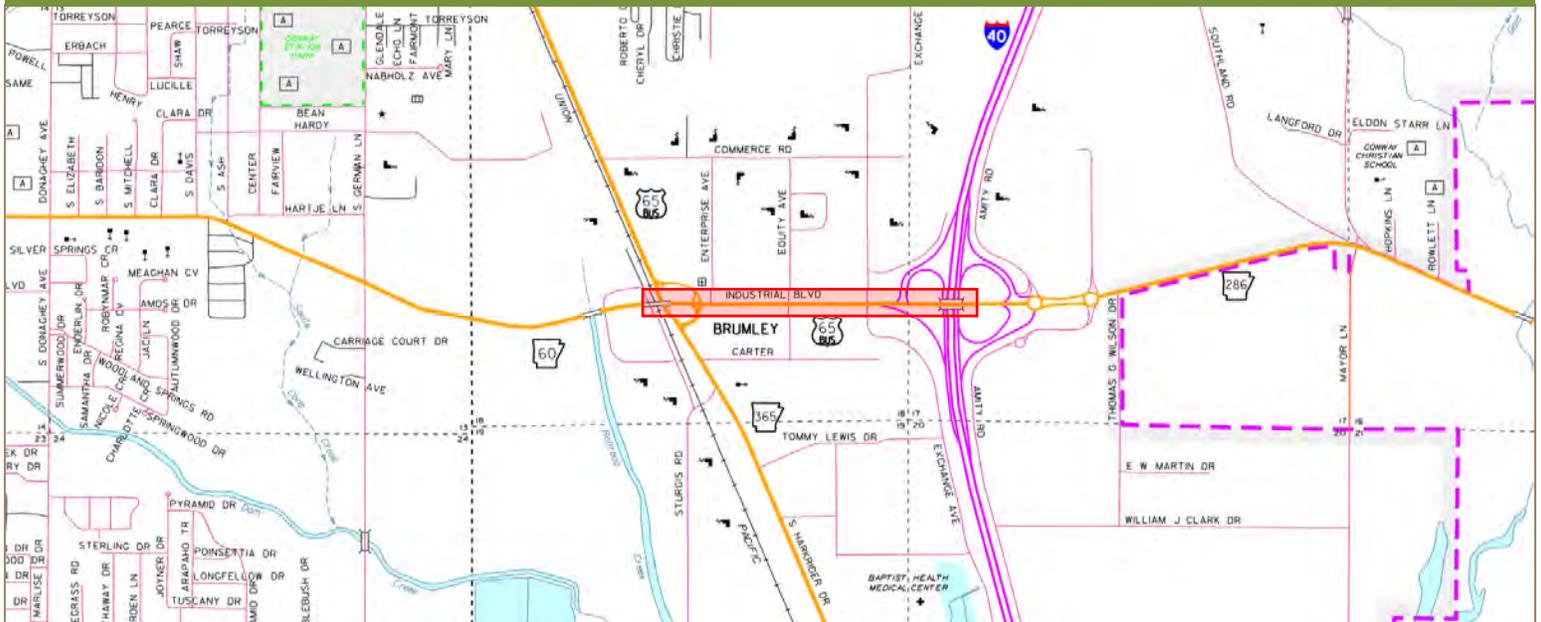


Travel Demand Report

Highway 65B (Dave Ward Drive) Impvts. Study (S)

Job 080578



Prepared For:
Arkansas Department of Transportation
February 1, 2019



Highway 65B (Dave Ward Drive) Impvts. Study (S)

Hwy. 365 – I-40
Faulkner County

Travel Demand Report



Prepared by Garver for the
Arkansas Department of Transportation
In cooperation with the City of Conway, Metroplan, and Federal Highway Administration

This report was funded in part by the Federal Highway Administration, U.S. Department of Transportation. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the U.S. Department of Transportation.

ARKANSAS DEPARTMENT OF TRANSPORTATION NOTICE OF NONDISCRIMINATION

The Arkansas Department of Transportation (Department) complies with all civil rights provisions of federal statutes and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, the Department does not discriminate on the basis of race, sex, color, age, national origin, religion (not applicable as a protected group under the Federal Motor Carrier Safety Administration Title VI Program), disability, Limited English Proficiency (LEP), or low-income status in the admission, access to and treatment in the Department's programs and activities, as well as the Department's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the Department's nondiscrimination policies may be directed to Joanna P. McFadden Section Head - EEO/DBE (ADA/504/Title VI Coordinator), P.O. Box 2261, Little Rock, AR 72203, (501) 569-2298, (Voice/TTY 711), or the following email address: joanna.mcfadden@ardot.gov

Free language assistance for the Limited English Proficient individuals is available upon request.

This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.

TABLE OF CONTENTS

1.0	Introduction.....	1
2.0	Review of Travel Characteristics	5
2.1	Existing Land Use	5
2.2	Composition of Traffic Flow	9
2.3	Peaking Characteristics.....	9
3.0	Development of Traffic Projections	13
3.1	Existing Traffic Volumes	13
3.2	Development of Growth Rates.....	19
3.3	Projected Traffic Volumes	33

LIST OF FIGURES

Figure 1:	Study Area	3
Figure 2:	Land Use Map	7
Figure 3:	Primary Trip Attractors.....	11
Figure 4:	2018 Design Volumes (Donaghey Ave. to Enterprise Ave.)	15
Figure 5:	2018 Design Volumes (Equity Ave. to Amity Rd.)	17
Figure 6:	Traffic Forecast Graph	28
Figure 7:	2040 Base Volumes (Donaghey Ave. to Enterprise Ave.)	29
Figure 8:	2040 Base Volumes (Equity Ave. to Amity Rd.).....	31
Figure 9:	Proposed Development Sites	35
Figure 10:	Development Generated Volumes (Donaghey Ave. to Enterprise Ave.).....	43
Figure 11:	Development Generated Volumes (Equity Ave. to Amity Rd.)	45
Figure 12:	2040 Design Volumes (Donaghey Ave. to Enterprise Ave.)	47
Figure 13:	2040 Design Volumes (Equity Ave. to Amity Rd.)	49

LIST OF TABLES

Table 1: Historic ADT Data.....	21
Table 2: Summary of ADT and Growth Rates.....	25
Table 3: Average Growth Rates.....	27
Table 4: Future Development.....	33
Table 5: Trip Generation Forecast - Central Landing	37
Table 6: Generated Trip Distribution – Central Landing	38
Table 7: Trip Generation Forecast - Proposed Developments	39
Table 8: Generated Trip Distribution - Proposed Developments	41

1.0 Introduction

Highway 65B (Dave Ward Drive), in Faulkner County, is classified as a principal arterial. The corridor is made up of several state highway designations within the extended project limits, including Highway 60 designation west of Highway 365, Highway 65B designation between Highway 365 and Interstate 40, and Highway 286 designation east of Interstate 40. Though this study will focus on improvements along the Highway 65B segment of Dave Ward Drive, the travel demand was gauged for a larger study area.

Regionally, the corridor provides the most direct connection for trips between Conway and Interstate 40. Dave Ward Drive also facilitates local trips between residences, employers, retailers, service providers, and educational facilities. Traffic volumes are exceptionally high within the study area located between Highway 365 and Interstate 40.

This **Travel Demand Report** was created to document the demand for transportation within the Highway 65B segment of the Dave Ward Drive corridor. The report explores travel characteristics, documents the processing of collected raw traffic data, and forecasts traffic to the 2040 design year. To supplement the data within the Highway 65B study area, an expanded area of influence along the Dave Ward Drive corridor was considered to provide a clearer picture of the travel demand for the Highway 65B segment. The expanded area of influence includes Highway 60 between Donaghey Avenue and Highway 365 and Highway 286 between Interstate 40 and Amity Road. The study area and expanded area of influence are shown on **Figure 1**.

This Page Intentionally Left Blank

Figure 1: Study Area



This Page Intentionally Left Blank

2.0 Review of Travel Characteristics

Travel characteristics were evaluated for the Dave Ward Drive corridor. The evaluation included reviewing existing land use maps, determining the primary trip generators and attractors, and analyzing the peaking characteristics of the traffic.

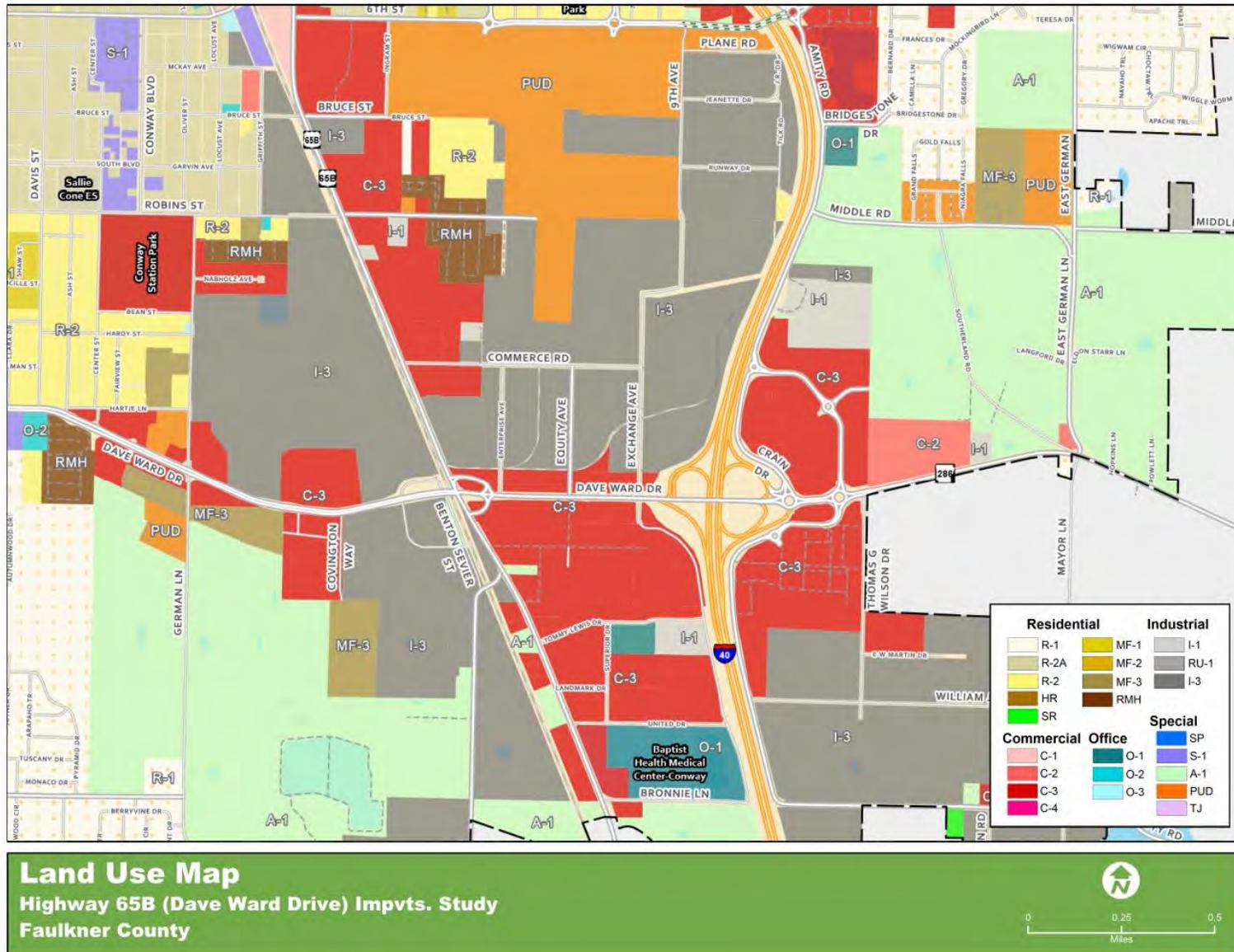
2.1 Existing Land Use

Current City of Conway land use and zoning maps were referenced to define travel characteristics along the Dave Ward Drive corridor. The land use along the Highway 65B segment is fronted with only commercial zoning consisting of a variety of business types with direct access to Highway 65B. Commercial zoning is also the predominant land use along the Highway 286 segment on the east side of Interstate 40, consisting of mainly large retail development, with a quick transition to agriculture approximately 0.5 miles east of Interstate 40 near the city limits. The Highway 60 segment, located immediately west of Highway 365, consists of both commercial and industrial land uses along the highway frontage.

In addition to highway frontage land use, a large industrial park is located north of Highway 65B bound by Highway 365 to the west and Interstate 40 to the east. Another notable land use area that includes considerable traffic attractors is a large area zoned commercial, including medical facilities, south of Highway 65B between Highway 365 and Interstate 40. **Figure 2** shows the current land use and zoning map within the study area.

This Page Intentionally Left Blank

Figure 2: Land Use Map



This Page Intentionally Left Blank

2.2 Composition of Traffic Flow

Traffic flow within the Highway 65B study area is primarily comprised of commuter and intercity trips. The Dave Ward Drive corridor serves as a primary connection to Interstate 40 from large residential areas located west of the study area from the Arkansas River to S. German Lane. Traffic counts show a considerable number of trips access eastbound Interstate 40 toward Little Rock indicating commuters.

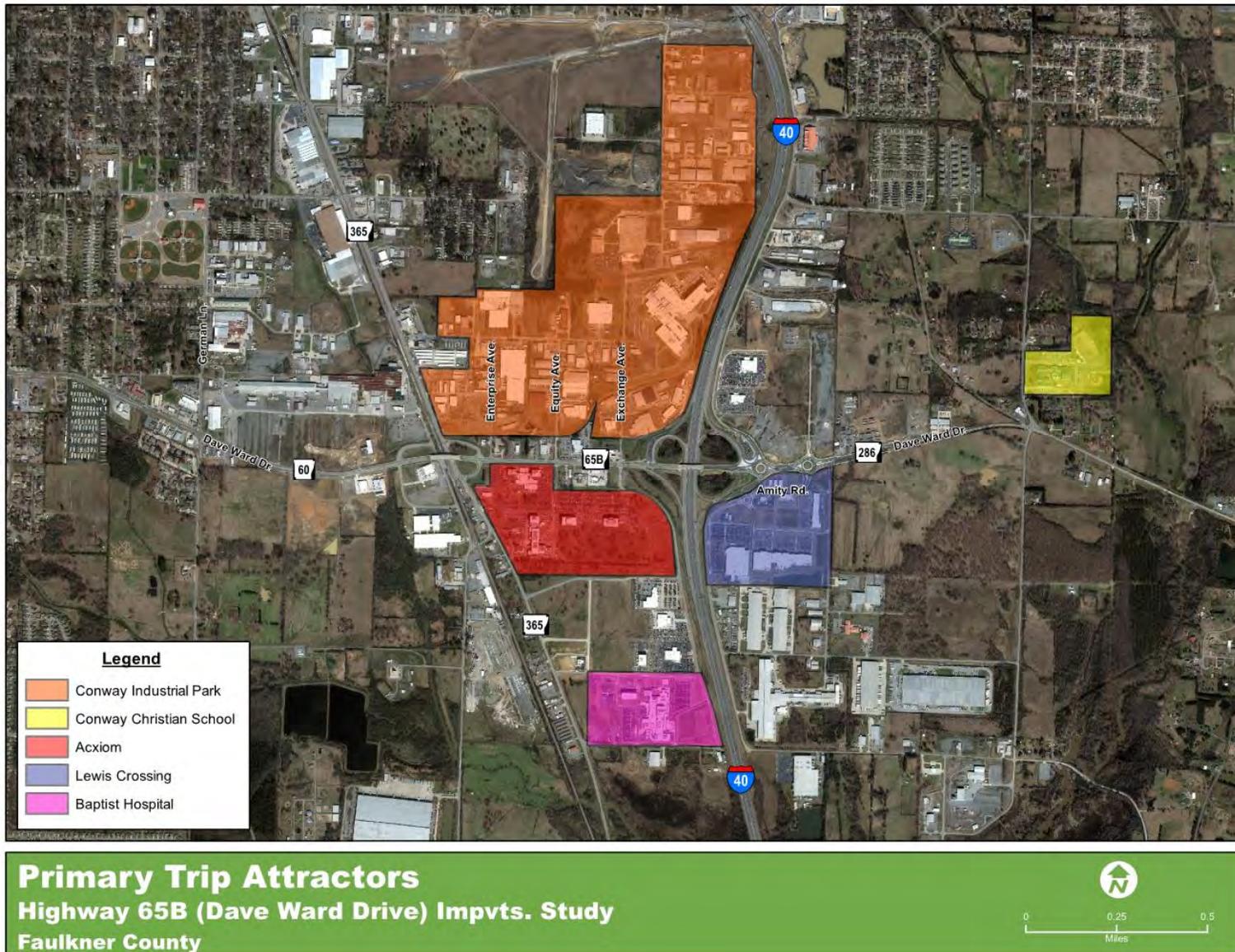
Several primary trip attractors, including a school, commercial development, and an industrial park, are shown in **Figure 3**. As a result, a number of the intercity trips also occur within the Highway 65B study area.

2.3 Peaking Characteristics

Raw traffic data collected as specified in the **Data Collection Plan** was provided by the Arkansas Department of Transportation (ARDOT). The traffic data was processed as described in the following sections of this report. The peaking characteristics followed a traditional morning and afternoon peak scenario which is typical of a corridor consisting of primarily regional commuter trips. As further defined in the following sections, the peak hours of traffic flow were found to be 7:15 - 8:15 AM during the morning and approximately 4:15 - 5:15 PM during the afternoon for the Dave Ward Drive corridor.

This Page Intentionally Left Blank

Figure 3: Primary Trip Attractors



This Page Intentionally Left Blank

3.0 Development of Traffic Projections

Traffic volumes were developed at an intersection turning movement level to allow for detailed traffic operations analysis in later study phases. Traffic volume development consisted of several steps, including processing the raw data into 2018 design data, determining a background growth rate based on historical data, and considering several known developments to project 2040 traffic volumes.

3.1 Existing Traffic Volumes

As an initial step in quantifying existing traffic conditions within the study area, traffic data was collected and provided by the ARDOT as described in the **Data Collection Plan**. As previously discussed, an area of traffic influence was determined to extend beyond the study area to Donaghey Avenue on the west side and Amity Road to the east. The following key intersections within the area of influence were included in the data collection effort:

- Highway 60 and Donaghey Avenue
- Highway 60 and German Lane
- Highway 65B and Hwy 365 Connectors
- Highway 65B and Enterprise Avenue
- Highway 65B and Equity Avenue
- Highway 65B and Exchange Avenue
- Highway 65B and Interstate 40 eastbound ramps
- Highway 286 and Interstate 40 westbound ramps
- Highway 286 and Amity Road (Western Roundabout)
- Highway 286 and Amity Road (Eastern Roundabout)

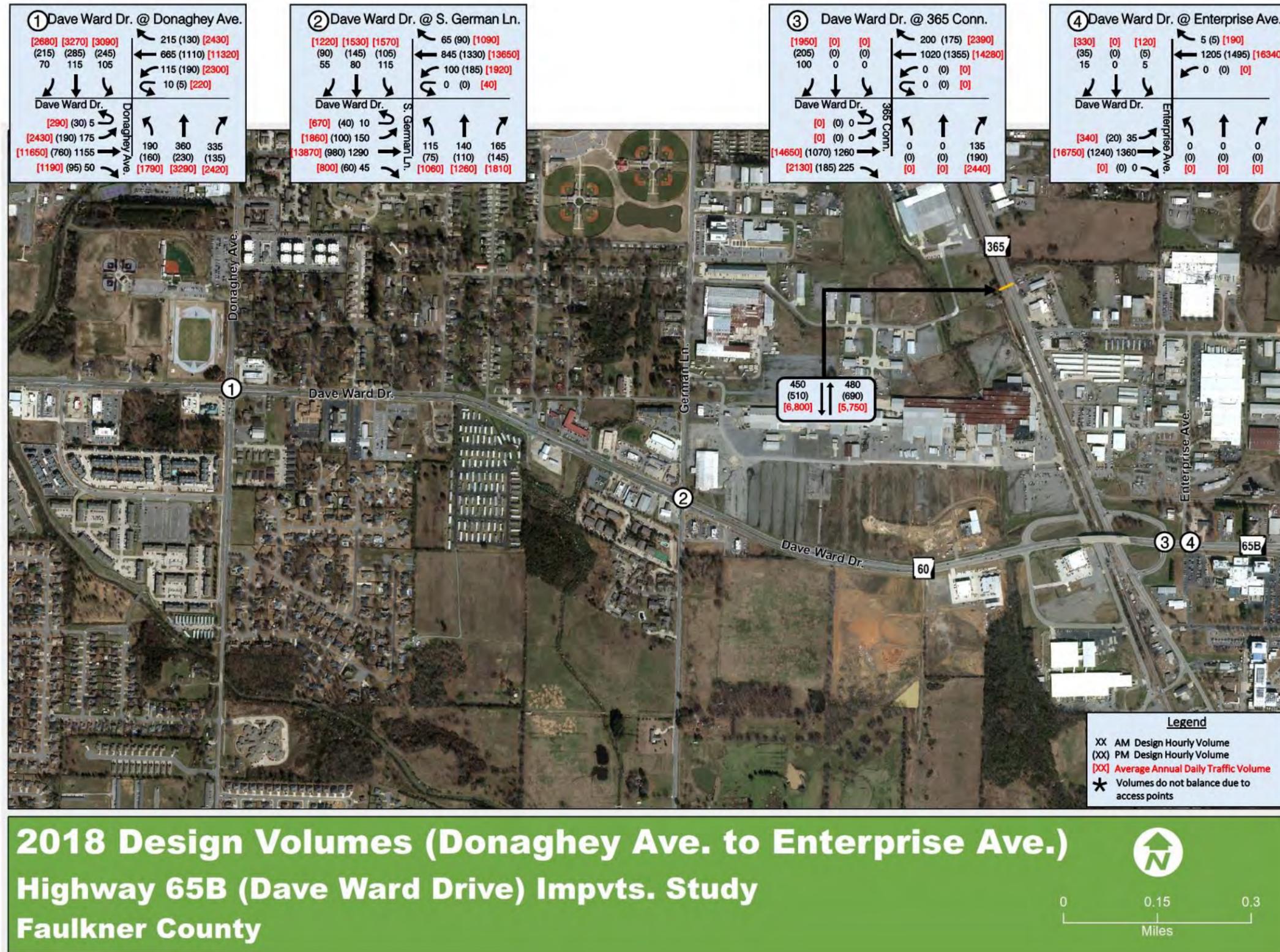
All intersections, with the exception of Highway 65B at Enterprise Avenue, were counted on April 17, 2018. The intersection of Highway 65B and Enterprise Avenue was counted

October 23, 2018. The raw traffic volume data was utilized to determine the existing AM peak hour, PM peak hour, and Average Daily Traffic (ADT) volumes throughout the Dave Ward Drive corridor. ARDOT's 2018 seasonal adjustment factors were applied to the traffic counts and balanced where needed in order to determine the existing 2018 design volumes shown in **Figures 4 and 5**.

As shown, the existing daily traffic on Highway 60 west of Highway 365 reaches approximately 34,000 vehicles per day (vpd). Existing daily volumes increase within the Highway 65B study area, between Highway 365 and Interstate 40, to an average of 40,000 vpd then drops substantially to approximately 16,000 vpd on Highway 286 east of Amity Road.

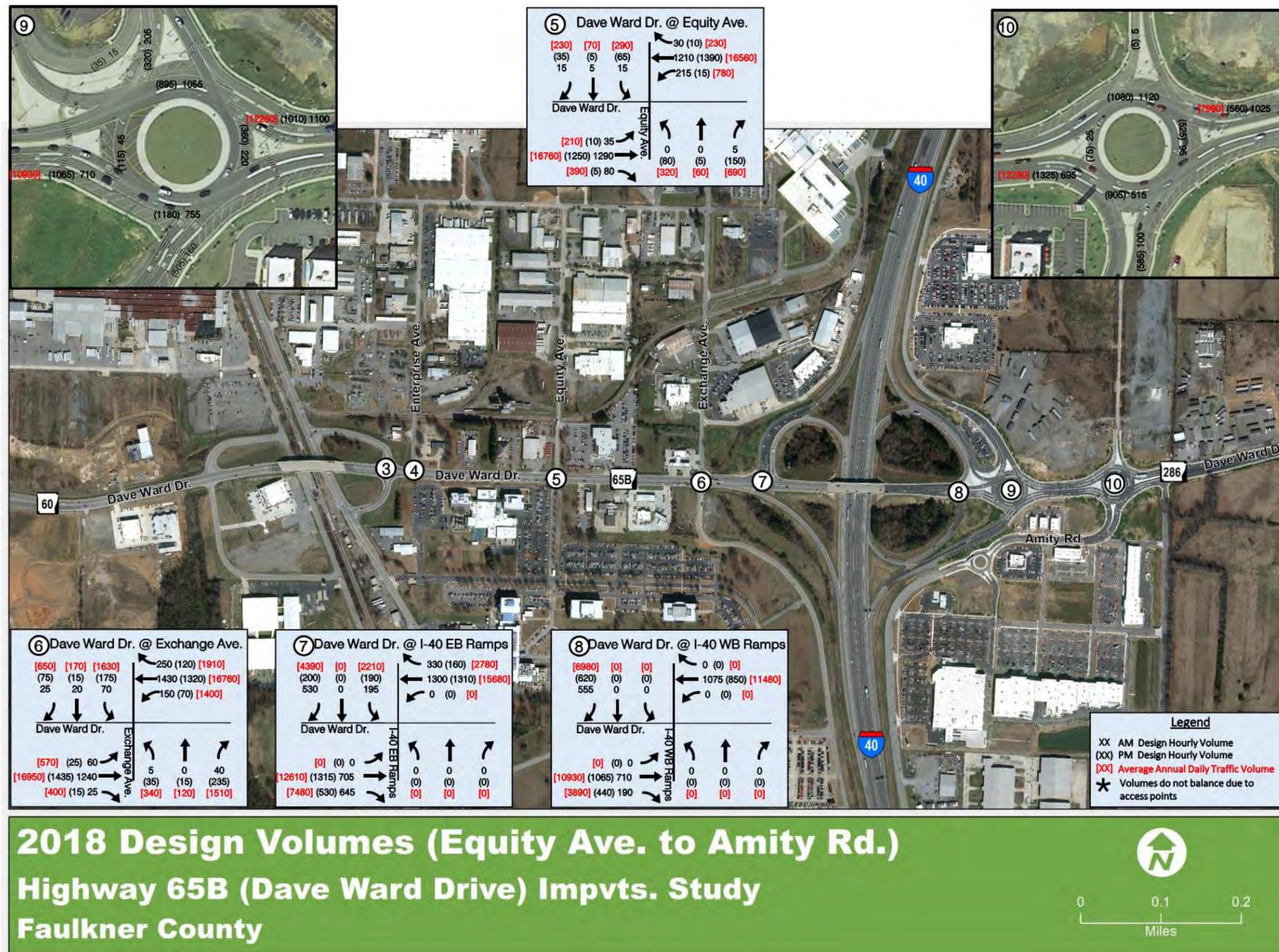
The highest existing hourly volumes occurred during the afternoon commuter peak, with 3,300-3,400 vehicles per hour (vph) total for both directions of Highway 65B from Exchange Avenue to the eastbound Interstate 40 ramps. Existing hourly volumes were found to be comparable between the weekday morning and afternoon peak hours, and no pronounced directional pattern (heavy in both directions and oriented towards both employment centers and Interstate 40 ramps).

Figure 4: 2018 Design Volumes (Donaghey Ave. to Enterprise Ave.)



This Page Intentionally Left Blank

Figure 5: 2018 Design Volumes (Equity Ave. to Amity Rd.)



This Page Intentionally Left Blank

3.2 Development of Growth Rates

A total of 13 ADT count stations managed by the ARDOT were identified within the area of influence. These count stations were evaluated to identify the appropriate growth rate for the area. A majority of the count stations had less than 20 years of data, particularly the count stations not located on the Dave Ward Drive corridor. For example, the Interstate 40 ramps only had 8 years of historical ADT data to consider. The count stations with over twenty years of data had intermittent time frames of missing data. In instances where one year of data was missing, the average of the year before and the year after was used to fill in the missing data point. The historical ADT data for each of these count stations is shown in **Table 1**. Approximated values for missing data points are shown in red.

Several methods were investigated to project future volumes. First, the trend function was used in Excel to project the historical volumes to 2040. This function is based on the equation $y=mx+b$, where y represents the traffic volume and x represents the year. For these calculations, the true “b” value was selected.

This Page Intentionally Left Blank

Table 1: Historic ADT Data

Approach	Hwy. 60 east of S. German Ln	Hwy. 365 south of Hwy. 60	Hwy. 65B btw Equity and Exchange Ave	Hwy. 286 west of Mayor Ln	EB Hwy 286 to EB I-40	EB Hwy. 286 to WB I-40	WB I-40 to EB Hwy. 286	WB I-40 to WB Hwy. 286	WB Hwy. 286 to WB I-40	WB I-40 on-ramp	S Amity Rd north of Hwy. 286	EB I-40 to WB Hwy. 286	I-40 EB off-ramp to Hwy. 286	I-40 EB on ramp from Hwy. 286	WB Hwy. 286 to EB I-40
Station	230275	230287	230251	230202	230150	230142	230141	230143	230144	230145	230157	230124	230125	230149	230148
1997	18,000	9,800	25,000	8,100											
1998	18,000	10,000	22,000	7,800											
1999	19,000	11,000	23,500	8,000											
2000	21,000	13,000	25,000	9,200											
2001	19,000	12,000	24,000	8,400											
2002	22,000	12,000	22,000	8,900											
2003	20,000	10,000	26,000	9,400											
2004	22,700	10,500	24,600	10,600											
2005	24,600	12,600	25,300	9,900											
2006	28,800	11,600	31,800	12,300											
2007	30,600	10,700	33,100	12,400											
2008	30,000	11,000	32,000	14,000											
2009	31,000	11,000	33,000	14,000											
2010	30,000	10,000	34,000	14,000	7,300	4,400	2,800	7,600	2,100	6,400		7,100	9,700	9,500	2,300
2011	27,000	11,000	31,000	14,000	6,500	3,700	2,400	6,400	1,800	4,300	7,500	5,800	8,800	7,800	1,900
2012	30,000	10,000	34,000	14,000	6,700	3,900	2,700	6,500	1,800	4,600	9,400	6,200	9,200	7,500	2,200
2013	31,000	11,000	34,000	14,000	6,900	3,800	2,600	6,700	1,700	4,300	9,400	6,100	9,300	7,500	2,100
2014	33,000	1,000	34,000	13,000	6,700	3,300	2,500	6,700	1,200	4,500	10,000	5,600	9,200	6,900	2,200
2015	33,000	10,000	34,000	14,000	7,400	3,800	2,500	6,700	1,500	4,400	9,500	6,100	9,800	7,100	2,200
2016	33,000	10,000	35,000	16,000	7,600	3,800	2,700	7,300	1,600	4,200	9,900	5,900	10,000	7,500	2,300
2017	35,000	12,000	39,000	15,000	8,100	3,800	3,400	7,500	2,400	5,000	9,700	6,700	11,000	9,200	2,600

This Page Intentionally Left Blank

Second, future volumes were projected by using the growth rate calculated based on **Equation 1** below:

Equation 1:

$$V_F = V_P * GF^n$$

$$GF = (1 + AGR/100)$$

Where: V_F = future volume

V_P = present volume

GF = growth factor

AGR = annual growth rate (%)

n = number of years

The annual growth rate was calculated based on the 1997 and 2017 volumes for each station. The calculated growth rates were then used along with 2017 volumes to project the future volumes.

Third, ARDOT provided 20-year growth factors for Faulkner County for various roadway functional classification. A 20-year growth factor of 1.275 (AGR = 1.222%) was selected for Highway 65B which is classified as a principal arterial. For Interstate 40 ramps, a 20-year growth factor of 1.368 (AGR = 1.579%) was used since the ramps are classified as interstate. For Highway 365 and Highway 286, both classified as a minor arterial, a 20-year growth factor of 1.361 (AGR = 1.553%) was selected.

A fourth source utilized for traffic projections was traffic data information provided by the Central Arkansas Regional Transportation Study (CARTS) travel demand model. This model is used by Metroplan, the Metropolitan Planning Organization (MPO) for the

Central Arkansas area, to project and analyze future transportation needs in the study area. The CARTS model showed the capacity on the study segment of Dave Ward Drive between Interstate 40 and Highway 365 to be constrained with only nominal growth expected (**0.66% AGR**)

A summary of the projected ADT and growth rates yielded from the various methods for all count stations is shown in **Table 2**. In calculating the average growth rates shown in **Table 3**, only the count stations with 20 years of data were used. Negative growth rates were replaced with values of zero in computing the averages as a conservative measure to not skew the results. As shown in **Table 3** and the volume graph captured in **Figure 6**, if projecting the corridor only by historical patterns, a growth rate between 1 to 2% would be prudent according to the most of the data sources. However, background growth is typically applied to situations when local knowledge of future developments is unknown. For this project, several large developments have been specified and are included in the ultimate projections. To balance the historical background growth rate (that may include vehicles simply passing through the corridor) with site-specific trips produced by future developments in the area, a slightly smaller background growth of 1% was applied to the 2018 data in addition to the development trips (discussed in the next section). The 1% rate is still larger than the capacity constrained CARTS rate but lower than the other data sets, which will provide a reasonable projection for the corridor.

The resulting 2040 background growth-only volumes are shown in **Figures 7 and 8**. These traffic volumes represent what would be on the network without any influence from planned development in the area

Table 2: Summary of ADT and Growth Rates

Approach	Hwy. 60 east of S. German Ln	Hwy. 365 south of Hwy. 60	Hwy. 65B btw Equity and Exchange Ave	Hwy. 286 west of Mayor Ln	EB Hwy. 286 to EB I-40	EB Hwy. 286 to WB I-40	WB I-40 to EB Hwy. 286	WB I-40 to WB Hwy. 286	WB Hwy. 286 to WB I-40	WB I-40 on-ramp	S Amity Rd north of Hwy. 286	EB I-40 to WB Hwy. 286	I-40 EB off-ramp to Hwy. 286	I-40 EB on ramp from Hwy. 286	WB Hwy. 286 to EB I-40
Station	230275	230287	230251	230202	230150	230142	230141	230143	230144	230145	230157	230124	230125	230149	230148
Using Trend Function															
AGR (%)	1.97	-1.42	1.68	2.02	1.65	-1.80	1.68	0.68	-0.21	-5.01	2.10	-0.66	1.60	-0.93	1.70
2018	36180	9239	38030	16262	7846	3571	2968	7161	1746	4139	10443	6021	10525	7586	2450
2040	55520	6744	54825	25262	11251	2393	4277	8313	1668	1337	16493	5210	14925	6171	3550
Using Future=Present(1+AGR/100)^n															
AGR (%)	3.38	1.02	2.25	3.13	1.50	-2.07	2.81	-0.19	1.93	-3.47	4.38	-0.82	1.81	-0.46	1.77
2018	36183	12122	39877	15469	8221	3721	3496	7486	2446	4827	10125	6645	11199	9158	2646
2040	75194	15147	65037	30468	11399	2347	6435	7181	3722	2222	26001	5538	16629	8279	3890
County Growth Rate															
AGR (%)	1.22	1.55	1.22	1.55	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
2018	35428	12186	39477	15233	8228	3860	3454	7618	2438	5079	9853	6806	11174	9345	2641
2040	46281	17105	51570	21381	11614	5449	4875	10754	3441	7169	13908	9607	15772	13191	3728
Using AGR Based on CARTS model															
2010	34500	34500	34500	34500	34500	34500	34500	34500	34500	34500	34500	34500	34500	34500	34500
2040	42000	42000	42000	42000	42000	42000	42000	42000	42000	42000	42000	42000	42000	42000	42000
AGR (%)	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
2018	35230	12079	39257	15099	8153	3825	3422	7549	2416	5033	9764	6744	11072	9261	2617
2040	40697	13953	45348	17442	9418	4419	3953	8721	2791	5814	11279	7791	12791	10698	3023

This Page Intentionally Left Blank

Table 3: Average Growth Rates

Method	Trend Function	Calculated VF=VP*GF ⁿ	County Growth Rate	CARTS Model	Average	Recommended
Dave Ward Dr. east of German Ln						
2017	35,000					
AGR (%)	1.97	3.38	1.22	0.66	1.81	1.00
2040	55,520	75,194	46,281	40,697	53,000	44,000
Harkrider St. south of Dave Ward Dr.						
2017	12,000					
AGR (%)	-1.42	1.02	1.55	0.66	0.81	1.00
2040	6,744	15,147	17,105	13,953	14,500	15,000
Hwy. 65 btw Equity Ave. and Exchange Ave						
2017	39,000					
AGR (%)	1.68	2.25	1.22	0.66	1.45	1.00
2040	54,825	54,825	51,570	45,348	54,500	49,000
Hwy. 65 west of Mayor Ln						
2017	15,000					
AGR (%)	2.02	3.13	1.55	0.66	1.84	1.00
2040	25,262	30,468	21,381	17,442	23,000	19,000

Figure 6: Traffic Forecast Graph

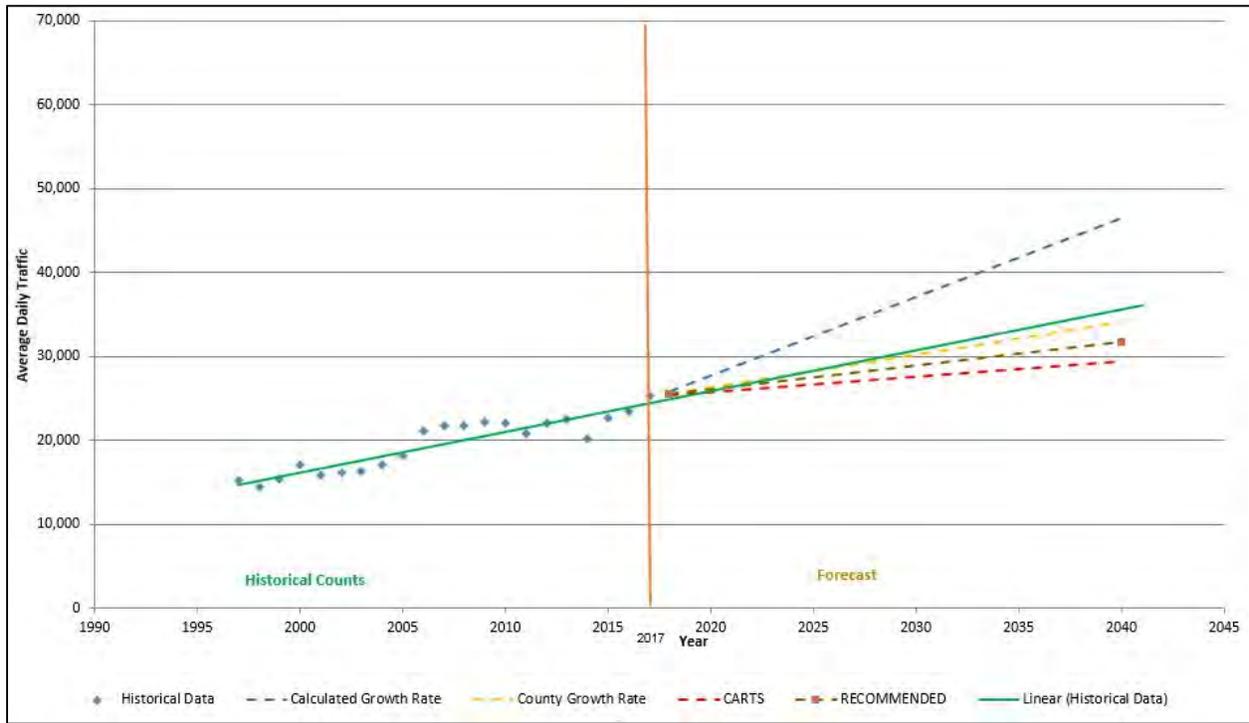
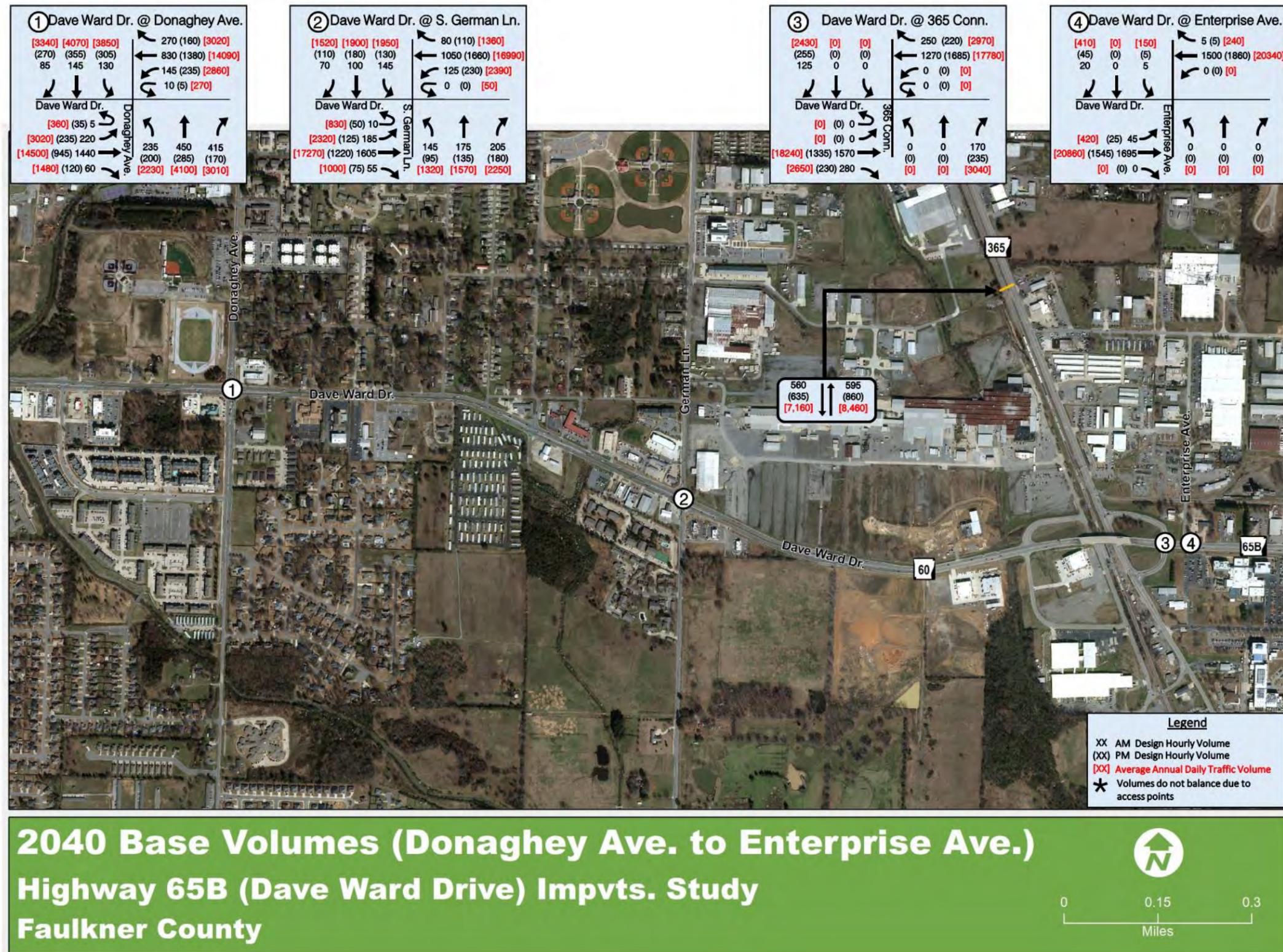
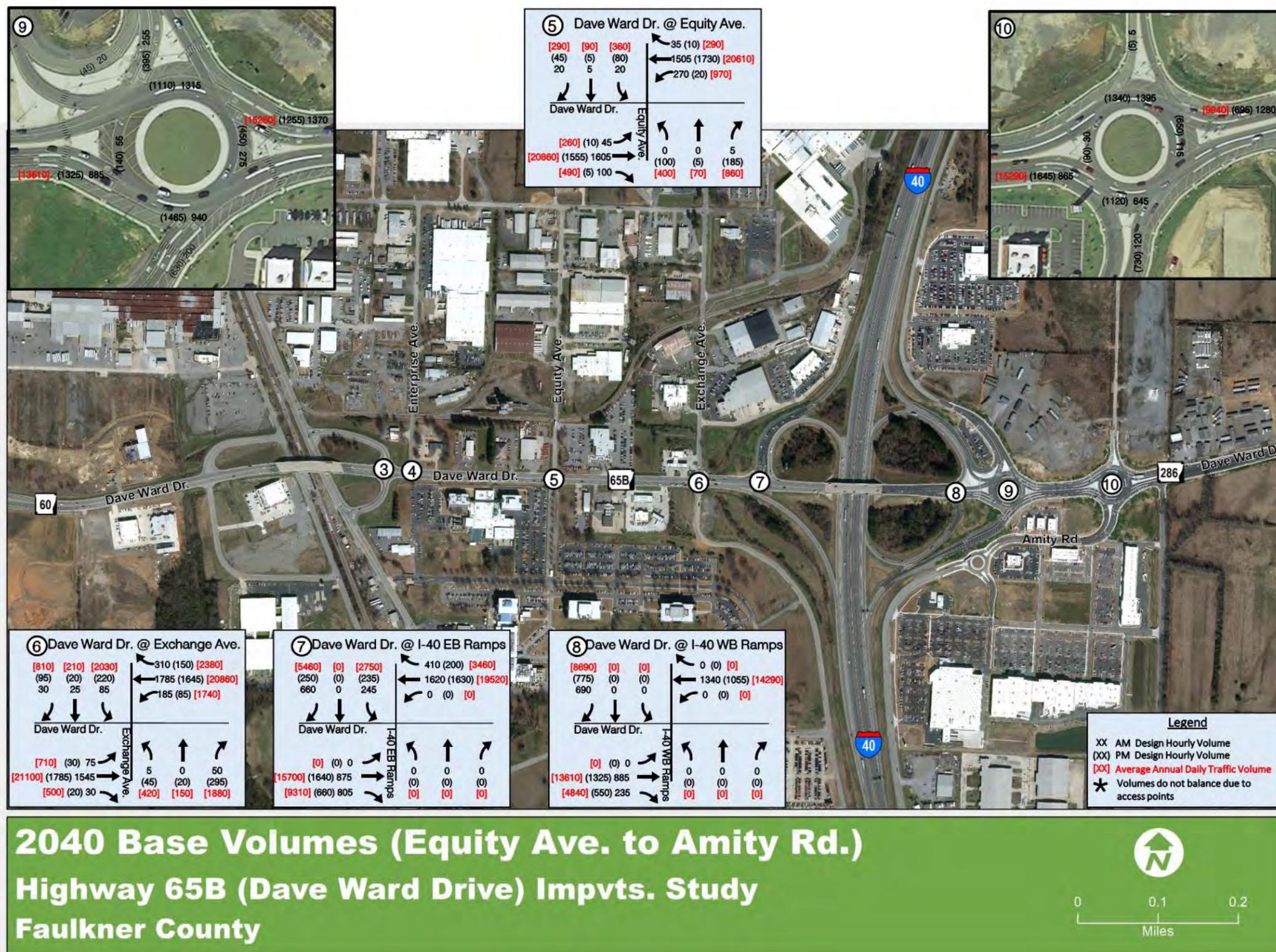


Figure 7: 2040 Base Volumes (Donaghey Ave. to Enterprise Ave.)



This Page Intentionally Left Blank

Figure 8: 2040 Base Volumes (Equity Ave. to Amity Rd.)



This Page Intentionally Left Blank

3.3 Projected Traffic Volumes

The next step in the traffic volume generation process is to estimate the trips generated from known developments in the area. Multiple future developments were identified as new traffic attractors creating additional trips to the study area outside of those captured in the estimated background growth rate and corresponding 2040 base volumes. The anticipated developments were identified through stakeholder involvement meetings which included the City of Conway and Faulkner County along with additional input from the Conway Area Chamber of Commerce. The identified developments are summarized in **Table 4**.

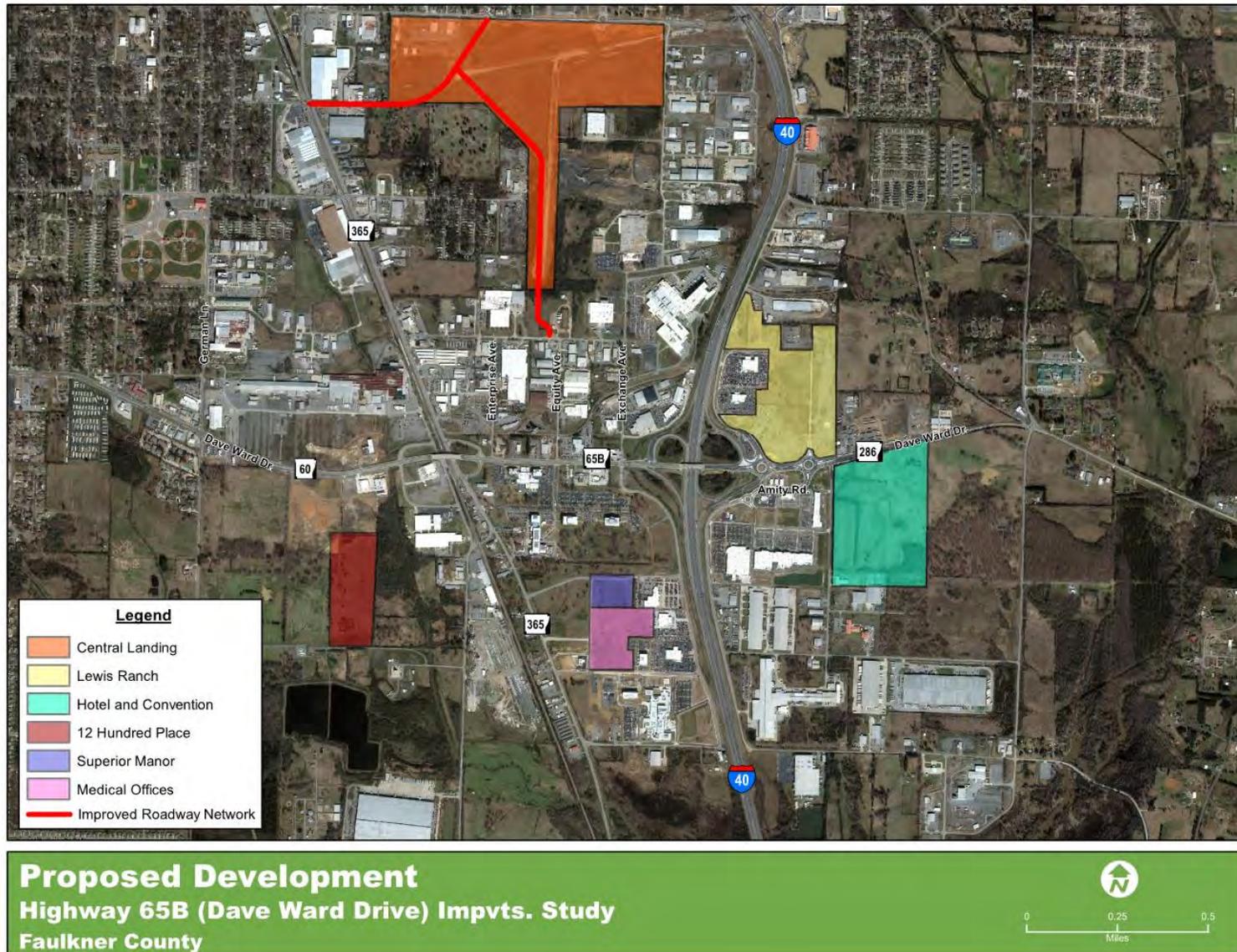
Table 4: Future Development

Development	Description
Central Landing	Mixed Use Development
Lewis Ranch	Mixed Use Development
Hotel and Convention	Hotel and Public Function Space
12 Hundred Place	Multifamily Housing (101 Units)
Superior Manor	Nursing Home
Medical Offices	Various Medical Offices

Figure 9 shows the location of the proposed development sites in relation to the study area. A previous study documented development assumptions for Central Landing and will be discussed and considered independently in the following sections.

This Page Intentionally Left Blank

Figure 9: Proposed Development Sites



This Page Intentionally Left Blank

3.3.1 Central Landing

Development assumptions, including trip generation, pass by, and internal capture trip reductions, for the Central Landing Development were carried forward from prior work originally generated by others and refined and documented by Garver in the **Interstate 40 at Highway 64 Interchange Justification Report** for the City of Conway (September 2014). The resulting traffic projections for Central Landing development are summarized in **Table 5**.

Table 5: Trip Generation Forecast - Central Landing

Land Use	Size	Daily	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total
Shopping Center	425,000 s.f.	17,394	234	143	377	758	821	1,579
Apartments	400 d.u.	2,548	40	160	200	154	83	237
Bowling Alley	48 lanes	1,600	9	6	15	44	28	72
City Hall	10,000 s.f.	323	23	4	27	9	19	28
Fast Food Restaurants	6,000 s.f.	2,977	139	134	273	102	94	196
Sit Down Family Restaurants	18,000 s.f.	2,289	107	88	195	106	71	177
Specialty Retail Shops	40,000 s.f.	1,749	39	49	88	52	66	118
Hotels	100 rooms	892	39	28	67	34	36	70
<i>Subtotal</i>		29,770	629	612	1,241	1,260	1,218	2,478
<i>Internal Capture Trip Reduction</i>		-2,977	-63	-61	-124	-126	-122	-248
<i>Total External Trips</i>		26,793	566	550	1,116	1,134	1,096	2,230
<i>Pass-By Trips</i>		-6,409	-140	-140	279	-269	-269	-537
Forecasted Trips		20,384	427	411	838	866	828	1,693

The full build-out of all phases of the Central Landing development generates approximately 29,880 daily trips, 1,241 trips during the morning peak hour, and 2,478 trips during the afternoon peak hour. A portion of these trips would be pass-by in nature (already using the local network but now diverting into development before continuing to destination) and a portion would be captured internally due to the development containing mixed land uses that attract each other. As a result, approximately 20,384 daily, 838 morning peak hour and 1,693 afternoon peak hour “new” trips would be generated.

The “new” development-generated trips were assigned into and out of the sites based on an expected directional distribution, which was carried forward from the previous report. Not all the trips were affecting the study area, therefore; only trips that were affecting the area are shown in **Table 6**.

Table 6: Generated Trip Distribution – Central Landing

Route		Central Landing
To/From	East of I-40 using Dave Ward Drive to Equity and Exchange	3%
To/From	East of I-40 using Dave Ward Drive to Amity	1%
To/From	West of Hwy 365 using Dave Ward Drive	10%
To/From	From Hwy 365 to Dave Ward Drive to Equity and Exchange	1%
To/From	I-40 South using Dave Ward Drive to Equity and Exchange	6%

3.3.2 Proposed Developments

Other future developments, in addition to the previously studied Central Landing, were identified as new traffic generators creating additional trips to the study corridor outside of those captured in the estimated background growth rate and corresponding 2040 base

volumes. The proposed developments, as shown on **Figure 9**, include Lewis Ranch, a Hotel and Convention Center, 12 Hundred Place, Superior Manor, and medical offices.

The trip generation forecasts were based upon data provided in the *Trip Generation Manual*, Tenth Edition, published by the Institute of Transportation Engineers (ITE). This manual, which is a standard resource for transportation engineers, is based on a compilation of nationwide studies documenting the characteristics of various land uses. The resulting traffic projections for the potential developments is summarized in **Table 7**.

Table 7: Trip Generation Forecast - Proposed Developments

Land Use	Size	Daily	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total
High-Turnover (Sit-Down) Restaurant	37,897 s.f.	4,250	205	170	375	230	140	370
Shopping Center	128,763 s.f.	4,860	75	45	120	235	255	490
Business Hotel	200 rooms	805	35	45	80	35	30	65
General Office	68,476 s.f.	665	70	10	80	15	65	80
Automobile Sales	58,588 s.f.	1,630	80	30	110	55	85	140
Hotel	250 rooms	2,090	70	50	120	75	75	150
Multifamily Housing (Low-Rise)	101 units	740	10	35	45	35	20	55
Nursing Home	120 beds	365	15	5	20	10	15	25
Medical Office	100,000 s.f.	3,480	220	60	280	95	250	345
<i>Subtotal</i>		18,885	780	450	1,230	785	935	1,720
<i>Common Trip Reduction (15% Lewis Ranch)</i>		-1,830	-70	-45	-115	-85	-85	-170
<i>Total External Trips</i>		17,055	710	405	1,115	700	850	1,550
<i>Pass-By Trips (30% shopping Center and restaurant)</i>		-2,320	-65	-65	-130	-110	-110	-220
Forecasted Trips		14,735	645	340	985	590	740	1,330

The projections were adjusted to account for the fact that not all of the trips generated by the development would be new to the surrounding road system, but instead are trips already passing the respective sites (similar to assumptions applied for Central Landing development). These “pass-by trips” would be made by patrons that would be attracted to the development on their way to or from another destination; hence, they would produce turning movements at the site’s access driveways, but they would not represent new traffic on the adjoining roadways. In this study, for restaurants and shopping centers, a pass-by rate of 30% was assumed for all daily and both commuter peak periods.

Within the Lewis Ranch development, proposed uses would be connected internally with shared parking and points of external access. A reduction of 15% was applied to account for internal trips between complementary uses or “common trips” between different land-uses of the site.

As summarized in **Table 7**, the full build-out of the proposed developments would be expected to generate a total of approximately 17,055 daily trips, 1,115 and 1,550 trips during the morning and afternoon peak hours, respectively. A portion of these trips would be pass-by in nature and a portion would be common trips. As a result, approximately 14,735 daily, 985 morning peak hour and 1,330 afternoon peak hour “new” trips would be generated.

The “new” development-generated trips were assigned into and out of the sites based upon an expected directional distribution. The distribution of traffic for these developments is captured in **Table 8**. For Lewis Ranch, a similar distribution was applied as assumed for the Lewis Crossing development located on the south side of Dave Ward

Drive in the September 2014 **Interstate 40 at Highway 64 Interchange Justification Report**. For the convention hotel, more traffic was geared towards Interstate 40 to reflect out of town travelers. For the apartment complex and medical offices, identical distributions were applied that featured assumptions that were less Interstate 40 based and attracted trips to north and western Conway.

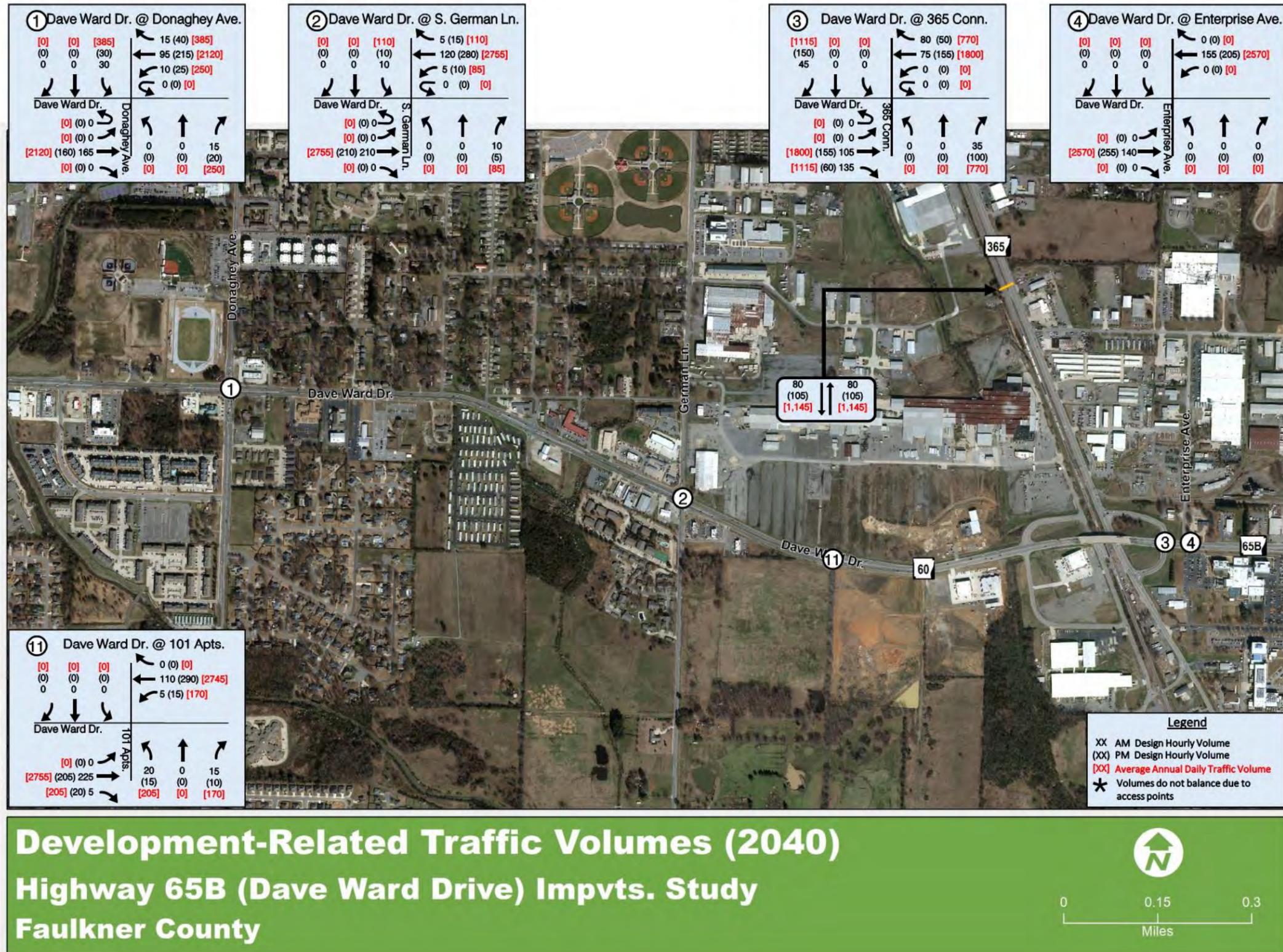
Table 8: Generated Trip Distribution - Proposed Developments

Route		Lewis Ranch	Hotel & Convention	12 Hundred Place	Superior Manor and Med Offices
To/From	East on Dave Ward Dr	7%	10%	7%	7%
To/From	North on Amity Rd	15%	5%	0%	0%
To/From	North on Interstate 40	27%	35%	10%	10%
To/From	South on Interstate 40	25%	35%	10%	10%
To/From	North on Exchange Ave	3%	1%	2%	2%
To/From	South on Exchange Ave	2%	1%	0%	0%
To/From	North on Equity Ave	2%	1%	1%	1%
To/From	South on Equity Ave	3%	1%	0%	0%
To/From	Hwy 365	2%	1%	15%	15%
To/From	North on German Ln	1%	0%	3%	3%
To/From	South on German Ln	1%	0%	2%	2%
To/From	North on Donaghey Ave	2%	2%	8%	8%
To/From	South on Donaghey Ave	2%	2%	2%	2%
To/From	West on Dave Ward Drive W of Donaghey Ave	8%	6%	40%	40%

The site-generated traffic for the proposed developments is provided in **Figures 10 and 11**. The site-generated volumes were added to 2040 background growth only volumes to produce the design volumes shown in **Figures 12 and 13**. These volumes reflect the total demand estimated for the study corridor in 2040. All together the growth on Dave Ward Drive between Interstate 40 and Hwy 365 is estimated to grow between 1.5 and 2.0% per

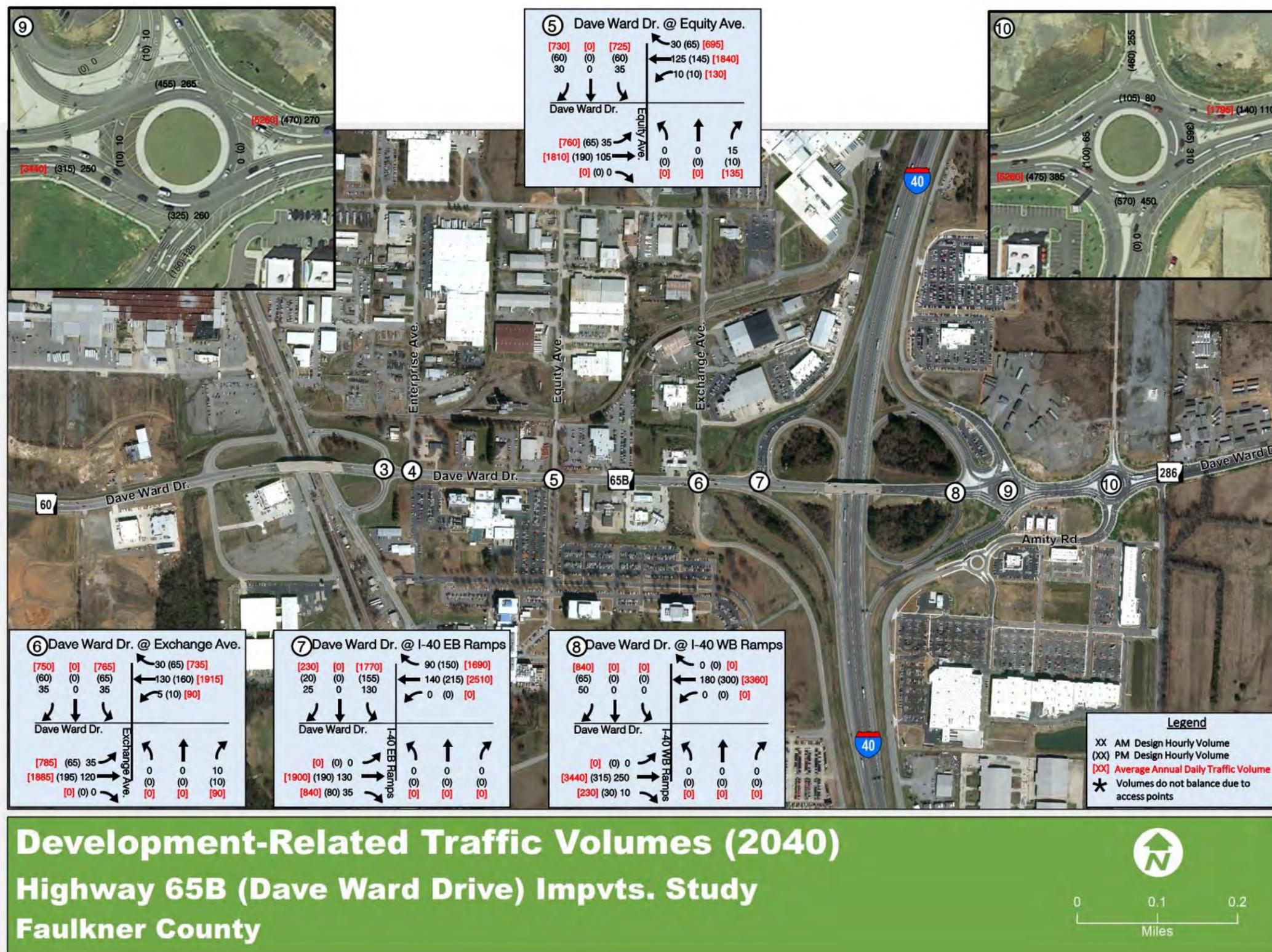
year, resulting in daily flows of 55,000 vehicles per day to the east and 47,000 vehicles per day to the west.

Figure 10: Development Generated Volumes (Donaghey Ave. to Enterprise Ave.)



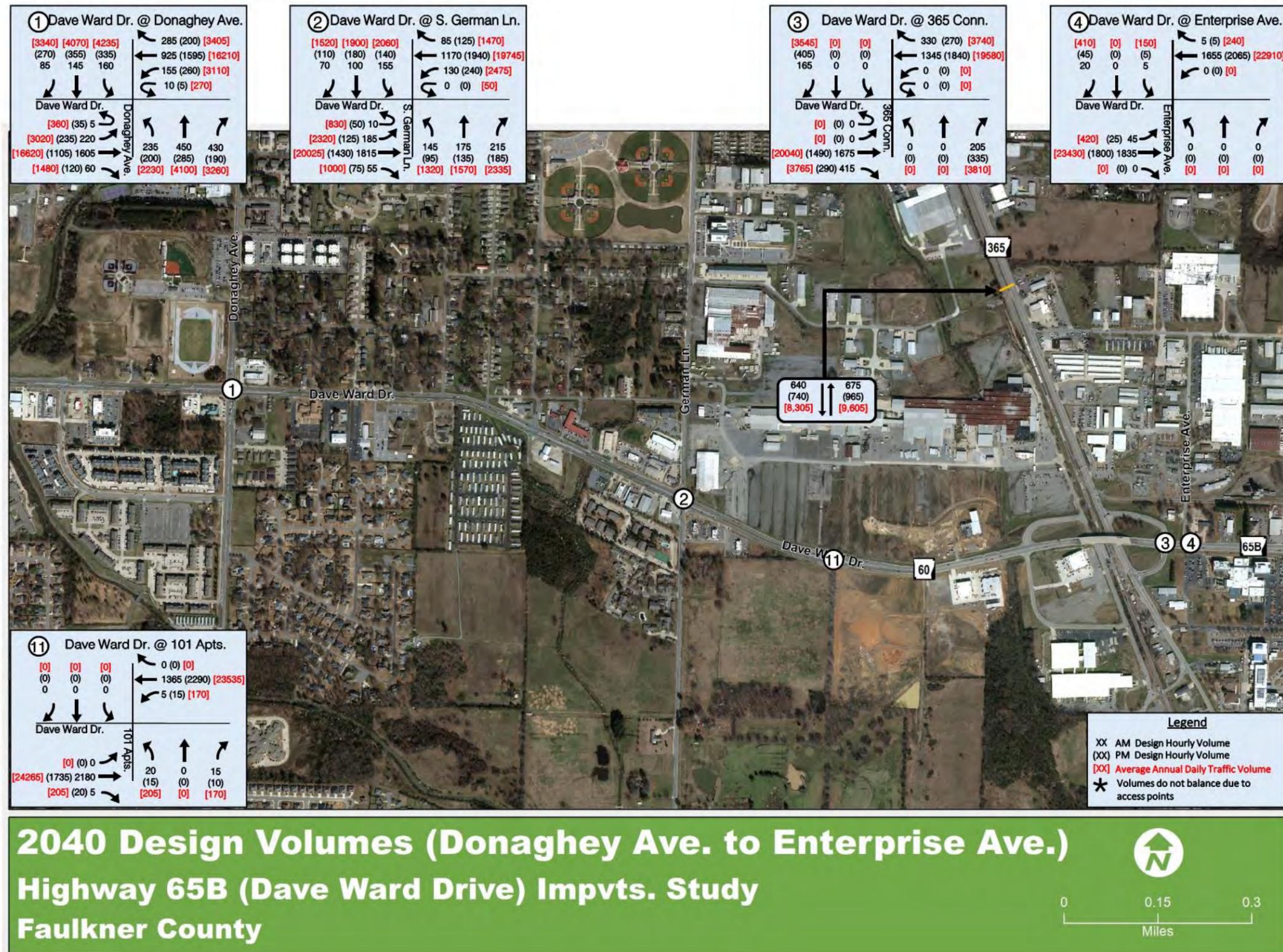
This Page Intentionally Left Blank

Figure 11: Development Generated Volumes (Equity Ave. to Amity Rd.)



This Page Intentionally Left Blank

Figure 12: 2040 Design Volumes (Donaghey Ave. to Enterprise Ave.)



This Page Intentionally Left Blank

This Page Intentionally Left Blank



HIGHWAY 65B (Dave Ward Drive) Impvts. Study (S)

Travel Demand Report

Job 080578



GarverUSA.com