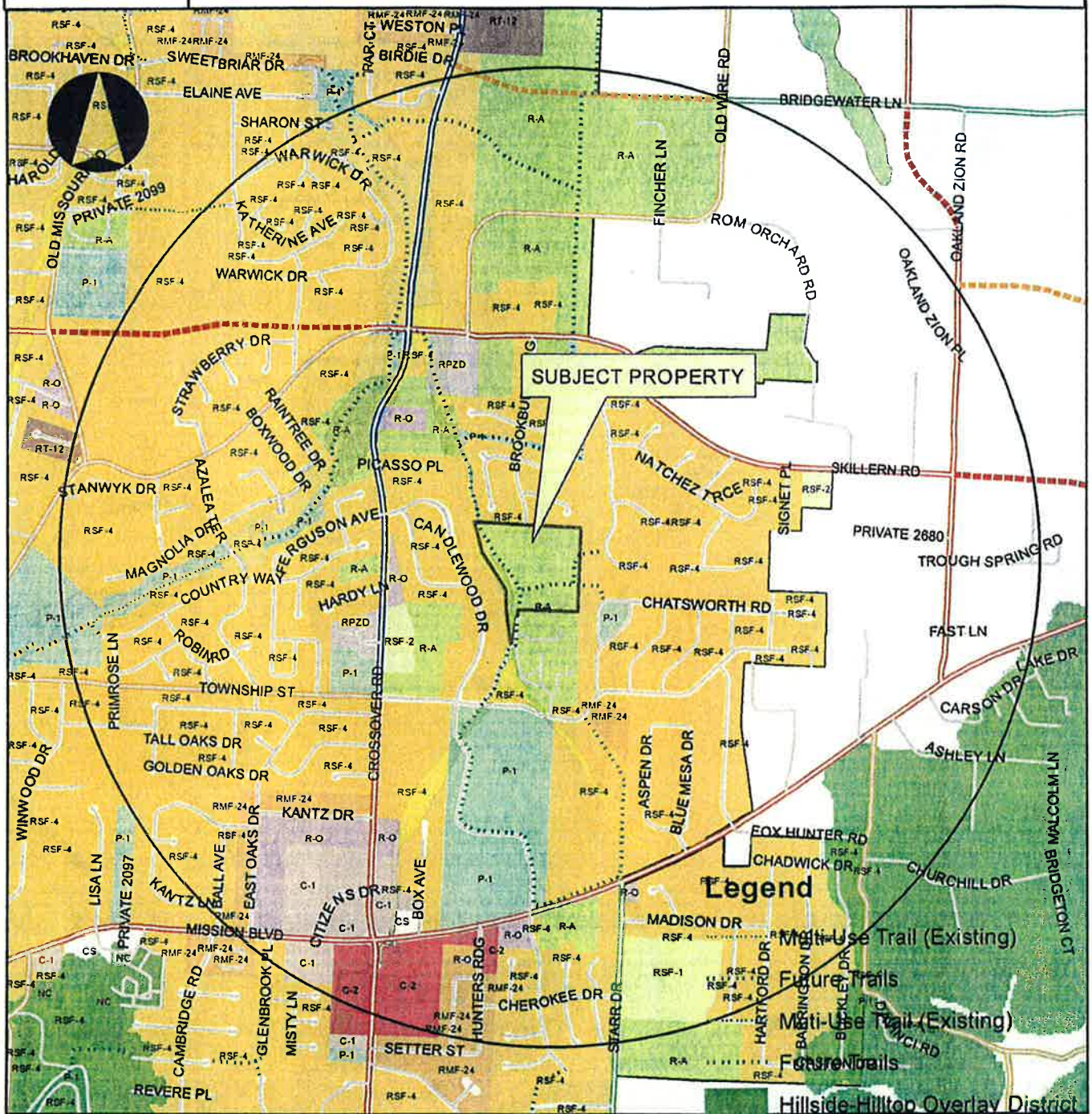
<p>Overview</p> <ul style="list-style-type: none"> RZN12-4166 Footprints 2010 Hillside-Hilltop Overlay District Design Overlay District Design Overlay District Planning Area 		<p>July 23, 2012 Planning Commission RZN 12-4166 Riggins Agenda Item 10 Page 26 of 28</p>
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RZN12-4166

RIGGINS COMMERCIAL CONSTRUCTION

One Mile View



Legend

- RZN12-4166
- Design Overlay District
- Planning Area
- Fayetteville

Boundary

0 0.25 0.5 1

Miles

MINUTES OF THE PLANNING COMMISSION HEARING OF RZN 12-4166; JULY 23, 2012

RZN 12-4166: Rezone (S. OF BROOKBURY CROSSING/RIGGINS, 294): Submitted by ENGINEERING SERVICES, INC. for property located SOUTH OF BROOKBURY CROSSING. The property is zoned R-A, RESIDENTIAL-AGRICULTURAL and contains approximately 20.99 acres. The request is to rezone the property to RSF-4, RESIDENTIAL SINGLE-FAMILY, 4 UNITS PER ACRE.

Andrew Garner, Senior Planner, gave the staff report.

Mickey Harrington, attorney for the property owner, agreed with staff's comments.

Commissioner Winston requested the City Attorney mention the items that were allowed to be considered and discussed by the Planning Commission for a rezoning.

Kit Williams, City Attorney, discussed the items that were allowed to be considered in a rezoning and referred to a memo that he had prepared and distributed.

Public Comment:

Eva Madison, Candlewood Subdivision, spoke for the neighborhood. She discussed the proposal was inconsistent with the surrounding neighborhoods. She discussed the old R-1 zoning that is different than the current RSF-4 zoning. The proposed RSF-4 zoning is different than the surrounding properties.

Charlie Collins, 3225 Pipers Glen, POA President of Brookbury, discussed that it is virtually unanimous regarding the opposition to this rezoning by the surrounding neighborhoods.

Christin Bellcamp, President of Brookbury, agreed with the comments by Eva Madison. We have obtained 96 signatures to downzone our neighborhood to RSF-2. She discussed Brookbury Crossing was the sole means of access. She discussed that zoning and development are tied together. She discussed traffic flow problems, fire safety problems, and issues with density and compatibility. Skillern Road has traffic and site distance issues. Brookbury would not meet the fire code today as it has 95 homes on a dead end street. Adding approximately 40 more additional homes on this site, even with sprinkler systems, would be a problem. The private interest should not override the public interest for safety.

James McGinty, President of Savannah, discussed support for the residents of Brookbury and Candlewood. He discussed traffic on Skillern Road. Savannah will also proposal to downzone to RSF-2.

Jimmy Roy, 3074 Brookbury, read an exert from the City Attorney's memo, "public opposition that is ogical and reasonable" can be considered. He also discussed that traffic is a problem. There are too many homes.

Christine Smith, Brookbury and Idlewood Way, Brookbury is already in a dangerous situation. Children ar all crossing in a blind area. It is a 25 mph speed limit but people exceed the limit. It will be worse if Brookbury is extended. She discussed a dangerous intersection in the Brookbury neighborhood.

Jason Fourie, 3475 Township, asked if the actual density was considered.

Laurie Covell, teacher at McNair, discussed traffic issues that occurred when a truck for a pool construction blocked the round backing up traffic in Brookbury.

No more public comment was presented.

Commissioner Hoskins asked about the property owner information.

Micky Harrington responded that the owner is requesting the rezoning.

Commissioner Hoskins discussed that the lack of a street connection is a problem. A full-fledged connection is needed. This could potentially have 80 residences or 800 average daily trips. He is pro smart-development and until a complete connection is made he can't support this.

Commissioner Winston discussed the R-A is not appropriate as it is surrounded by neighborhoods.

Kit Williams, City Attorney, discussed that the old R-1 zoning was almost identical to the current RSF-4 zoning. It allowed up to four units per acre.

Commissioner Hoskins discussed surrounding properties have RSF-2 type density. He discussed the lack of cross connection.

Commissioner Winston discussed the need to disconnect the two things.

Commissioner Chesser referred to the City Attorney's memo and whether this request meets or does not meet those criteria. He requested all of the neighborhood representatives to come back up and answer a question. Would you be opposed to this if there were a second street connection?

Eva Madison responded that their arguments were made based on density.

Jimmy Roy discussed that safety, density, and traffic are their biggest issues.

Charlie Collins discussed that if it were only an additional 10 homes it would not be dramatically worse.

Commissioner Chesser asked the applicant about the proposed density and zoning.

Micky Harrington discussed that there are other issues besides density that require the RSF-4 zoning such as lot dimensions and lot size.

Commissioner Chesser asked about a connection Township.

Brian Moore, Engineering Services Incorporated, discussed that yes a connection to the south is our intent with a stub-out.

Commissioner Honchell thanked everyone one for participating and being here. He discussed that he won't be able to support RSF-4.

Jeremy Pate, Development Services Director, discussed the differences between RSF-4 and RSF-

2. He also discussed that if Brookbury were rezoned to RSF-2 it would create nonconformities because very few of the lots are large enough to meet the RSF-2 requirements.

Commissioner Hoskins discussed a need for RSF-4 zoning because of bulk and area regulations. He also discussed that a Bill of Assurance would be an option for the applicant to limit the overall density. He would support a rezone to RSF-0.5.

Micky Harrington discussed that they would offer a Bill of Assurance to limit the density to two units per acre.

Kit Williams, City Attorney, discussed that the Planning Commission cannot require a Bill of Assurance and that one has not been offered. It would have to be offered in writing and notarized.

Commissioner Pennington discussed that the rezoning would not be incompatible, but public safety is a concern and he would be in support of RSF-0.5.

Motion:

Commissioner Pennington made a motion to forward **RZN 12-4166 to City Council with a recommendation for RSF-0.5. Commissioner Hoskins** seconded the motion.

Commissioner Hoskins asked if RSF-0.5 would be considered a spot-zone.

Kit Williams, City Attorney, discussed that did not think an RSF-0.5 could be considered a spot-zone.

Commissioner Winston asked about fire code issues.

Harley Hunt, Fire Marshall, discussed the rationale behind the enforcement of fire access roads to this property and the existing condition that is already in place.

Upon roll call the motion passed with a vote of 8-1-0, with Commissioner Chesser voting no.

Sondra Smith - Fwd: Brookbury Crossing Rezone RZN 12-4166

From: Andrew Garner
To: Pate, Jeremy; Smith, Sondra
Date: 9/14/2012 9:06 AM
Subject: Fwd: Brookbury Crossing Rezone RZN 12-4166

FYI - The applicant is requesting this item be tabled again at the 09/18/2012 City Council meeting.

Andrew M. Garner, AICP
Senior Planner
City of Fayetteville
125 West Mountain Street
Fayetteville, Arkansas 72701
Tel.479.575.8262
Fax.479.575.8202
agarner@ci.fayetteville.ar.us
www.accessfayetteville.org

Telecommunications Device for the Deaf: (479) 521-1316

>>> Quin Thompson 9/13/2012 3:22 PM >>>
see below:

>>> "Hugh Jarratt" <hugh.jarratt@lindseymanagement.com> 9/13/2012 3:20 PM >>>
Jeremy & Quin:

On behalf of the proposed developer of the 20 acres located south of Brookbury Crossing, please treat this email as formal notice that the developer will request that this item be tabled for an additional two week period. I just received a draft copy of our traffic report and the traffic report will not be in final form in time for City Staff to adequately study the information contained therein prior to the City Council meeting.

Also, the developer is determining the feasibility and/or availability of a secondary access from the 20 acre parcel south to Township Road. This determination will require further information that will not be able to be put together prior to the City Council meeting.

If you have any questions, please let me know.

Thank you.

Hugh Jarratt

Traffic Study

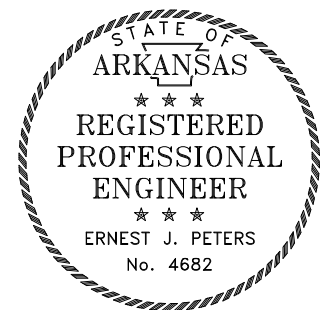
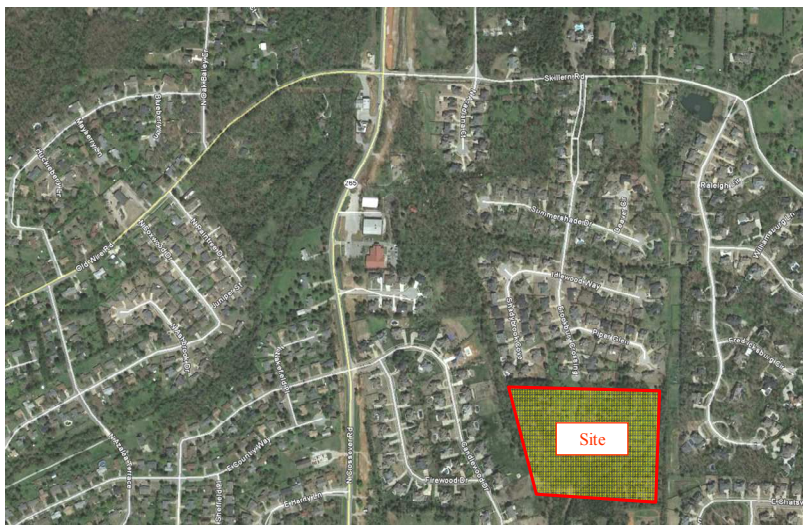
Single-Family Residential Development

prepared for:

Riggins Construction

Brookbury Crossing and
Skillern Road

Fayetteville, Arkansas



A handwritten signature in black ink, appearing to read "Ernest J. Peters".



PETERS & ASSOCIATES
ENGINEERS, INC.

• CIVIL & TRAFFIC ENGINEERING •

5507 Ranch Drive - Suite 205 (501) 868-3999
Little Rock, Arkansas 72223 Fax (501) 868-9710

Project No.: P-1586

September 17, 2012

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APPENDIX

Site Plan

Trip Generation Data

Vehicle Turning Movement Count Data

Capacity and Level of Service Calculations



INTRODUCTION

Peters & Associates Engineers, Inc., has conducted a traffic engineering study relating to a proposed 37 single-family lot residential development located at the south end of Brookbury Crossing south of Skillern Road in Fayetteville, Arkansas. Brookbury Crossing intersects Skillern Road approximately 1,300 feet east of the Crossover Road (Highway 265) and Old Wire Road intersection. The primary focus of this report is to assess traffic operational characteristics of the adjacent intersections in the vicinity proposed to serve the site. A reduced copy of the preliminary tract layout plan is included in the Appendix for reference.

This is a report of methodology and findings relating to a traffic engineering study undertaken to:

- Evaluate existing traffic conditions at the following study intersections:
 - o Skillern Road and Brookbury Crossing
 - o Crossover Road and Old Wire Road.
- Determine projected traffic volumes entering and exiting the proposed development at the nearby study intersections.
- Identify the effects on traffic operations for existing traffic in combination with site-generated traffic associated with the development as proposed.
- Evaluate traffic operations for the study intersections of Skillern Road and Brookbury Crossing and Crossover Road and Old Wire Road in the immediate vicinity of the site and make recommendations for mitigative improvements which may be necessary and appropriate for acceptable traffic operations.

In the following sections of this traffic study report are traffic data, study methods, findings and recommendations. The study is technical in nature. Analysis techniques employed are those most commonly used in the traffic engineering profession for traffic impact analysis. Certain data and calculations relative to traffic operational analysis are referenced in the report. Complete calculations and data are included in the Appendix of the report.



THE SITE

The location of the development is within the city limits of Fayetteville in Washington County, Arkansas. The proposed 37 single-family lot residential development located at the south end of Brookbury Crossing south of Skillern Road. The proposed development site location and vicinity are shown on Figures 1 and 2, which follow.

Access to site is proposed to be provided via the intersection of Skillern Road and Brookbury Crossing. There is an existing approximate 100 lot single-family residential neighborhood (Brookbury Crossing) that's access is currently served via Brookbury Crossing at Skillern Road. Typical AM and PM peak traffic periods of the adjacent streets are the traffic operating conditions which have warranted primary traffic analysis as a part of this study



Traffic Study

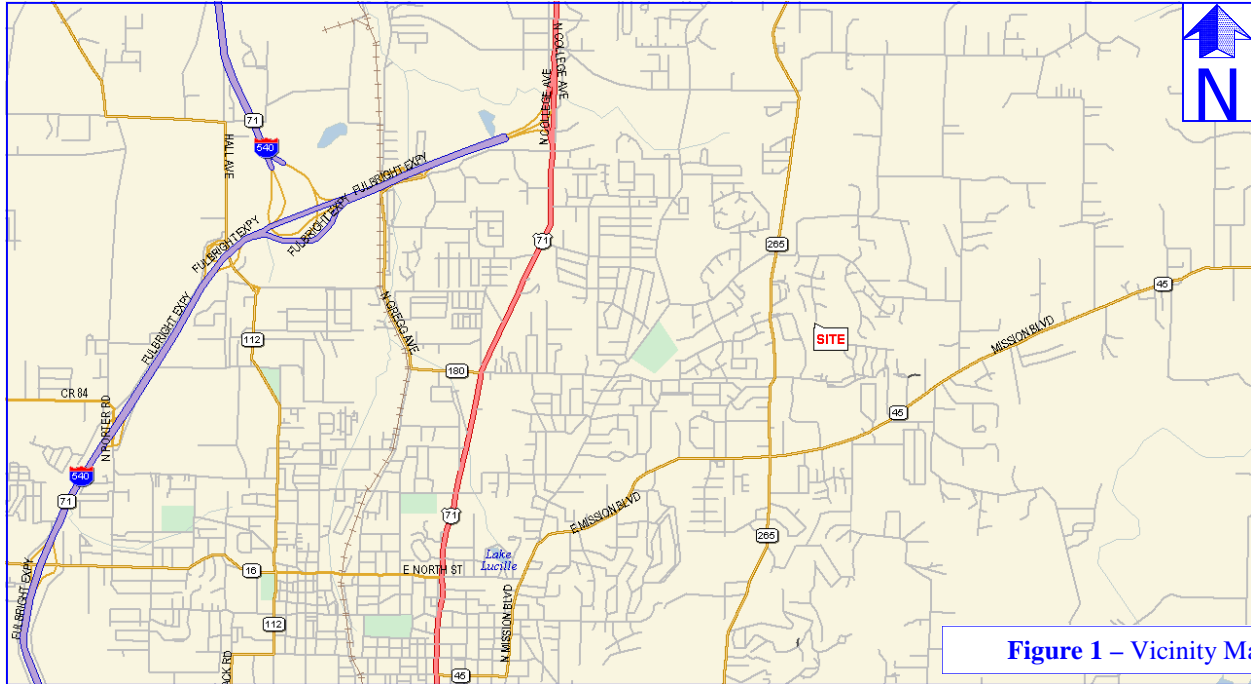


Figure 1 – Vicinity Map

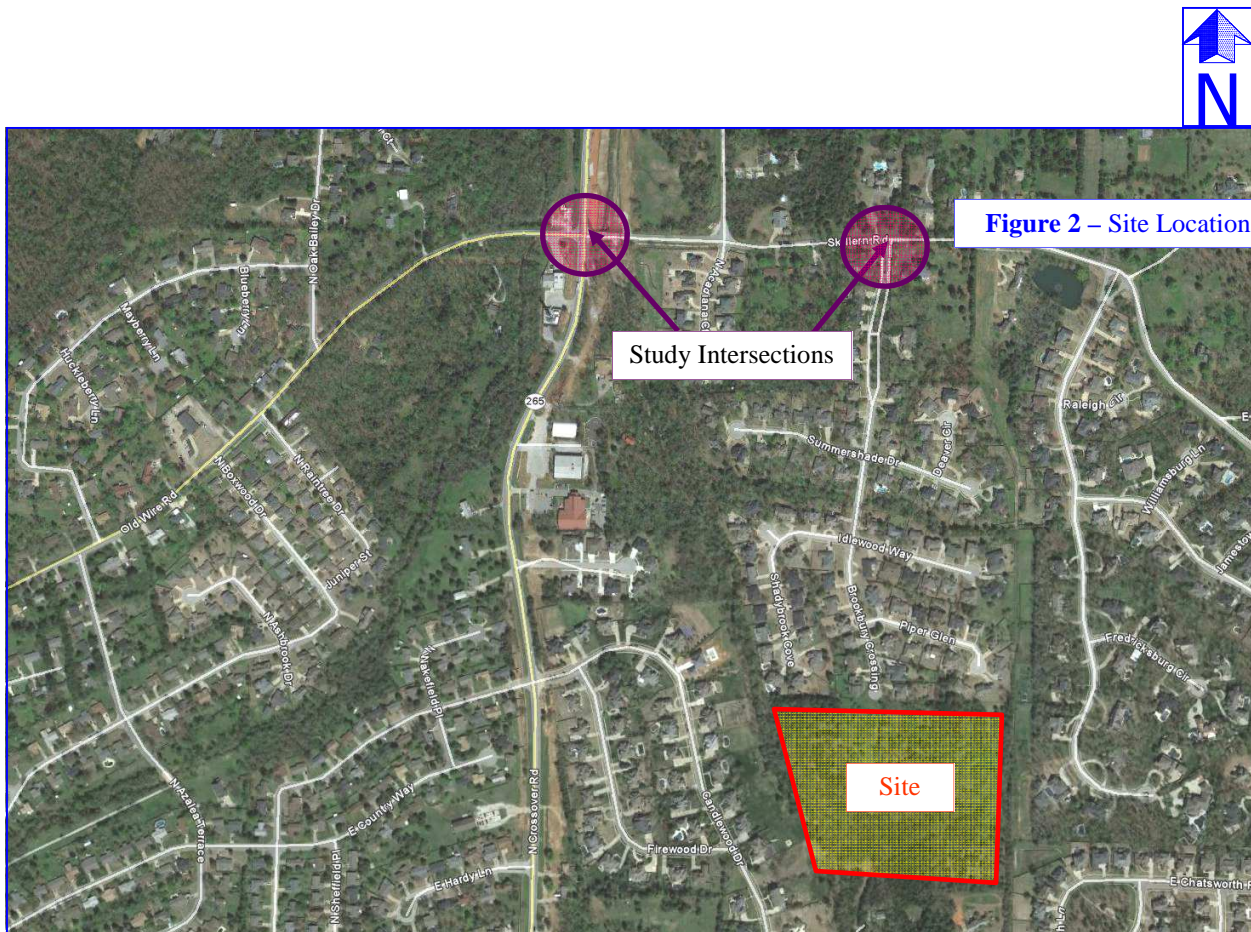


Figure 2 – Site Location Map

STREET SYSTEM

Skillern Road, at Brookbury Crossing near the site, is a two-lane roadway consisting of an eastbound lane and a westbound lane. This roadway is asphalt and constructed with curbs and gutters along the south side and drainage ditches along the north side of the roadway in the vicinity of Brookbury Crossing. There are no sidewalks and the speed limit is 25 miles per hour in the vicinity of the study area. Skillern Road is classified as a Principal Arterial on the City of Fayetteville Master Street Plan (MSP).

Brookbury Crossing, at Skillern Road, is a two-lane roadway consisting of a northbound lane and a southbound lane separated by a landscaped median. This street is asphalt and constructed with curbs and gutters. The speed limit is 25 miles per hour. Brookbury Crossing is classified as a Local Street on the City of Fayetteville MSP.

The closest existing signalized intersections to the site is located approximately 1,300 feet west of Brookbury Crossing at the intersection of Crossover Road and Old Wire Road (analysis of this intersection has been included as a part of this study).

The following photos show the general layout of Brookbury Crossing and Skillern Road. These were taken at locations as indicated on the photo captions.





Lewis Avenue

Looking east on Skillern Road
toward Brookbury Crossing.

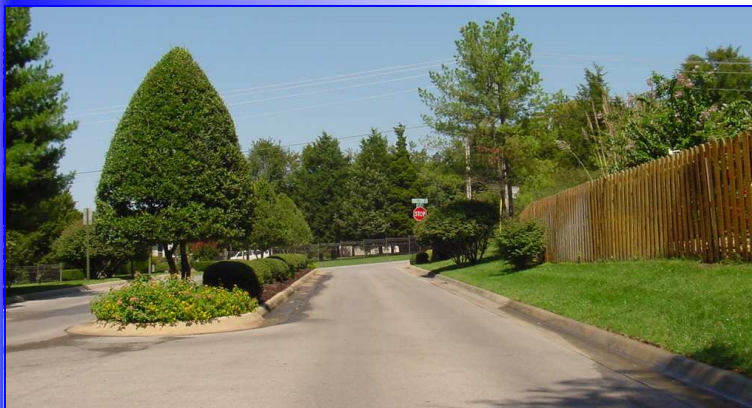


Brookbury Crossing

Looking west on Skillern Road
toward Brookbury Crossing.



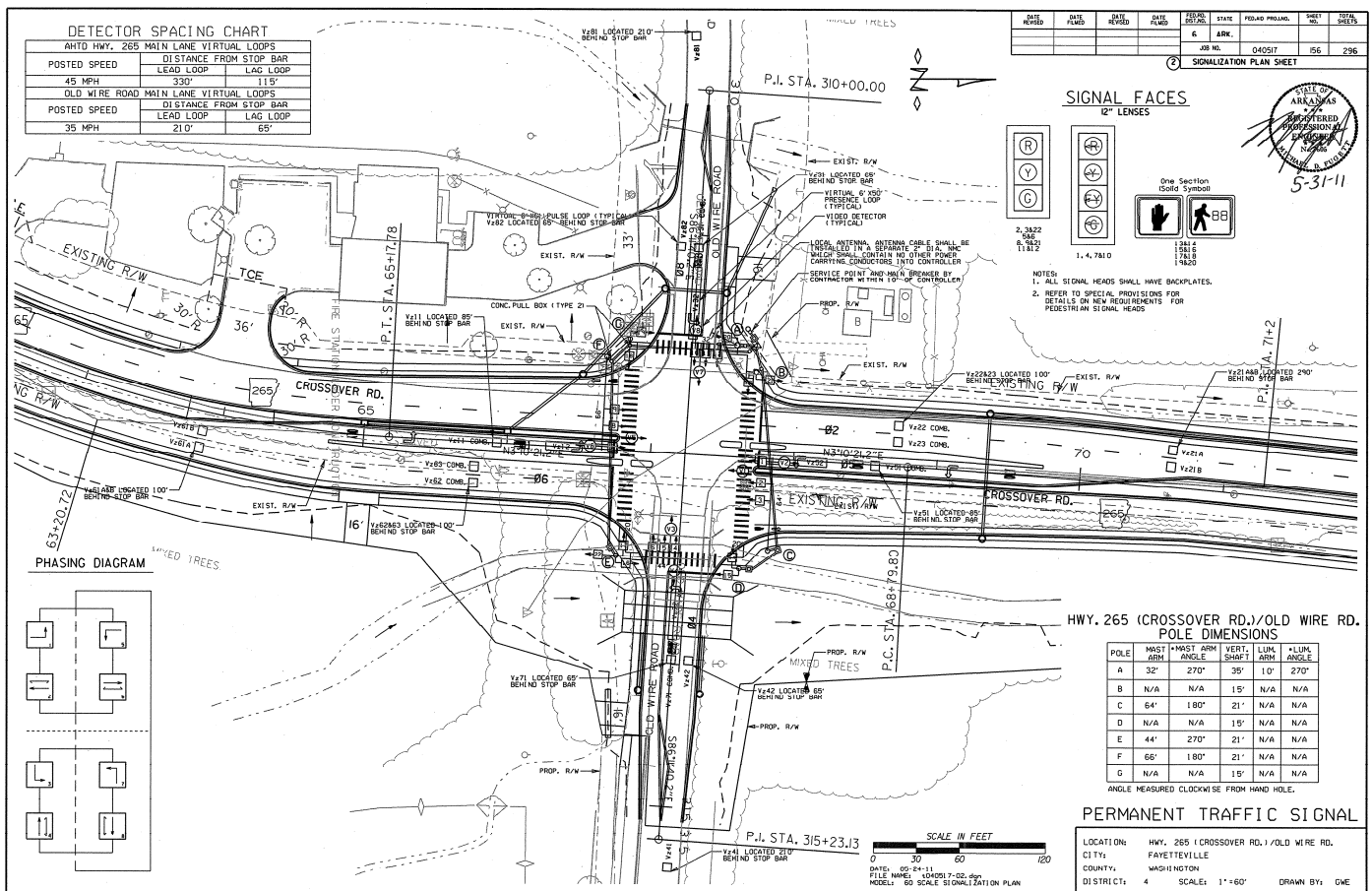
Looking south on Brookbury Crossing
from Skillern Road.



Looking north on Brookbury Crossing
toward Skillern Road.



Crossover Road (Highway 265) is currently under construction from Joyce Boulevard to Highway 45 as a part of the AHTD project 040517. The scheduled completion date of this project is September, 2013. Included in this AHTD improvement project is the intersection of Crossover Road and Old Wire Road. Crossover Road is currently being widened at Old Wire Road to provide two northbound lanes and two southbound lanes divided by a raised median with a northbound and a southbound left-turn lane at Old Wire Road. The east and west leg (Old Wire Road) at Crossover Road will each consist of a left-turn lane, a thru / right-turn lane and a receiving lane. The following graphic depicts the design concept for the planned roadway improvements at median breaks at Crossover Road and Old Wire Road.



Planned Crossover Road and Old Wire Road Intersection

EXISTING TRAFFIC CONDITIONS

Traffic count data collected as a part of this study include AM and PM peak hours vehicle turning movement counts at the following intersections:

- o Skillern Road and Brookbury Crossing
- o Crossover Road and Old Wire Road.

The peak hours vehicle turning movement count data at these intersections are summarized in the following peak hour turning movement Charts 1, 2, 3 and 4 and are presented in more detail in the Appendix of this report.

AM and PM peak hours vehicle turning movement counts made as a part of this study are shown on Figure 3, "Existing Traffic Volumes - AM and PM Peak Hours."



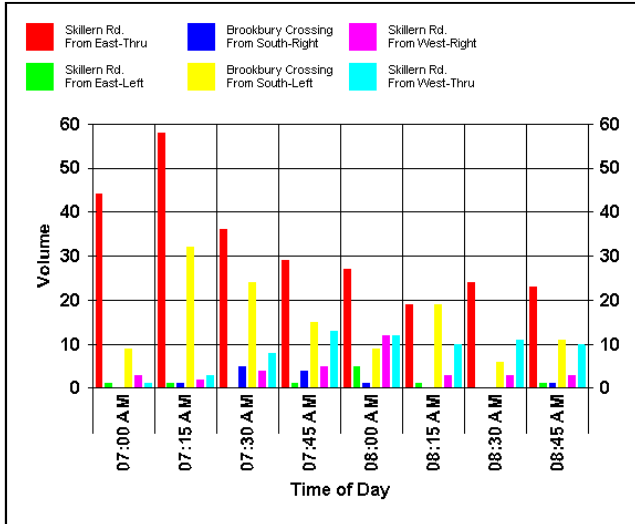


Chart 1
 AM Peak Hours Turning Movement Count Data
 Skillern Road and
 Brookbury Crossing

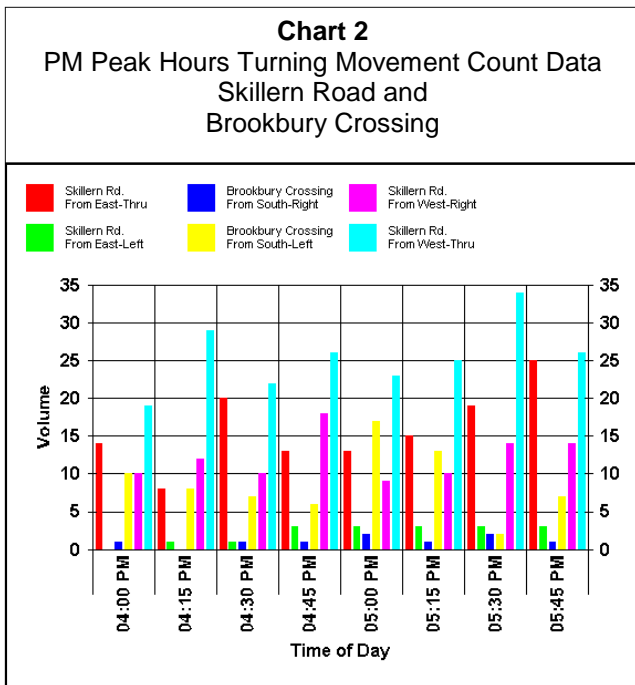
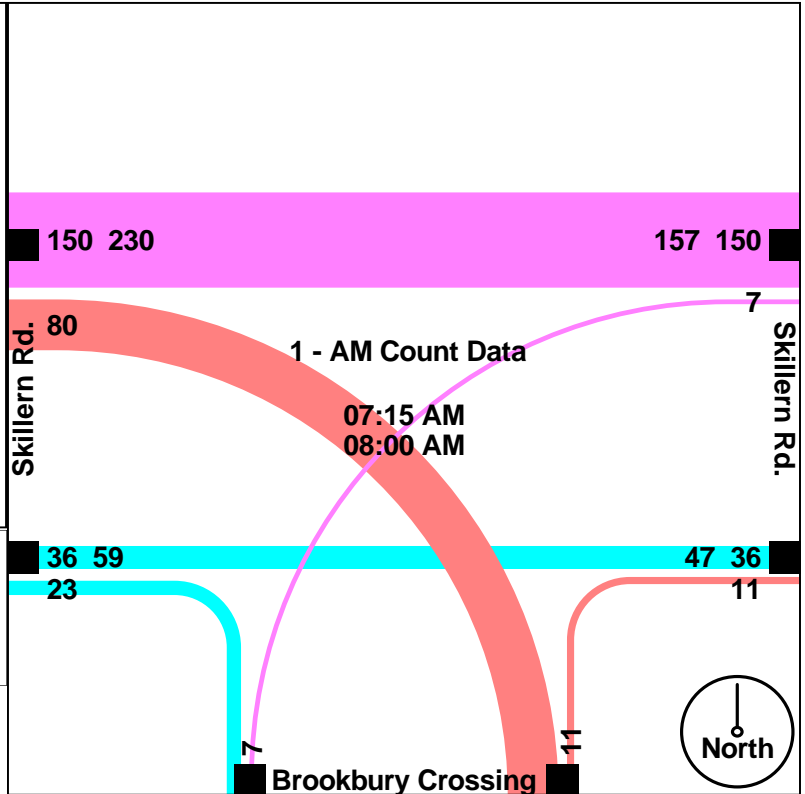
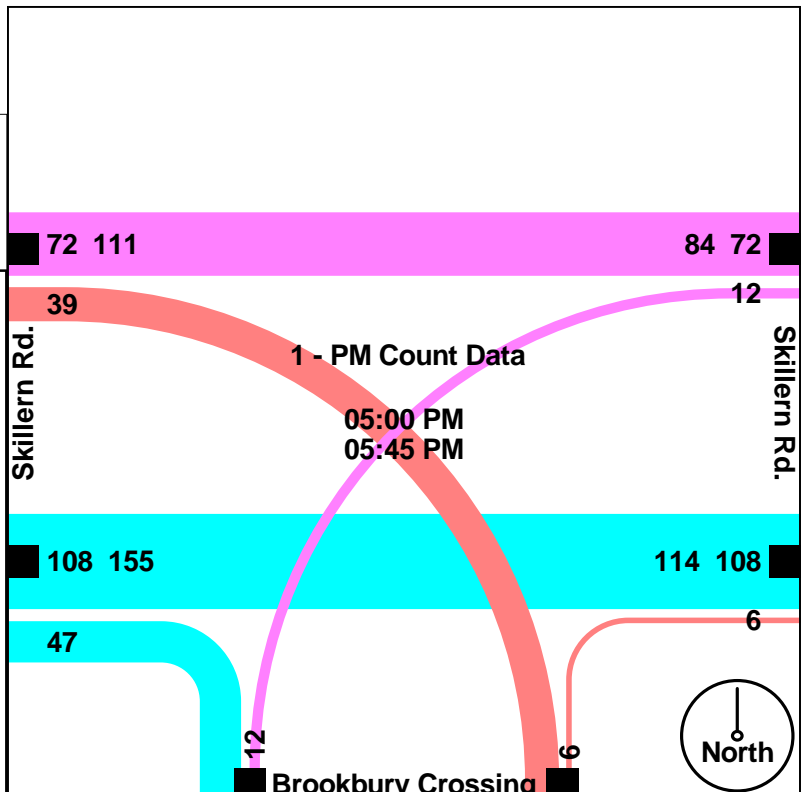


Chart 2
 PM Peak Hours Turning Movement Count Data
 Skillern Road and
 Brookbury Crossing



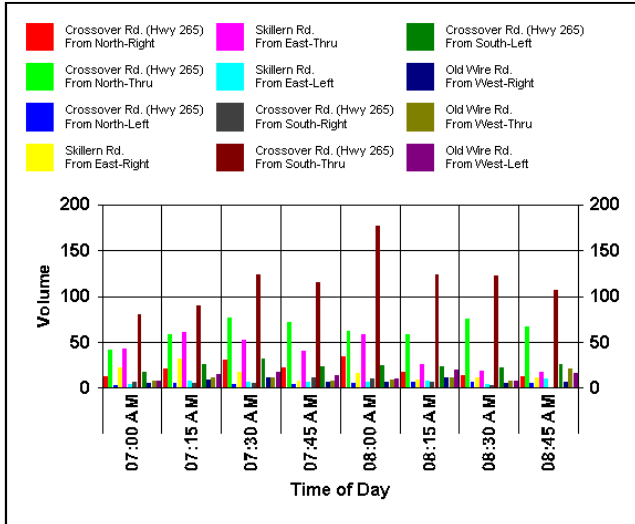


Chart 3
 AM Peak Hours Turning Movement Count Data
 Crossover Road and Old Wire Road

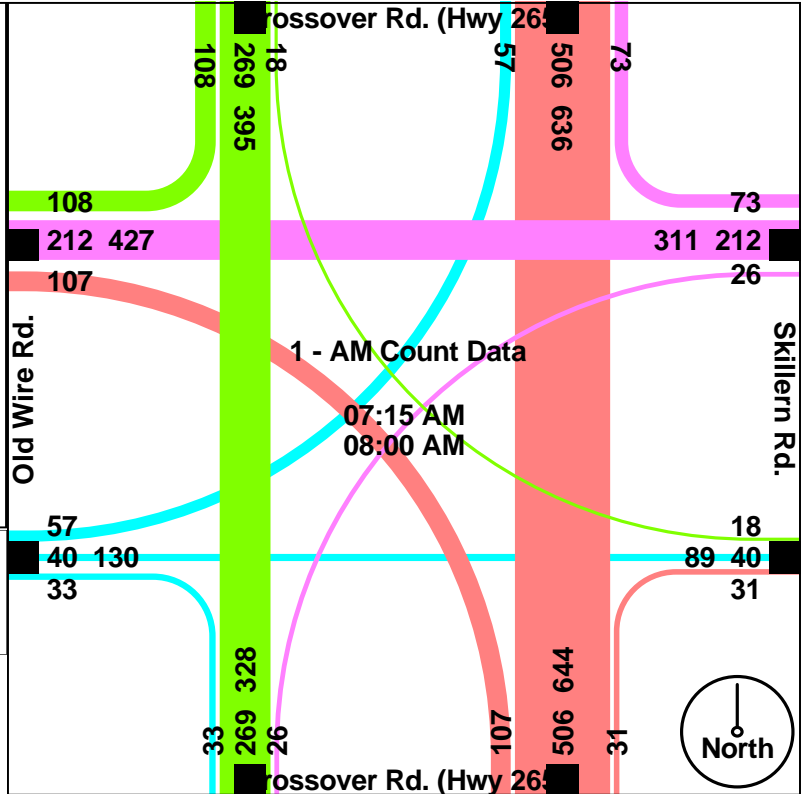
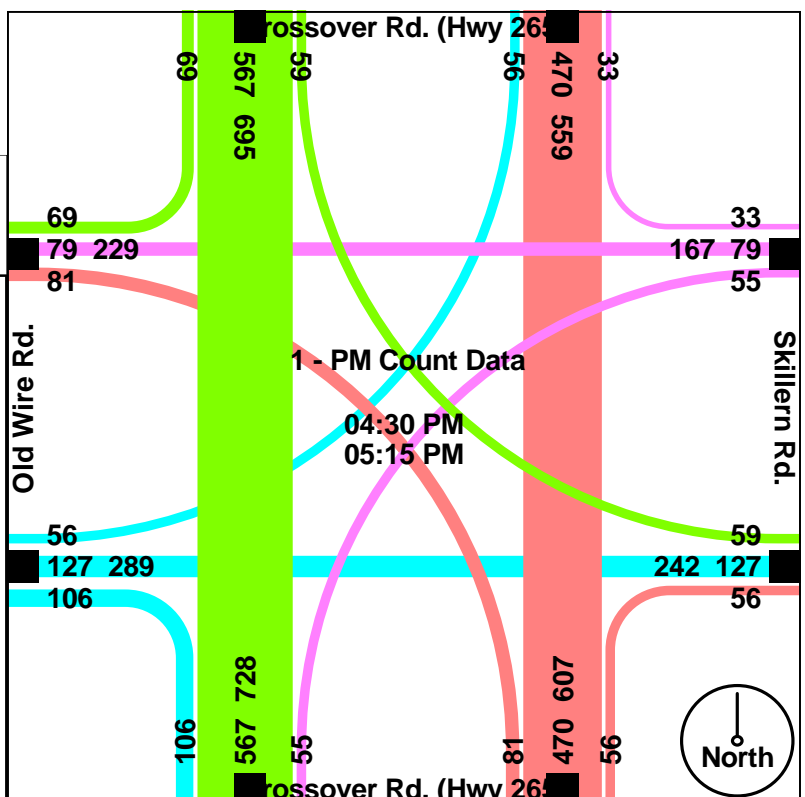
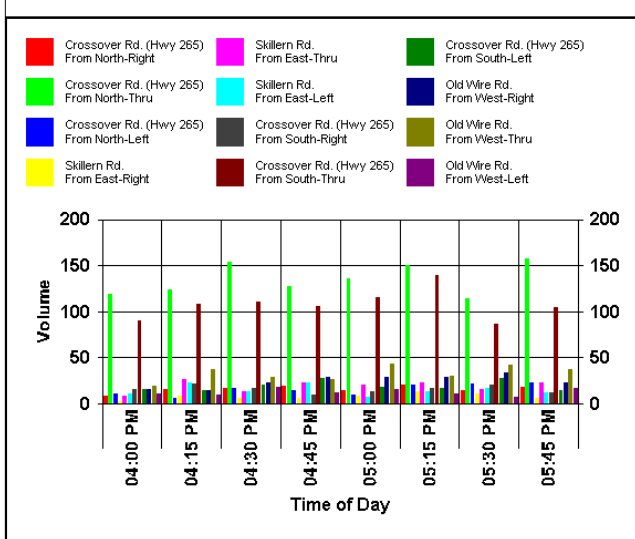


Chart 4
 PM Peak Hours Turning Movement Count Data
 Crossover Road and Old Wire Road



**TRIP GENERATION and
 SITE TRAFFIC
 PROJECTIONS**

The Trip Generation, an Informational Report (8th Edition), 2008, published by the Institute of Transportation Engineers (ITE) and The Trip Generation Software (Version 6 by Microtrans), were utilized in calculating the magnitude of traffic volumes expected to be generated by the proposed single-family residential land-use of the proposed development. These are reliable sources for this information and are universally used in the traffic engineering profession.

Using the selected trip generation rates, calculations were made as a part of this study to provide a reliable estimate of traffic volumes that can be expected to be associated with the development as proposed. Applying the appropriate trip-generation rates to the land use proposed for the development makes these calculations. Results of this calculation are summarized on Table 1, “Summary of Trip-Generation.” These calculations indicate that approximately 28 net new vehicle trips (combined in and out) are estimated during the traffic conditions of the AM peak hour and approximately 38 net new vehicle trips are estimated during the traffic conditions of the of the PM peak hour are projected to be generated by the proposed 37 single-family residential land use on this site. The estimated typical weekday two-way, 24-hour volume is 354 vehicle trips.

Residential traffic, as will be the traffic associated with this site, ordinarily does contribute to the adjacent street traffic conditions during the on-street AM peak traffic hour and the PM peak traffic hour. Accordingly, both the AM and PM peak traffic periods of the adjacent streets in the immediate vicinity of the site are the traffic operating conditions which have warranted primary traffic analysis as a part of this study.

PROPOSED LAND USE	APPROXIMATE SIZE	ITE CODE	24-HOUR TWO-WAY WEEKDAY VOLUME	AM PEAK HOUR VOLUME		PM PEAK HOUR VOLUME	
				ENTER	EXIT	ENTER	EXIT
Single-Family Residential	37 Lots	210	354	7	21	24	14
TOTAL ENTERING + EXITING				28		38	

Table 1 – Summary of Trip-Generation



TRAFFIC VOLUME ASSIGNMENTS

Once projected traffic was estimated for the site, directional distributions were made to reflect the percent of anticipated left and right-turns at the study intersections. Directional distribution percentages used in this study are shown on Figure 4, “Directional Distribution - Site Traffic.” The directional distribution percentages for site traffic have been equated to percentage turns for each movement at the study intersections. These values are shown on:

- Figure 5, “Entering Traffic Percentage Turns”
- Figure 6, “Exiting Traffic Percentage Turns.”

The projected traffic volumes shown on Figure 7, “Site-Generated Traffic Volumes - AM and PM Peak Hours,” result from applying the projected entering and exiting percentages shown on Figures 5 and 6 to the corresponding projected site-generated traffic volumes summarized on Table 1, “Summary of Trip-Generation.”

The site-generated traffic volumes shown on Figure 7 and corresponding existing background traffic volumes shown on Figure 3 have been combined and the results are depicted on Figure 8, “Projected Traffic Volumes - AM and PM Peak Hours.”

Traffic volumes shown on Figure 8 are the values used in capacity and level of service calculations conducted as a part of this study for projected traffic conditions. The effect of existing background traffic (i.e. the adjacent street non-site traffic which exists) and projected traffic associated with the developments has thus been accounted for in this analysis.

**CAPACITY and
LEVEL OF SERVICE**

Generally, the "capacity" of a street is a measure of its ability to accommodate a certain magnitude of moving vehicles. It is a rate as opposed to a quantity, measured in terms of vehicles per hour. More specifically, street capacity refers to the maximum number of vehicles that a street element (e.g. an intersection) can be expected to accommodate in a given time period under the prevailing roadway and traffic conditions.

Traffic operational analysis for the study intersections were evaluated based on the methodologies outlined in the Highway Capacity Manual, 2010 Edition, published by the Transportation Research Board. The operating conditions at an intersection are graded by the "level of service" experienced by drivers. Level of service (LOS) describes the quality of traffic operating conditions and is rated from "A" to "F". LOS "A" represents the most desirable condition with free-flow movement of traffic with minimal delays. LOS "F" generally indicates congested conditions with considerable delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in the average delay per stopped vehicle. Delay is measured in seconds per vehicle. The table below shows the upper limit of vehicle delay associated with each level of service for signalized and un-signalized intersections.

Intersection Level of Service Delay Thresholds

Level of Service (LOS)	Signalized	Un-Signalized
A	< 10 Seconds	< 10 Seconds
B	< 20 Seconds	< 15 Seconds
C	< 35 Seconds	< 25 Seconds
D	< 55 Seconds	< 35 Seconds
E	< 80 Seconds	< 50 Seconds
F	≥ 80 Seconds	≥ 50 Seconds

The LOS rating deemed acceptable varies by community, facility type and traffic control device. A LOS “D” is the desirable goal for movements at un-signalized intersections that must yield to other movements; however, a LOS “E” or “F” is often accepted for low to moderate traffic volumes where the installation of a traffic signal is not warranted by the conditions at the intersection or the location is deemed undesirable for signalization for other reasons. For signalized intersections, level of service and average delay relate to all vehicles using the intersection. LOS “D” is the typical desirable standard for signalized intersections. All study intersections were evaluated using the Synchro analysis software package based on Highway Capacity Manual methods. This computer program has been proven to be reliable when used to analyze capacity and levels of traffic service under various operating conditions. Detailed results for all capacity calculations are included in the Appendix. The adjacent street weekday AM and PM peak traffic periods were used for these calculations. Factors included in the analysis are as follows:

- Existing traffic volumes and patterns.
- Directional distribution of projected traffic volumes.
- Existing and planned intersection geometry (including elements such as turn lanes, curb radii, etc.).
- Existing background traffic volumes and projected site-generated volumes for projected traffic conditions.
- Existing or planned traffic control.



CAPACITY ANALYSIS

Level of Service Analysis Results

Existing Traffic Conditions

Capacity and level of service analysis was performed for existing traffic volumes, lane geometry and traffic control for the AM and PM peak hours for the following intersections:

- o Skillern Road and Brookbury Crossing
- o Crossover Road and Old Wire Road.

As indicated in Table 2, “Level of Service Summary – Existing Traffic Conditions,” all of the vehicle movements currently operate at what calculates as an acceptable LOS “C” or better for existing traffic conditions at the study intersections for the AM and PM peak hours with existing traffic control.

Traffic volumes used for this analysis are shown on Figure 3, "Existing Traffic Volumes - AM and PM Peak Hours."

EXISTING TRAFFIC CONDITIONS		Traffic Control	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT	Overall Intersection
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE												
Skillern Road and Brookbury Crossing	AM	"STOP" SIGN		A	A				B		B				n/a
	PM			A	A				B		B				n/a
Crossover Road and Old Wire Road	AM	SIGNAL	B	B	B	C		A	B	A	B	A	B	B	B
	PM		B	C	B	B		A	B	A	B	A	B	B	B

Table 2 - Level of Service Summary - Existing Traffic Conditions



Projected Traffic Conditions

Capacity and LOS analysis was performed for projected traffic conditions for the AM and PM peak hours for the following intersections:

- o Skillern Road and Brookbury Crossing
- o Crossover Road and Old Wire Road (includes AHTD planned intersection improvements).

Traffic volumes used for these projected traffic conditions are shown on Figure 8, “Projected Traffic Volumes - AM and PM Peak Hours.” The operating conditions projected to exist at the study intersections are summarized in Table 3, “Level of Service Summary - Projected Traffic Conditions.”

As indicated in Table 4, all vehicle movements for the projected traffic conditions at the study intersections are expected to continue to operate at what calculates as an acceptable LOS “C” or better for the worst-case AM and PM peak hours.

PROJECTED TRAFFIC CONDITIONS		Traffic Control	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT	NB LT	NB TH	NB RT	SB LT	SB TH	SB RT	Overall Intersection
INTERSECTION	PEAK HR		PEAK HOUR - LEVEL OF SERVICE												
Skillern Road and Brookbury Crossing	AM	"STOP" SIGN		A	A				B		B				n/a
	PM			A	A				B		B				n/a
Crossover Road and Old Wire Road*	AM	SIGNAL	B	B	B	C	A	B	B	B	B	B	B	B	B
	PM		B	C	B	B	A	B	A	B	A	B	B	B	

*Includes AHTD planned intersection improvements.

Table 3 - Level of Service Summary - Projected Traffic Conditions

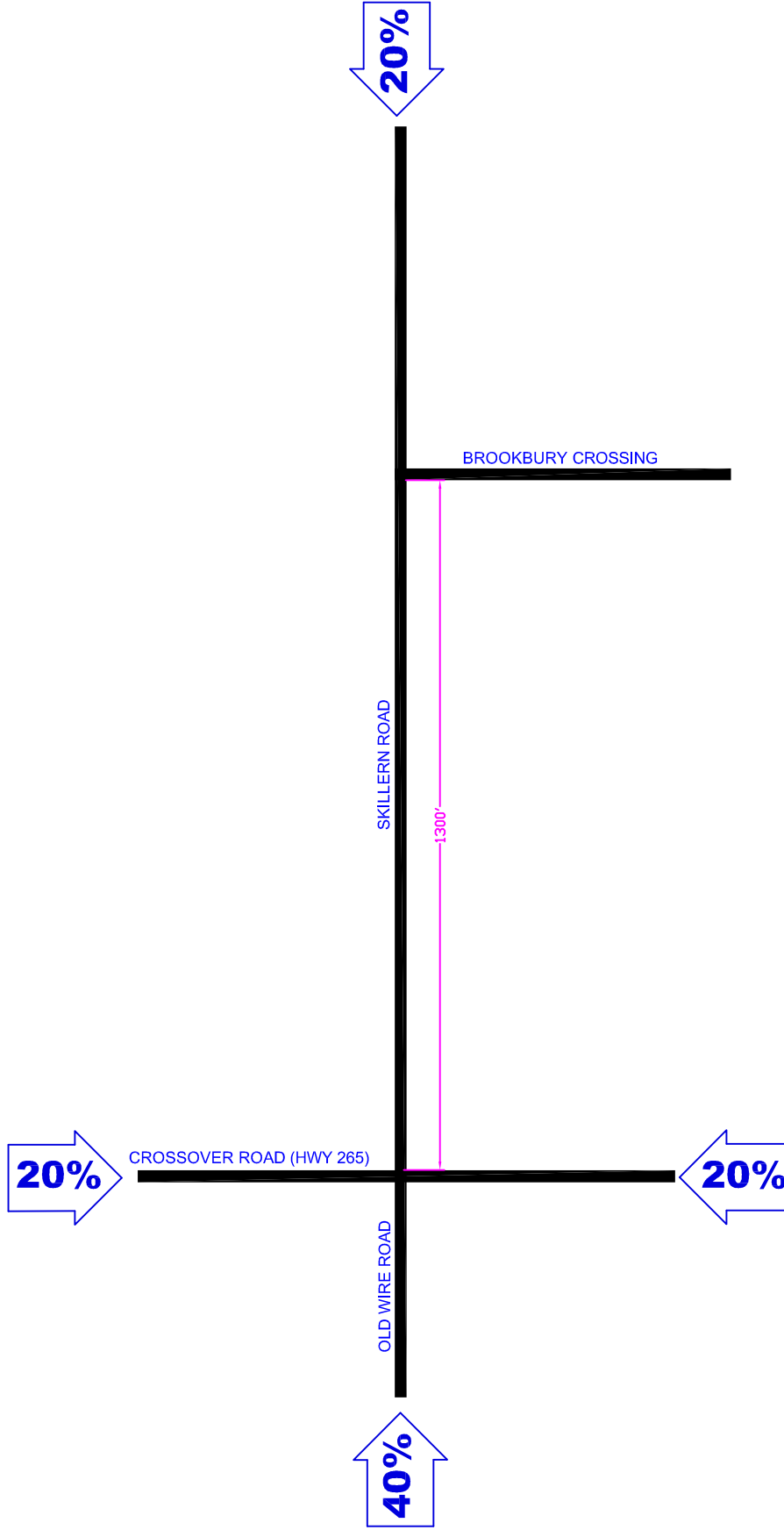
SUMMARY OF FINDINGS

Findings of this study are summarized as follows:

- For the development of the 37 single-family residential lots as proposed, approximately 28 net new vehicle trips (combined in and out) are estimated during the traffic conditions of the AM peak hour and approximately 38 net new vehicle trips are estimated during the traffic conditions of the of the PM peak hour are projected to be generated by the proposed land use on this site. The estimated typical weekday two-way, 24-hour volume is 354 vehicle trips.
- Capacity and LOS analysis results for existing traffic conditions for the study intersections indicate existing vehicle movements for existing traffic conditions at the study intersections presently operate at what calculates as an acceptable LOS “C” or better for the AM and PM peak hours.
- Capacity and LOS analysis results performed for projected traffic conditions for the AM and PM peak hours for the study intersections indicate vehicle movements at the study intersections are expected to continue to operate at what calculates as an acceptable LOS “C” or better for the worst-case AM and PM peak hours.
- It was found that no negative impact to traffic operations at the adjacent study intersections is expected to occur as a result of the additional traffic associated with the proposed site development. More than sufficient intersection capacity exists at the study intersections to accommodate the very modest increase in traffic volumes expected to result from the residential development as proposed.



FIGURES



B. 1
 RZN 12-4166 (South of
 Brookbury Crossing & East of
 Candlewood Developments/Riggins
 Page 59 of 92

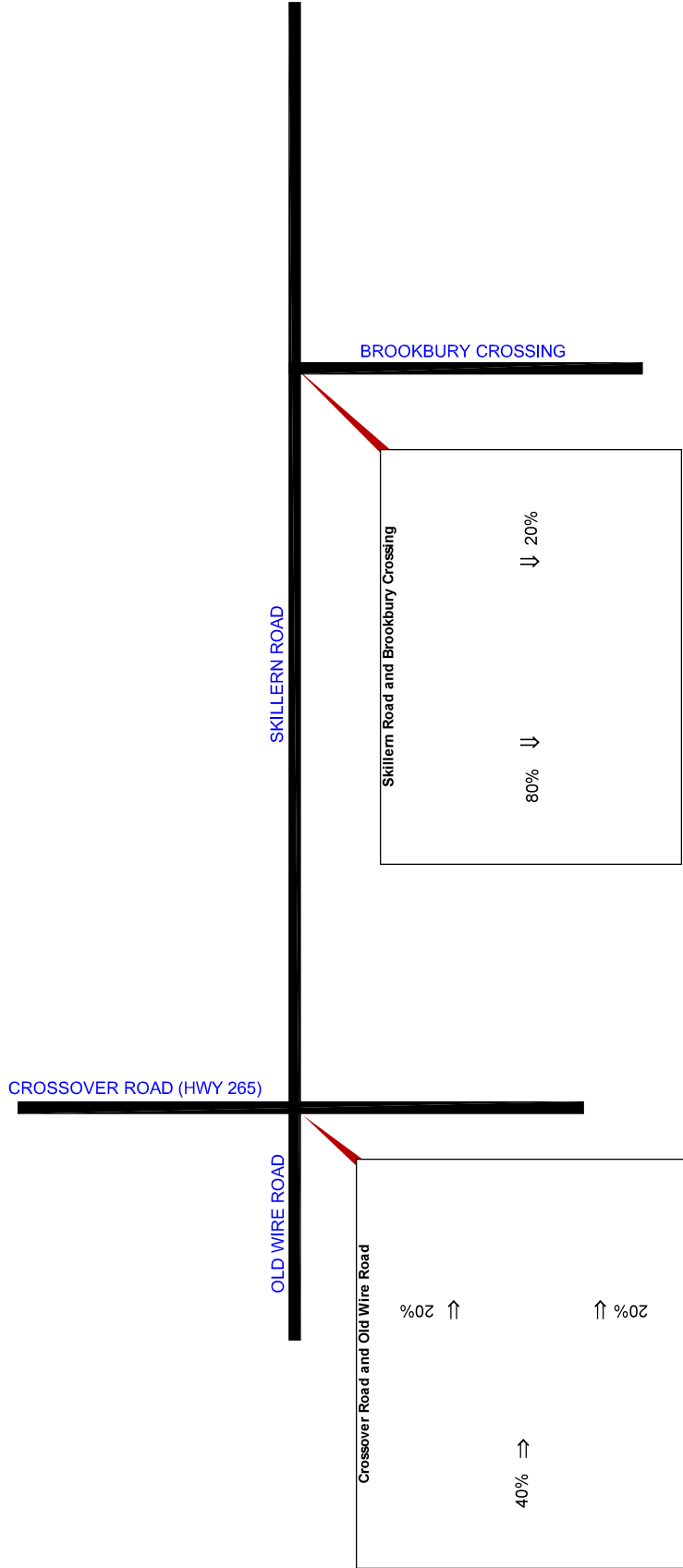
DIRECTIONAL DISTRIBUTION
 SITE TRAFFIC

**RESIDENTIAL DEVELOPMENT
 BROOKBURY CROSSING AND SKILLERN ROAD
 FAYETTEVILLE, ARKANSAS**

PROJECT No. P1586
 DATE: 9-12-2012
**PETERS & ASSOCIATES
 ENGINEERS, INC.**



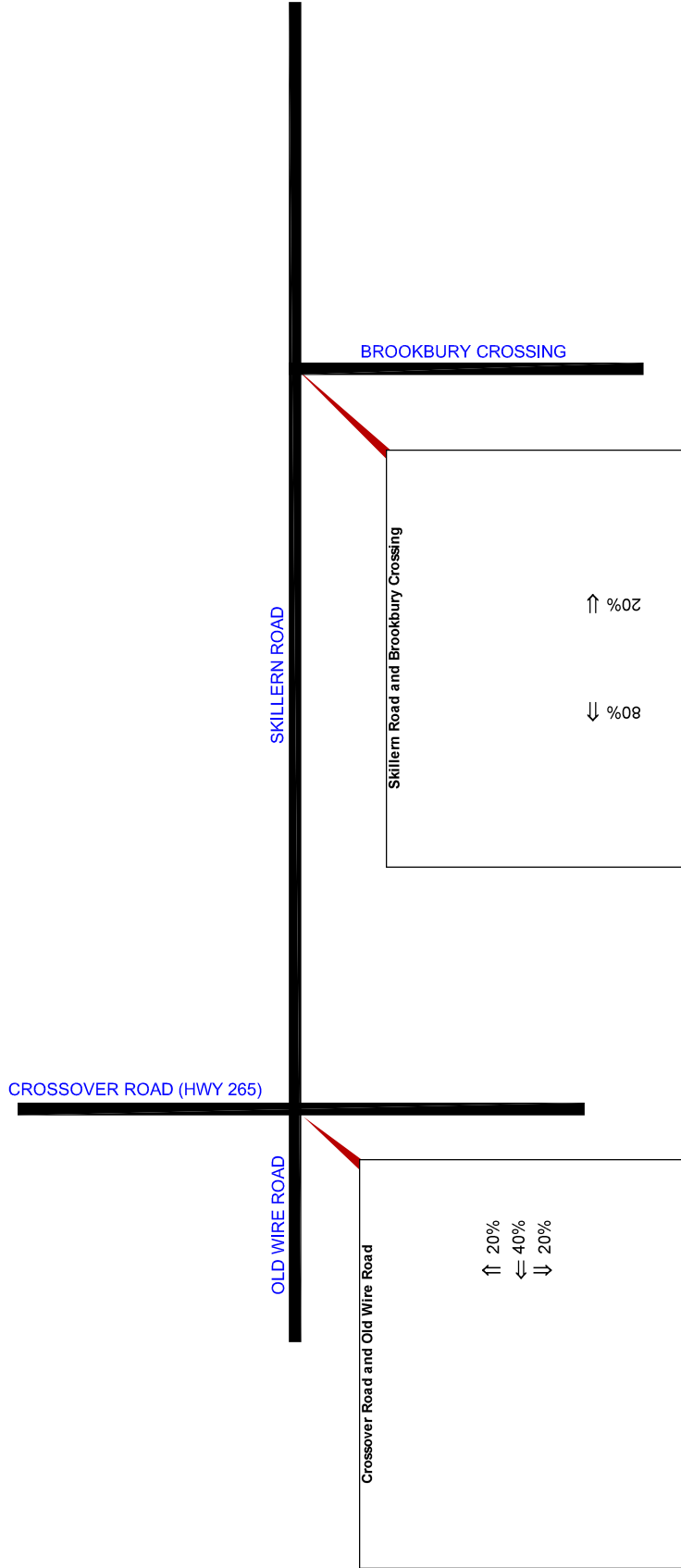
FIGURE No. **4**



**RESIDENTIAL DEVELOPMENT
 BROOKBURY CROSSING AND SKILLERN ROAD
 FAYETTEVILLE, ARKANSAS**

PROJECT No. P1586
 DATE: 9-12-2012
PETERS & ASSOCIATES
 ENGINEERS, INC.





**RESIDENTIAL DEVELOPMENT
BROOKBURY CROSSING AND SKILLERN ROAD
FAYETTEVILLE, ARKANSAS**

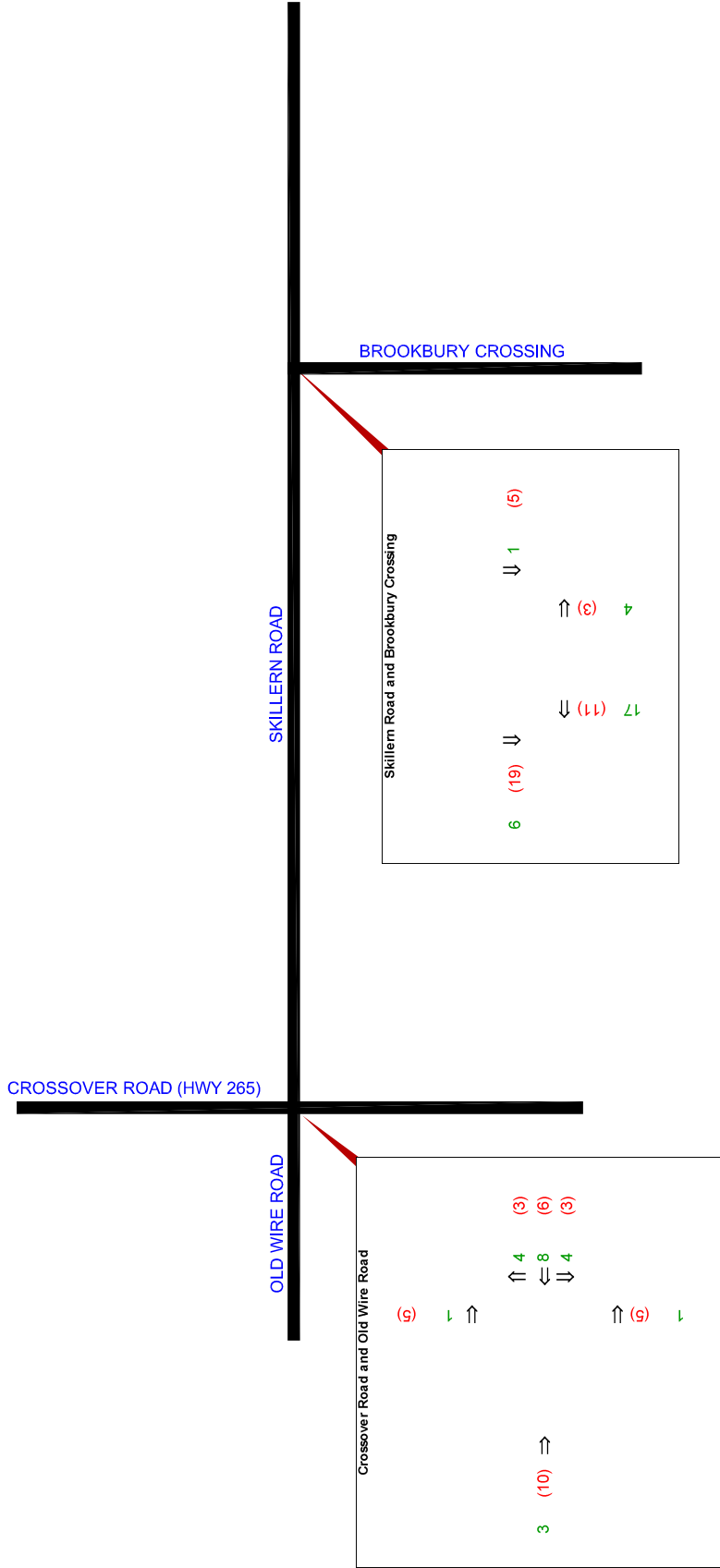
PROJECT No. P1586
DATE: 9-12-2012
PETERS & ASSOCIATES
ENGINEERS, INC.





PEAK HOURS KEY

xxx = AM Peak Hour
(xxx) = PM Peak Hour



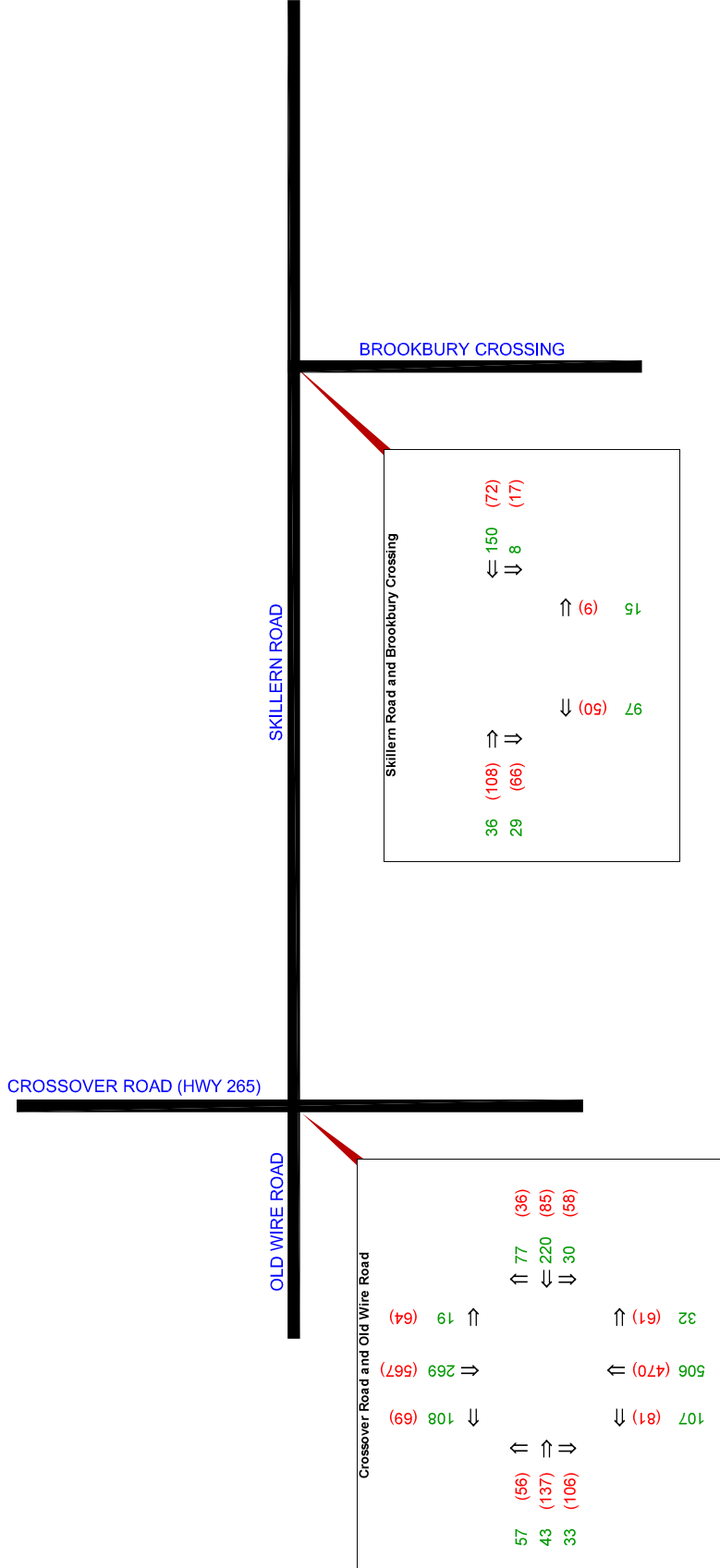
RESIDENTIAL DEVELOPMENT
BROOKBURY CROSSING AND SKILLERN ROAD
FAYETTEVILLE, ARKANSAS





PEAK HOURS KEY

xxx = AM Peak Hour
(xxx) = PM Peak Hour



RESIDENTIAL DEVELOPMENT
BROOKBURY CROSSING AND SKILLERN ROAD
FAYETTEVILLE, ARKANSAS



APPENDIX



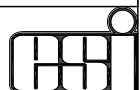
Site Plan





PRELIMINARY LAYOUT "M"
FAYETTEVILLE 21 ACRE PROPERTY
FAYETTEVILLE, WASHINGTON COUNTY, ARKANSAS

ENGINEERING SERVICES
 INCORPORATED
 CONSULTING ENGINEERS AND SURVEYORS
 1207 SOUTH OLD MISSOURI RD.
 SPRINGDALE, ARKANSAS 72764



REVISION	DATE	DESCRIPTION
1		

SCALE: 1" = 50'
 DATE: JUNE 2012
 W.D. # 12913

Trip-Generation Data



Fayetteville, AR

P1586

PROPOSED LAND USE	APPROXIMATE SIZE	ITE CODE	24-HOUR TWO-WAY WEEKDAY VOLUME	AM PEAK HOUR VOLUME		PM PEAK HOUR VOLUME	
				ENTER	EXIT	ENTER	EXIT
Single-Family Residential	37 Lots	210	354	7	21	24	14
TOTAL ENTERING + EXITING				28	38		

P1586 - Residential Development
Summary of Average Vehicle Trip Generation
For 37 Dwelling Units of Single Family Detached Housing
September 12, 2012

	24 Hour Two-Way Volume	7-9 AM Pk Hour		4-6 PM Pk Hour	
		Enter	Exit	Enter	Exit
Average Weekday	354	7	21	24	14

	24 hour Two-Way Volume	Peak Hour	
		Enter	Exit
Saturday	373	18	16
Sunday	324	17	15

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation, 8th Edition, 2008.

TRIP GENERATION BY MICROTRANS

Vehicle Turning Movement Count Data

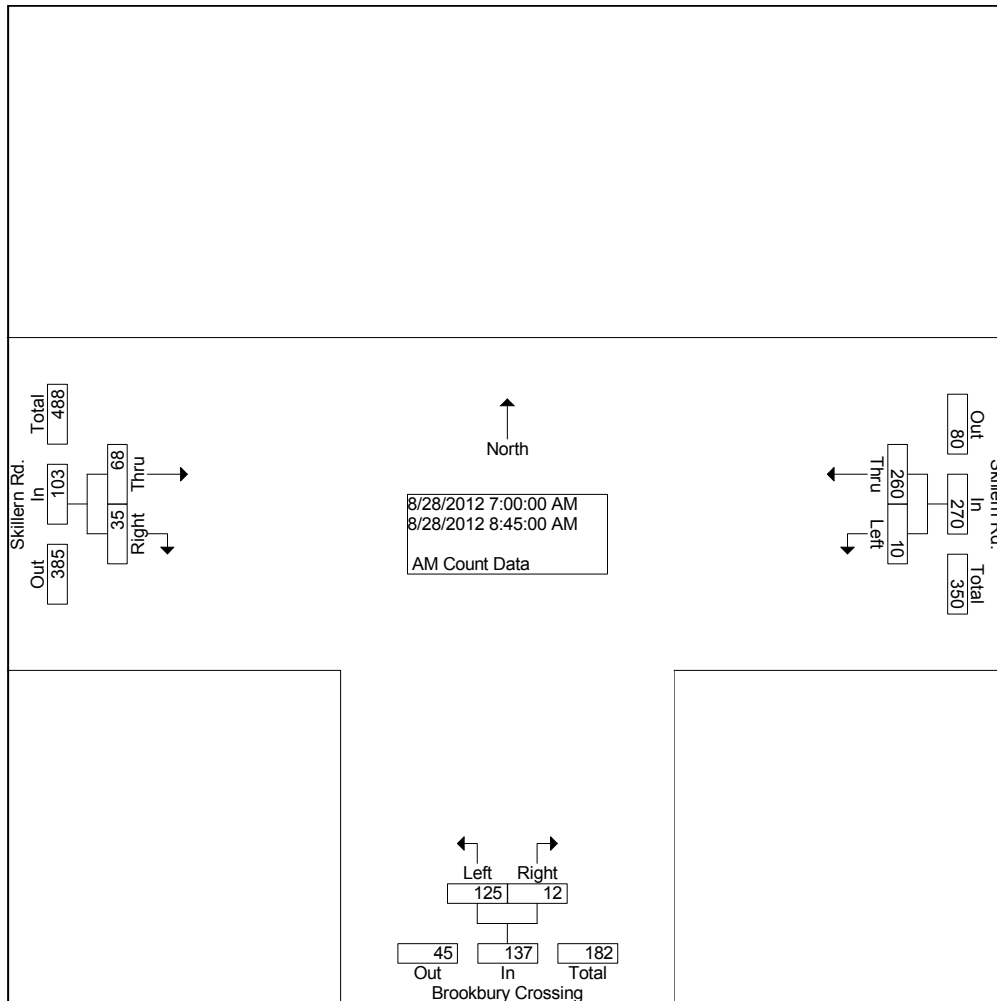
Peters & Associates Engineers, Inc.
 Peak Hours Turning Movement Count Data

AM Hour Turning Movement Count Data
 Skillern Road and Brookbury Crossing
 Fayetteville, AR
 P-1586

B. 1
 RZN 12-4166 (South of
 Brookbury Crossing & East of
 Skillern Rd. (D. McPherson Riggins)
 File Name : AM-Brook
 Site Code : 00000000
 Start Date : 08/28/2012
 Page No : 1

Groups Printed- AM Count Data

Start Time Factor	Skillern Rd. From East			Brookbury Crossing From South			Skillern Rd. From West			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
	1.0	1.0		1.0	1.0		1.0	1.0		
07:00 AM	44	1	45	0	9	9	3	1	4	58
07:15 AM	58	1	59	1	32	33	2	3	5	97
07:30 AM	36	0	36	5	24	29	4	8	12	77
07:45 AM	29	1	30	4	15	19	5	13	18	67
Total	167	3	170	10	80	90	14	25	39	299
08:00 AM	27	5	32	1	9	10	12	12	24	66
08:15 AM	19	1	20	0	19	19	3	10	13	52
08:30 AM	24	0	24	0	6	6	3	11	14	44
08:45 AM	23	1	24	1	11	12	3	10	13	49
Total	93	7	100	2	45	47	21	43	64	211
Grand Total	260	10	270	12	125	137	35	68	103	510
Apprch %	96.3	3.7		8.8	91.2		34.0	66.0		
Total %	51.0	2.0	52.9	2.4	24.5	26.9	6.9	13.3	20.2	

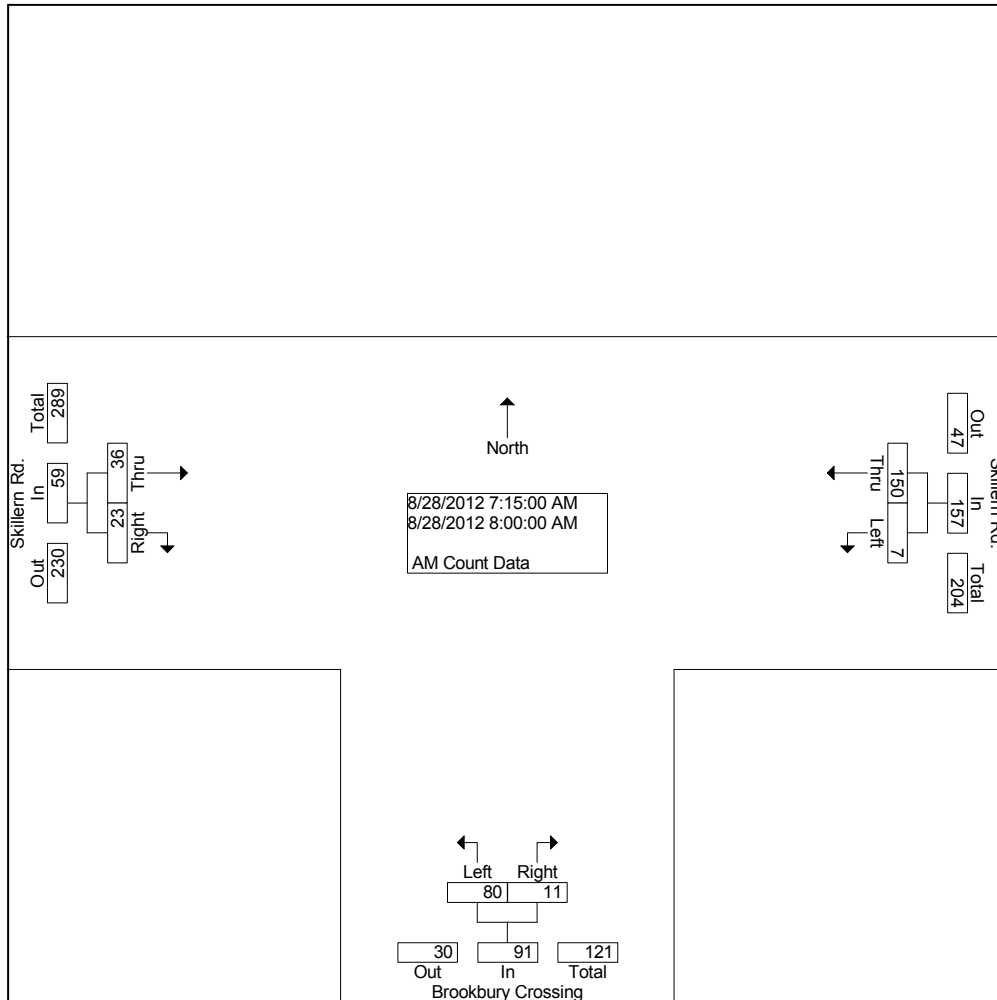


Peters & Associates Engineers, Inc.
 Peak Hours Turning Movement Count Data

AM Hour Turning Movement Count Data
 Skillern Road and Brookbury Crossing
 Fayetteville, AR
 P-1586

B. 1
 RZN 12-4166 (South of
 Brookbury Crossing & East of
 Skillern Rd. (see Appendix Riggins))
 File Name : AM-Brook
 Site Code : 00000000
 Start Date : 08/28/2012
 Page No : 2

Start Time	Skillern Rd. From East			Brookbury Crossing From South			Skillern Rd. From West			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1										
Intersection	07:15 AM									
Volume	150	7	157	11	80	91	23	36	59	307
Percent	95.5	4.5		12.1	87.9		39.0	61.0		
07:15 Volume	58	1	59	1	32	33	2	3	5	97
Peak Factor										0.791
High Int.	07:15 AM			07:15 AM			08:00 AM			
Volume	58	1	59	1	32	33	12	12	24	
Peak Factor	0.665			0.689			0.615			



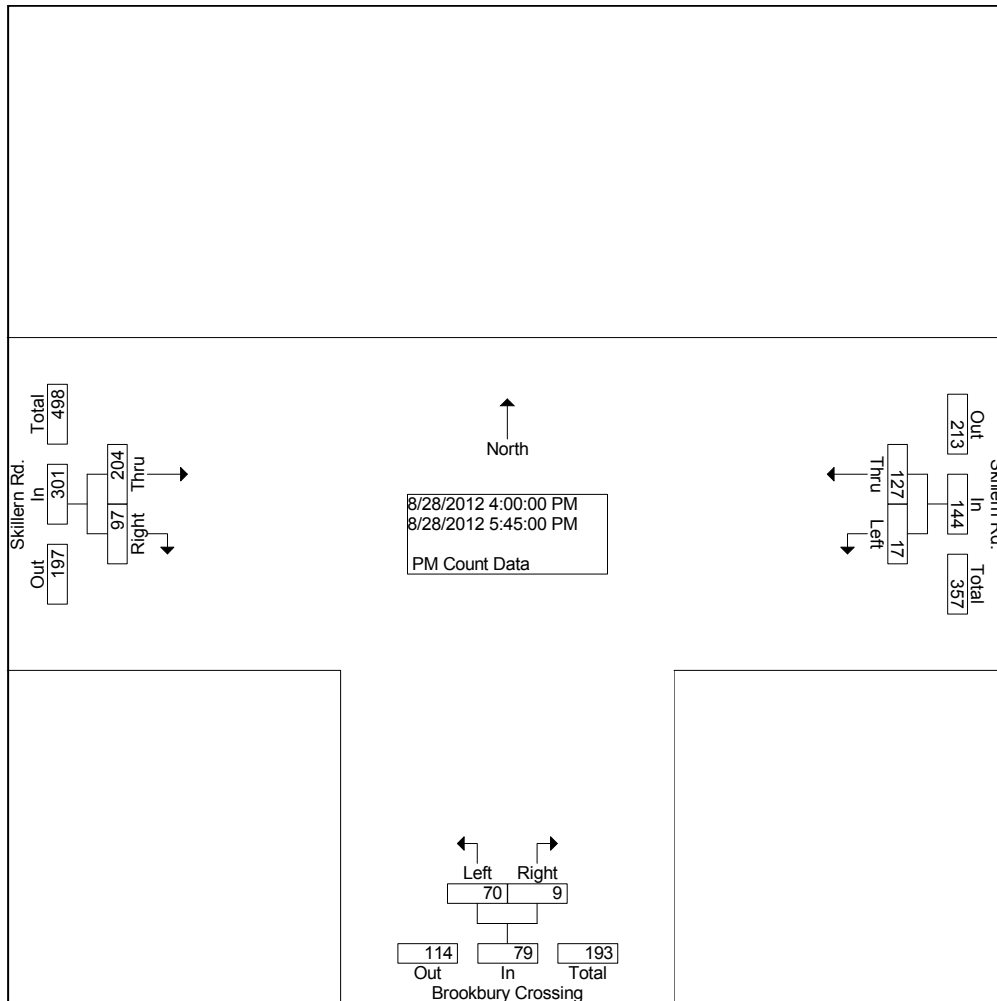
Peters & Associates Engineers, Inc.
 Peak Hours Turning Movement Count Data

PM Hour Turning Movement Count Data
 Skillern Road and Brookbury Crossing
 Fayetteville, AR
 P-1586

B. 1
 RZN 12-4166 (South of
 Brookbury Crossing & East of
 Skillern Rd. (D. M. Brooks & Riggins))
 File Name : PM Brook
 Site Code : 00000000
 Start Date : 08/28/2012
 Page No : 1

Groups Printed- PM Count Data

Start Time	Skillern Rd. From East			Brookbury Crossing From South			Skillern Rd. From West			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
Factor	1.0	1.0		1.0	1.0		1.0	1.0		
04:00 PM	14	0	14	1	10	11	10	19	29	54
04:15 PM	8	1	9	0	8	8	12	29	41	58
04:30 PM	20	1	21	1	7	8	10	22	32	61
04:45 PM	13	3	16	1	6	7	18	26	44	67
Total	55	5	60	3	31	34	50	96	146	240
05:00 PM	13	3	16	2	17	19	9	23	32	67
05:15 PM	15	3	18	1	13	14	10	25	35	67
05:30 PM	19	3	22	2	2	4	14	34	48	74
05:45 PM	25	3	28	1	7	8	14	26	40	76
Total	72	12	84	6	39	45	47	108	155	284
Grand Total	127	17	144	9	70	79	97	204	301	524
Apprch %	88.2	11.8		11.4	88.6		32.2	67.8		
Total %	24.2	3.2	27.5	1.7	13.4	15.1	18.5	38.9	57.4	

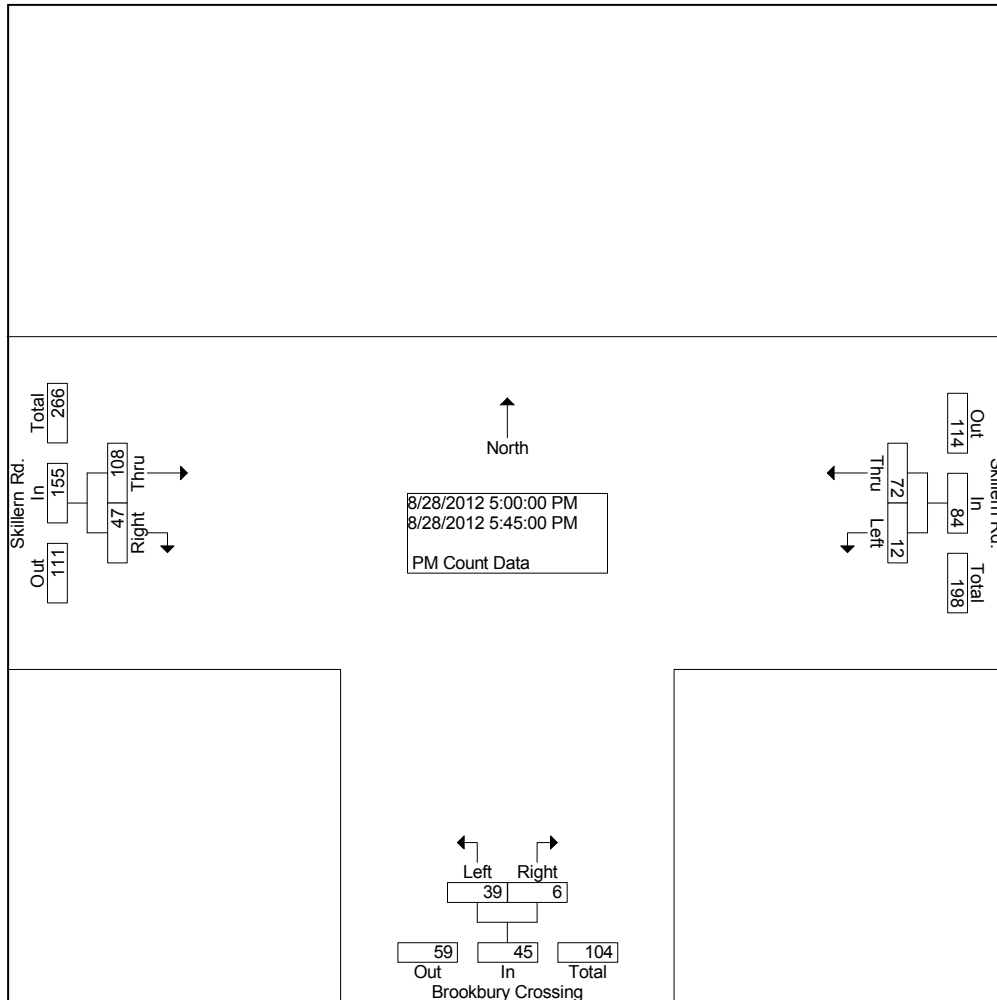


Peters & Associates Engineers, Inc.
 Peak Hours Turning Movement Count Data

PM Hour Turning Movement Count Data
 Skillern Road and Brookbury Crossing
 Fayetteville, AR
 P-1586

B. 1
 RZN 12-4166 (South of
 Brookbury Crossing & East of
 Skillern Rd. (D. McPherson Riggins))
 File Name : PM-Brook
 Site Code : 00000000
 Start Date : 08/28/2012
 Page No : 2

Start Time	Skillern Rd. From East			Brookbury Crossing From South			Skillern Rd. From West			Int. Total
	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1										
Intersection	05:00 PM									
Volume	72	12	84	6	39	45	47	108	155	284
Percent	85.7	14.3		13.3	86.7		30.3	69.7		
05:45 Volume	25	3	28	1	7	8	14	26	40	76
Peak Factor										
High Int.	05:45 PM			05:00 PM			05:30 PM			0.934
Volume	25	3	28	2	17	19	14	34	48	
Peak Factor	0.750			0.592			0.807			



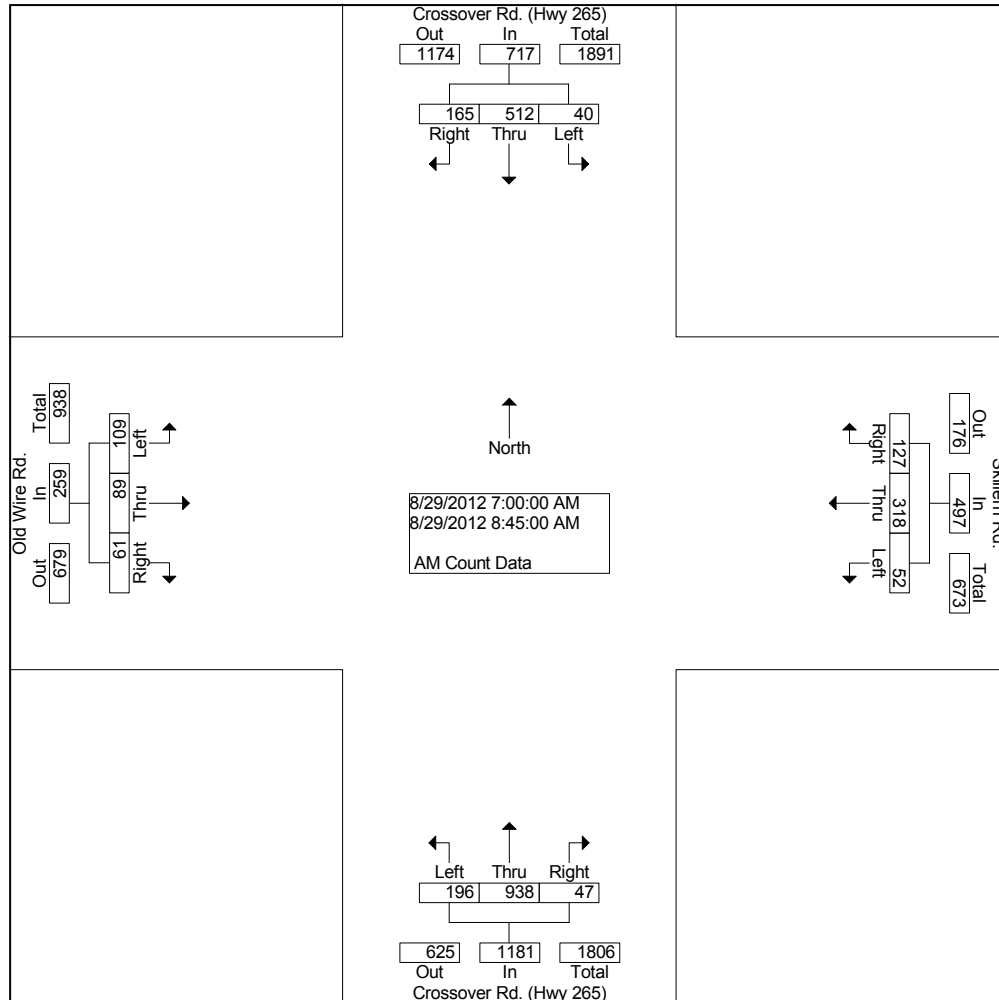
Peters & Associates Engineers, Inc.
 Peak Hours Turning Movement Count Data

AM Hour Turning Movement Count Data
 Crossover Rd and Old Wire Rd/Skillern Rd
 Fayetteville, AR
 P-1586

B. 1
 RZN 12-4166 (South of
 Brookbury Crossing & East of
 Old Wire Rd/Skillern Rds/Riggins)
 File Name : AM-HW
 Site Code : 00000000
 Start Date : 08/29/2012
 Page No : 1

Groups Printed- AM Count Data

Start Time	Crossover Rd. (Hwy 265) From North				Skillern Rd. From East				Crossover Rd. (Hwy 265) From South				Old Wire Rd. From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
07:00 AM	13	42	3	58	22	43	4	69	6	80	18	104	5	8	8	21	252
07:15 AM	21	58	5	84	32	61	8	101	5	90	26	121	9	11	15	35	341
07:30 AM	31	77	4	112	17	52	6	75	5	124	32	161	12	12	18	42	390
07:45 AM	22	72	4	98	8	40	6	54	11	115	24	150	6	8	14	28	330
Total	87	249	16	352	79	196	24	299	27	409	100	536	32	39	55	126	1313
08:00 AM	34	62	5	101	16	59	6	81	10	177	25	212	6	9	10	25	419
08:15 AM	17	59	7	83	9	26	8	43	6	123	23	152	11	12	20	43	321
08:30 AM	14	75	7	96	12	19	4	35	3	122	22	147	5	8	8	21	299
08:45 AM	13	67	5	85	11	18	10	39	1	107	26	134	7	21	16	44	302
Total	78	263	24	365	48	122	28	198	20	529	96	645	29	50	54	133	1341
Grand Total	165	512	40	717	127	318	52	497	47	938	196	1181	61	89	109	259	2654
Apprch %	23.0	71.4	5.6		25.6	64.0	10.5		4.0	79.4	16.6		23.6	34.4	42.1		
Total %	6.2	19.3	1.5	27.0	4.8	12.0	2.0	18.7	1.8	35.3	7.4	44.5	2.3	3.4	4.1	9.8	

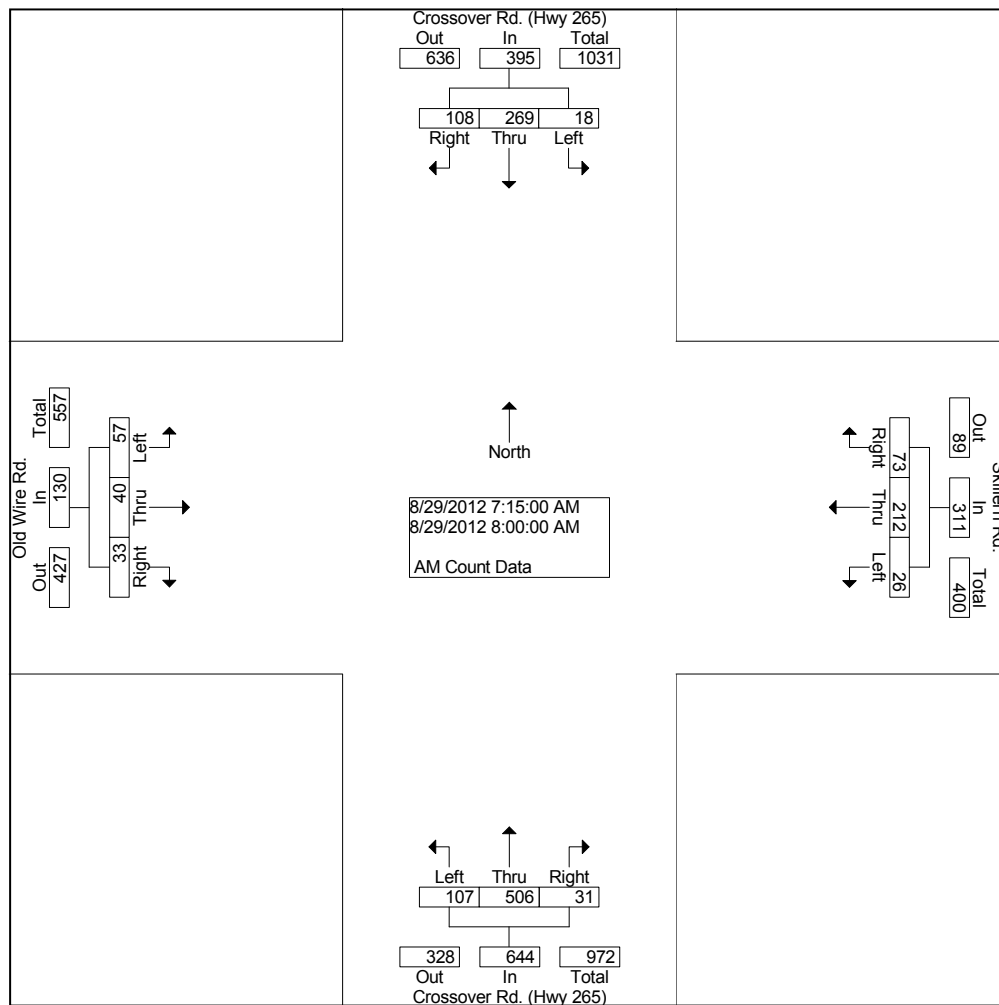


Peters & Associates Engineers, Inc.
 Peak Hours Turning Movement Count Data

AM Hour Turning Movement Count Data
 Crossover Rd and Old Wire Rd/Skillern Rd
 Fayetteville, AR
 P-1586

B. 1
 RZN 12-4166 (South of
 Brookbury Crossing & East of
 Old Wire Rd/Skillern Rds/Riggins)
 File Name : AM-HOV
 Page 76 of 92
 Site Code : 00000000
 Start Date : 08/29/2012
 Page No : 2

Start Time	Crossover Rd. (Hwy 265) From North				Skillern Rd. From East				Crossover Rd. (Hwy 265) From South				Old Wire Rd. From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	108	269	18	395	73	212	26	311	31	506	107	644	33	40	57	130	1480
Percent	27.3	68.1	4.6		23.5	68.2	8.4		4.8	78.6	16.6		25.4	30.8	43.8		
08:00																	
Volume	34	62	5	101	16	59	6	81	10	177	25	212	6	9	10	25	419
Peak Factor	0.883																
High Int.																	
07:30 AM																	
Volume	31	77	4	112	32	61	8	101	10	177	25	212	12	12	18	42	474
Peak Factor	0.882				0.770				0.759				0.774				



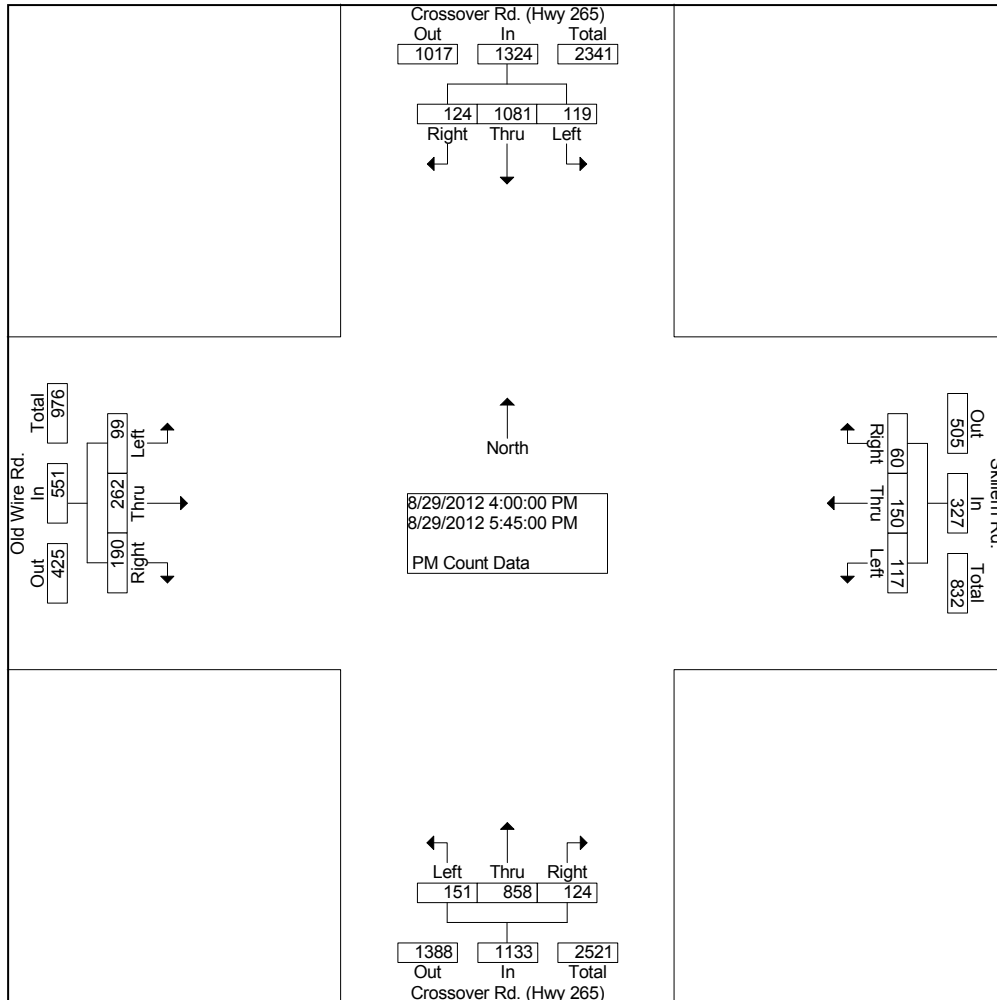
Peters & Associates Engineers, Inc.
 Peak Hours Turning Movement Count Data

PM Hour Turning Movement Count Data
 Crossover Rd and Old Wire Rd/Skillern Rd
 Fayetteville, AR
 P-1586

B. 1
 RZN 12-4166 (South of
 Brookbury Crossing & East of
 Crossover Rd and Old Wire Rd/Skillern Rd)
 File Name : PM-1586
 Site Code : 00000000
 Start Date : 08/29/2012
 Page No : 1

Groups Printed- PM Count Data

Start Time	Crossover Rd. (Hwy 265) From North				Skillern Rd. From East				Crossover Rd. (Hwy 265) From South				Old Wire Rd. From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
04:00 PM	8	119	10	137	2	8	11	21	15	90	15	120	15	19	11	45	323
04:15 PM	15	124	6	145	8	26	22	56	21	108	14	143	14	37	9	60	404
04:30 PM	16	154	16	186	6	13	13	32	17	110	20	147	22	28	18	68	433
04:45 PM	19	127	14	160	6	23	22	51	9	106	27	142	28	26	12	66	419
Total	58	524	46	628	22	70	68	160	62	414	76	552	79	110	50	239	1579
05:00 PM	14	136	9	159	8	20	7	35	13	115	18	146	28	43	15	86	426
05:15 PM	20	150	20	190	13	23	13	49	17	139	16	172	28	30	11	69	480
05:30 PM	14	114	21	149	11	15	17	43	20	86	27	133	33	42	7	82	407
05:45 PM	18	157	23	198	6	22	12	40	12	104	14	130	22	37	16	75	443
Total	66	557	73	696	38	80	49	167	62	444	75	581	111	152	49	312	1756
Grand Total	124	1081	119	1324	60	150	117	327	124	858	151	1133	190	262	99	551	3335
Apprch %	9.4	81.6	9.0		18.3	45.9	35.8		10.9	75.7	13.3		34.5	47.5	18.0		
Total %	3.7	32.4	3.6	39.7	1.8	4.5	3.5	9.8	3.7	25.7	4.5	34.0	5.7	7.9	3.0	16.5	

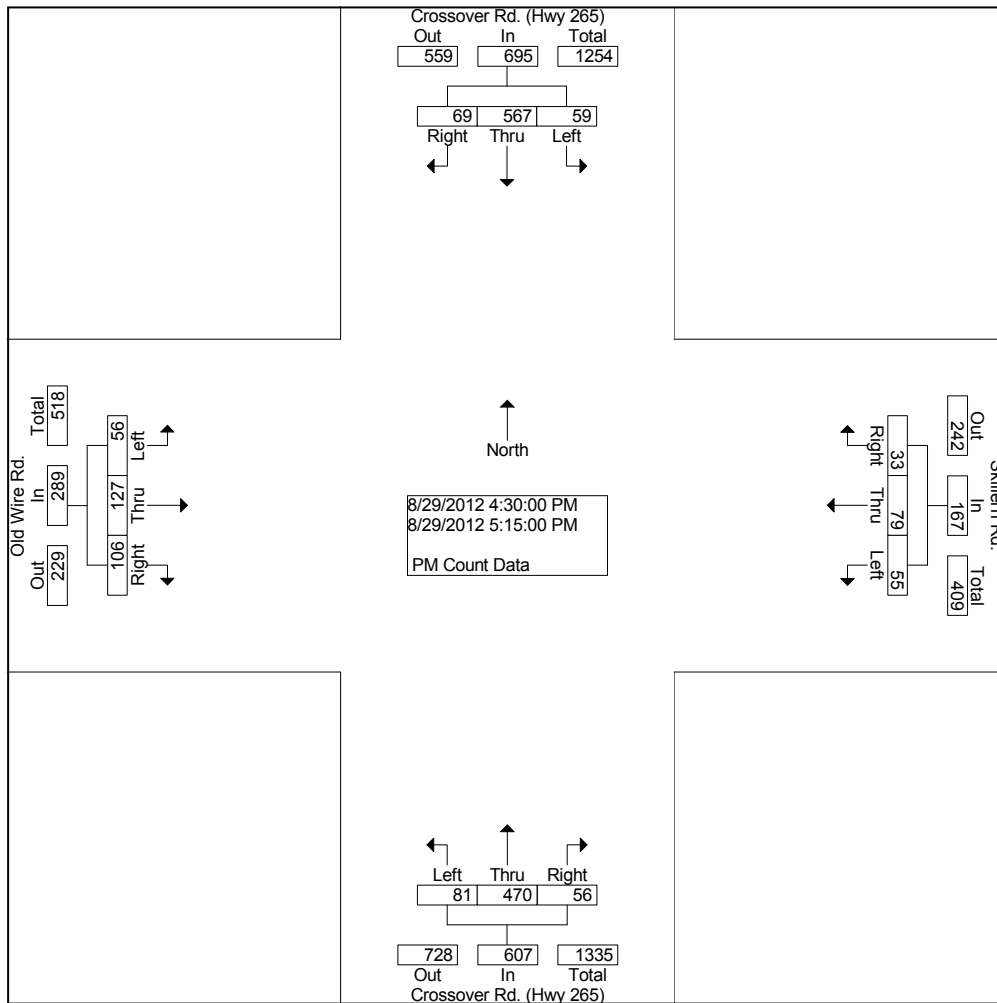


Peters & Associates Engineers, Inc.
 Peak Hours Turning Movement Count Data

PM Hour Turning Movement Count Data
 Crossover Rd and Old Wire Rd/Skillern Rd
 Fayetteville, AR
 P-1586

B. 1
 RZN 12-4166 (South of
 Brookbury Crossing & East of
 Old Wire Rd/Williams/Riggins)
 File Name : PMH0W
 Site Code : 00000000
 Start Date : 08/29/2012
 Page No : 2

Start Time	Crossover Rd. (Hwy 265) From North				Skillern Rd. From East				Crossover Rd. (Hwy 265) From South				Old Wire Rd. From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:30 PM																
Volume	69	567	59	695	33	79	55	167	56	470	81	607	106	127	56	289	1758
Percent	9.9	81.6	8.5		19.8	47.3	32.9		9.2	77.4	13.3		36.7	43.9	19.4		
05:15	04:45 PM																
Volume	20	150	20	190	13	23	13	49	17	139	16	172	28	30	11	69	480
Peak Factor	0.916																
High Int.	05:15 PM																
Volume	20	150	20	190	6	23	22	51	17	139	16	172	28	43	15	86	
Peak Factor	0.914				0.819				0.882				0.840				

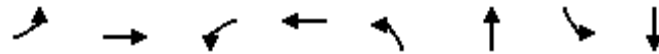


Capacity & Level of Service Calculations



Queues

1: Old Wire Rd & Crossover Rd



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	79	28	309	116	584	20	409
v/c Ratio	0.20	0.16	0.07	0.66	0.26	0.36	0.06	0.28
Control Delay	11.7	9.9	10.7	22.3	11.3	11.5	11.3	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	9.9	10.7	22.3	11.3	11.5	11.3	10.6
Queue Length 50th (ft)	12	8	5	78	20	58	3	37
Queue Length 95th (ft)	29	36	17	146	48	129	13	73
Internal Link Dist (ft)		298		546		249		334
Turn Bay Length (ft)	175		175		200		200	
Base Capacity (vph)	304	601	386	575	454	1642	320	1446
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.13	0.07	0.54	0.26	0.36	0.06	0.28

Intersection Summary

HCM Signalized Intersection Capacity Analysis

1: Old Wire Rd & Crossover Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.96		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1735		1770	1791		1770	3508		1770	3387	
Flt Permitted	0.35	1.00		0.71	1.00		0.47	1.00		0.41	1.00	
Satd. Flow (perm)	646	1735		1314	1791		875	3508		763	3387	
Volume (vph)	57	40	33	26	212	73	107	506	31	18	269	108
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	43	36	28	230	79	116	550	34	20	292	117
RTOR Reduction (vph)	0	27	0	0	24	0	0	6	0	0	65	0
Lane Group Flow (vph)	62	52	0	28	285	0	116	578	0	20	344	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	15.6	13.5		14.2	12.8		24.9	22.8		22.1	21.4	
Effective Green, g (s)	15.6	13.5		14.2	12.8		24.9	22.8		22.1	21.4	
Actuated g/C Ratio	0.29	0.25		0.26	0.24		0.46	0.42		0.41	0.39	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	431		355	421		435	1470		323	1332	
v/s Ratio Prot	c0.01	0.03		0.00	c0.16		c0.01	c0.16		0.00	0.10	
v/s Ratio Perm	0.07			0.02			0.11			0.02		
v/c Ratio	0.27	0.12		0.08	0.68		0.27	0.39		0.06	0.26	
Uniform Delay, d1	14.6	15.8		15.1	18.9		8.6	11.0		9.7	11.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1		0.1	4.3		0.3	0.8		0.1	0.5	
Delay (s)	15.3	16.0		15.2	23.2		8.9	11.8		9.8	11.6	
Level of Service	B	B		B	C		A	B		A	B	
Approach Delay (s)		15.7			22.6			11.3			11.5	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	54.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

6: Skillern Rd & Brookbury Crossing



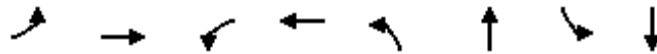
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			→	←	→
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	36	23	7	150	80	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	25	8	163	87	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			64		230	52
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			64		230	52
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		88	99
cM capacity (veh/h)			1538		755	1016

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	64	171	99
Volume Left	0	8	87
Volume Right	25	0	12
cSH	1700	1538	779
Volume to Capacity	0.04	0.00	0.13
Queue Length 95th (ft)	0	0	11
Control Delay (s)	0.0	0.4	10.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	10.3
Approach LOS			B

Intersection Summary			
Average Delay		3.2	
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

Queues

1: Old Wire Rd & Crossover Rd



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	253	60	122	88	572	64	691
v/c Ratio	0.17	0.59	0.20	0.30	0.29	0.38	0.18	0.45
Control Delay	11.6	17.6	12.0	13.7	11.4	13.1	10.0	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	17.6	12.0	13.7	11.4	13.1	10.0	13.8
Queue Length 50th (ft)	11	47	11	21	13	67	10	86
Queue Length 95th (ft)	29	102	29	55	39	124	30	153
Internal Link Dist (ft)		298		546		249		334
Turn Bay Length (ft)	175		175		200		200	
Base Capacity (vph)	352	575	298	561	307	1525	358	1525
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.44	0.20	0.22	0.29	0.38	0.18	0.45

Intersection Summary

HCM Signalized Intersection Capacity Analysis

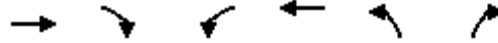
1: Old Wire Rd & Crossover Rd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.96		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1736		1770	1780		1770	3483		1770	3482	
Flt Permitted	0.68	1.00		0.44	1.00		0.32	1.00		0.39	1.00	
Satd. Flow (perm)	1264	1736		821	1780		594	3483		730	3482	
Volume (vph)	56	127	106	55	79	33	81	470	56	59	567	69
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	138	115	60	86	36	88	511	61	64	616	75
RTOR Reduction (vph)	0	60	0	0	29	0	0	14	0	0	14	0
Lane Group Flow (vph)	61	193	0	60	93	0	88	558	0	64	677	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.7	10.5		12.7	10.5		23.5	21.3		23.5	21.3	
Effective Green, g (s)	12.7	10.5		12.7	10.5		23.5	21.3		23.5	21.3	
Actuated g/C Ratio	0.24	0.20		0.24	0.20		0.45	0.41		0.45	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	329	349		240	358		317	1421		372	1421	
v/s Ratio Prot	0.01	c0.11		c0.01	0.05		c0.01	0.16		0.01	c0.19	
v/s Ratio Perm	0.04			0.05			0.11			0.07		
v/c Ratio	0.19	0.55		0.25	0.26		0.28	0.39		0.17	0.48	
Uniform Delay, d1	15.5	18.7		15.5	17.6		8.5	10.9		8.2	11.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.9		0.5	0.4		0.5	0.8		0.2	1.1	
Delay (s)	15.8	20.6		16.1	18.0		8.9	11.7		8.5	12.5	
Level of Service	B	C		B	B		A	B		A	B	
Approach Delay (s)		19.7			17.4			11.3			12.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

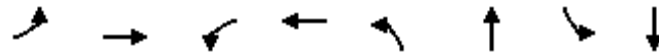
6: Skillern Rd & Brookbry Crossing



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	108	47	12	72	39	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	117	51	13	78	42	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			168		247	143
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			168		247	143
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		94	99
cM capacity (veh/h)			1409		734	905
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	168	91	49			
Volume Left	0	13	42			
Volume Right	51	0	7			
cSH	1700	1409	753			
Volume to Capacity	0.10	0.01	0.06			
Queue Length 95th (ft)	0	1	5			
Control Delay (s)	0.0	1.1	10.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	1.1	10.1			
Approach LOS			B			
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization		24.0%		ICU Level of Service		A
Analysis Period (min)			15			

Queues

1: Old Wire Rd & Crossover Rd



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	83	33	323	116	585	21	409
v/c Ratio	0.21	0.17	0.09	0.70	0.24	0.35	0.07	0.30
Control Delay	12.1	10.1	11.0	24.2	10.7	11.5	11.4	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	10.1	11.0	24.2	10.7	11.5	11.4	11.1
Queue Length 50th (ft)	12	9	6	82	21	60	4	38
Queue Length 95th (ft)	29	38	19	153	48	129	14	73
Internal Link Dist (ft)		298		546		249		334
Turn Bay Length (ft)	175		175		200		200	
Base Capacity (vph)	292	585	383	555	481	1687	315	1363
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.14	0.09	0.58	0.24	0.35	0.07	0.30

Intersection Summary

HCM Signalized Intersection Capacity Analysis

1: Old Wire Rd & Crossover Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.96		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1742		1770	1790		1770	3507		1770	3387	
Flt Permitted	0.31	1.00		0.70	1.00		0.44	1.00		0.43	1.00	
Satd. Flow (perm)	578	1742		1310	1790		829	3507		801	3387	
Volume (vph)	57	43	33	30	220	77	107	506	32	19	269	108
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	47	36	33	239	84	116	550	35	21	292	117
RTOR Reduction (vph)	0	27	0	0	25	0	0	7	0	0	66	0
Lane Group Flow (vph)	62	56	0	33	298	0	116	578	0	21	343	0
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.0	13.8		14.4	13.0		27.4	24.2		22.4	21.7	
Effective Green, g (s)	16.0	13.8		14.4	13.0		27.4	24.2		22.4	21.7	
Actuated g/C Ratio	0.29	0.25		0.26	0.23		0.49	0.43		0.40	0.39	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	212	429		348	415		459	1513		332	1310	
v/s Ratio Prot	c0.01	0.03		0.00	c0.17		c0.01	c0.16		0.00	0.10	
v/s Ratio Perm	0.07			0.02			0.11			0.02		
v/c Ratio	0.29	0.13		0.09	0.72		0.25	0.38		0.06	0.26	
Uniform Delay, d1	15.2	16.5		15.8	19.9		8.0	10.9		10.2	11.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.1		0.1	5.9		0.3	0.7		0.1	0.5	
Delay (s)	16.0	16.6		15.9	25.7		8.2	11.6		10.3	12.2	
Level of Service	B	B		B	C		A	B		B	B	
Approach Delay (s)		16.3			24.8			11.0			12.1	
Approach LOS		B			C			B			B	

Intersection Summary

HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	56.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

6: Skillern Rd & Brookbury Crossing



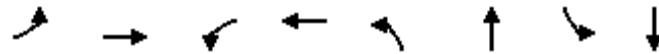
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→	↘	↙	←	↖	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	36	29	8	150	97	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	32	9	163	105	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			71		235	55
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			71		235	55
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		86	98
cM capacity (veh/h)			1530		749	1012

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	71	172	122
Volume Left	0	9	105
Volume Right	32	0	16
cSH	1700	1530	776
Volume to Capacity	0.04	0.01	0.16
Queue Length 95th (ft)	0	0	14
Control Delay (s)	0.0	0.4	10.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	10.5
Approach LOS			B

Intersection Summary			
Average Delay		3.7	
Intersection Capacity Utilization	27.4%		ICU Level of Service A
Analysis Period (min)		15	

Queues

1: Old Wire Rd & Crossover Rd



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	264	63	131	88	577	70	691
v/c Ratio	0.17	0.61	0.21	0.31	0.29	0.38	0.20	0.46
Control Delay	11.5	18.6	12.1	13.8	11.5	13.2	10.3	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	18.6	12.1	13.8	11.5	13.2	10.3	14.0
Queue Length 50th (ft)	11	52	12	23	14	69	11	87
Queue Length 95th (ft)	29	109	30	58	39	125	32	153
Internal Link Dist (ft)		298		546		249		334
Turn Bay Length (ft)	175		175		200		200	
Base Capacity (vph)	355	573	296	563	305	1514	354	1514
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.46	0.21	0.23	0.29	0.38	0.20	0.46

Intersection Summary

HCM Signalized Intersection Capacity Analysis

1: Old Wire Rd & Crossover Rd

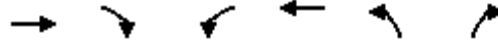
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.96		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1741		1770	1780		1770	3478		1770	3482	
Flt Permitted	0.67	1.00		0.42	1.00		0.32	1.00		0.39	1.00	
Satd. Flow (perm)	1254	1741		786	1780		591	3478		721	3482	
Volume (vph)	56	137	106	58	85	36	81	470	61	64	567	69
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	149	115	63	92	39	88	511	66	70	616	75
RTOR Reduction (vph)	0	55	0	0	30	0	0	15	0	0	14	0
Lane Group Flow (vph)	61	209	0	63	101	0	88	562	0	70	677	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.9	10.7		12.9	10.7		23.3	21.1		23.3	21.1	
Effective Green, g (s)	12.9	10.7		12.9	10.7		23.3	21.1		23.3	21.1	
Actuated g/C Ratio	0.25	0.20		0.25	0.20		0.45	0.40		0.45	0.40	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	332	357		236	365		313	1406		366	1407	
v/s Ratio Prot	0.01	c0.12		c0.01	0.06		c0.01	0.16		0.01	c0.19	
v/s Ratio Perm	0.04			0.05			0.11			0.08		
v/c Ratio	0.18	0.59		0.27	0.28		0.28	0.40		0.19	0.48	
Uniform Delay, d1	15.3	18.7		15.4	17.5		8.6	11.1		8.4	11.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	2.4		0.6	0.4		0.5	0.9		0.3	1.2	
Delay (s)	15.6	21.2		16.0	17.9		9.1	11.9		8.6	12.7	
Level of Service	B	C		B	B		A	B		A	B	
Approach Delay (s)		20.1			17.3			11.5			12.3	
Approach LOS		C			B			B			B	

Intersection Summary

HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis

6: Skillern Rd & Brookbry Crossing



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	↘
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	108	66	17	72	50	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	117	72	18	78	54	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			189		268	153
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			189		268	153
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		92	99
cM capacity (veh/h)			1385		711	893

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	189	97	64
Volume Left	0	18	54
Volume Right	72	0	10
cSH	1700	1385	734
Volume to Capacity	0.11	0.01	0.09
Queue Length 95th (ft)	0	1	7
Control Delay (s)	0.0	1.5	10.4
Lane LOS		A	B
Approach Delay (s)	0.0	1.5	10.4
Approach LOS			B

Intersection Summary			
Average Delay		2.3	
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		



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