

**APPENDIX C**  
**KYTC Traffic Forecast**  
**(April 29, 2013)**

# *Executive Summary*

## **Traffic Forecast Report Boone County Construct New Ramp near Mall Rd. Item No. 06-0409.00**

Prepared for:



Prepared by:  
**Daniel Hulker**  
Division of Planning  
Kentucky Transportation Cabinet  
April 29, 2013

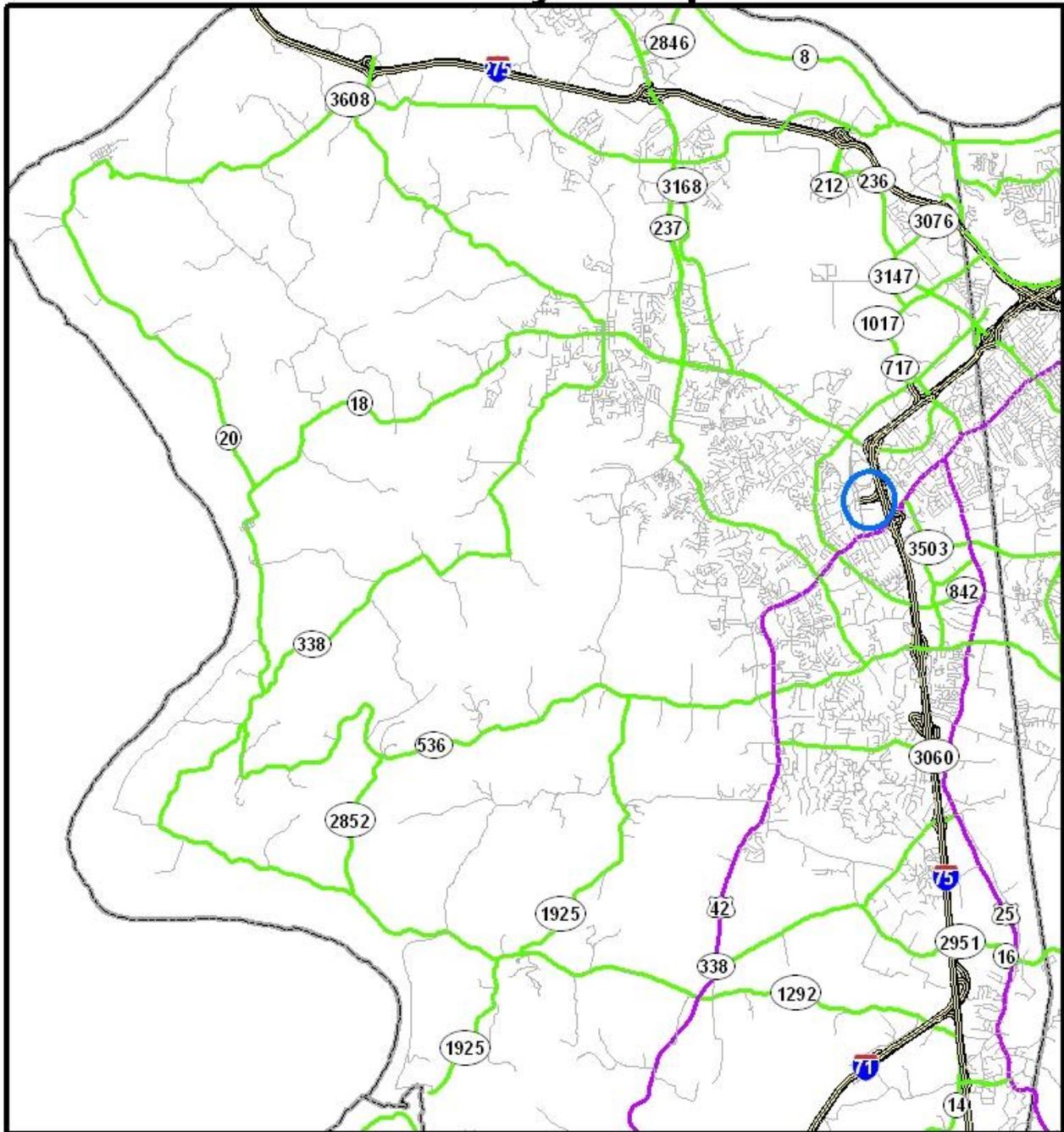
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## **Commonly Used Abbreviations and their Descriptions**

ADT	Average Daily Traffic	Without any adjustment
DHV	Design Hour Volume	30 <sup>th</sup> highest hour of a <u>year</u>
ESAL	Equivalent Single Axle Load	A measure of traffic's impact on roadway
%T	Truck Percentage	The percentage of trucks to total volume
FC	Functional Class	Refers to a road's importance
GR	Growth Rate	A value normally compounded annually
PHF	Peak Hour Factor	Considers a 15 minute spike in an hourly count
K-Factor	K-30 <sup>th</sup> hour Factor	DHV divided by ADT (DHV/ADT)
D-Factor	Directional Factor	Percentage of dominant flow to total
MP	Mile Point	Miles increase easterly and northerly
ATR	Automatic Traffic Recorder	A permanent & continuous recording station
KYSTM	Kentucky Statewide Model	A computerized representation of KY roads

# Vicinity Map



<p><b>LEGEND</b></p> <p>N</p> <p> Project Site Location: I-75 Ramp</p>	<p>Boone County Construct additional Ramp on I-75 near Exit 180A Item # 06-0409.00</p>	  
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**Traffic Forecast Executive Summary  
Boone County: Construct New Ramp near Mall Rd.  
Item No. 06-0409.00**

**FORECAST SUMMARY**

The project calls for the construction of a new ramp connecting Mall Rd. to the southbound I-75 collector-distributor. This forecast includes a build as well as a no-build scenario. Special counts were requested for this forecast. In addition, the OKI MPO model was used in conjunction with the counts to forecast the build scenarios.

**FORECAST TYPE**

The following types of forecasts were developed:

- 2012 and 2040 ADT and DHV values
- 2012 and 2040 Daily and Design Hour No-Build Turn Movements
- 2012 and 2040 Daily and Design Hour Build Alternate Turn Movements
- 20-year ESALs
- 2012 and 2040 Build Truck Percentages.

**CURRENT-YEAR VOLUMES**

Current year no-build volumes were based upon recent class counts as well as the special counts done for this forecast. These counts are shown in the count maps on pages 9-12. The build scenario utilized the OKI traffic model to generate a volume for the new ramp. The existing counts were used to create a chart that revealed ramp volumes for the forecast area. Then the OKI model was used to forecast diversionary percentages of the area. These percentages were then applied to existing counts to add or subtract traffic volume. The ramp volume was then calculated as the difference of the collector-distributor volume segments before and after it merges into the collector-distributor.

**DESIGN-YEAR/GROWTH FACTORS**

The design year growth factors were dictated by the OKI model. The OKI model has 2012 and 2035 analysis years with build and no build scenarios. The traffic growth rates were used to determine the rate of growth for each scenario. The total annual growth rate for traffic in the area is 1 %. Although Boone County is expected to grow at a rate of 2 %, the area in question is nearly built out. A growth rate of 1 % was applied to the area to increase traffic to the design year.

**DESIGN HOUR FACTORS**

The design hour volume was calculated from the special volume counts that were done for this forecast as well as from the turning movements.

### **TRUCK PERCENTAGE**

Since this ramp is a new route, truck percentages were calculated using functional class averages for Urban Interstates. A current year truck percentage of 18.7 percent was used. Although Interstate 75 is a coal route, this ramp does not include coal trucks.

### **ESALs**

ESAL values were calculated through the ESAL spreadsheet. FC averages were calculated from the 2007 aggregated ESAL report generated by the Kentucky Transportation Center in collaboration with the Transportation Cabinet and were used to estimate the 20-yr ESALs.

### **TURN MOVEMENTS**

Seven turn movements were counted at various intersections in the area. They are displayed on the count maps on page 13.

### **COUNT VARIABILITY**

Class counts and turning movements exhibit a variability of up to 20% on a day-to-day basis. In the no-build vs build scenarios, some of the class counts and turning movements that show a difference may be due to variance in the actual turn movement counts or subsequent traffic balancing and not directly a result of the new ramp. When comparing the build and no-build scenarios, differences of less than 20% should not be considered significant in regards to any delay analysis.

# Summary Map



**N**  
  
**LEGEND**  
  
 New Ramp

Boone County  
 Construct additional  
 Ramp on I-75  
 near Exit 180A  
 Item # 06-0409.00

0 0.075 0.15 0.3 Miles

*Traffic Forecast Technical Report  
Boone County: Construct New Ramp near Mall Rd.  
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**FORECAST OF EQUIVALENT SINGLE AXLE LOAD ACCUMULATIONS (20-year)**

**ROUTE ID:**

County	Boone
Road Name	New Ramp from Mall Rd
Functional Class	11 - Urban Interstate
Project Description	Add New Ramp to I-75 Mall Rd Interchange
Scenario	Build
Segment Description	Same

Date	04/26/13
Forecaster	Daniel Hulker
MARS No.	N/A
Item No.	06-0409.00
Route No.	I-75
Beg. MP	N/A
End MP	N/A
T.F. No.	TF 12-008
No. of Lanes	1
1 or 2 way	1

**REFERENCES:**

Previous Forecasts	None
Traffic Volume Milepoint	See Page 3 N/A
Truck Percent Milepoint	Functional Class Average N/A
ESAL Information	2007 Aggregated ESALS
Growth Rate	1.00%

K-Factor Value	9.0%
K-Factor Source	See Page 3
PHF	0.9
Full Route Unique Identifier	N/A

**TRAFFIC PARAMETERS:**

	Present Year	Growth Rate	Construction Year	Median Year	Design Year
	2012		2020	2030	2040
Volume (AADT)	4300	1%	4700	5100	5700
Percent Trucks (%T)	18.7%	1%	20%	22%	25%
Number of Trucks	800	2%	940	1100	1400
Percent Trucks Hauling Coal (%CT)	0%	0%	0%	0%	0%
<i>Non-Coal Trucks:</i>					
Axles/Truck (A/T)	4.500	0.5%	4.683	4.923	5.100
ESALs/Axle (ESAL/A)	0.270	2%	0.316	0.386	0.470
<i>Coal Trucks:</i>					
Axles/Truck (A/CT)	0	0%	0.000	0.000	0.000
ESALs/Axle (ESAL/CA)	0	0%	0.000	0.000	0.000

**ESAL CALCULATIONS:** SEE ATTACHED ESAL CALCULATION SHEET

Design ESALs in Critical Lane 14,700,000

General Comments:

Traffic Forecast Technical Report  
 Boone County: Construct New Ramp near Mall Rd.  
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**Add New Ramp to I-75 Mall Rd Interchange**

Year	ADT	Car %	Truck %	Cars	Trucks	CT%	AX/T	ESAL/AX	AX/CT	ESAL/CA	LDF	ESALs
2020	4,656	79.8%	20.2%	3713	943	0.00%	4.50	0.32	0	0	1.000	496,694
2021	4,703	79.5%	20.5%	3741	962	0.00%	4.50	0.32	0	0	1.000	516,587
2022	4,750	79.3%	20.7%	3769	981	0.00%	4.50	0.33	0	0	1.000	537,284
2023	4,797	79.1%	20.9%	3796	1001	0.00%	4.50	0.34	0	0	1.000	558,817
2024	4,845	78.9%	21.1%	3824	1021	0.00%	4.50	0.34	0	0	1.000	581,220
2025	4,894	78.7%	21.3%	3852	1042	0.00%	4.50	0.35	0	0	1.000	604,529
2026	4,943	78.5%	21.5%	3880	1062	0.00%	4.50	0.36	0	0	1.000	628,780
2027	4,992	78.3%	21.7%	3908	1084	0.00%	4.50	0.36	0	0	1.000	654,012
2028	5,042	78.1%	21.9%	3936	1106	0.00%	4.50	0.37	0	0	1.000	680,263
2029	5,093	77.9%	22.1%	3965	1128	0.00%	4.50	0.38	0	0	1.000	707,575
2030	5,143	77.6%	22.4%	3993	1150	0.00%	4.50	0.39	0	0	1.000	735,992
2031	5,195	77.4%	22.6%	4021	1174	0.00%	4.50	0.39	0	0	1.000	765,558
2032	5,247	77.2%	22.8%	4050	1197	0.00%	4.50	0.40	0	0	1.000	793,948
2033	5,299	77.0%	23.0%	4078	1221	0.00%	4.50	0.40	0	0	1.000	809,810
2034	5,352	76.7%	23.3%	4106	1246	0.00%	4.50	0.40	0	0	1.000	825,989
2035	5,406	76.5%	23.5%	4135	1271	0.00%	4.50	0.40	0	0	1.000	842,493
2036	5,460	76.3%	23.7%	4163	1296	0.00%	4.50	0.40	0	0	1.000	859,327
2037	5,514	76.0%	24.0%	4192	1322	0.00%	4.50	0.40	0	0	1.000	876,499
2038	5,570	75.8%	24.2%	4221	1349	0.00%	4.50	0.40	0	0	1.000	894,015
2039	5,625	75.5%	24.5%	4249	1376	0.00%	4.50	0.40	0	0	1.000	911,882
2040	5,682	75.3%	24.7%	4278	1404	0.00%	4.50	0.40	0	0	1.000	930,107

5-yr ESALs  
2,800,000

10-yr ESALs  
6,200,000

15-yr ESALs  
10,200,000

20-yr ESALs  
14,700,000

**HISTORICAL POPULATION SUMMARY**

	1960	1970	1980	1990	2000	2010	60 - 70	70 - 80	80 - 90	90 - 00	00 - 10
Population	3,038,156	3,220,711	3,660,334	3,686,892	4,041,769	4,339,367	Change 6.0%	Change 13.6%	Change 0.7%	Change 9.6%	Change 7.4%
Kentucky	-	32,812	45,842	57,589	85,991	118,811	-	39.7%	25.6%	49.3%	38.2%
Boone Co											

Sources: US Bureau of the Census; Kentucky State Data Center

**FUTURE POPULATION PROJECTIONS SUMMARY**

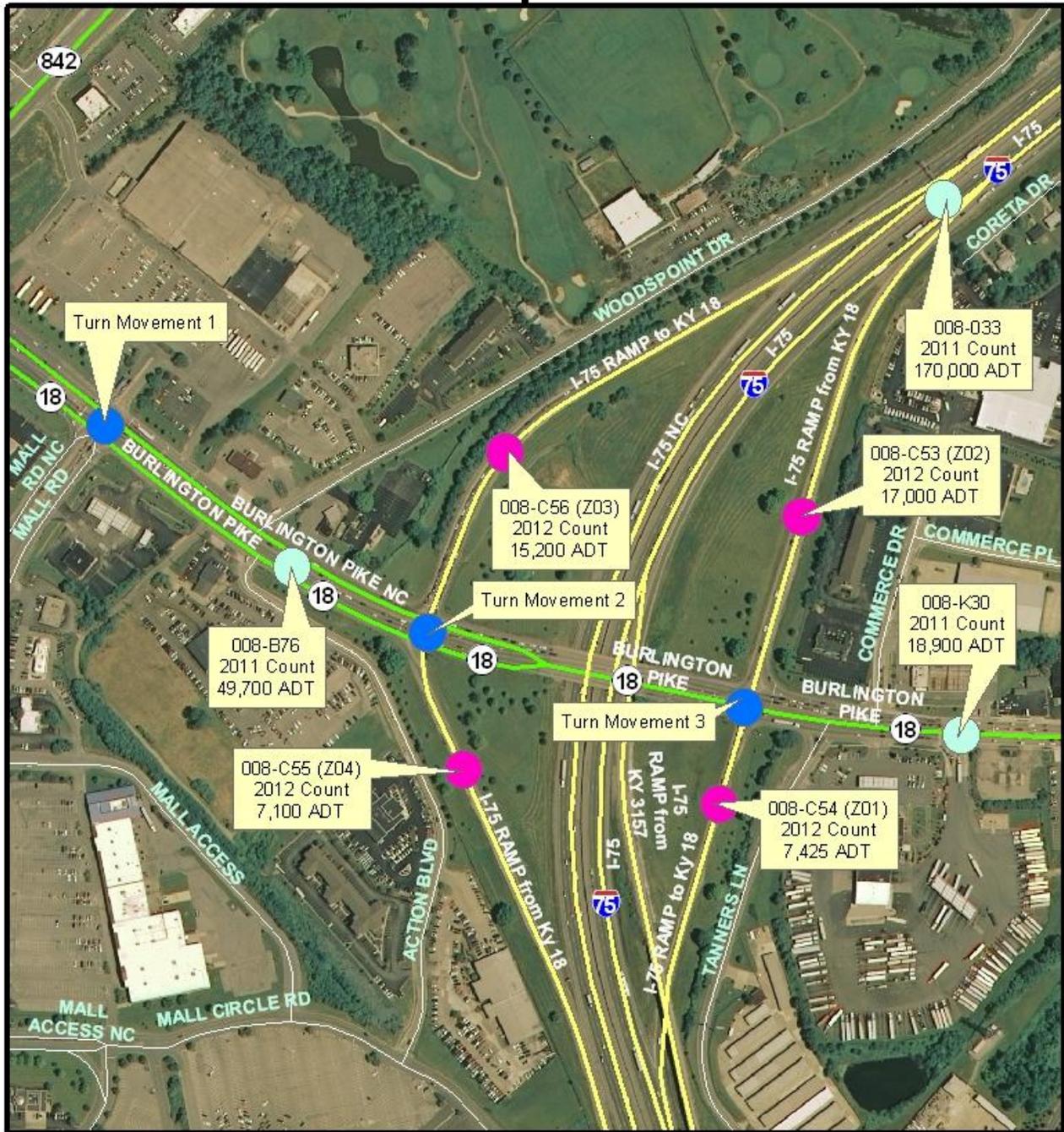
	2010	2015	2020	2025	2030	2035	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35
Projection	4,339,367	4,506,569	4,669,801	4,838,370	5,001,748	5,147,274	Change 3.9%	Change 3.6%	Change 3.6%	Change 3.4%	Change 2.9%
Kentucky	118,811	137,072	153,545	170,000	186,373	202,240	15.4%	12.0%	10.7%	9.6%	8.5%
Boone Co											

Sources: US Bureau of the Census; Kentucky State Data Center

**ANNUAL POPULATION GROWTH RATES FROM HISTORICAL DATA AND PROJECTIONS**

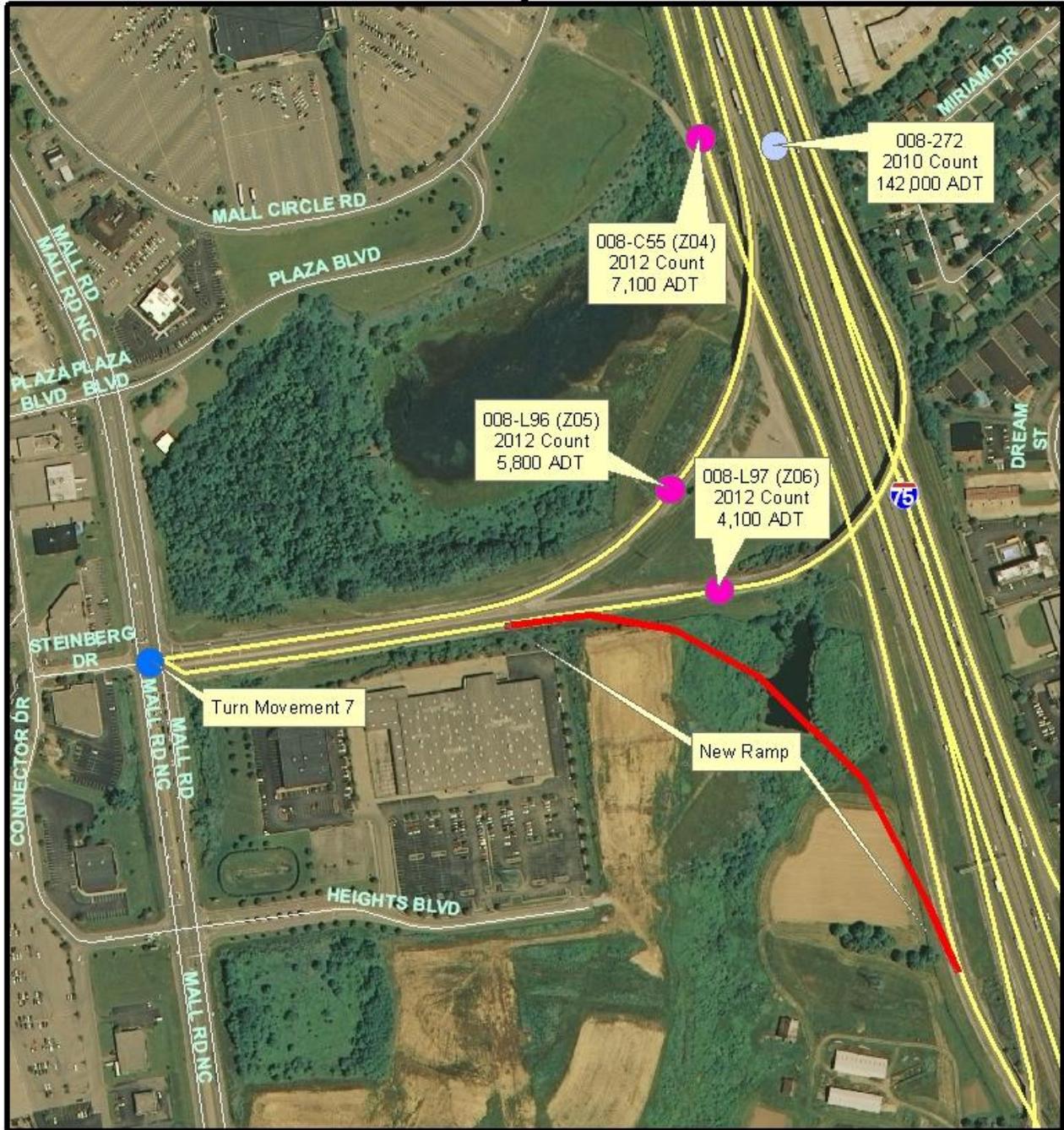
	60 - 70	70 - 80	80 - 90	90 - 00	05 - 10	10 - 15	15 - 20	20 - 25	25 - 30	10 - 30
GR	0.59%	1.29%	0.07%	0.92%	0.76%	0.71%	0.71%	0.67%	0.58%	0.69%
Boone Co	-	3.40%	2.31%	4.09%	2.90%	2.30%	2.06%	1.86%	1.65%	1.81%

# Volume and Special Counts 1



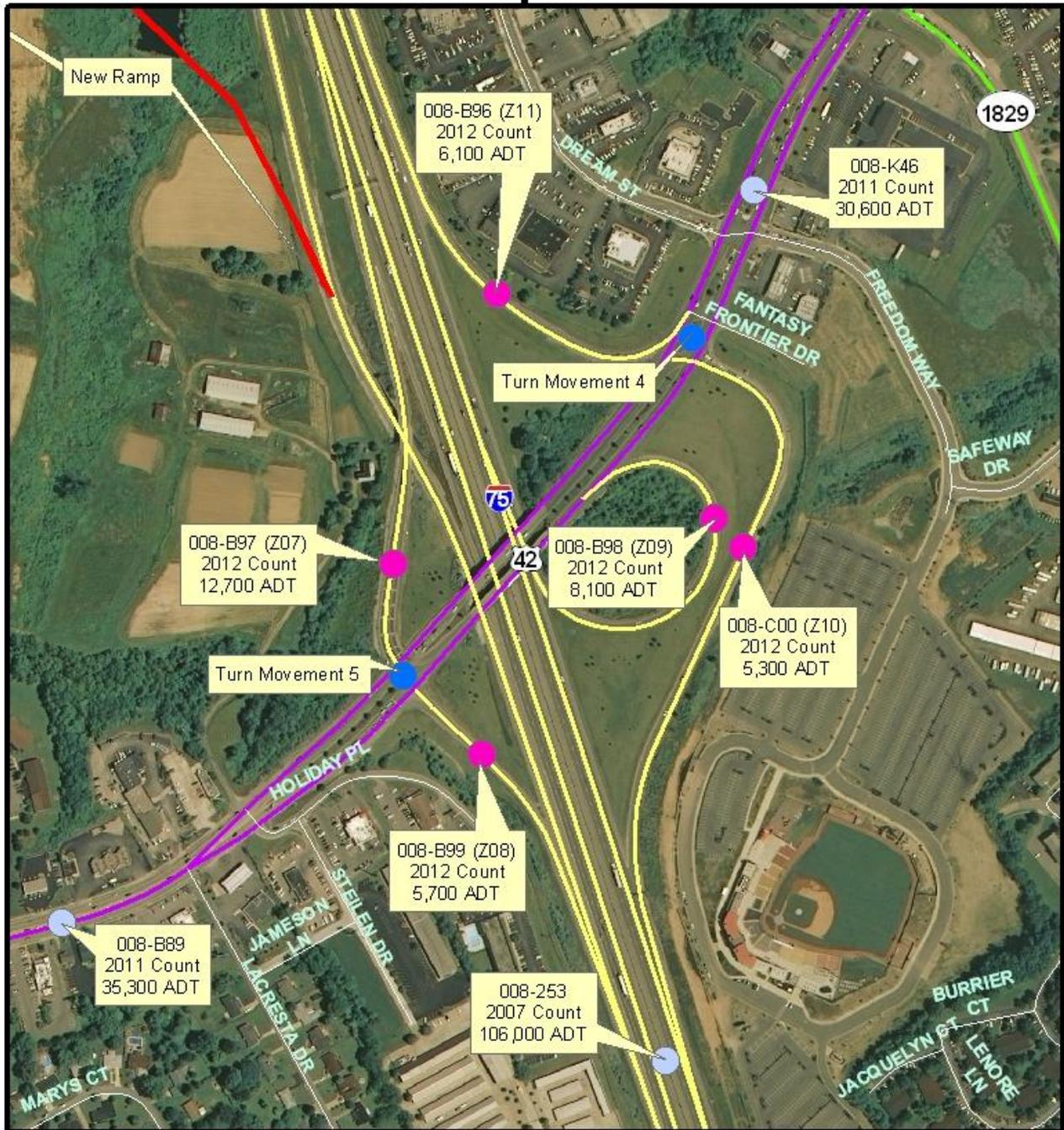
	<b>LEGEND</b> New Ramp Turn Movement Volume Counts Ramp Counts	Boone County Construct additional Ramp on I-75 near Exit 180A Item # 06-0409.00			

# Volume and Special Counts 2



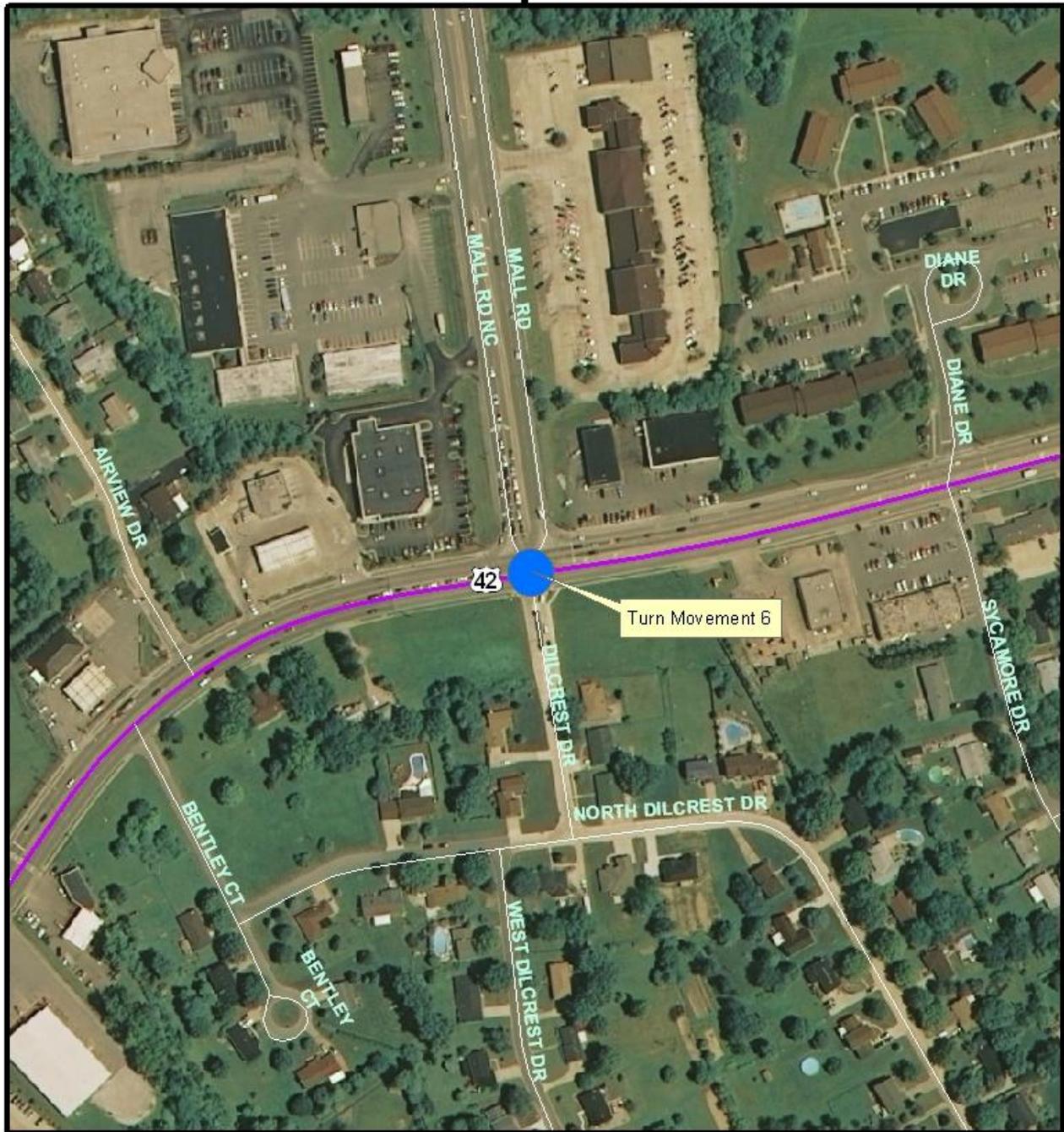
	<b>LEGEND</b> New Ramp Turn Movement Volume Counts Ramp Counts	Boone County Construct additional Ramp on I-75 near Exit 180A Item # 06-0409.00			

# Volume and Special Counts 3



<p><b>N</b></p> <p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">—</span> New Ramp</li> <li><span style="color: blue;">●</span> Turn Movement</li> <li><span style="color: lightblue;">●</span> Volume Counts</li> <li><span style="color: magenta;">●</span> Ramp Counts</li> </ul>	<p>Boone County                  Construct                  additional                  Ramp on I-75                  near Exit 180A                  Item # 06-0409.00</p>	 <p><b>Kentucky</b>                  UNBRIDLED SPIRIT™</p> <p>0 0.05 0.1 0.2 Miles</p>
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# Volume and Special Counts 4



	<b>LEGEND</b> New Ramp Turn Movement Volume Counts Ramp Counts	Boone County Construct additional Ramp on I-75 near Exit 180A Item # 06-0409.00			
	KYTC Division of Planning				

# Turn Movements



<p>N</p> <p><b>LEGEND</b></p> <ul style="list-style-type: none"><li> New Ramp</li><li> Turn Movement</li></ul>	<p>Boone County Construct additional Ramp on I-75 near Exit 180A Item # 06-0409.00</p>	<p><b>Kentucky</b> UNBRIDLED SPIRIT™</p> <p>0 0.175 0.35 0.7 Miles</p>
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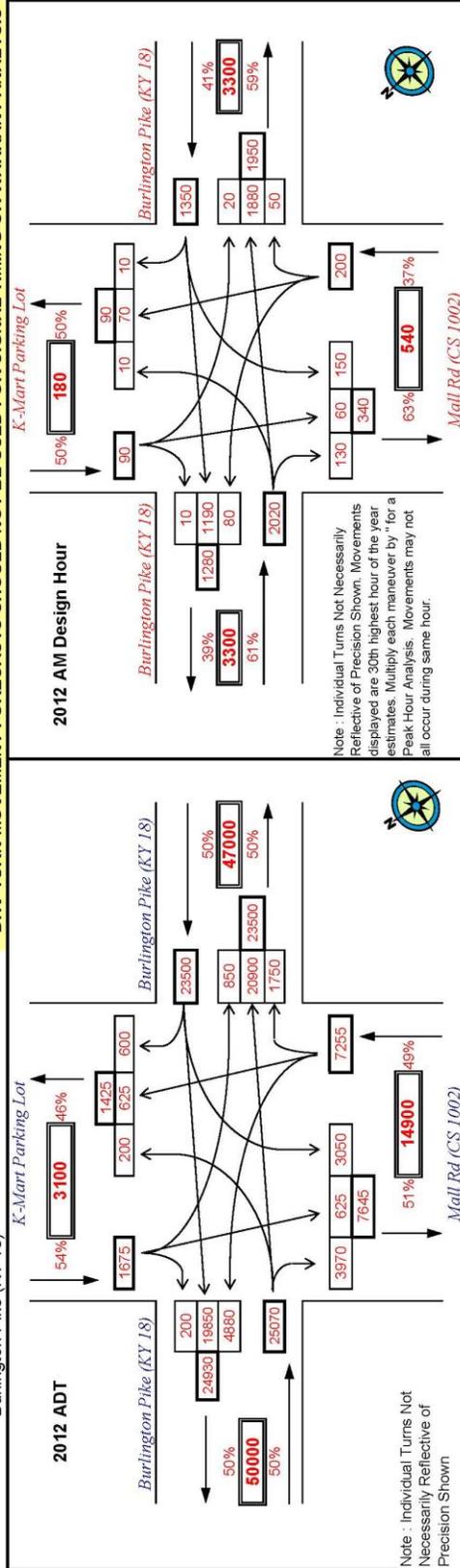
# No-Build Turn Movements 2012

Traffic Forecast Technical Report  
 Boone County: Construct New Ramp near Mall Rd.  
 Item No. 06-0409.00

PROJECT: Construct new Ramp from Mall Rd to I-75  
 ITEM NUMBER: 06-0409.00  
 MARS NUMBER: N/A  
 REQUEST DATE: 5/15/2012  
 ANALYST: Daniel Hulker  
 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), K-Mart Parking Lot, and Burlington Pike (KY 18)

Turn Movement 1 No Build 2012

**\*\*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS**



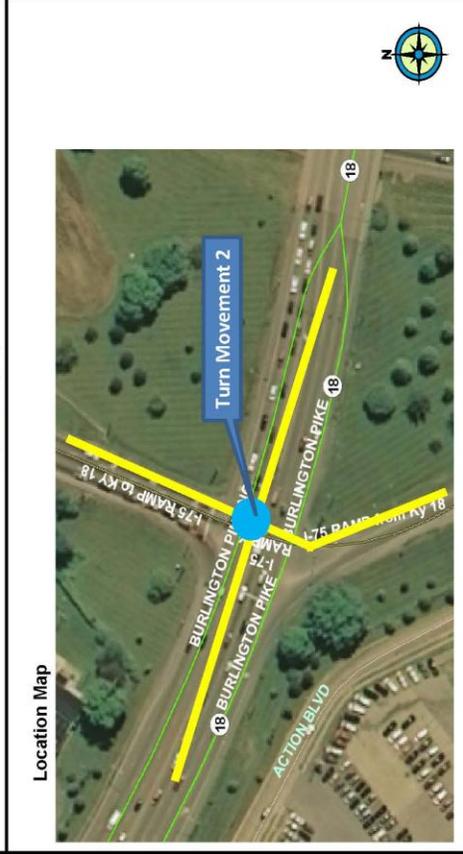
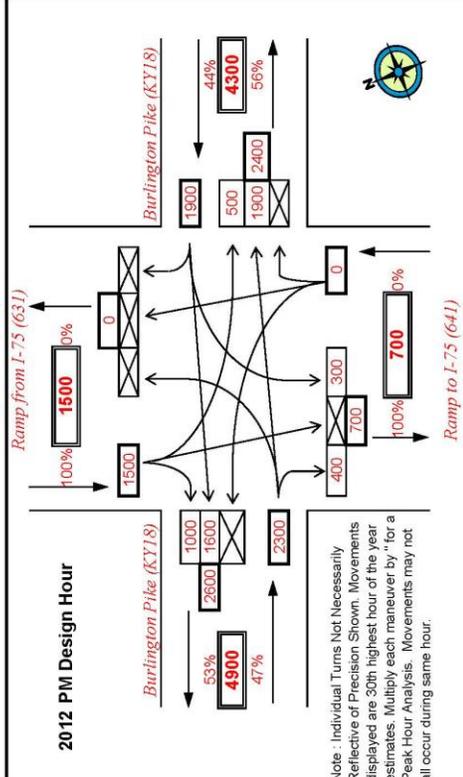
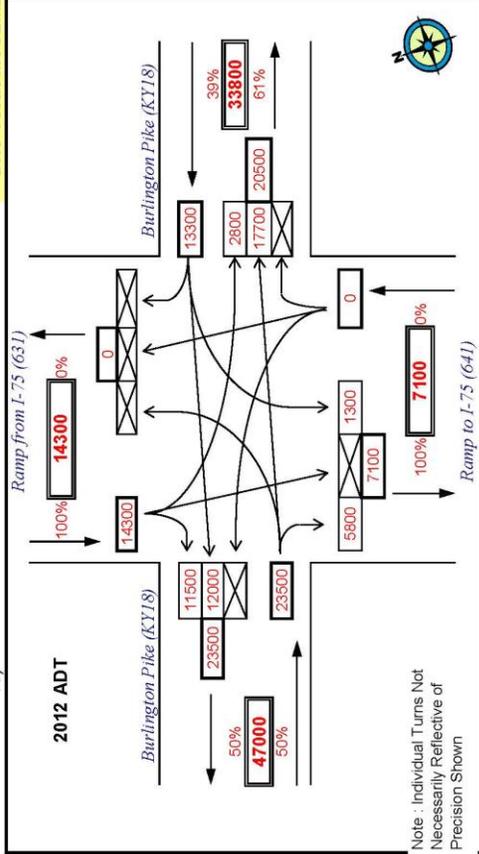
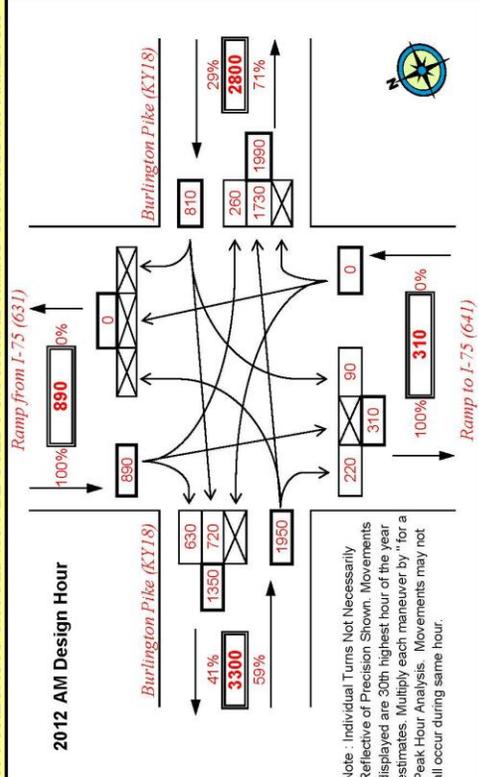
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NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2012 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

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 ITEM NUMBER: 06-0409.00  
 MARS NUMBER: N/A  
 REQUEST DATE: 5/15/2012  
 ANALYST: Daniel Hulker  
 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (631 and 641) and Burlington Pike (KY-18)

Turn Movement 2 No Build 2012

**\*\*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS**

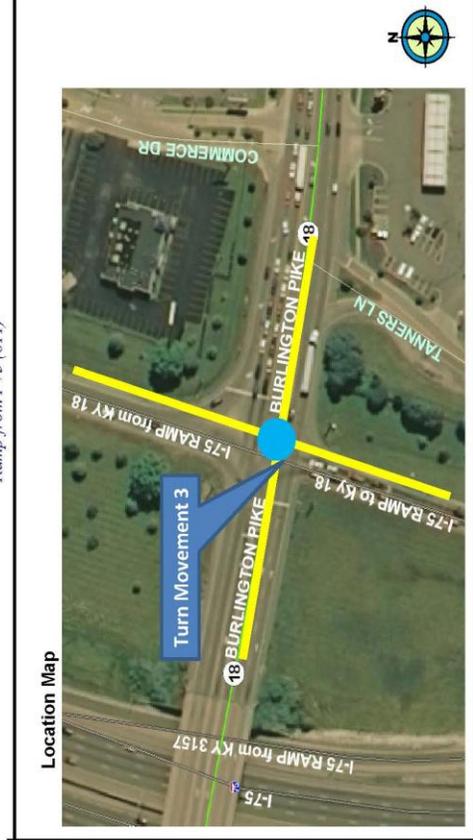
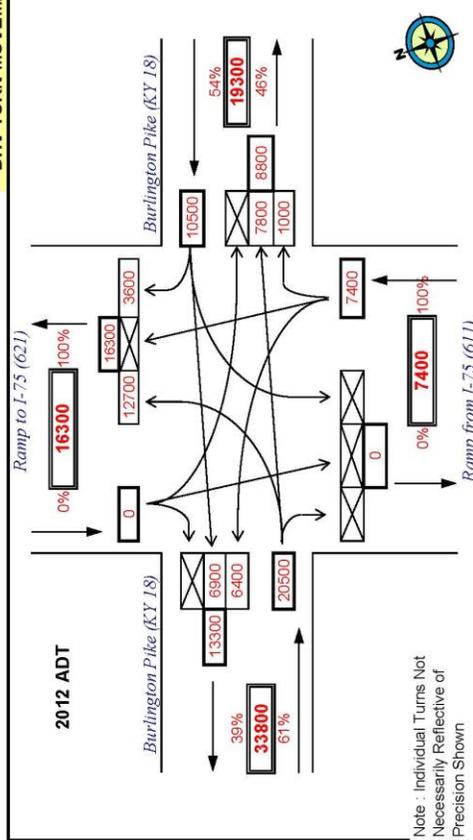
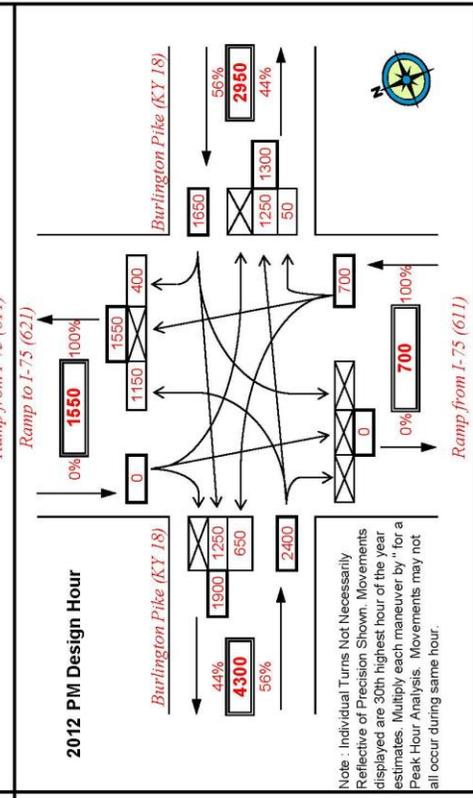
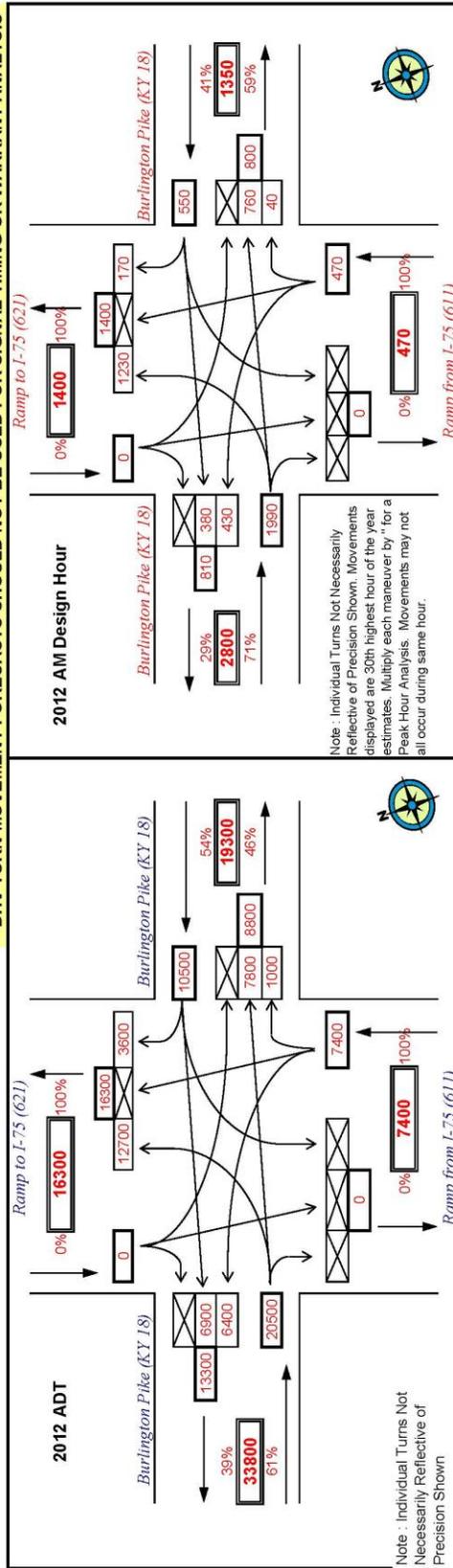


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 ANALYST: Daniel Hulker  
 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (611, 621) and Burlington Pike (KY 18)

Turn Movement 3 No Build 2012

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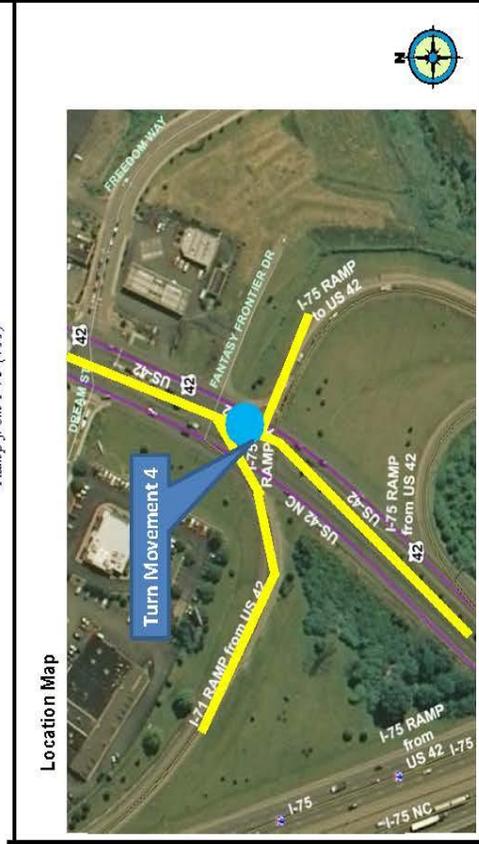
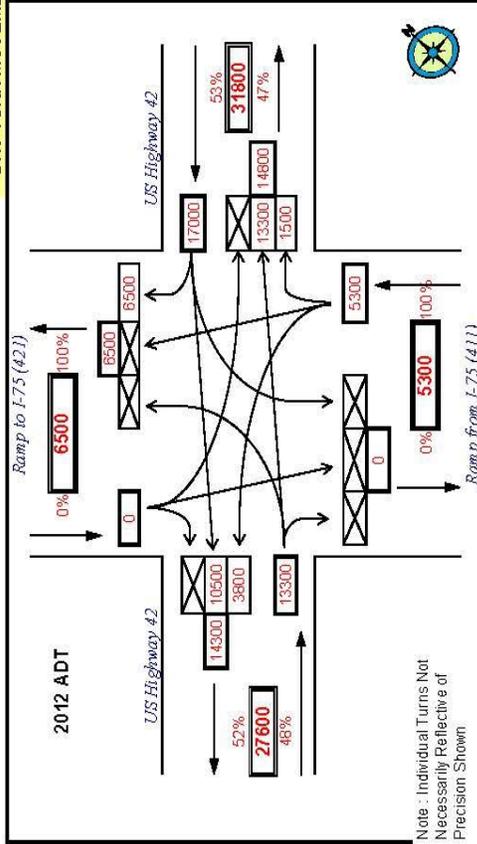
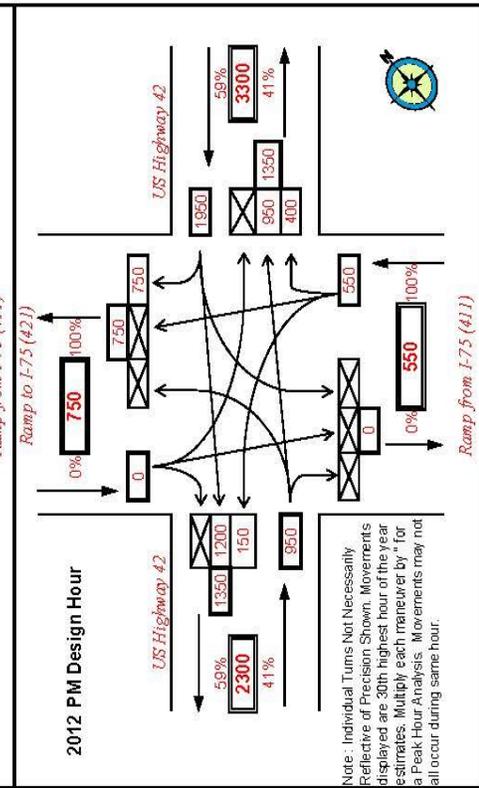
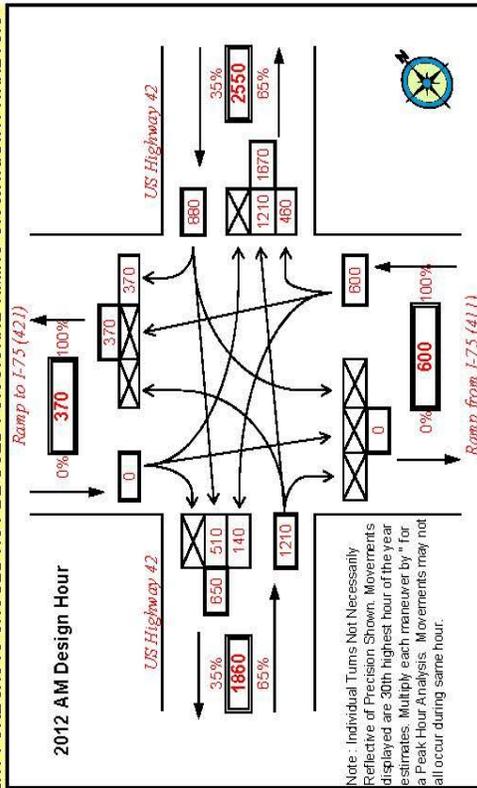
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 ITEM NUMBER: 06-0409.00  
 MARS NUMBER: N/A  
 REQUEST DATE: 5/15/2012  
 ANALYST: Daniel Huller  
 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (411, 421) and US Highway 42

Turn Movement 4 No Build 2012

**\*\*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS**





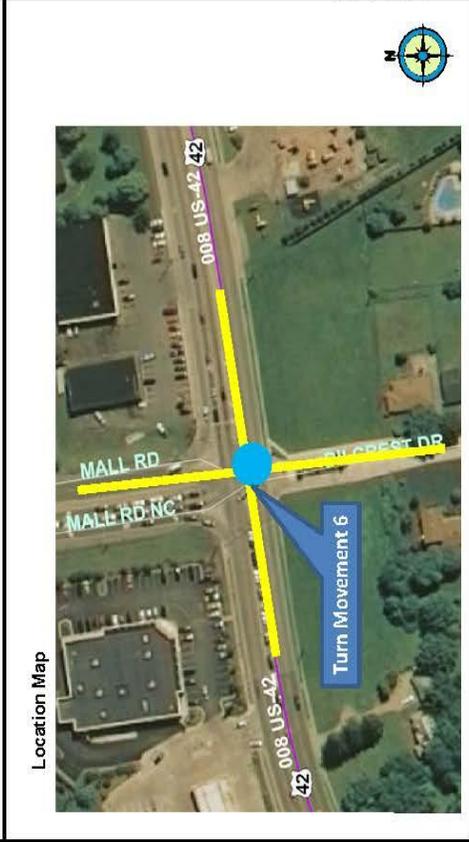
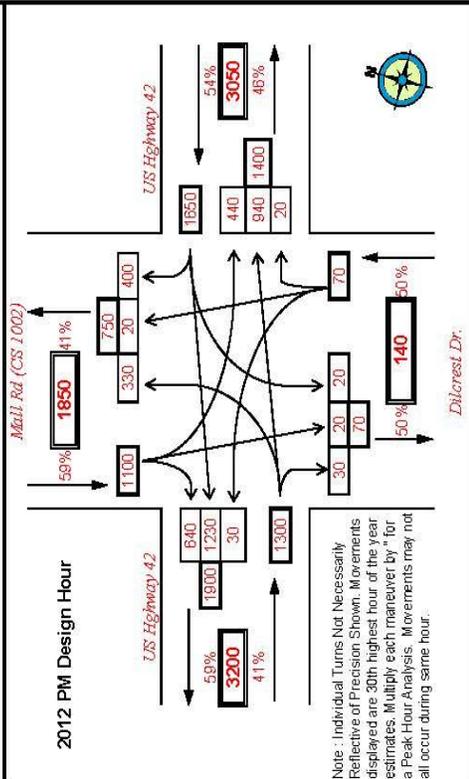
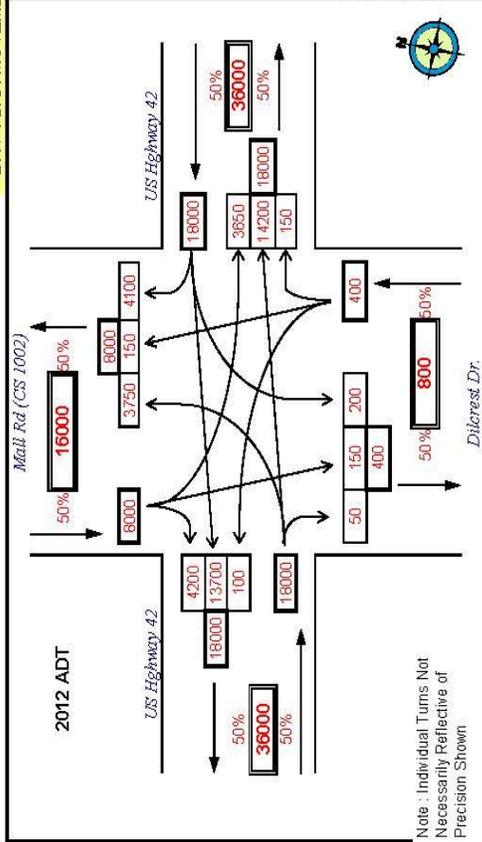
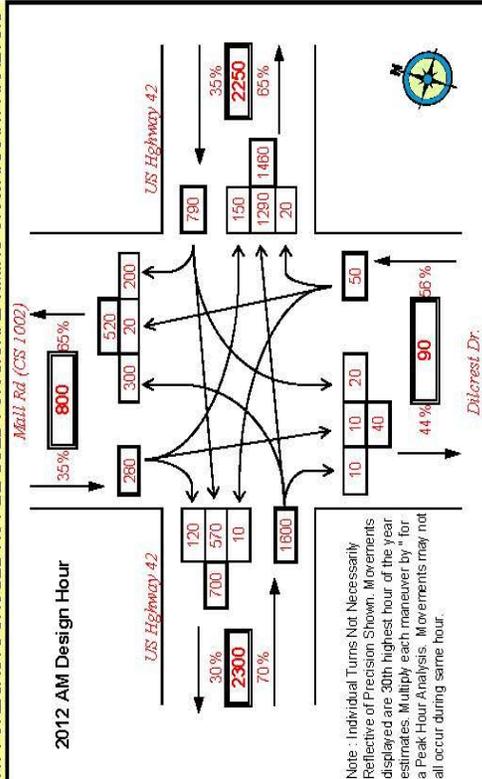
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 ANALYST: Daniel Hulker  
 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), Dilcrest Dr, and US Highway 42

Turn Movement 6 No Build 2012

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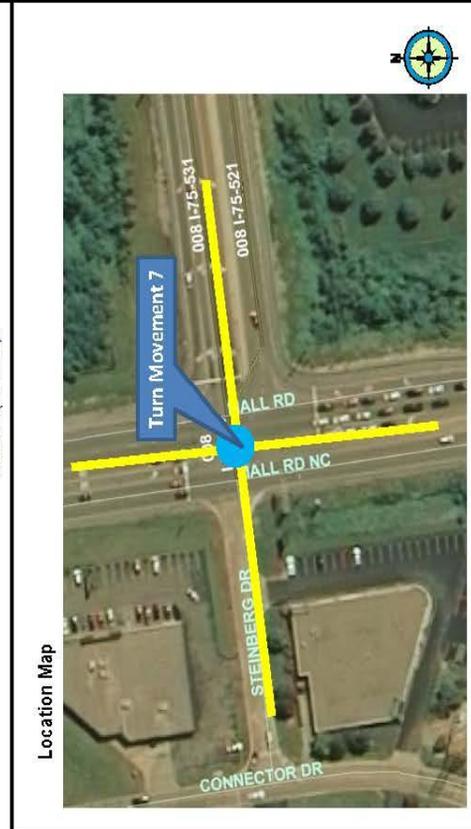
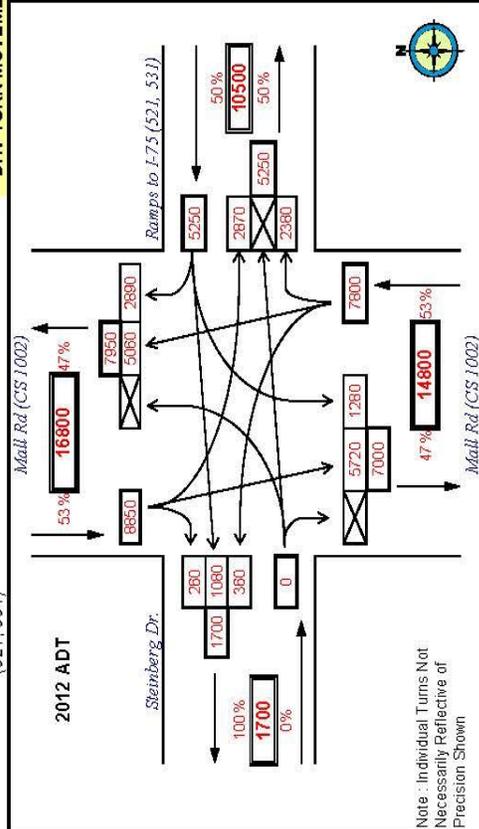
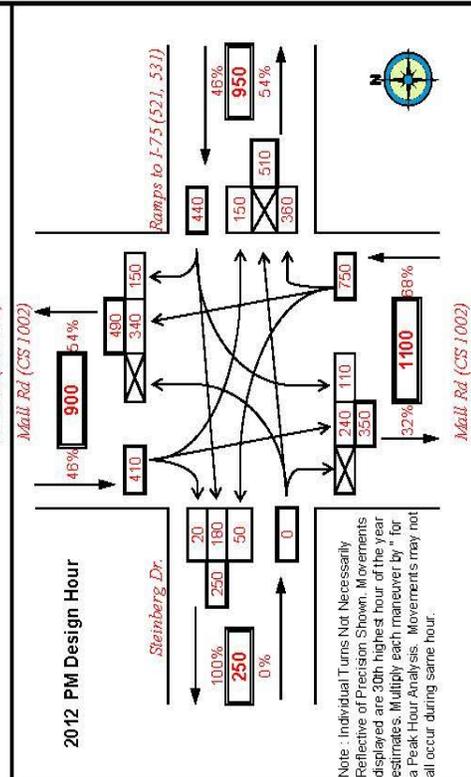
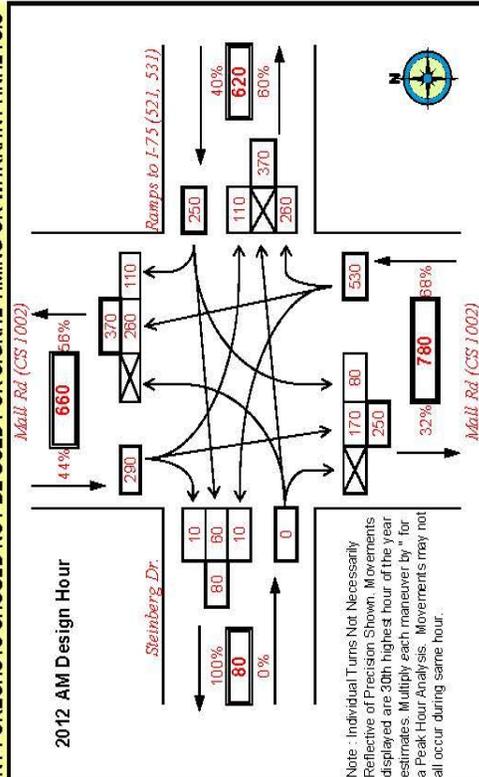
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 ANALYST: Daniel Hullier  
 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), Steinberg Dr, and I-75 Ramps  
 (521, 531)

Turn Movement 7 No Build 2012

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# No-Build Turn Movements 2040

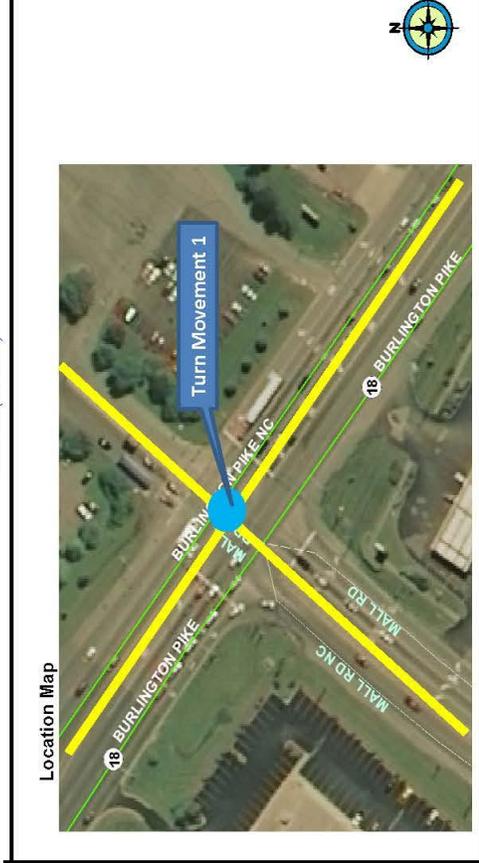
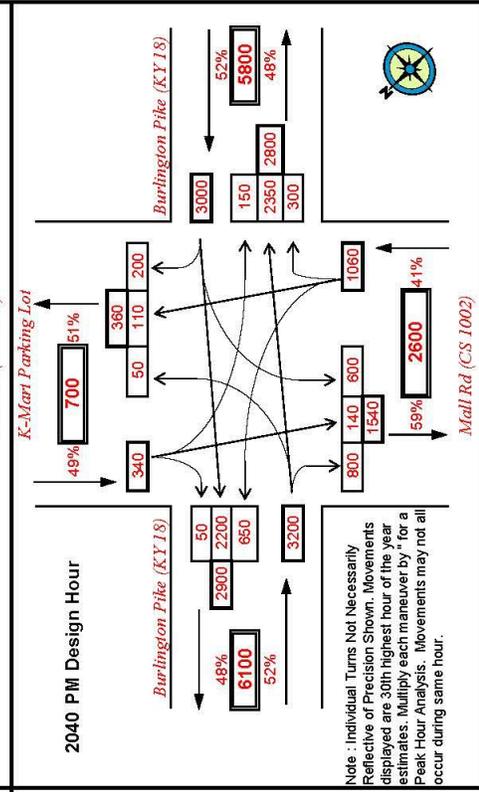
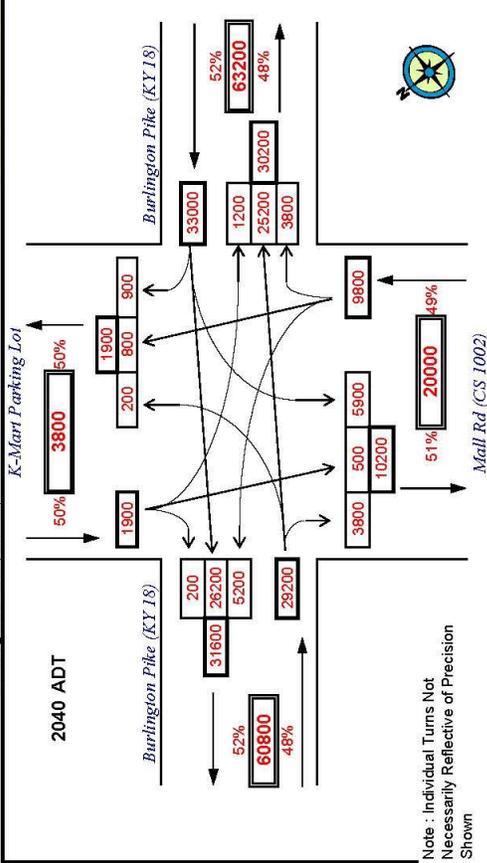
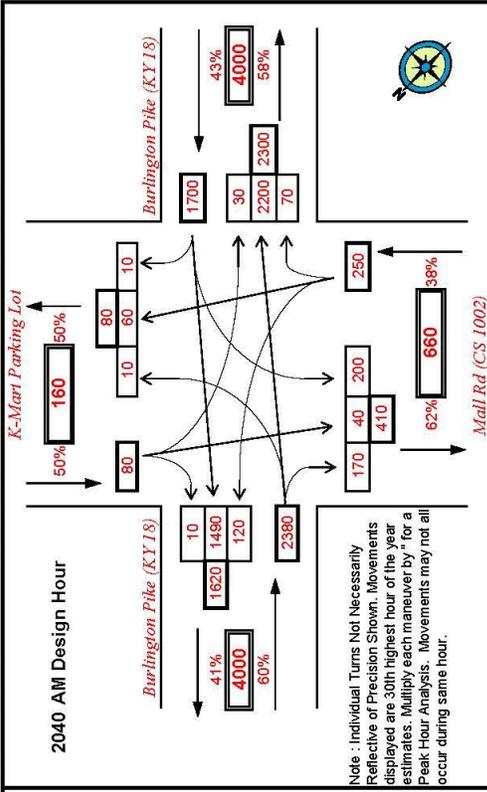
Traffic Forecast Technical Report  
 Boone County: Construct New Ramp near Mall Rd.  
 Item No. 06-0409.00

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2012 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

PROJECT: Construct new Ramp from Mall Rd to I-75  
 ITEM NUMBER: 06-0409.00  
 MARS NUMBER: N/A  
 REQUEST DATE: 4/10/44  
 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), K-Mart Parking Lot, and Burlington Pike (KY 18)

Turn Movement 1 No Build 2040

**\*\*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS**



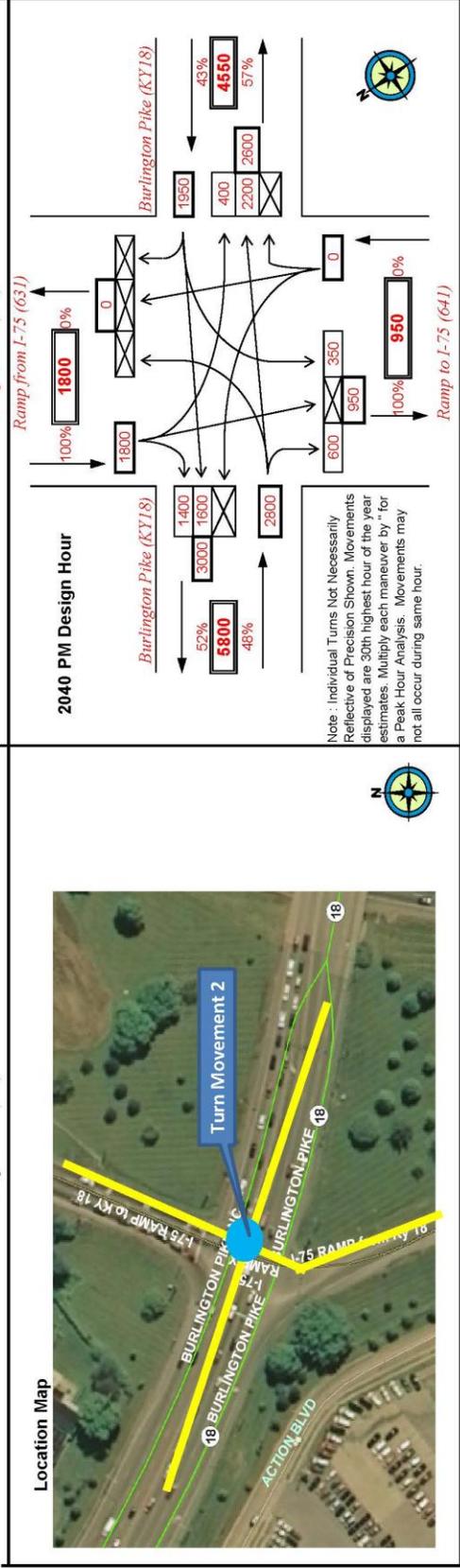
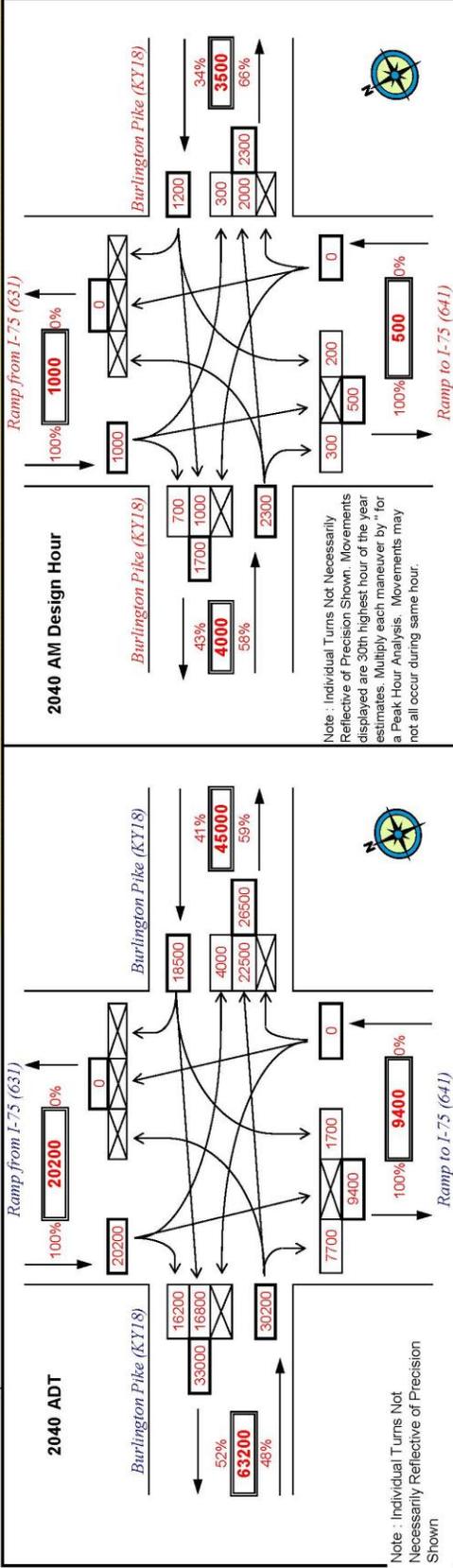
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 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (631 and 641) and Burlington Pike (KY-18)

Turn Movement 2 No Build 2040

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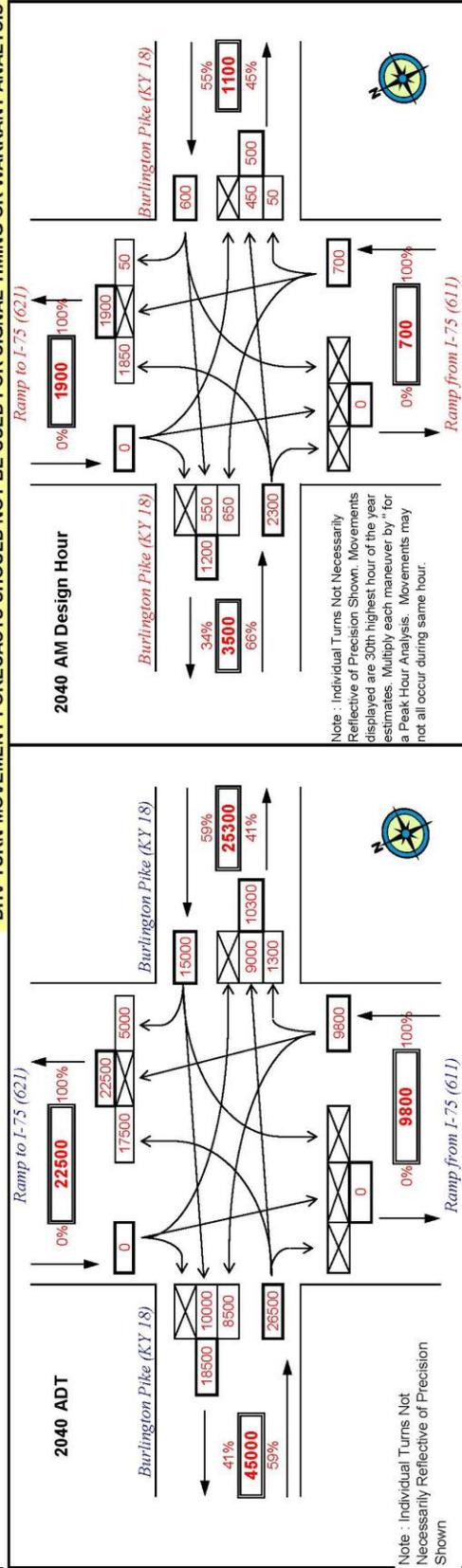
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 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (611, 621) and Burlington Pike (KY 18)

Turn Movement 3 No Build 2040

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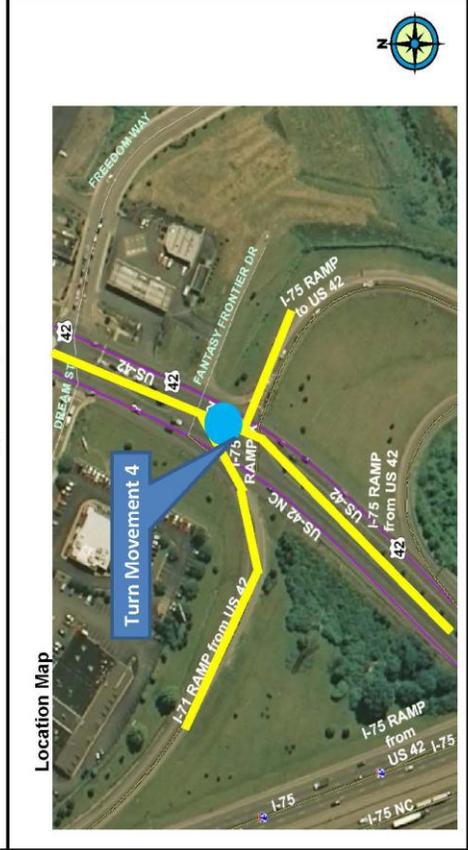
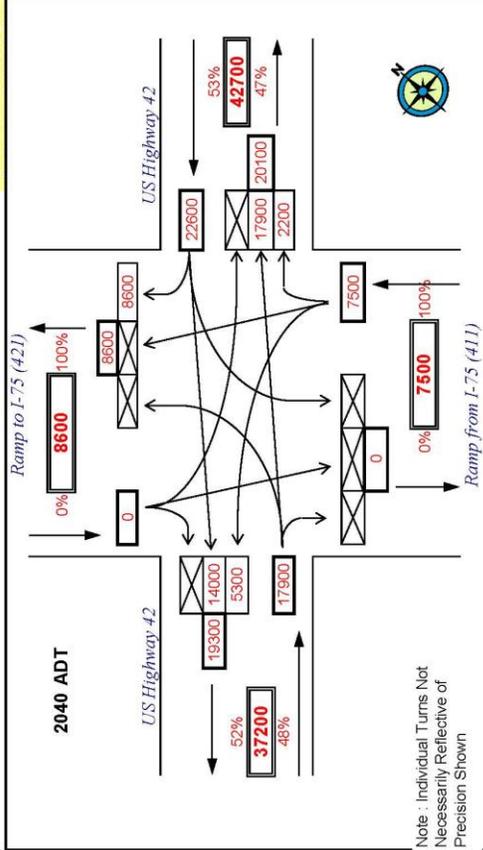
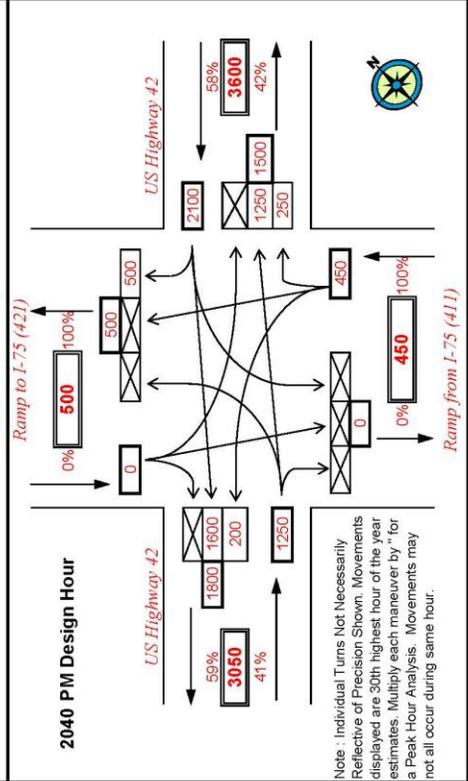
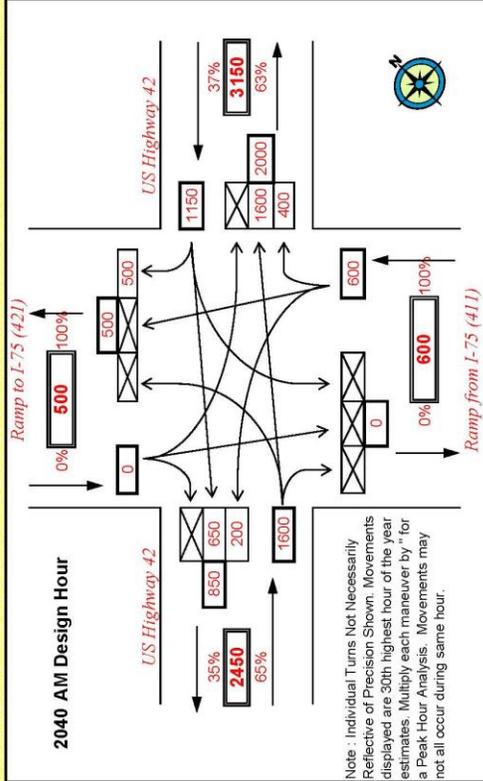


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PROJECT: Construct new Ramp from Mall Rd to I-75  
 ITEM NUMBER: 06-0409.00  
 MAPS NUMBER: N/A  
 REQUEST DATE: 41044  
 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (411, 421) and US Highway 42

### Turn Movement 4 No Build 2040

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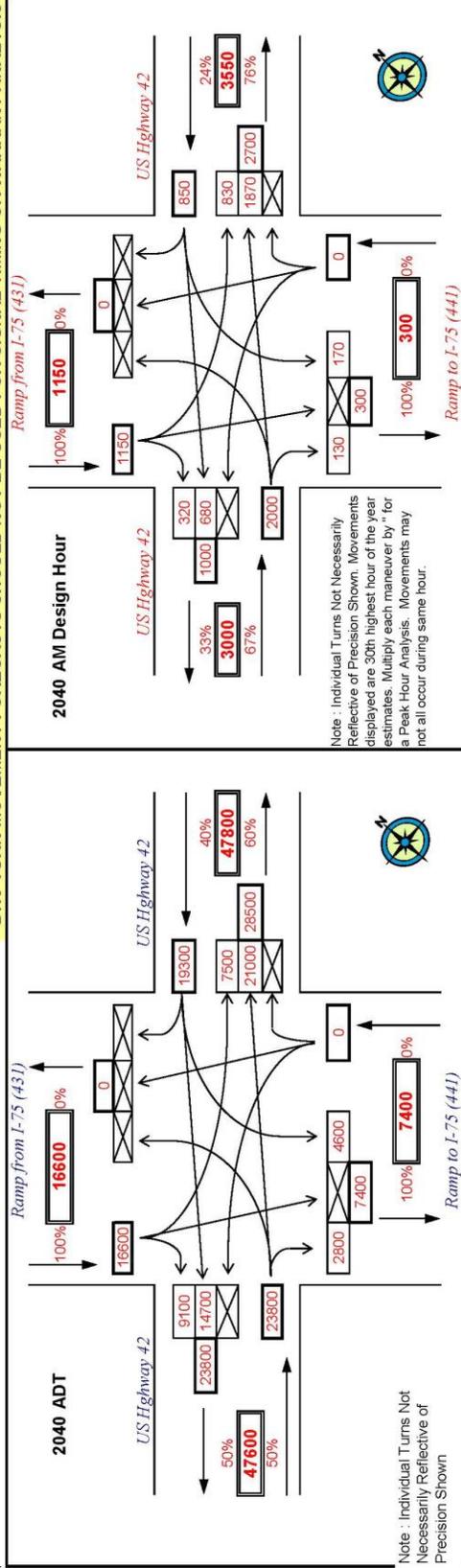
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 ITEM NUMBER: 06-0409.00  
 MAPS NUMBER: N/A  
 REQUEST DATE: 4/10/44  
 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (431, 441) and US Highway 42

Turn Movement 5 No Build 2040

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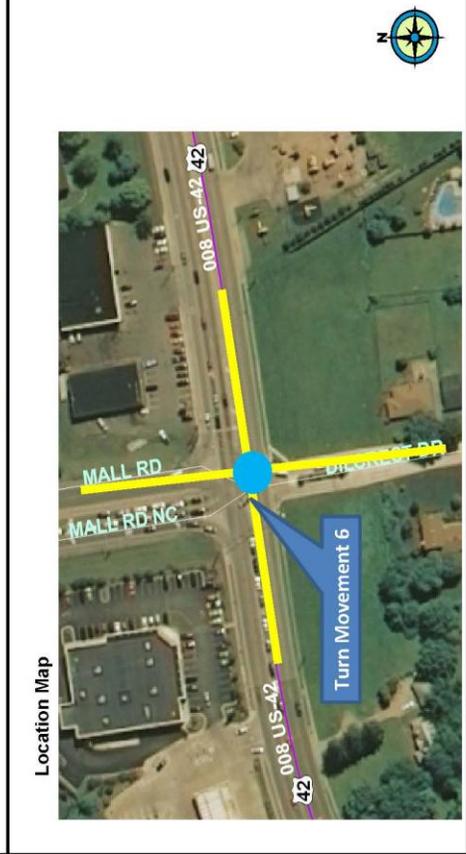
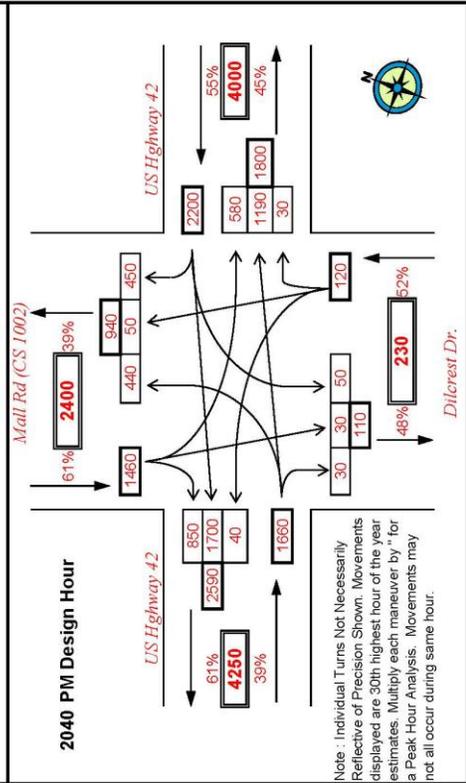
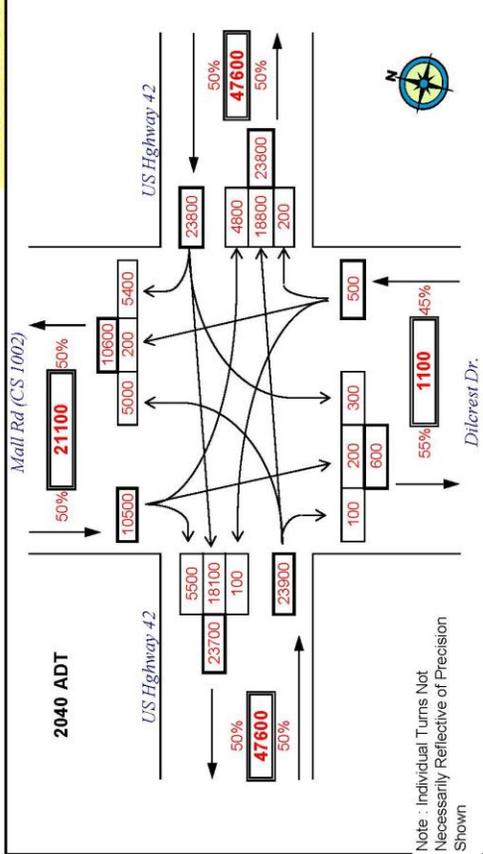
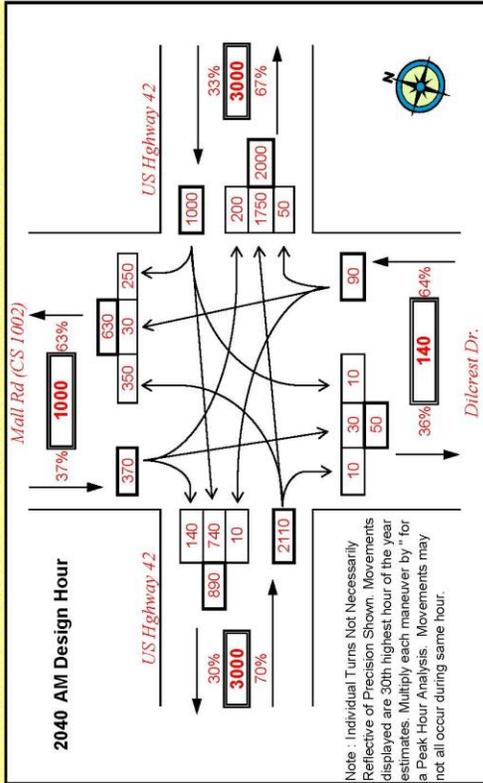
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 ITEM NUMBER: 06-0409.00  
 MARS NUMBER: N/A  
 REQUEST DATE: 41044  
 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), Dilcrest Dr, and US Highway 42

Turn Movement 6 No Build 2040

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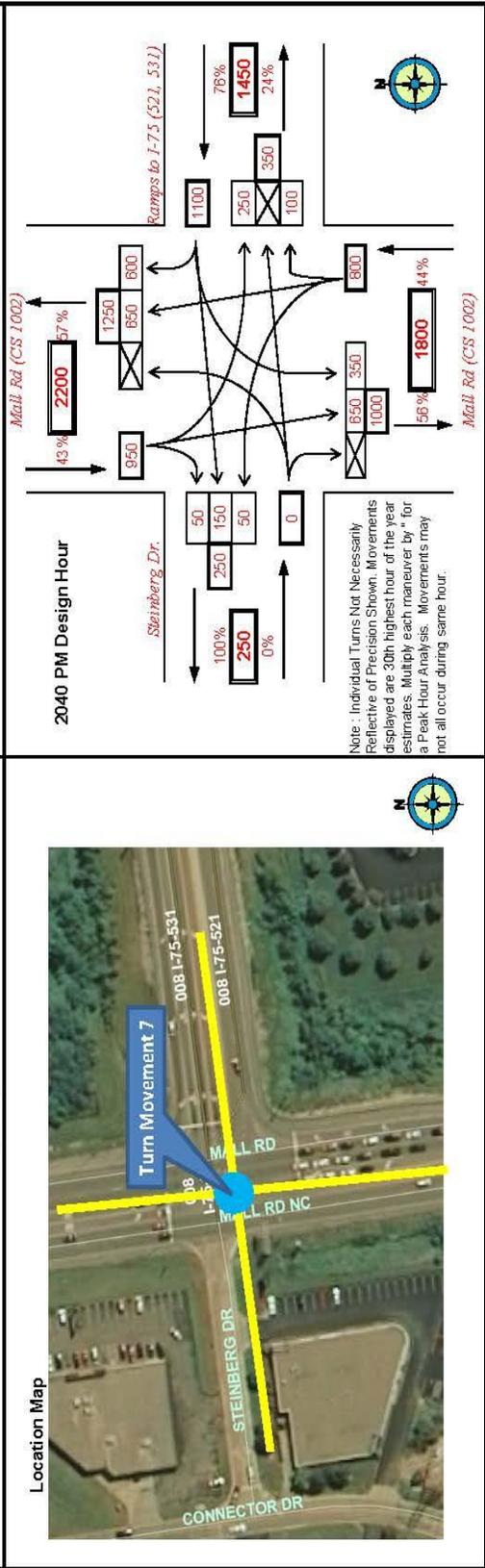
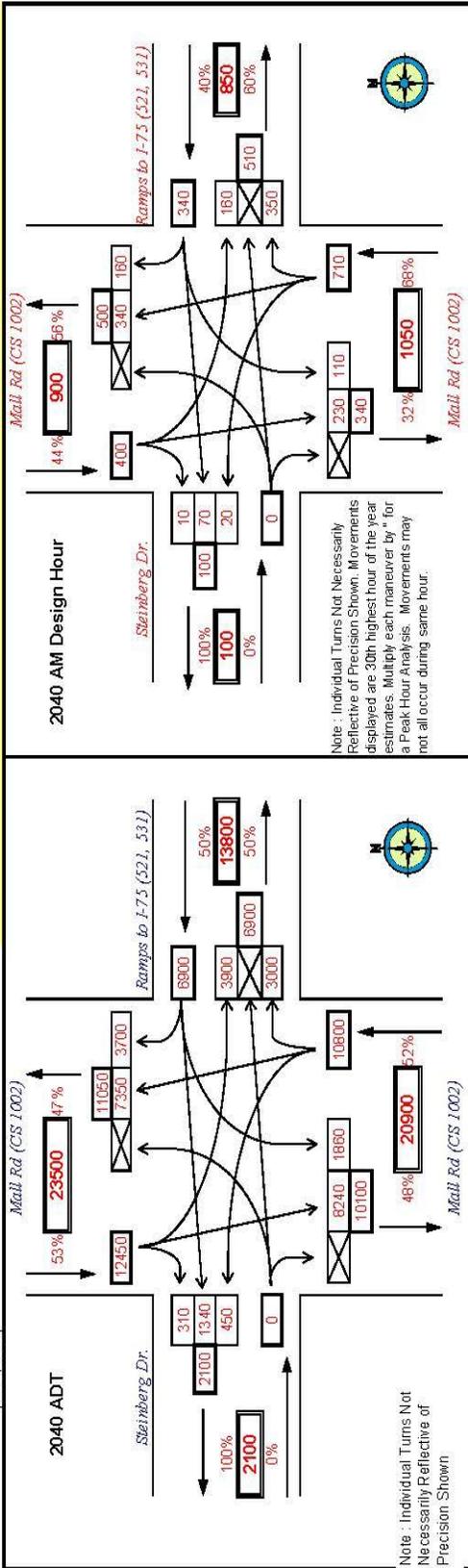
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 MARS NUMBER: N/A  
 REQUEST DATE: 4/10/44  
 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), Steinberg Dr, and I-75 Ramps (521, 531)

Turn Movement 7 No Build 2040

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# Build Turn Movements 2012

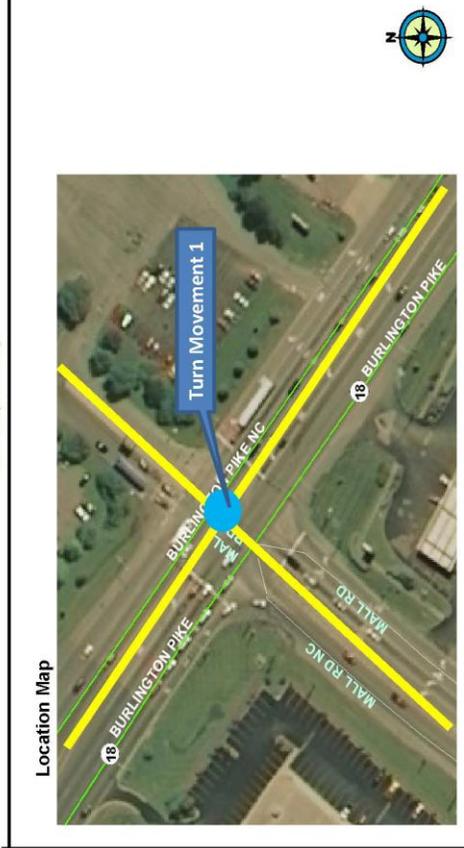
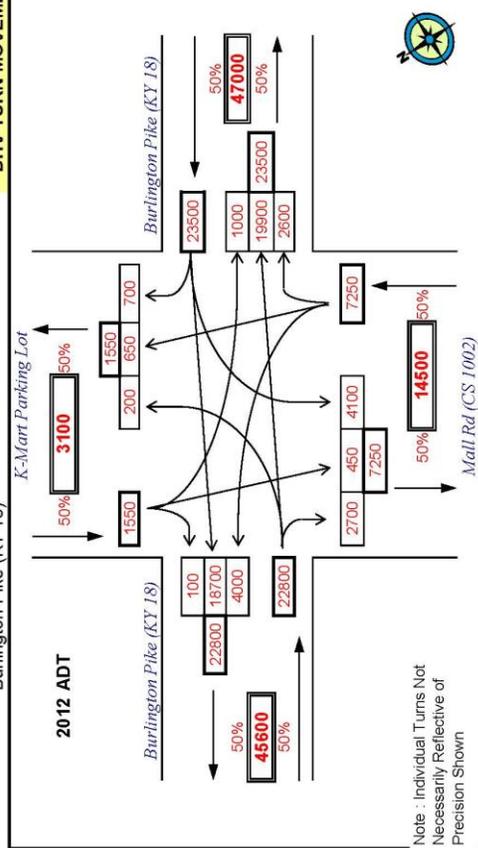
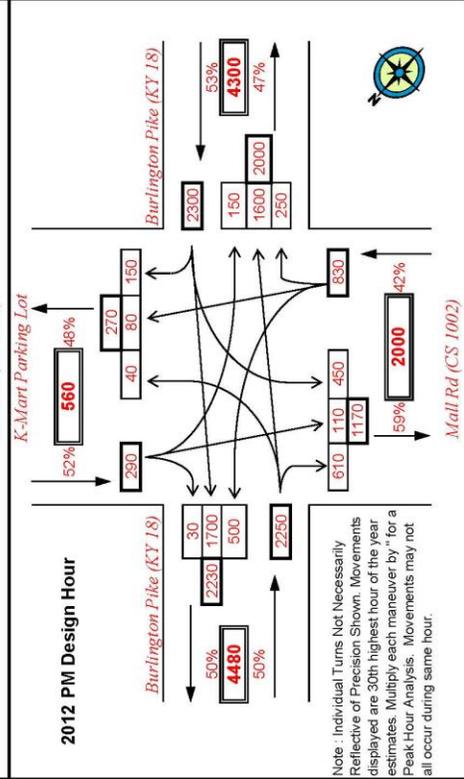
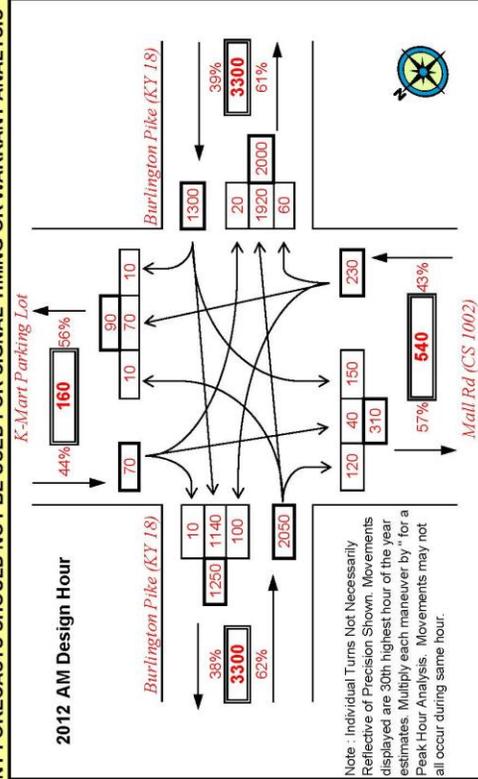
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PROJECT: Construct new Ramp from Mall Rd to I-75  
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 MARS NUMBER: N/A  
 REQUEST DATE: 5/15/2012  
 ANALYST: Daniel Hulker  
 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), K-Mart Parking Lot, and Burlington Pike (KY 18)

Turn Movement 1 Build 2012

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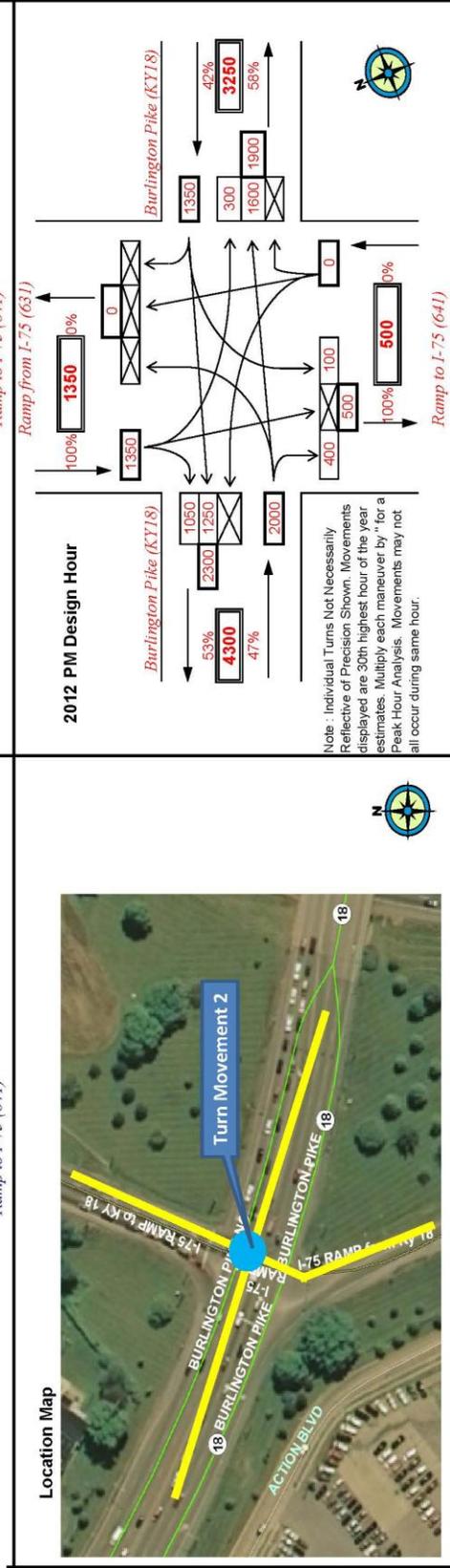
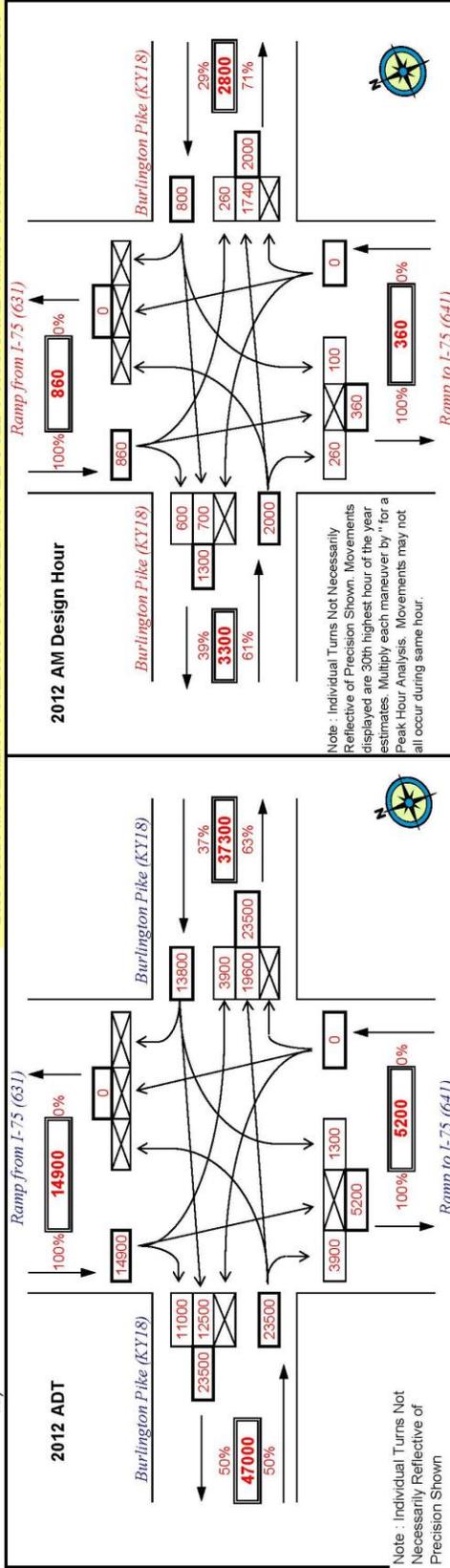
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PROJECT: Construct new Ramp from Mall Rd to I-75  
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 REQUEST DATE: 5/15/2012  
 ANALYST: Daniel Hulker  
 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (631 and 641) and Burlington Pike (KY-18)

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Turn Movement 2 Build 2012

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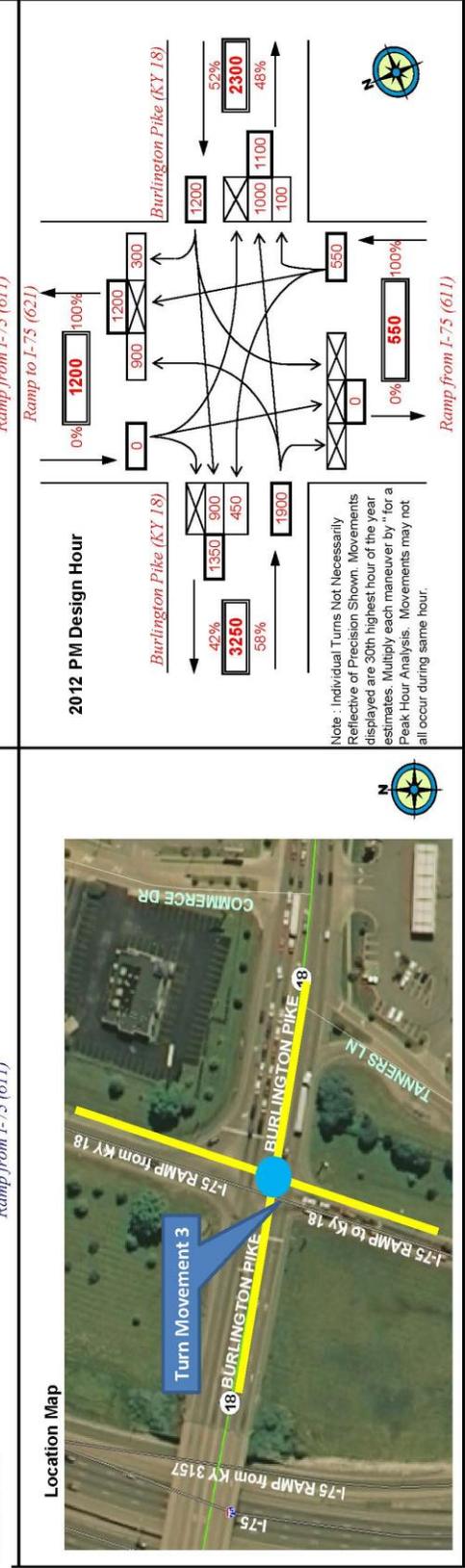
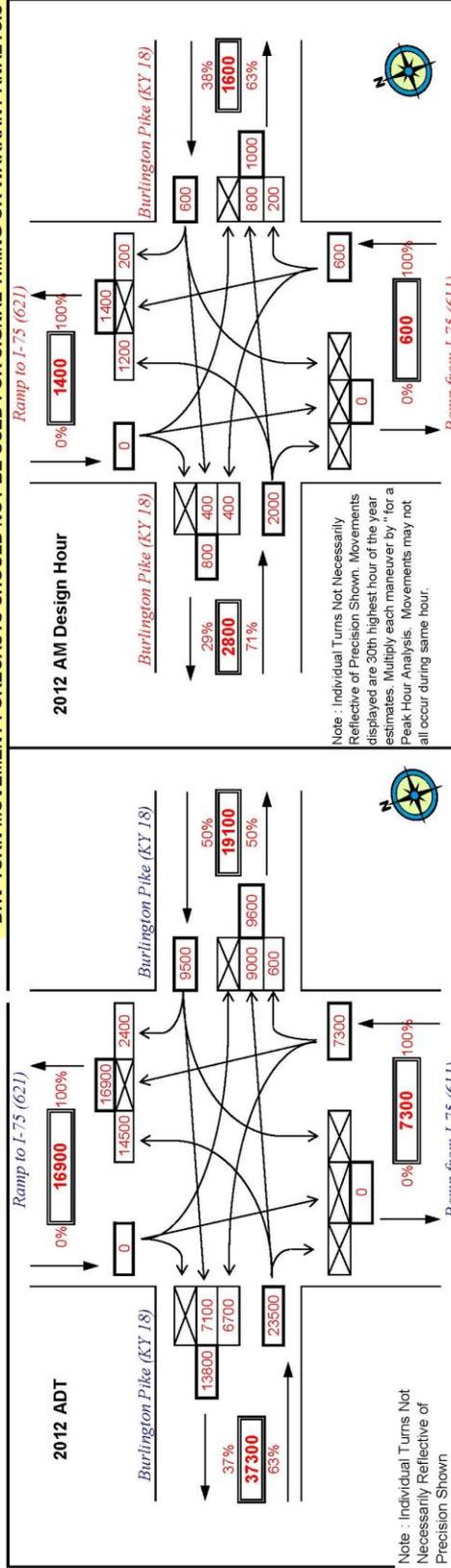


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 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (611, 621) and Burlington Pike (KY 18)

### Turn Movement 3 Build 2012

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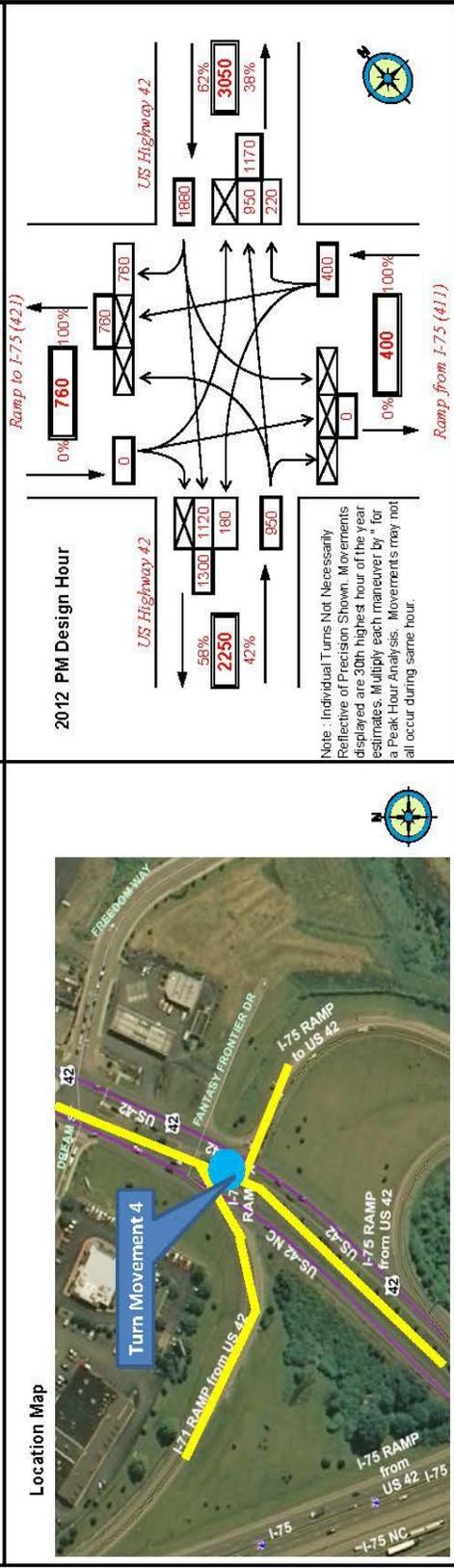
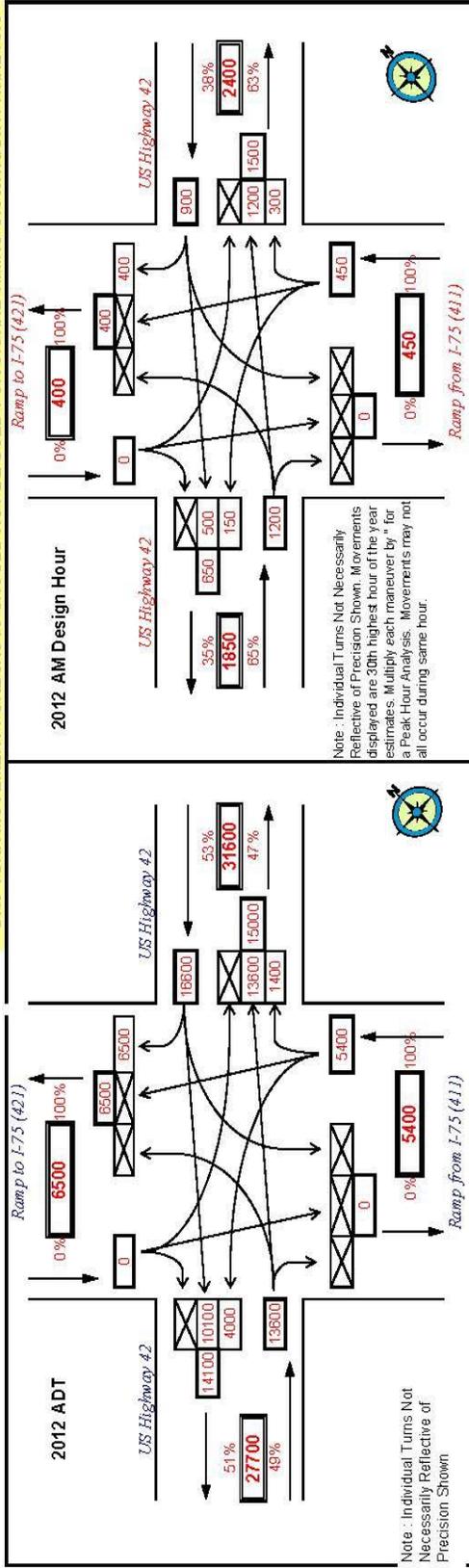
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 ANALYST: Daniel Hulker  
 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: I-75 Ramps (411, 421) and US Highway 42

Turn Movement 4 Build 2012

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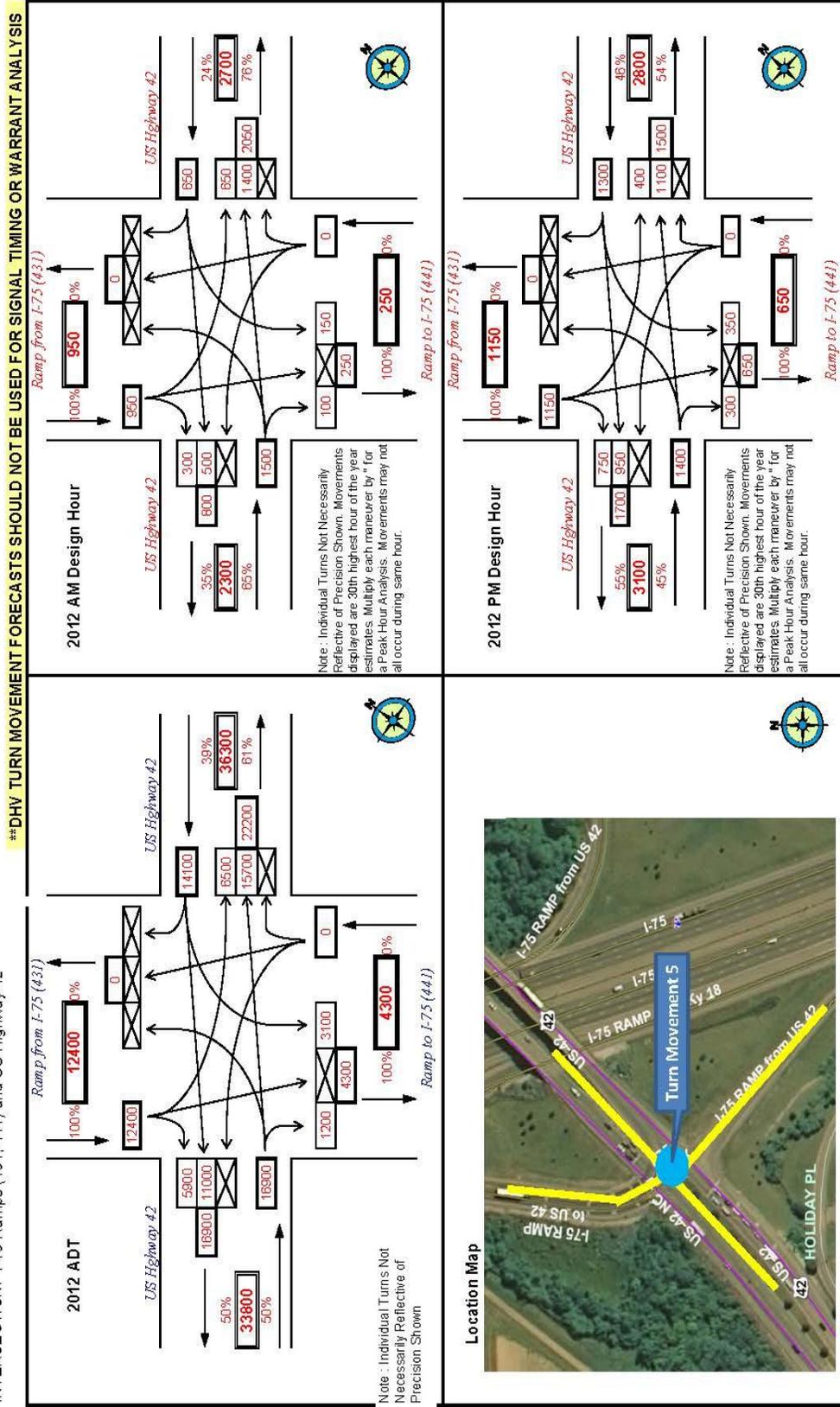


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Turn Movement 5 Build 2012



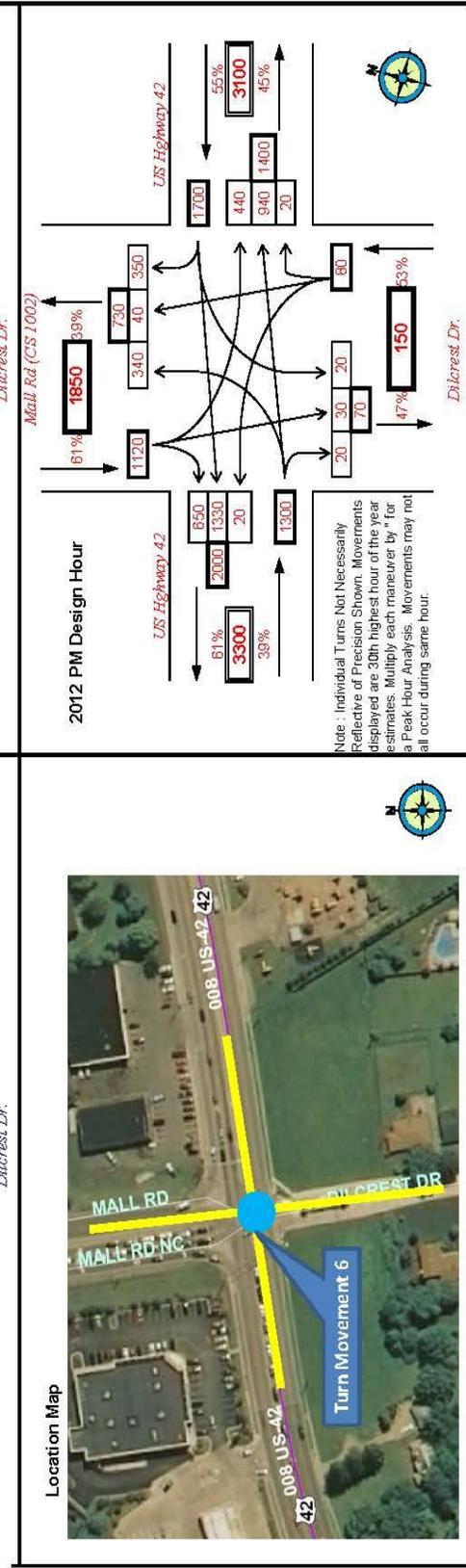
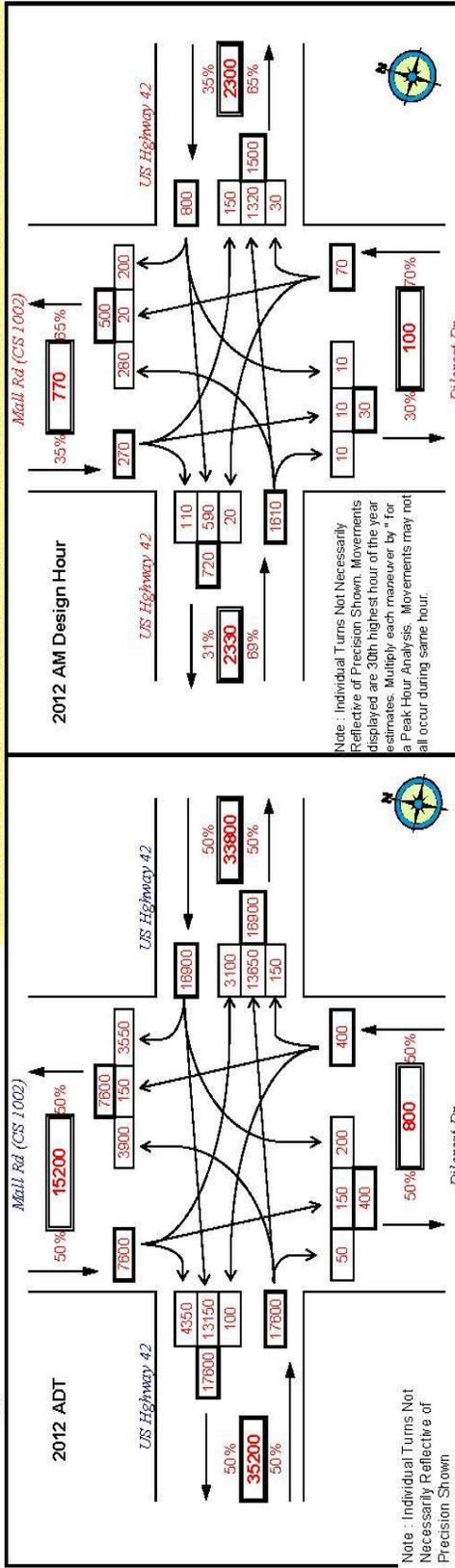
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 SCENARIO: 2012 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), Dilcrest Dr, and US Highway 42

Turn Movement 6 Build 2012

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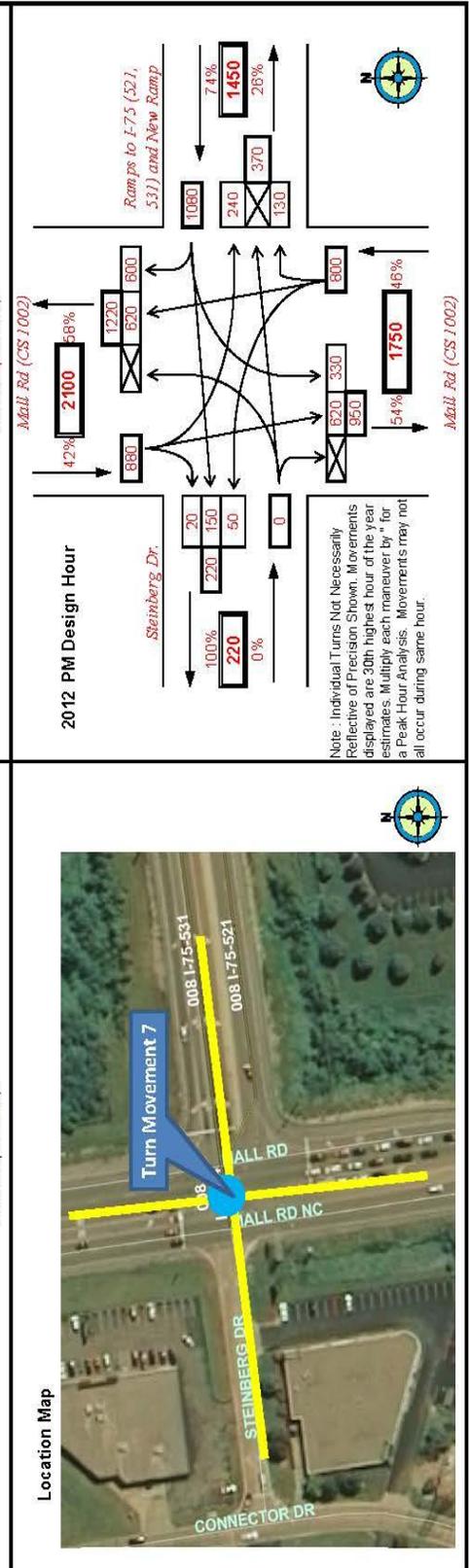
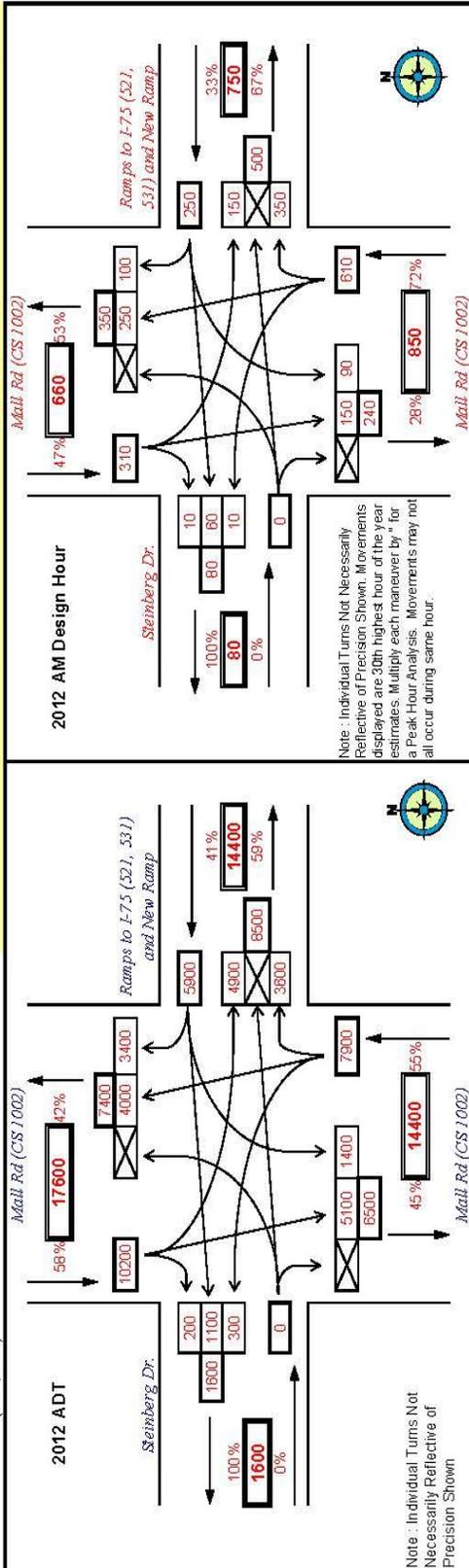


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Turn Movement 7 Build 2012

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# Build Turn Movements 2040

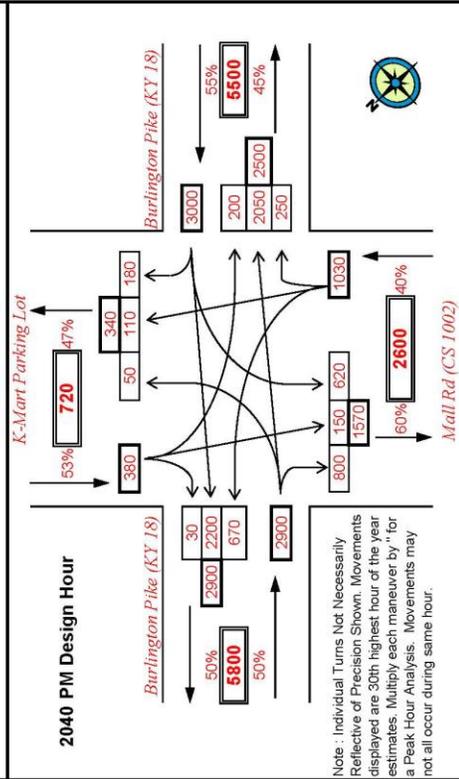
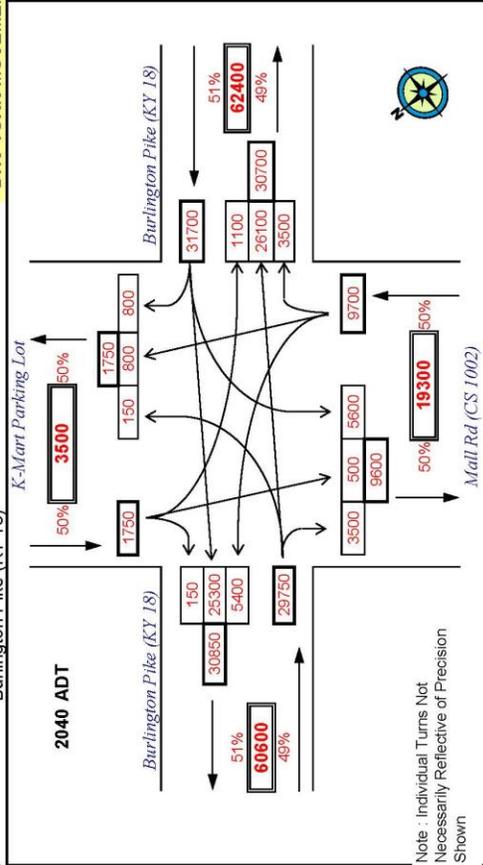
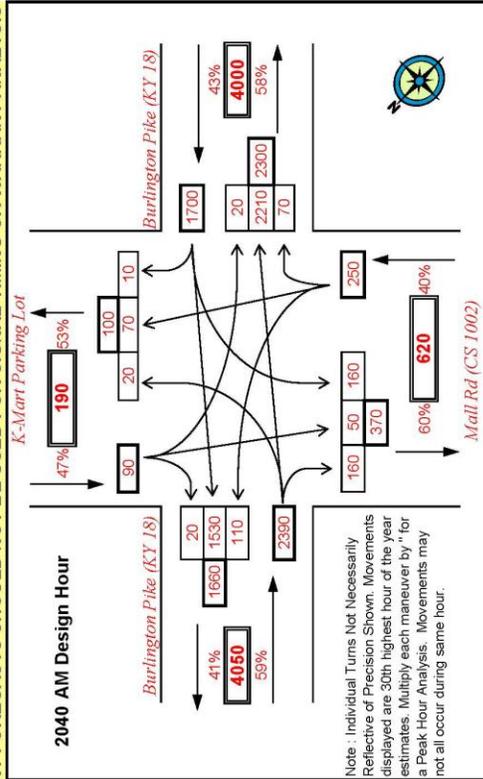
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 REQUEST DATE: 41044  
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 INTERSECTION: Mall Rd (CS 1002), K-Mart Parking Lot, and Burlington Pike (KY 18)

Turn Movement 1 Build 2040

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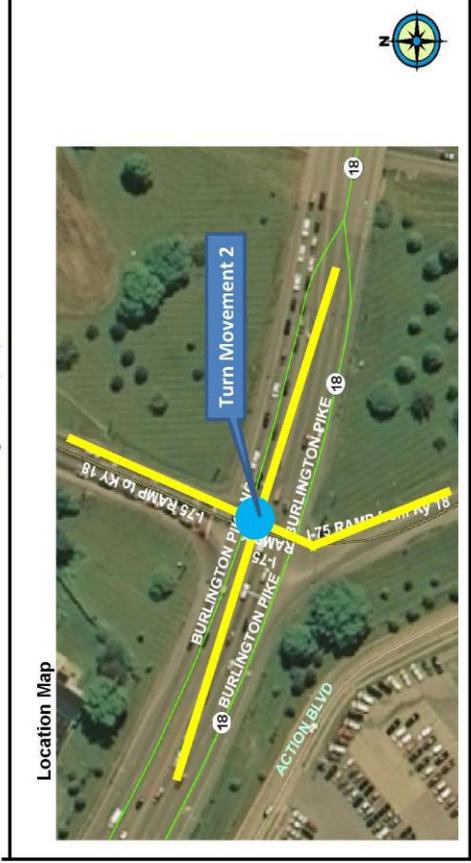
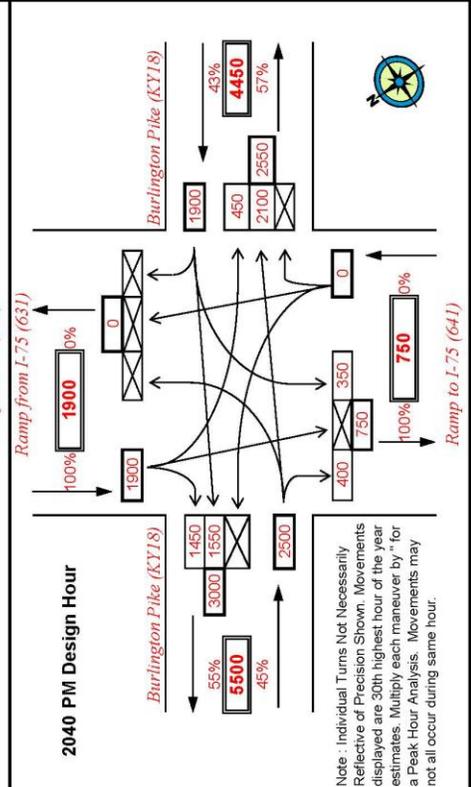
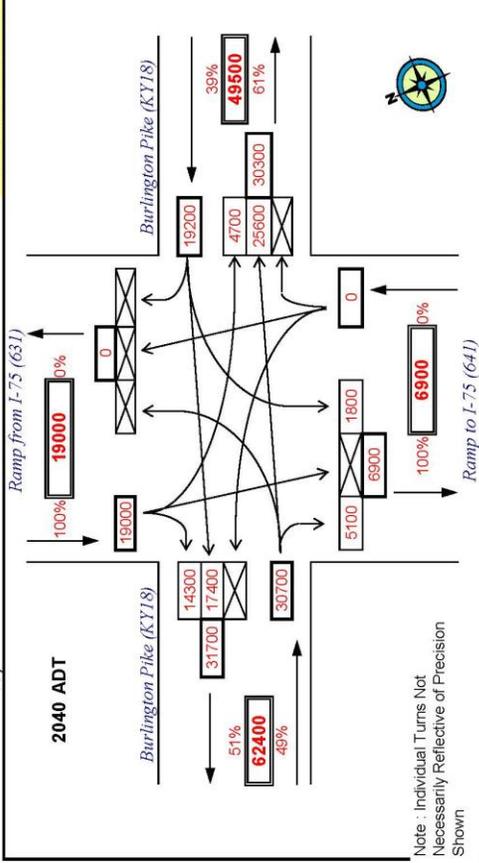
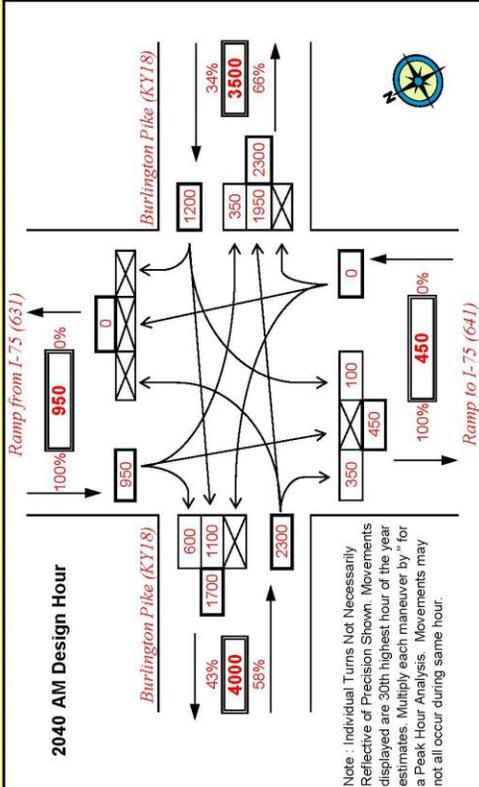
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Turn Movement 2 Build 2040

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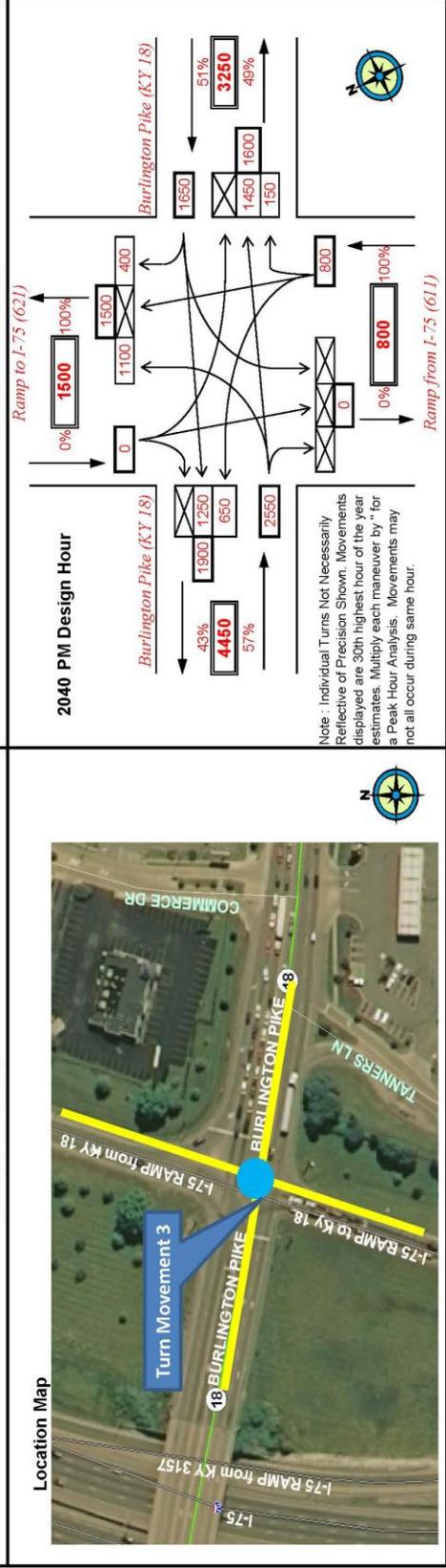
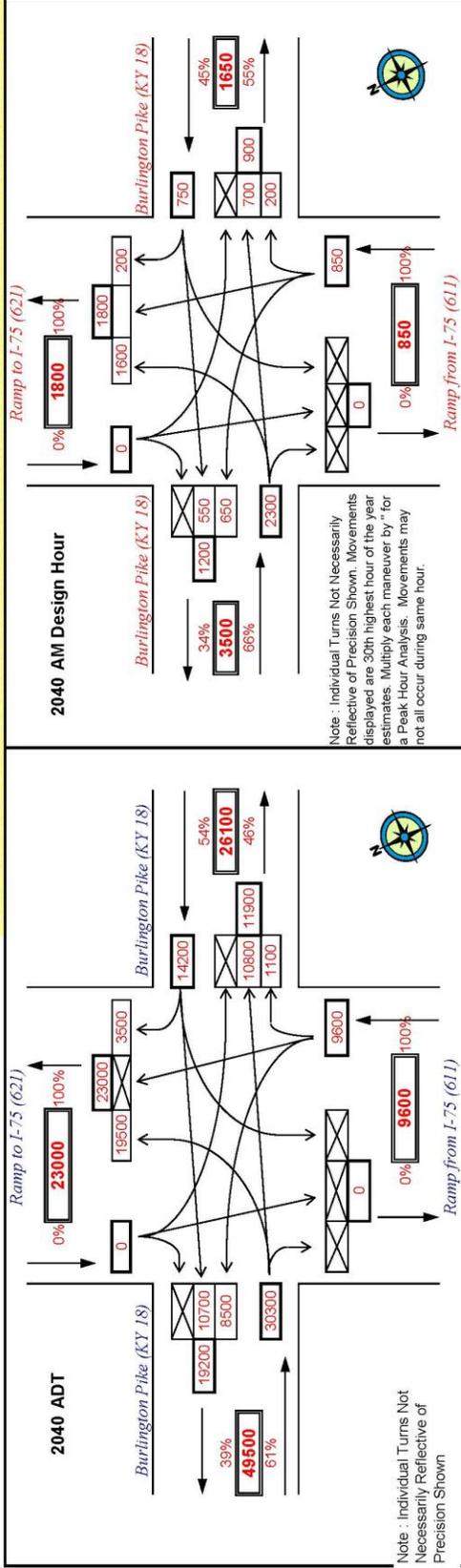


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### Turn Movement 3 Build 2040

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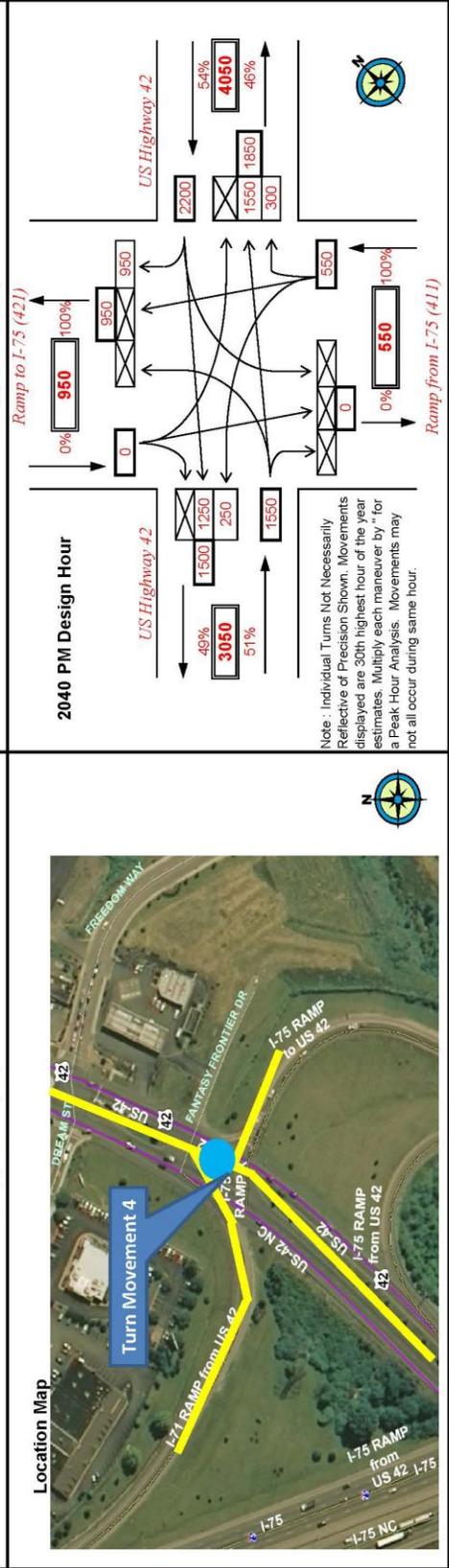
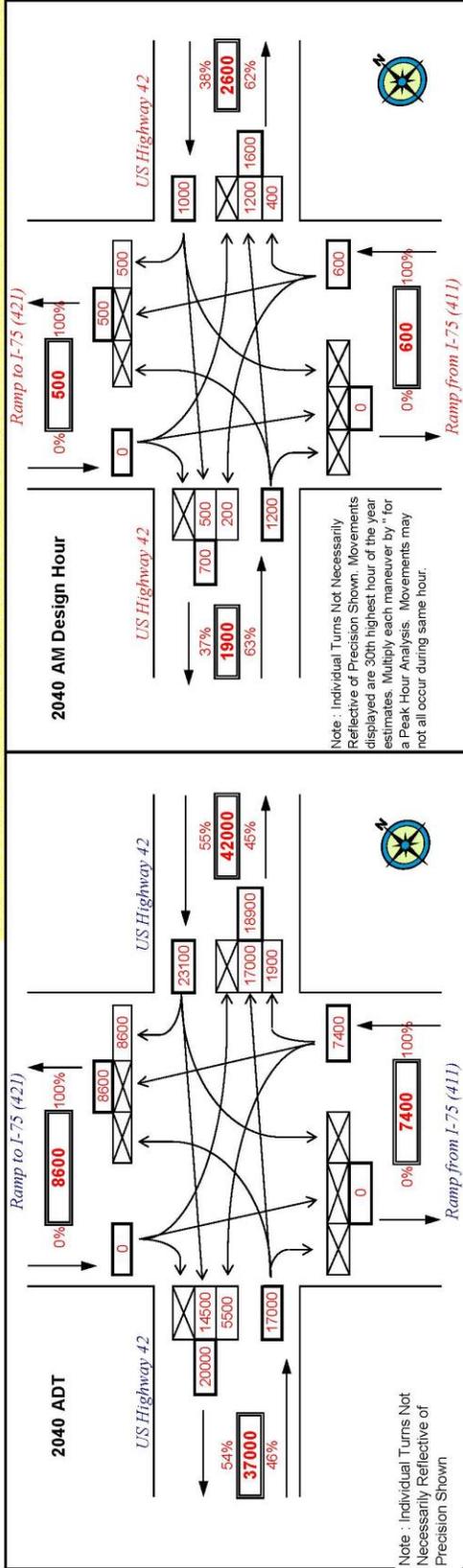
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Turn Movement 4 Build 2040

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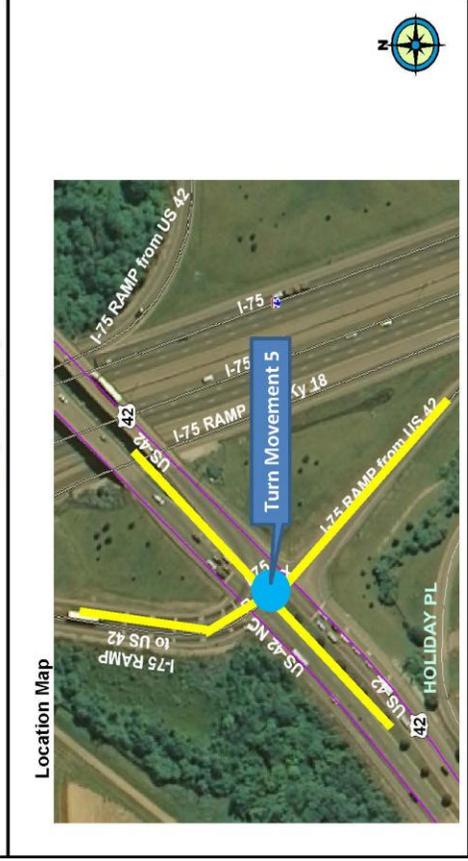
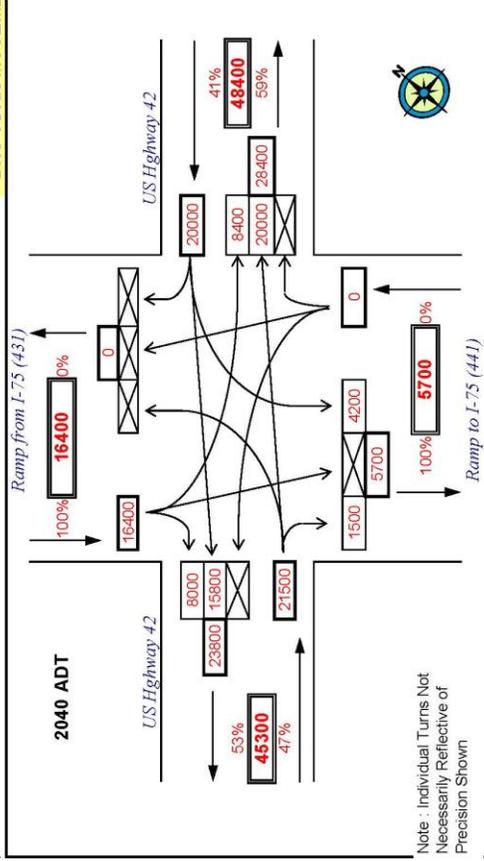
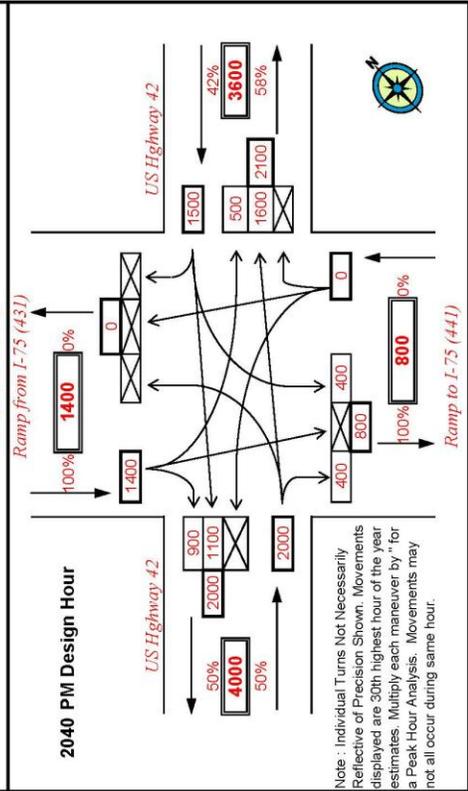
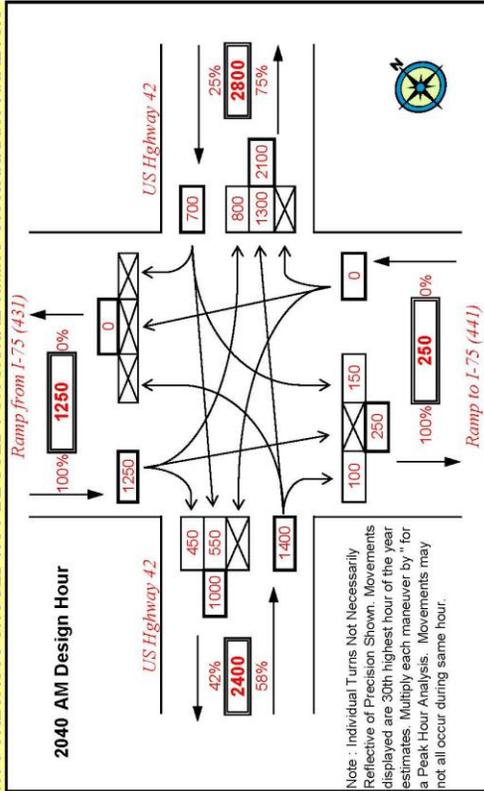
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 MARS NUMBER: N/A  
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 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
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Turn Movement 5 Build 2040

**\*\*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS**



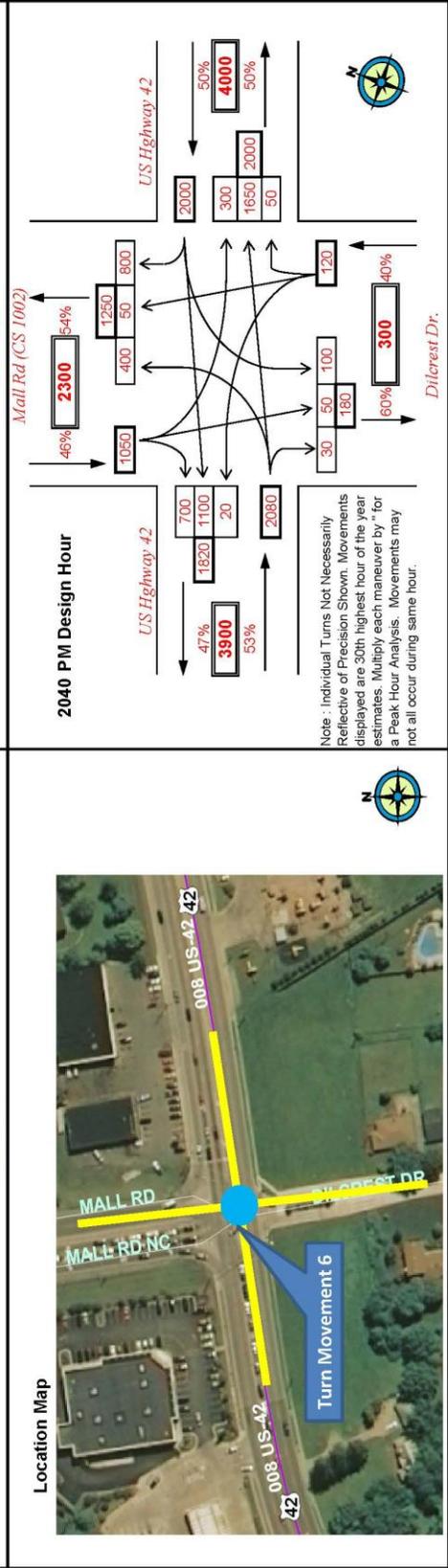
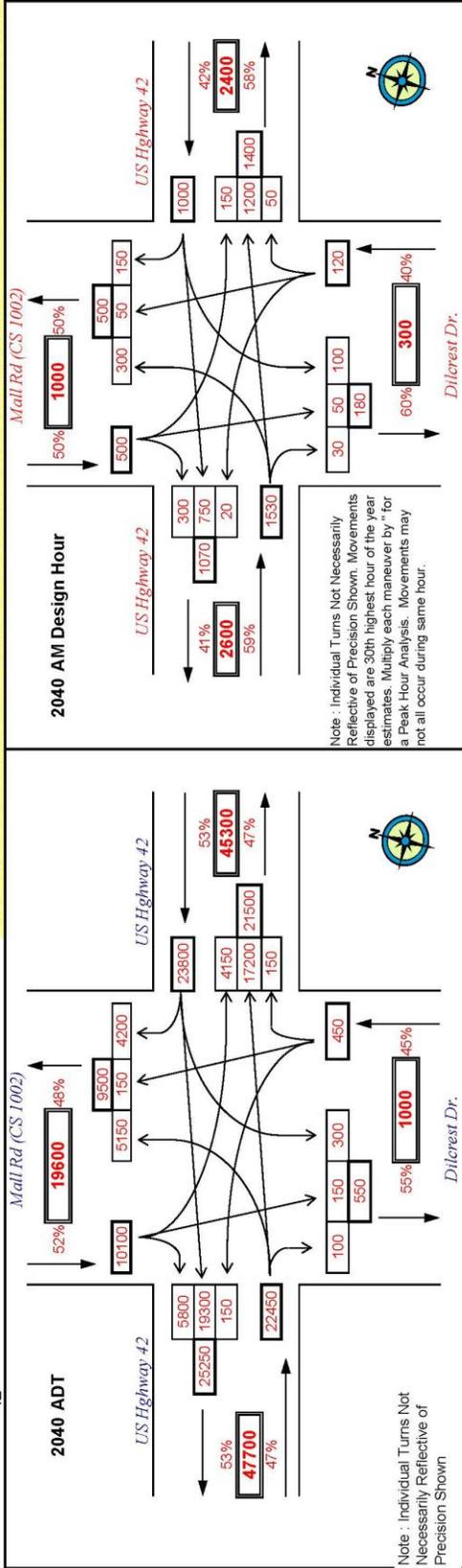
Traffic Forecast Technical Report  
 Boone County: Construct New Ramp near Mall Rd.  
 Item No. 06-0409.00

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2012 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

PROJECT: Construct new Ramp from Mall Rd to I-75  
 ITEM NUMBER: 06-0409.00  
 MARS NUMBER: N/A  
 REQUEST DATE: 41044  
 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), Dilcrest Dr, and US Highway 42

Turn Movement 6 Build 2040

\*\*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS



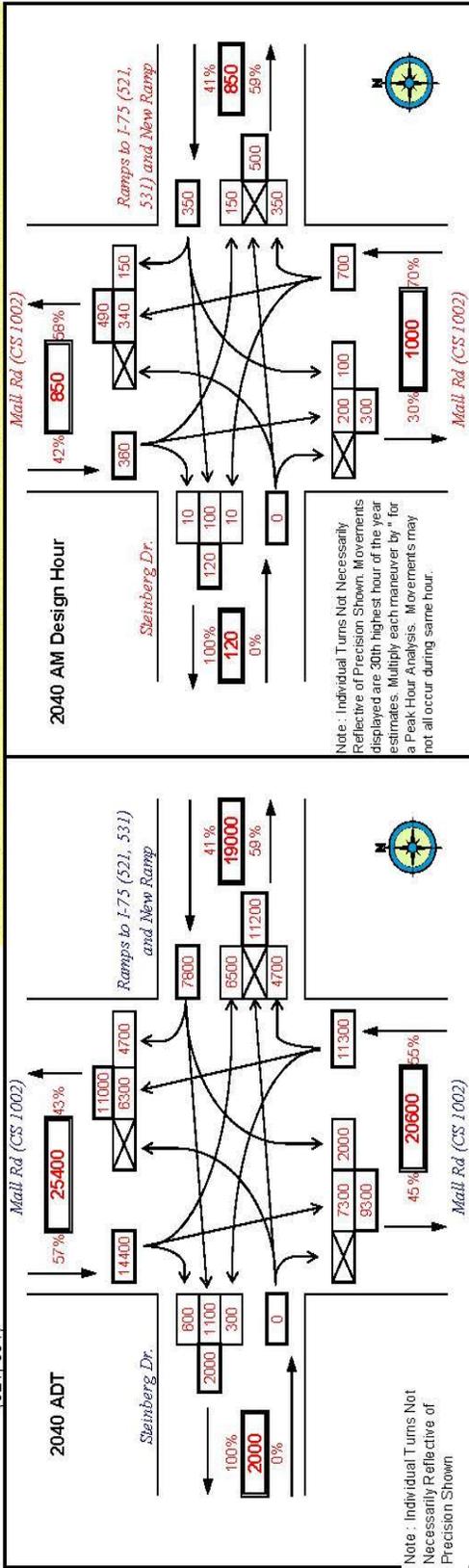
Traffic Forecast Technical Report  
 Boone County: Construct New Ramp near Mall Rd.  
 Item No. 06-0409.00

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2012 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

PROJECT: Construct new Ramp from Mall Rd to I-75  
 ITEM NUMBER: 06-0409.00  
 MARS NUMBER: N/A  
 REQUEST DATE: 4/10/44  
 ANALYST: Daniel Hulker  
 SCENARIO: 2040 ADT and Design Hour Volumes  
 INTERSECTION: Mall Rd (CS 1002), Steinberg Dr, and I-75 Ramps  
 (521, 531)

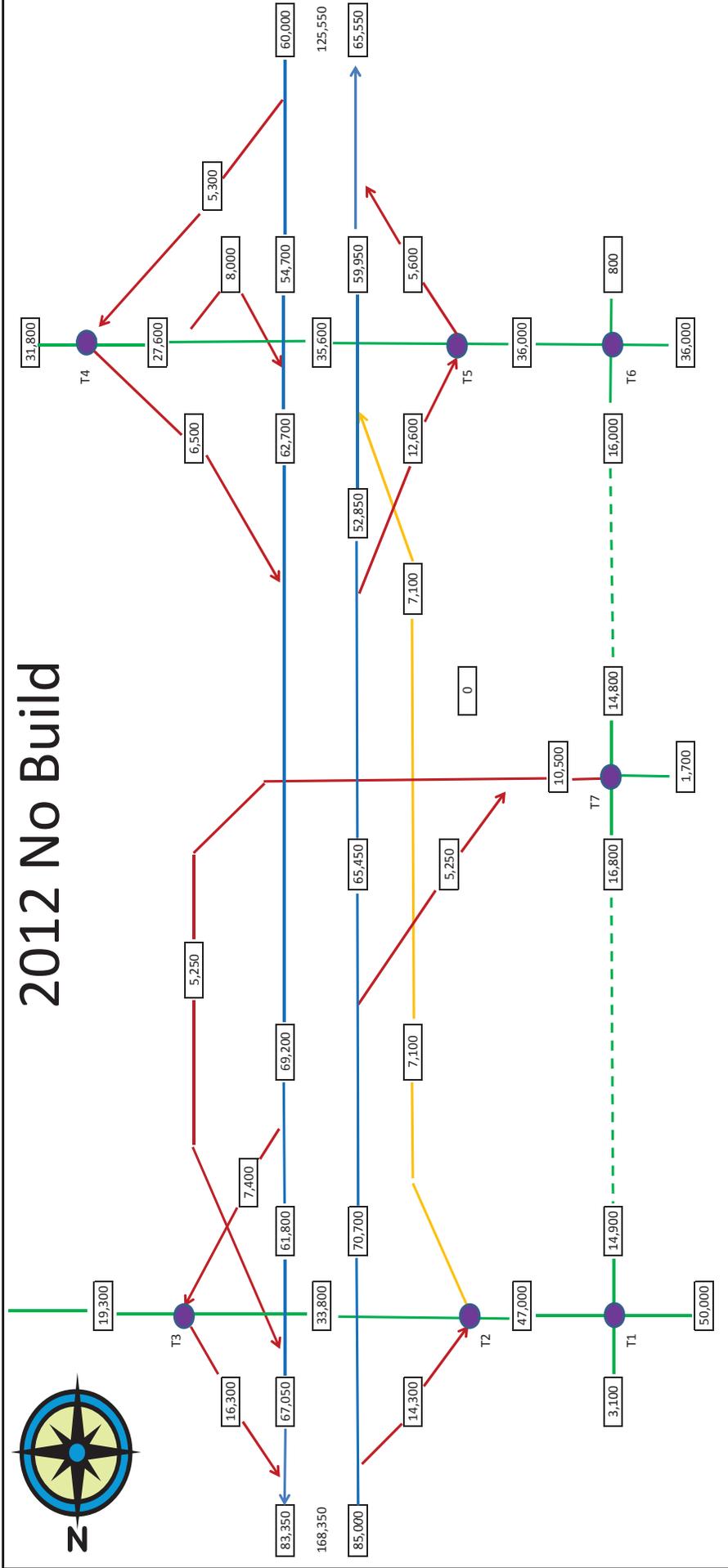
Turn Movement 7 Build 2040

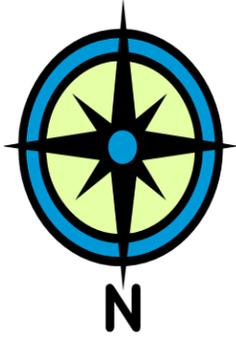
#DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS



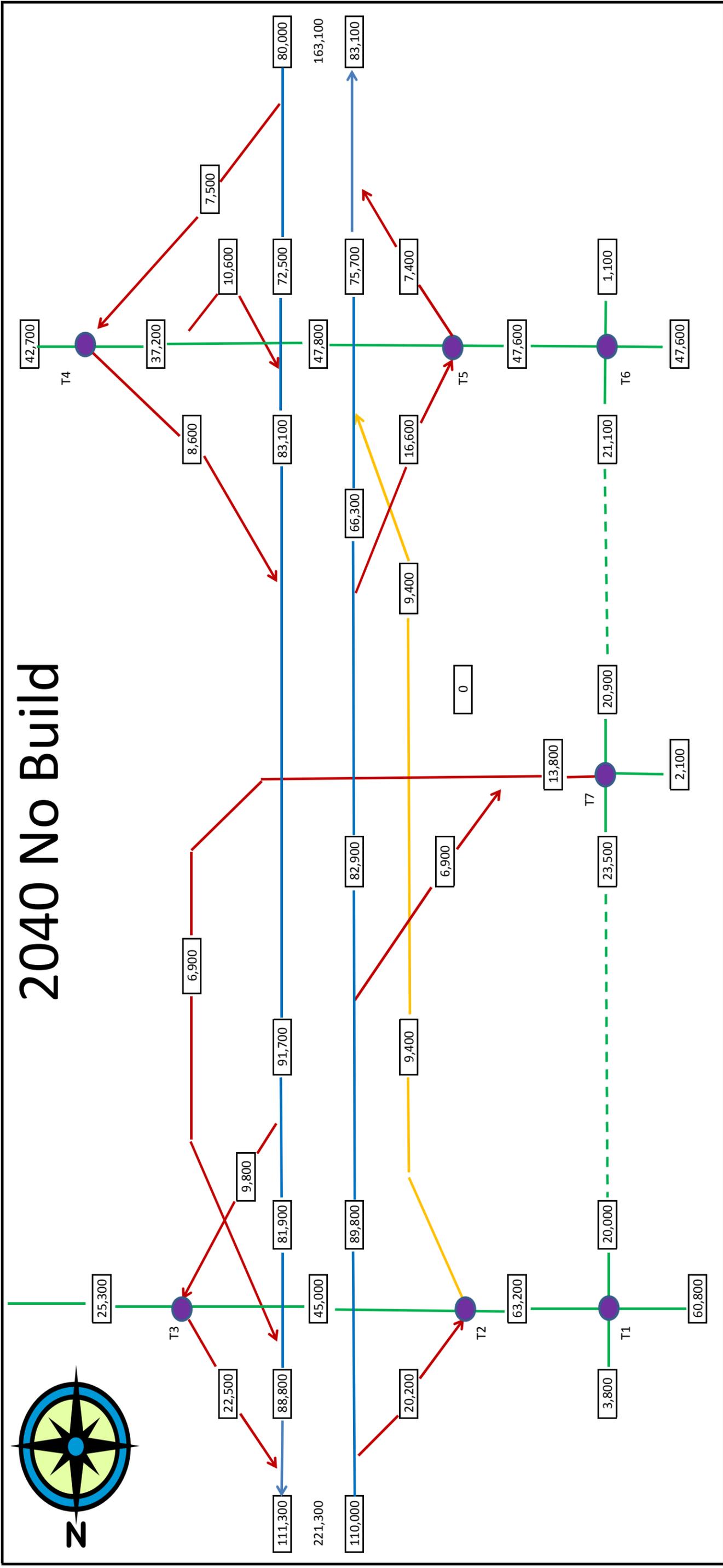
# Corridor Charts

# 2012 No Build





# 2040 No Build





# 2040 Build

