

SPOT ID:	H184156	TIP No.		County:	Rutherford	Division:	13
Route No.:	US 74 ALT		Cross Street/Limits:	US 221 ALT (Charlotte Road/West Main Street)			

Base Year **2017** 28,150 trips/day
 Future Year **2027** 30,750 trips/day
 Area Type **Urban**
 Terrain **Mountainous**

AAADT Source
 A - NCDOT AAADT Map at Intersection
 B - NCDOT AAADT Map - Adjacent Segment
 C - Based on Traffic Count Proportions
 D - Based on Traffic Forecast Proportions
 E - Based on Engineering Judgment
 F - Other - See Notes

Turning Percentage Source
 I - Turning Movement Count
 II - Traffic Forecast
 III - Travel Demand Model
 IV - Engineering Judgment
 V - Other - See Notes

I

US 74 ALT

Node ID: **1**
 2017 AADT: **16,000**
 Source: **B**
 PM Peak Dir: **INBOUND**
 No. of Lanes: **2**
 Facility Type: **Arterial**
 Classification: **Arterial**
 Growth Source: **NCSTM**
 Annual Growth %: **0.8%**
 Change in Turn %: **No**
 2027 AADT: **17,300**

K =	0.08
D (AM) =	0.45
D (PM) =	0.55

2017	2027	2017	2027	2017	2027
6.1%	6.1%	65.4%	65.4%	28.5%	28.5%
5.4%	5.4%	68.8%	68.8%	25.8%	25.8%

Specific Improvement Type
 10 - Improve Intersection

Daily Savings Conv. Factor	1.3
Demand Constraint Conv. Factor	1.7

Daily Savings Conv. Factor	2.1
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V/C Ratio	Over/Under Capacity
1 1.01	Over
2 0.63	Under
3 0.54	Under
4 0.42	Under
% of Links Over Capacity 25%	



Node ID: **4**
 2017 AADT: **13,300**
 Source: **C**
 PM Peak Dir: **INBOUND**
 No. of Lanes: **4**
 Facility Type: **Arterial**
 Classification: **Arterial**

Growth Source: **NCSTM**
 Annual Growth %: **0.8%**
 Change in Turn %: **No**
 2027 AADT: **14,400**

2017	2027	2017	2027
9.4%	8.6%	48.4%	44.7%
9.4%	8.6%	48.4%	44.7%
42.3%	46.7%	42.3%	46.7%
0.09	0.4	0.09	0.60
0.4	0.60	0.4	0.60

2017 AM Peak Travel Time Saving	12
2017 PM Peak Travel Time Saving	15
Daily Savings Conv. Factor	2.1
2017 Daily Travel Time Savings	57.7
2027 AM Peak Travel Time Saving	15
2027 PM Peak Travel Time Saving	21
2027 Daily Travel Time Savings	76.7
Days per Year	260
Travel Time Savings Duration	10 Years

Node ID: **2**
 2017 AADT: **10,000**
 Source: **A**
 PM Peak Dir: **OUTBOUND**
 No. of Lanes: **2**
 Facility Type: **Arterial**
 Classification: **Arterial**

Growth Source: **NCSTM**
 Annual Growth %: **1.5%**
 Change in Turns: **No**
 2027 AADT: **11,600**

2017	2027	2017	2027
27.5%	28.5%	53.9%	57.3%
27.5%	28.5%	53.9%	57.3%
18.6%	14.1%	18.6%	14.1%
0.6	0.40	0.6	0.40
0.6	0.40	0.6	0.40

10-year Travel Time Savings			
175,000 hours			
Travel Time Savings Per Vehicle			
2017	7 sec/veh	2027	9 sec/veh

US 221 ALT (Charlotte Road)

US 221 ALT (West Main Street)

2017

AM Peak O-D Matrix

	1	2	3	4	Total
1		149	396	31	576
2	132		89	259	480
3	434	66		342	842
4	45	232	202		479
Total	611	447	687	632	2377

PM Peak O-D Matrix

	1	2	3	4	Total
1		201	461	43	705
2	91		45	183	319
3	408	42		239	689
4	62	321	336		719
Total	561	564	842	465	2432

2017

Node ID: **3**
 2017 AADT: **17,000**
 Source: **A**
 PM Peak Dir: **OUTBOUND**
 No. of Lanes: **4**
 Facility Type: **Arterial**
 Classification: **Arterial**

Growth Source: **NCSTM**
 Annual Growth %: **0.7%**
 Change in Turn %: **No**
 2027 AADT: **18,200**

2017	2027	2017	2027
34.7%	34.7%	59.3%	59.3%
40.6%	40.6%	51.6%	51.6%
0.09	0.55	0.09	0.45
0.55	0.45	0.55	0.45

2027

AM Peak O-D Matrix

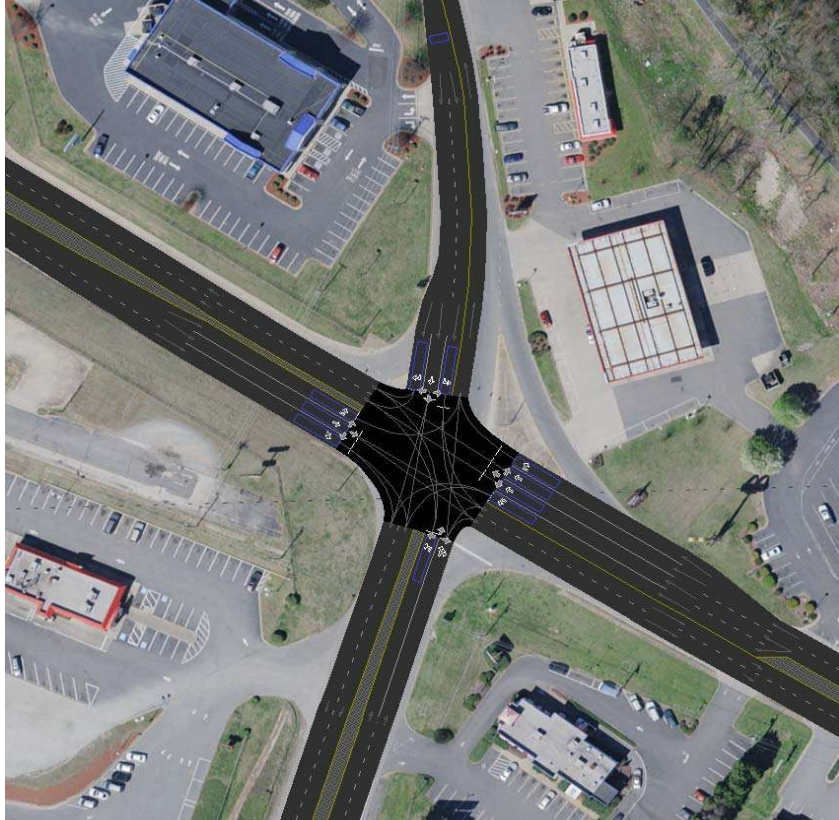
	1	2	3	4	Total
1		161	428	34	623
2	153		104	300	557
3	465	70		366	901
4	49	251	219		519
Total	667	482	751	700	2600

PM Peak O-D Matrix

	1	2	3	4	Total
1		217	498	46	761
2	106		53	213	372
3	437	44		256	737
4	67	348	363		778
Total	610	609	914	515	2648

US 74 ALT

	2017 No-Build										2027 No-Build												
	AM Peak										AM Peak												
Vehicle Hours Traveled (VHT)	RS = 5	RS = 10	RS = 15	RS = 20	RS = 25	RS = 30	RS = 35	RS = 40	RS = 45	RS = 50	Average	RS = 5	RS = 10	RS = 15	RS = 20	RS = 25	RS = 30	RS = 35	RS = 40	RS = 45	RS = 50	Average	
Queued Trips	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total VHT	56.0	55.8	55.3	55.0	55.8	55.1	55.7	55.2	56.0	55.5	55.5	63.5	63.1	62.5	64.3	63.1	62.8	62.7	63.0	62.9	63.0	63.0	63.1
	PM Peak										PM Peak												
Vehicle Hours Traveled (VHT)	RS = 5	RS = 10	RS = 15	RS = 20	RS = 25	RS = 30	RS = 35	RS = 40	RS = 45	RS = 50	Average	RS = 5	RS = 10	RS = 15	RS = 20	RS = 25	RS = 30	RS = 35	RS = 40	RS = 45	RS = 50	Average	
Queued Trips	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total VHT	59.3	58.5	58.5	58.4	59.5	58.1	58.3	58.7	58.8	59.7	58.8	67.6	69.9	69.6	68.3	71.7	75.1	69.3	68.1	68.0	69.6	69.6	69.7
	2017 Build										2027 Build												
	AM Peak										AM Peak												
Vehicle Hours Traveled (VHT)	RS = 5	RS = 10	RS = 15	RS = 20	RS = 25	RS = 30	RS = 35	RS = 40	RS = 45	RS = 50	Average	RS = 5	RS = 10	RS = 15	RS = 20	RS = 25	RS = 30	RS = 35	RS = 40	RS = 45	RS = 50	Average	
Queued Trips	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total VHT	43.3	43.0	43.4	43.3	43.1	43.2	43.2	43.3	43.1	43.1	43.2	48.0	48.2	48.1	48.1	47.9	48.1	48.3	48.4	48.4	48.3	48.3	48.2
	PM Peak										PM Peak												
Vehicle Hours Traveled (VHT)	RS = 5	RS = 10	RS = 15	RS = 20	RS = 25	RS = 30	RS = 35	RS = 40	RS = 45	RS = 50	Average	RS = 5	RS = 10	RS = 15	RS = 20	RS = 25	RS = 30	RS = 35	RS = 40	RS = 45	RS = 50	Average	
Queued Trips	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total VHT	43.9	43.7	43.9	44.0	44.0	44.3	44.0	44.2	44.0	43.9	44.0	48.5	48.4	48.5	48.3	48.7	48.3	48.5	48.5	48.8	48.5	48.5	48.5



Existing Configuration



Proposed Build Design