

*Traffic Study for
Barstow 2014 General Plan Amendment*

DRAFT

Prepared for:



The City of Barstow

Prepared by:



ADVANTEC Consulting Engineers

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1. Executive Summary

The City of Barstow is proposing a General Plan Amendment for the Year 2014. This Amendment shall encompass twelve future developments proposed throughout the City by the Year 2020. The twelve future developments shall include the following:

- *725,000 SF General Industrial Development*
- *500,000 SF General Industrial Development*
- *Full Service Casino Resort*
- *1575 Single Family Dwelling Units*
- *Highway Commercial Complex*
- *Spanish Trails Development*
- *400 Single Family Dwelling Units*
- *30 Medium Density Housing*
- *140 Single Family Dwelling Units*
- *20 Medium Density Housing*
- *500 Single Family Dwelling Units*
- *60 Medium Density Housing*

Existing (Year 2014) ADT volumes for the freeway and streets were obtained from the City of Barstow, County of San Bernardino, and Caltrans District 8. Year 2020 ADT volumes were extrapolated using a City approved 2% yearly growth rate.

Development trips were determined by applying trip generation rates for each type of land use. Trip generation rates are empirically derived factors that relate amounts of traffic generated to specific land uses. The trip generation rates were taken from Trip Generation Manual of Institute of Transportation Engineers, 9th Edition. Trip distributions were then created for each development factoring anticipated vehicular origins and destinations. The generated trips were then assigned to its respective trip distribution. The distributed generated trips were then added to the Future Year 2020 ADT counts and intersection turning movements. The LOS was recalculated for the Year 2020 with developments condition.



A comparison of ADT volumes for the Future (Year 2020) with and without the developments was conducted. The comparison reveals that the City's Year 2020 street infrastructure can accommodate Year 2020 ADT volumes for both the with and without development conditions.

An intersection LOS comparison for with and without development conditions was also conducted. All arterial intersections will operate at LOS C or above for both with and without development conditions in the Year 2020.



2. Project Background & Description

2.1 Background

The City of Barstow is proposing a General Plan Amendment for the Year 2014. This Amendment shall encompass twelve future developments proposed throughout the City by the Year 2020. The twelve future developments shall include the following:

- *725,000 SF General Industrial Development*
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Locations of these developments along with their vehicle trip generation numbers will be provided later in this report.

The purpose of this study is to identify the total number of vehicle trips generated by the new developments, determine the vehicle trip distribution of each development throughout the City of Barstow and analyze the Level of Service impacts, if any, there trips may have upon the City of Barstow streets and intersections. In addition, this study will recommend mitigation measures to offset intersection and/or Level of Service impacts.

The City of Barstow is serviced on a regional basis by the Interstate 15 and 40 Freeways and State Routes 58 and 247 which meet and cross in the City of Barstow. These routes provide access between Central and Southern California to the Las Vegas/Nevada/Utah and Laughlin/Colorado River/Northern Arizona resort areas. State Route 247, also known as Barstow Road, connects to city to the Lucerne Valley and mountain resorts to



the south. Las Vegas and Laughlin, Nevada have experienced tremendous growth within the last five years. These major highways are heavily utilized by recreational traffic to the Nevada resorts, and beyond, on weekends. The traffic is heaviest in the northbound/eastbound directions on Friday afternoon and evenings, with travelers heading towards the resorts; and in the southbound/westbound directions on Sunday afternoon and evenings, with travelers heading home to the Los Angeles area.

2.2 Level of Service

Level of Service (LOS) is used to define the quality of traffic flow over specific street or road segments or through individual intersections. LOS expresses relationships between the volumes of present or anticipated traffic and the ability of road networks to carry them. For planning purposes, comparisons of volumes to capacities for road segments, rather than intersections, are used. A description of the six standard levels of service for road segments is shown in **Table 2.1** along with the roadway capacities for each level of service.

Table 2.1: Level of Service Descriptions and Roadway Capacities

Level of Service (LOS)	Description of Travel Conditions	Roadway LOS Limits		
		<u>2 Lanes</u>	<u>4 Lanes</u>	<u>6 Lanes</u>
A	No physical restriction Operation speeds.	7,000	15,000	25,000
B	Stable flow with few restrictions on operating speed.	8,000	18,000	28,000
C	Stable flow with more restrictions on speed and lane changing.	10,000	22,000	32,000
D	Approaching unstable flow, little freedom to maneuver and short period of heavy restrictions on flow.	12,000	26,000	35,000
E	Unstable flow, low operating speeds and some momentary stoppages	14,000	28,000	38,000
F	Forced flow operations at low speeds where the highway acts as a storage area and there are many stoppages.	14,000	28,000	38,000



3. Existing Conditions

3.1 Existing Street System

The City of Barstow currently has a street system which consists of interstate freeways, state highways, arterials, collector, and local streets. Three major interstate and state highways provide regional access to and from the City (a fourth State Highway, SR 247, is also known as Barstow Road and is discussed as part of the arterial street system):

- Interstate 15 (I-15) is a four-lane north-south oriented interstate freeway through the City of Barstow, which provides regional access between the San Bernardino/Los Angeles/San Diego areas to the south and Las Vegas, Nevada/Utah areas to the north. The freeway traverses east-west through central Barstow.
- Interstate 40 (I-40) is a four-lane east-west oriented interstate freeway which has its western terminus at the I-15 Freeway in the City. Interstate 40 provides regional access to the east through the Mojave Desert to Needles and northern Arizona.
- State Route 58 (SR 58) is a four-lane east-west freeway which currently has its eastern terminus at the I-15 Freeway in south Barstow. State Route 58 provides regional access westerly to Bakersfield and northern California cities.

The key arterial streets in the Barstow area include the following:

- Main Street (old U.S. Highway 66) is the key east-west arterial through the City. It currently has interchanges with the I-15 and I-40 Freeways. Many of the City's commercial and motorist facilities front the roadway through the downtown area. West of Lenwood Road, the roadway becomes National Trails Highway and provides local access to the Helendale/Oro Grande areas. This roadway also serves as an alternative route for the I-15 Freeway south to Victorville. As such, this roadway becomes a critical alternative link with the Victor Valley area to the south when the I-15 Freeway is closed between Barstow and Victorville.
- Barstow Road is a key north-south arterial through central Barstow. It has an interchange with the I-15 Freeway between the east and west Main Street interchange. North of the I-15 Freeway, Barstow Road provides access into the downtown area. South of the I-15 Freeway, Barstow Road is state highway (State Route 247), which connects Barstow with Lucerne Valley and the Big Bear Ski Resorts to the south.
- First Avenue is a north-south arterial with its southern terminus at Main Street in downtown Barstow. It provides a connection from the downtown



Barstow northerly across the BNSF Railroad and Mojave River to the Old Highway 58, North Barstow residential areas, and Fort Irwin.

- Lenwood Road serves the west end of Barstow; with an interchange at the I-15 Freeway, and intersects west Main Street in the unincorporated community of Lenwood. North of Main Street it crossed the Mojave River and the BNSF Railroad to link with State Route 58. South of the I-15 Freeway Lenwood Road was extended to the old Sidewinder Road interchange. This new roadway, named Outlet Center Drive, provides a secondary access to the Lenwood Road/I-15 Freeway interchange commercial area.
- Old Highway 58 is an east-west arterial north of downtown Barstow.
- Mountain View Street and Virginia Way are key east-west arterials located to the north of the I-15 Freeway.
- Rimrock Road and Armory Road are key east-west arterials located to the south of the I-15 Freeway.
- Muriel Drive is a key north-south arterial located east of Barstow Road. Muriel Drive and Barstow Road are the only two north-south crossings of the I-15 Freeway in central Barstow.

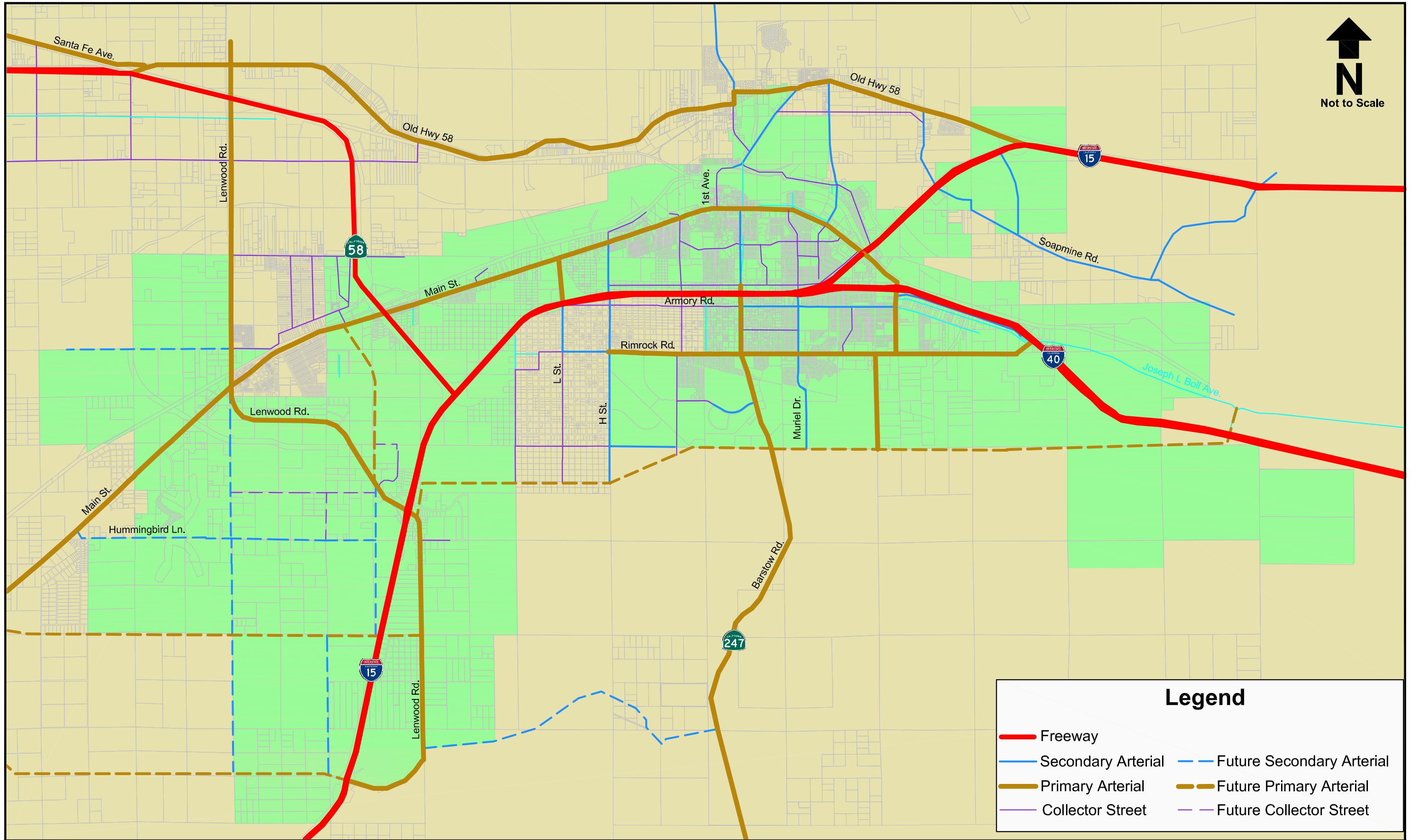
The existing street system and planned City of Barstow Circulation Plan is depicted on **Figure 3.1**. The figure illustrates the current City of Barstow and County of San Bernardino circulation element for the entire planning area. The roadway classifications utilized in the current plan are briefly described below:

- A freeway is a regional transportation facility which is grade-separated from arterial streets.
- A primary arterial is a four-lane divided street with parking permitted, or a six lane divided street with no parking.
- A secondary arterial is a four-lane undivided street with parking permitted, or a four-lane divided street with no parking.
- A collector street has fewer than four travel lanes, and may or may be include parking, depending on the individual street's capacity needs and cross-section.





Not to Scale



Legend

Freeway	Future Secondary Arterial
Primary Arterial	Future Primary Arterial
Collector Street	Future Collector Street



Existing Circulation Map

Figure 3.1

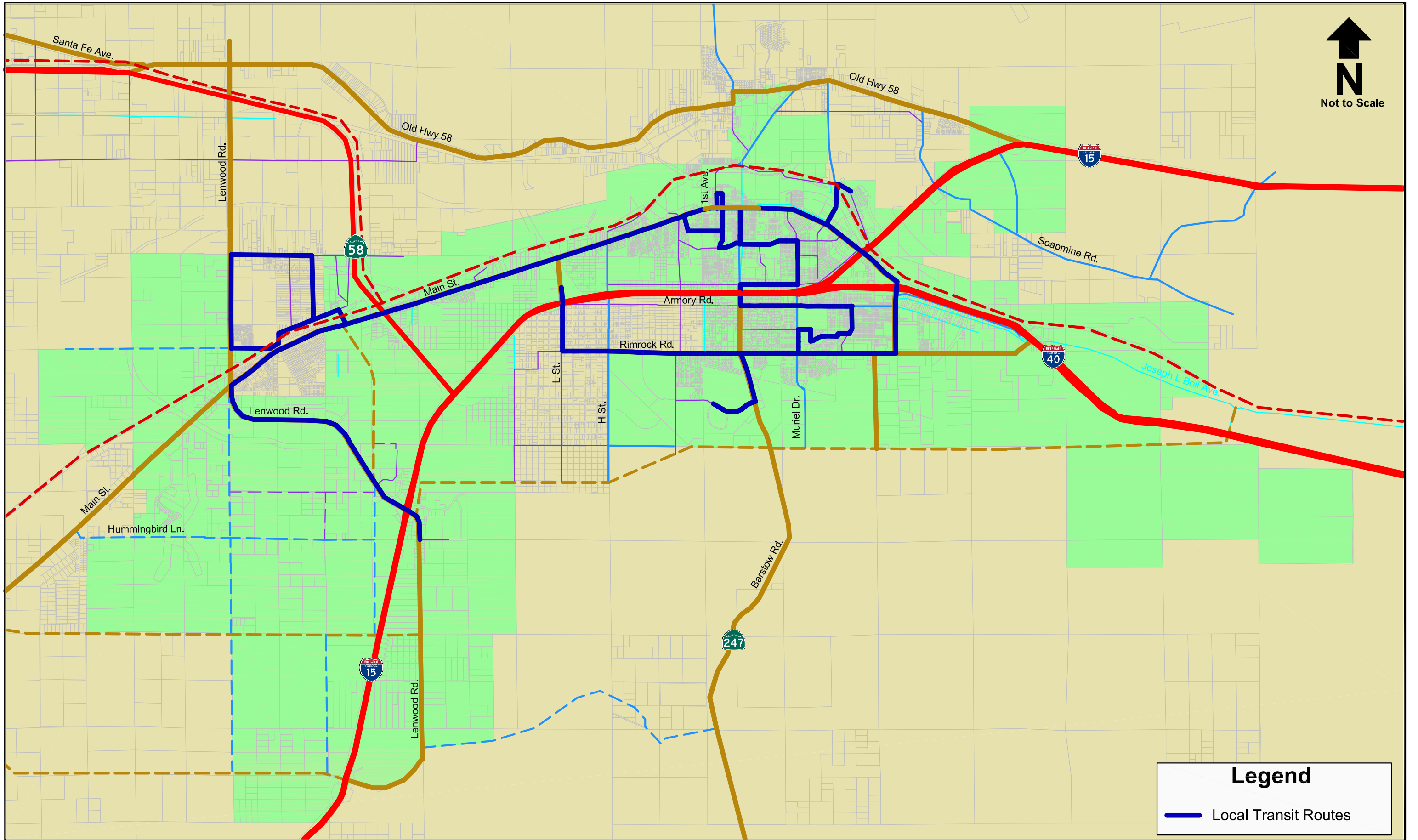
3.2 Existing Transit Service

Public transportation is available in the form of fixed route and Dial-A-Ride service operating six days per week by Barstow Area Transit. **Figure 3.2** illustrates the existing fix route system in the City and surrounding areas. There are currently three primary routes which provide service to all of the major traffic generators/attractions in the City. All routes currently begin and end at the “Interim” Transit Center near city hall and operate at one hour headways, with each route leaving at the top of the hour between 7 a.m. and 6 p.m.

Regional and interstate bus service is provided by Greyhound Lines and Amtrak Thruway. The Greyhound bus station is located at the “Barstow Station” located directly adjacent to the Interstate 15/Main Street Interchange. Thruway services utilize the Harvey House/Amtrak Station located on First Street north of the BNSF Railway tracks. Commuter transit service is provided by Victor Valley Transit Authority to the Fort Irwin Army Base for military personnel and employees of the base.



Not to Scale



Legend

— Local Transit Routes

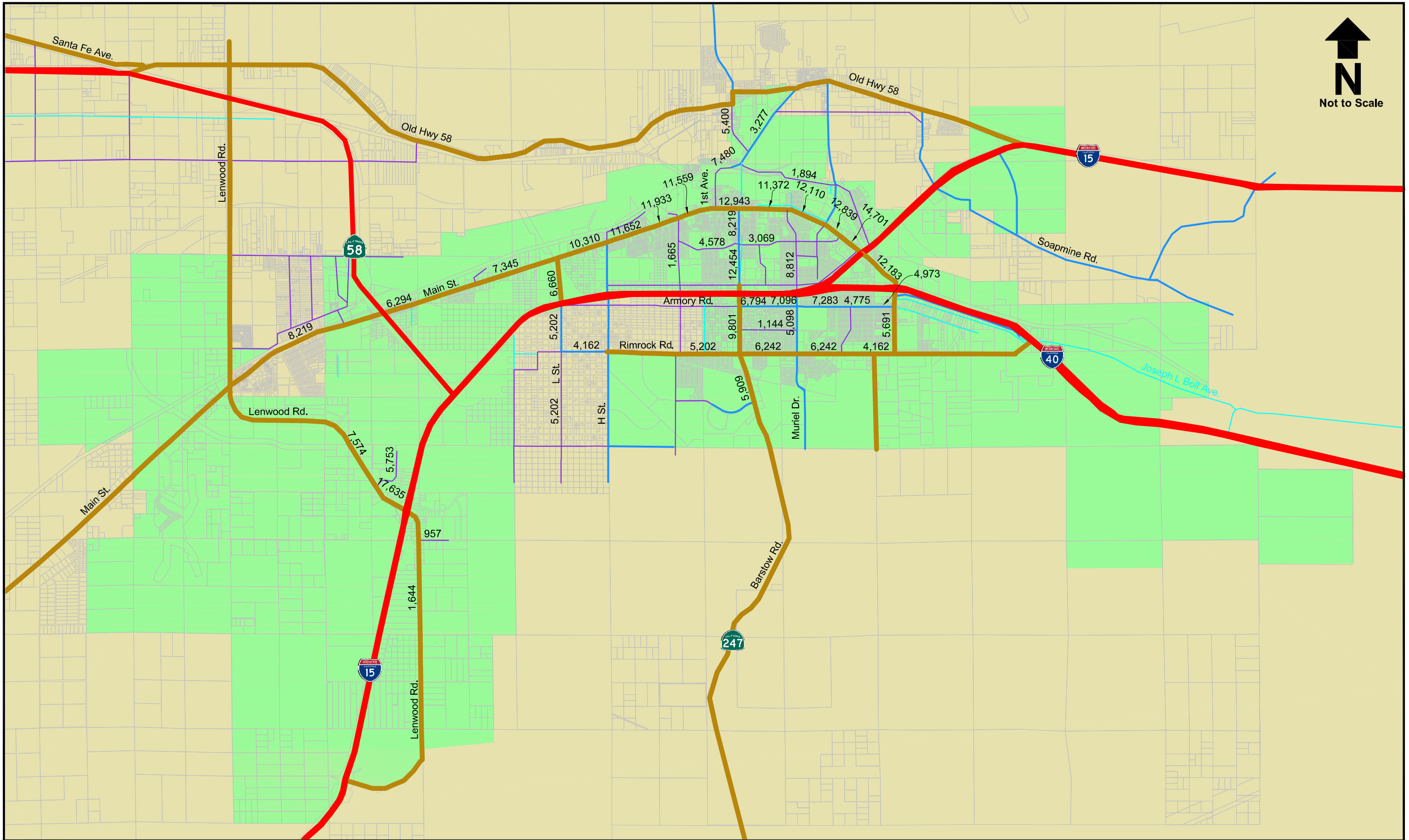
3.3 Existing Traffic Volumes

Figure 3.3 illustrates the Existing Average Daily Traffic (ADT) volumes on the freeways and arterial streets in the City of Barstow. Year 2012 ADTs were obtained from the City of Barstow, County of San Bernardino, and Caltrans District 8 and post-processed to Year 2014 utilizing a 2% per year growth factor.

A summary of existing traffic volumes on key City of Barstow streets is provided herein:

- Main Street carries 12,900 vehicles per day between Barstow Road and First Avenue.
- Barstow Road carries 12,500 vehicles per day north of the I-15 Freeway and 9,800 south of the I-15 Freeway.
- First Avenue carries 7,500 vehicles per day north of Main Street.





Existing 2014 ADT Volumes

Figure 3.3

3.4 Intersections

Figure 3.4 and **3.5** depicts the Existing AM and PM Peak Hour LOS, respectively, for the intersections in the City of Barstow. Shown are the traffic signal and four-way stop controlled intersections. All other arterial intersections, arterial/side street intersections, and freeway off-ramps not illustrated are currently controlled by stop signs.

3.5 Truck Routes and Rail

Trucks play a major role in the City's transportation system. Due to the convergence of the I-15, I-40 and SR 58 Freeways, large commercial trucks traverse the City. Truck related services in Barstow are primarily provided at two major freeway interchanges. These are the I-15 Freeway at the Lenwood Road and West Main Street interchanges. **Figure 3.6** illustrates those roadways in which currently carry truck traffic.

Barstow is a principal rail junction point for Southern California. The BNSF Railway mainlines from northern and southern California converge here to form the railroad's main transcontinental line to the east. The Union Pacific Railroad's mainline between Los Angeles and Salt Lake City utilizes the BNSF Railway through Barstow. The rail classification yard, located between Main Street and the Mojave River, is an important element of the Barstow economy. The rail yard represents a major circulation barrier for vehicle travel to and from north Barstow. On average 90 daily trains travel through Barstow.

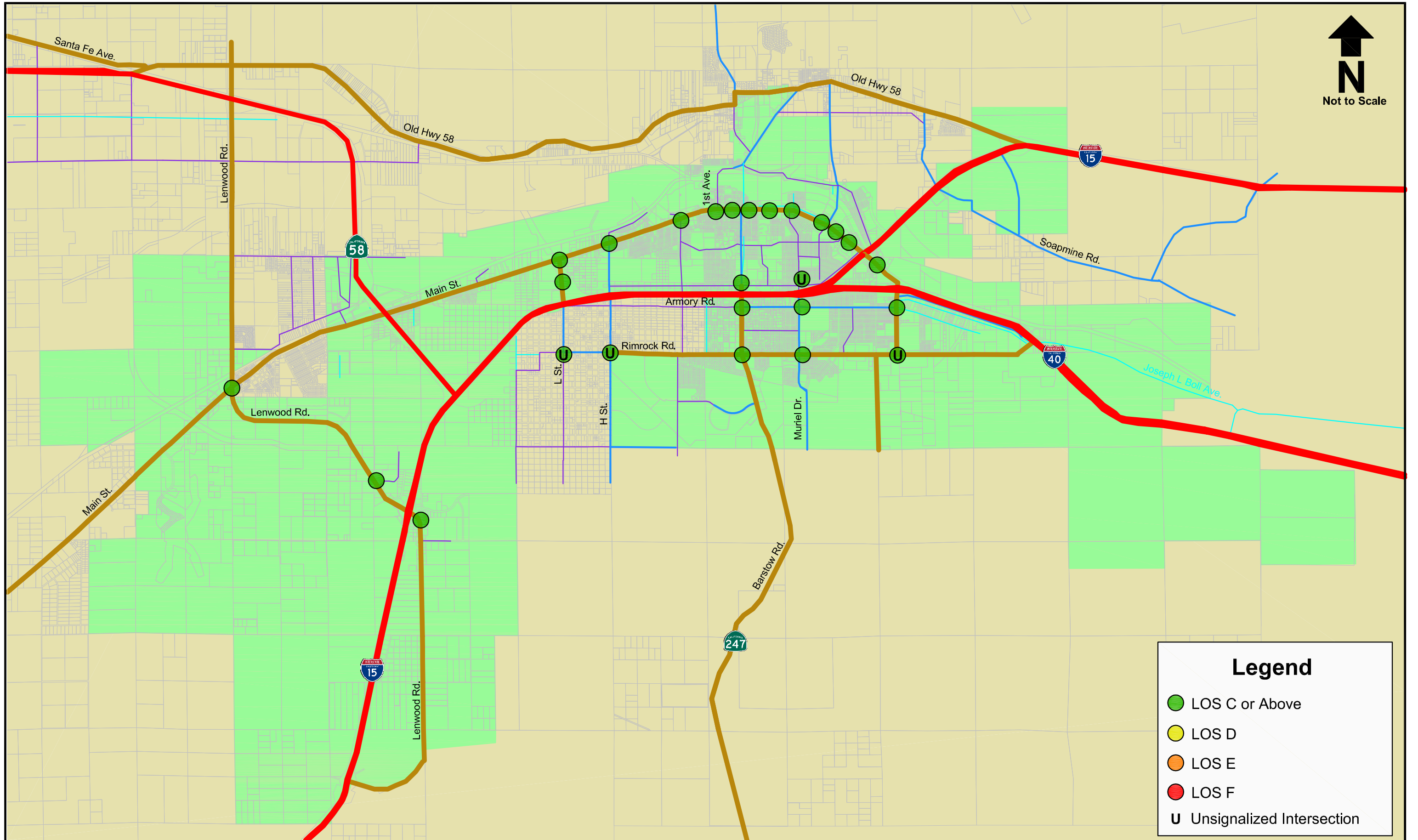
National passenger rail service is provided by Amtrak. The rail station is located at the Harvey House/Amtrak Station. **Figure 3.6** illustrates the existing rail routes and facilities within the City of Barstow.

3.6 Bicycles

The City's current plan of bicycle routes is shown in **Figure 3.7** and shows existing roadways which have potential for use as bicycle routes. A San Bernardino County Wide Bicycle Plan was prepared for the San Bernardino County Association of Governments (SANBAG) in 1993. This plan identified a proposed bicycle route network for the City (also illustrated on **Figure 3.7**) which is intended to be part of a regional bicycle network.



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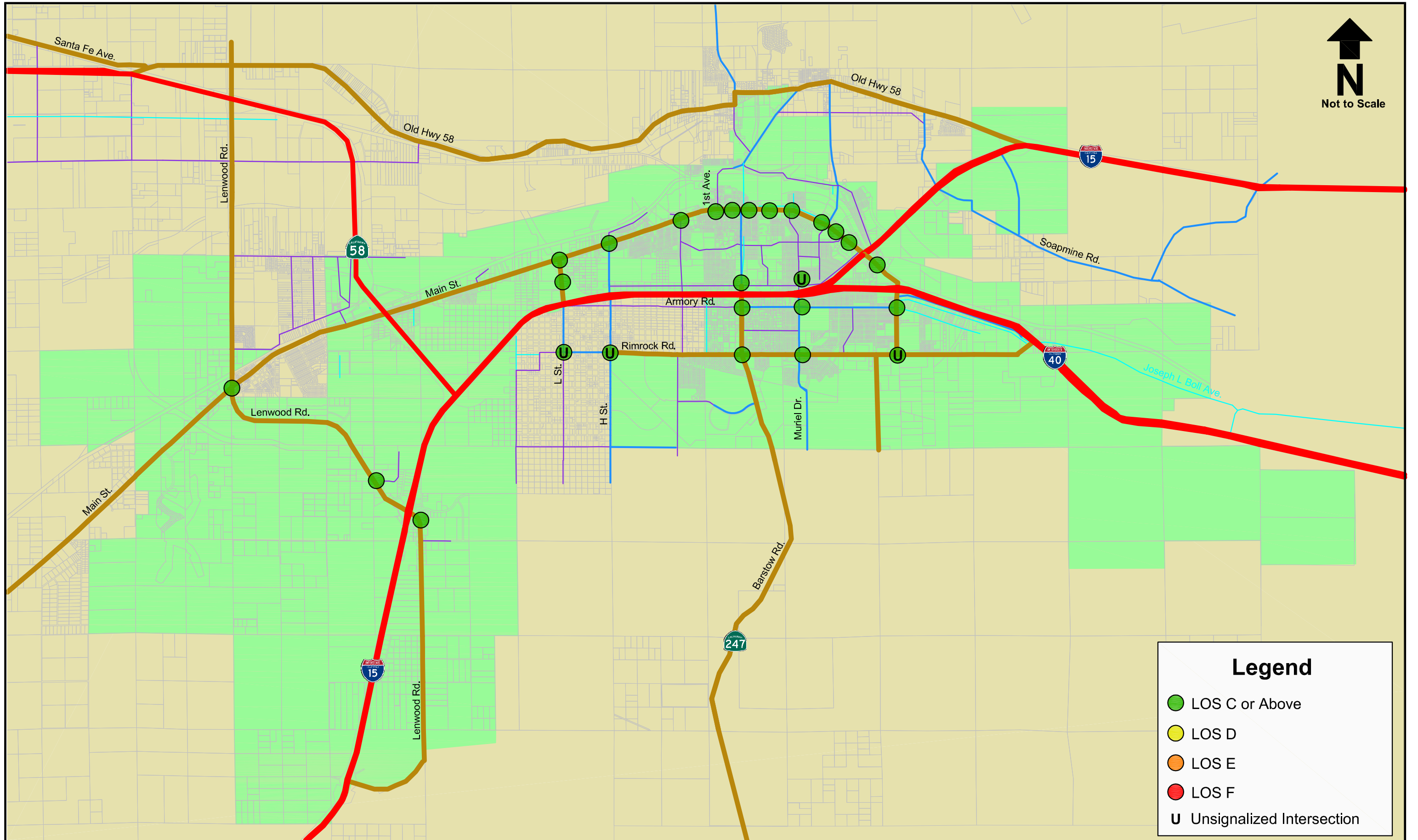


Legend

- LOS C or Above
- LOS D
- LOS E
- LOS F
- U Unsignalized Intersection

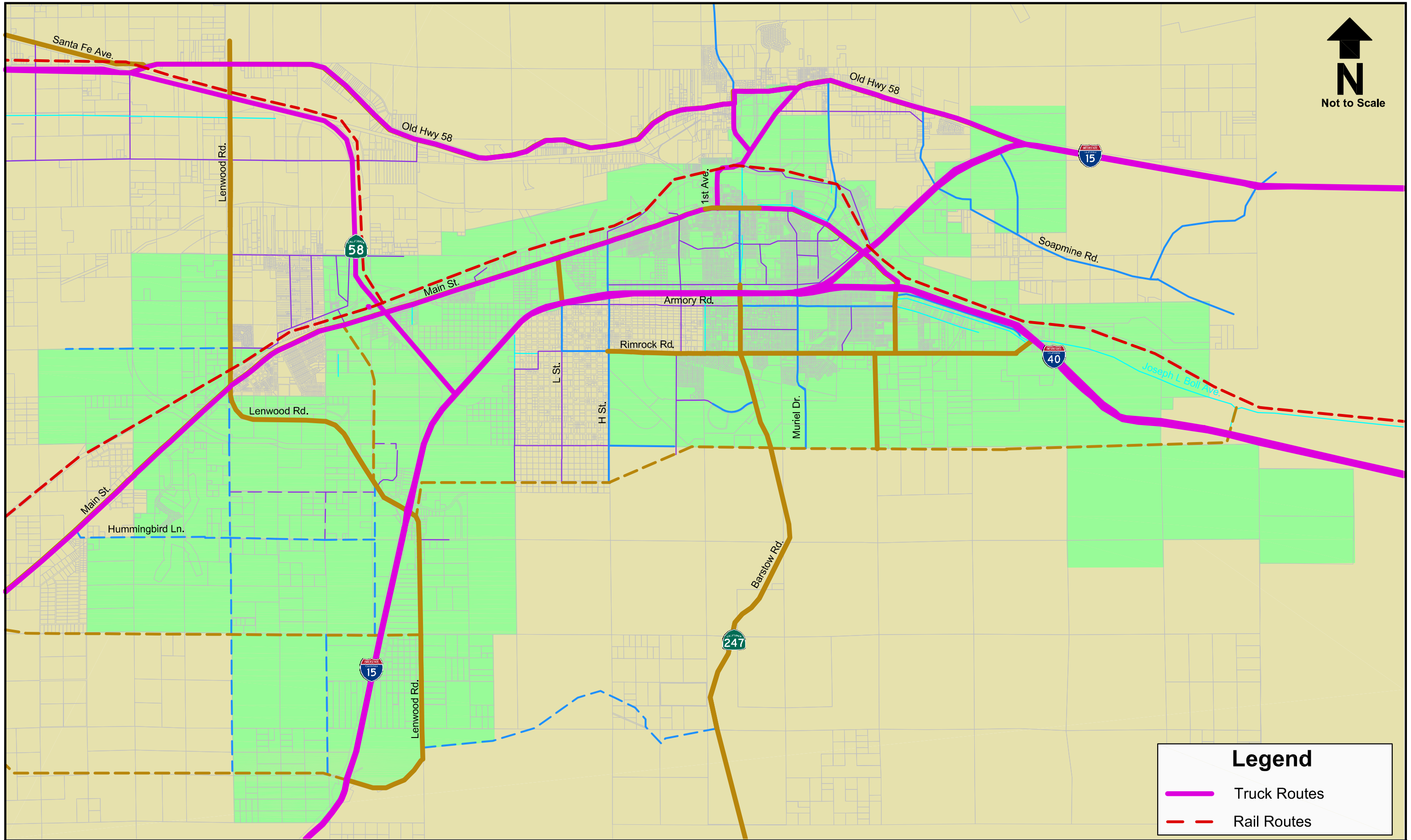


Not to Scale



Legend

- LOS C or Above
- LOS D
- LOS E
- LOS F
- U Unsignalized Intersection



Not to Scale

Legend

- Truck Routes
- - - Rail Routes

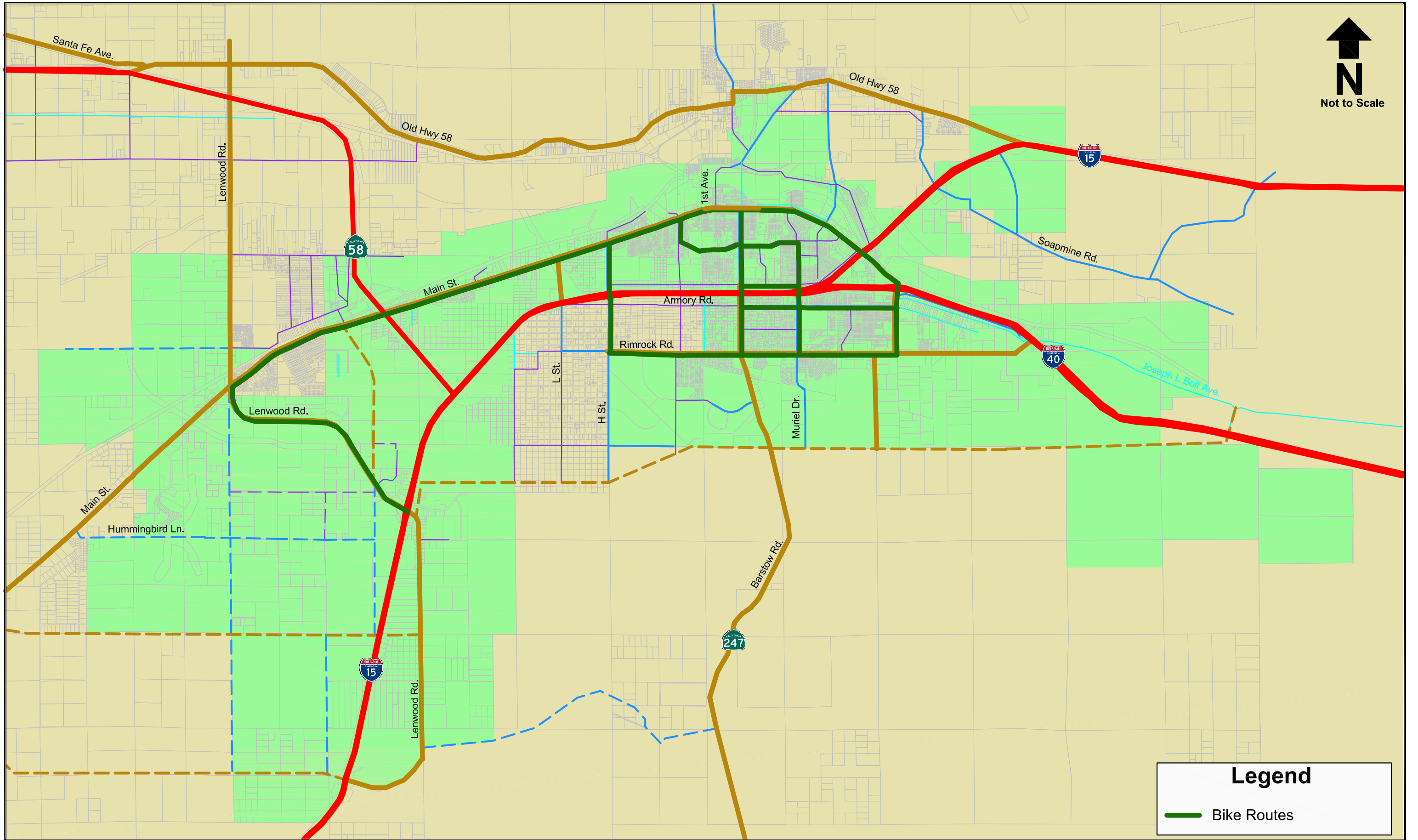


Truck and Rail Routes

Figure 3.6



Not to Scale



Legend

— Bike Routes

4. Methodology

As previously noted, Existing (Year 2014) ADT volumes for the freeway and streets were obtained from the City of Barstow, County of San Bernardino, and Caltrans District 8. Year 2020 ADT volumes were extrapolated using a City approved 2% yearly growth rate.

Directional peak hour traffic volumes were calculated for both AM and PM peak periods from the developed Existing (Year 2014) ADT counts. This was done by assuming a typical directional distribution factor (D factor) and design hour factor (K factor). Once the peak hour traffic volumes were developed, intersection turning movements were developed for the signalized intersections throughout the City by conducting traffic volume balancing at an intersection approach-departure level for all possible turning movements. For Year 2020 conditions, the City approved traffic growth rate was added to the “calculated” Existing (Year 2014) turning movements. These intersection turning movements for both conditions were then used to analyze the operating Level of Service (LOS) for the signalized intersections. The Intersection Capacity Utilization (ICU) methodology was used to determine the operating LOS which takes into consideration vehicle demand to intersection vehicle capacity ratio.

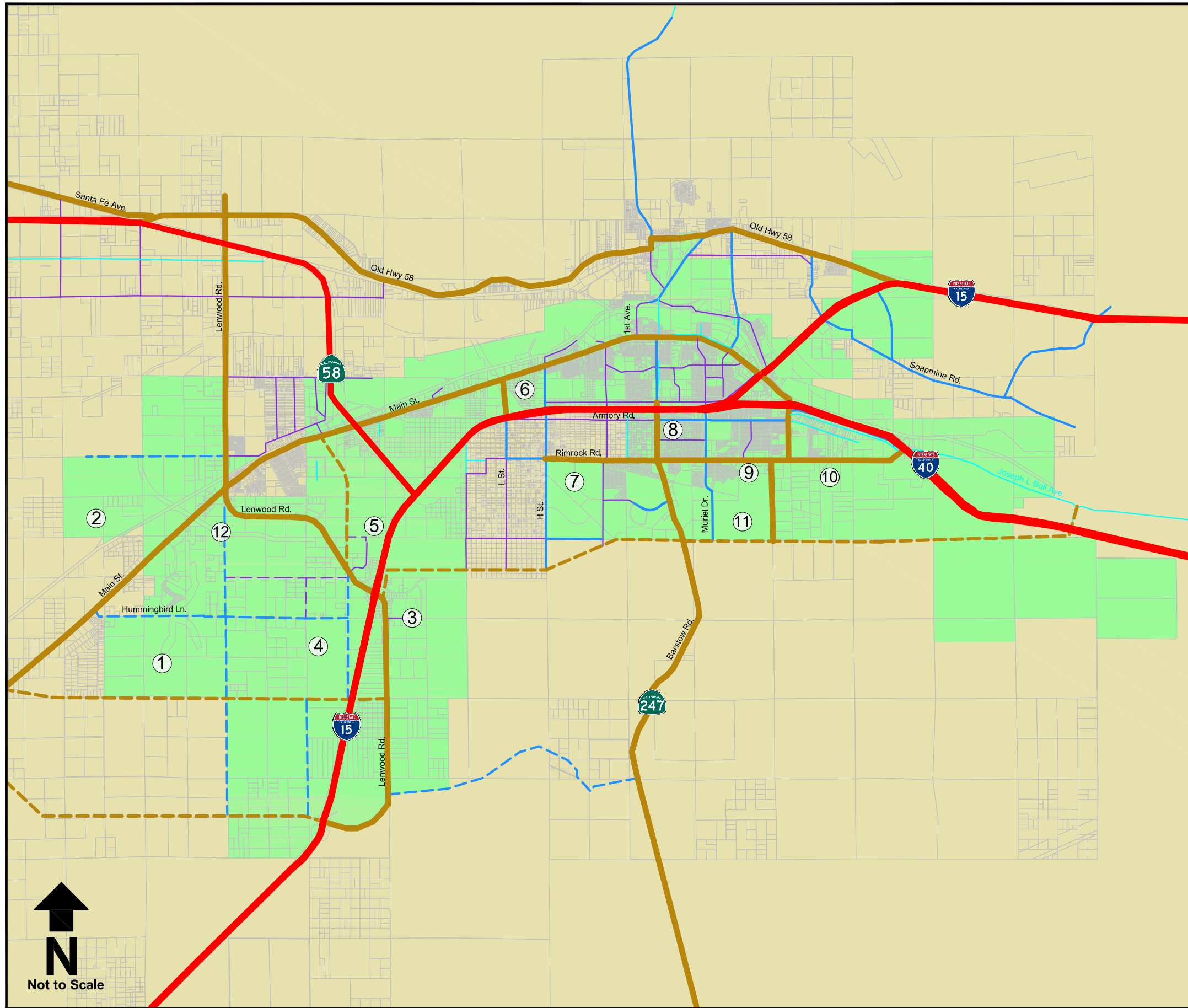
Development trips were determined by applying trip generation rates for each type of land use. Trip generation rates are empirically derived factors that relate amounts of traffic generated to specific land uses. The trip generation rates were taken from Trip Generation Manual of Institute of Transportation Engineers, 9th Edition. Trip distributions were then created for each development factoring anticipated vehicular origins and destinations. The generated trips were then assigned to its respective trip distribution. The distributed generated trips were then added to the Future (Year 2020) ADT counts and intersection turning movements. The LOS was recalculated for the Year 2020 with developments condition.



5. Future Development

Locations of the twelve future developments were provided by the City of Barstow. Future developments within The City were identified and net trips from these developments were then analyzed. **Figure 5.1** illustrates the locations of the future developments within the City, and **Table 5.1** shows the generated trips associated with each development.





Legend

- ① 725,000 SF GENERAL INDUSTRIAL
 - ② 500,000 SF GENERAL INDUSTRIAL
 - ③ CASINO FULL SERVICE RESORT
WILL INCLUDE:
 - 88,500 SF GAMING FLOOR
 - 160 ROOM HOTEL
 - 2 FULL SERVICE RESTAURANTS
 - 1 DRIVE THROUGH RESTAURANTS
 - 1 BUFFET
 - 1 COFFEE SHOP
 - RETAIL SHOPS
 - ④ 1575 SINGLE FAMILY DWELLING UNITS
 - ⑤ HWY COMMERCIAL
WILL INCLUDE:
 - 50,000 SF RESTAURANT
 - 300,000 SF HOTEL
 - 100,000 SF RETAIL
 - ⑥ SPANISH TRAILS
WILL INCLUDE:
 - 372,00 SF COMMERCIAL WEST OF L STREET;
SOUTH OF MAIN STREET
 - 302,000 SF COMMERCIAL EAST OF L STREET;
SOUTH OF MAIN STREET
 - 200,000 SF HOTEL EAST OF L STREET;
SOUTH OF MAIN STREET
 - 94,000 SF COMMERCIAL NORTH OF
MAIN STREET
 - 20 MEDIUM DENSITY HOUSING
 - ⑦ 400 SINGLE FAMILY DWELLING UNITS
 - ⑧ 30 MEDIUM DENSITY HOUSING
 - ⑨ 140 SINGLE FAMILY DWELLING UNITS
 - ⑩ 20 MEDIUM DENSITY HOUSING
 - ⑪ 500 SINGLE FAMILY DWELLING UNITS
150,00 SF DIVERSE
 - ⑫ 60 MEDIUM DENSITY HOUSING
20,000 SF OFFICE
-
- Freeway
 - Secondary Arterial - - - Future Secondary Arterial
 - Primary Arterial - - - Future Primary Arterial
 - Collector Street - - - Future Collector Street



Not to Scale

**Table 2.1
TRIP GENERATION**

NODE	DESCRIPTION	ITE CODE	SIZE	WEEKDAY TRIP																						
				RATES		TRIPS		AM Peak		PM Peak		AM Trips			In		Out		PM Trips			In		Out		
				AM Peak	PM Peak	AM Peak	PM Peak	In (%)	Out (%)	In (%)	Out (%)	In (trips)	Out (trips)	Total	Outside	Inside	Outside	Inside	In (trips)	Out (trips)	Total	Outside	Inside	Outside	Inside	
1. General Industry	Scuderia (heavy)	120	725,000 sf	0.51		296		50	50			148	148	296												
		120	725,000 sf		0.68		394				50	50							197	197	394					
2. General Industry	(light)	110	500,000 sf	1.01	1.08	404	432	90	10	14	86	364	40	404					60	372	432					
3. Casino Full Service Resort															80	20	80	20				80	20	80	20	
	Gaming Floor	ITE journal 05/92	88,500 sf	11.54	17.26	1,021	1,527	56	44	56	44	572	449	1,021	458	114	359	90	855	672	1,527	684	171	538	134	
		ITE journal 05/92	160 Rms	0.48	0.73	8	12	63	37	51	49	5	3	8	4	1	2	1	6	6	12	5	1	5	1	
	2 Restaurants (full service)	932	20,000 sf	13.33	18.49	27	37	53	47	54	46	14	13	27	11	3	10	3	20	17	37	16	4	14	3	
	1 Restaurant (drive thru)	934	4,000 sf	53.61	47.3	21	19	51	49	52	48	11	11	21	9	2	8	2	10	9	19	8	2	7	2	
	1 Buffet (sit down)	932	5,000 sf	13.33	18.49	7	9	53	47	54	46	4	3	7	3	1	3	1	5	4	9	4	1	3	1	
	1 Coffee Shop (sit down)	936	2,000 sf	64.21	128.42	3	1	51	49	49	51	1	1	3	1	0	1	0	0	0	1	0	0	0	0	
	Retail Shops (3 shops) - Department stores	875	4,500 sf	2.14	2.81	10	1	51	49	45	55	5	5	10	4	1	4	1	1	1	1	0	0	1	0	
															Total	489	122	387	97			718	179	567	142	
4. SFDU	Single Family Homes (active seniors housing)	251	1,575 DU	0.29	0.34	457	536	43	57	56	44	196	260	457					300	236	536					
5. Hwy Commercial															80	20	80	20				80	20	80	20	
	Restaurants 3 (sit down)	932	30,000 sf	13.33	18.49	400	555	53	47	54	46	212	188	400	170	42	150	38	300	255	555	240	60	204	51	
	Restaurants 2 (w/drive thru)	934	20,000 sf	53.61	47.3	1,072	946	51	49	52	48	547	525	1,072	437	109	420	105	492	454	946	394	98	363	91	
	Hotel (300,000 sf)	310	100 Rms	0.52	0.61	52	61	54	46	58	42	28	24	52	22	6	19	5	35	26	61	28	7	20	5	
		310	100 Rms																							
	Retail Shops (shopping ctr)	820	100,000 sf	0.96	3.71	86	334	62	38	48	52	54	33	86	43	11	26	7	160	174	334	128	32	139	35	
		820	100,000 sf																							
															Total	672	168	616	154			790	197	727	182	
6. Spanish Trails	Big Box	MAJOR	815	275,000 sf	5.48	5.57	1,206	1,225	51	49	50	50	615	591	1,206	430	184	414	177	613	613	1,225	429	184	429	184
		PAD	820	32,000 sf	0.96	5.56	25	142	62	38	48	52	15	9	25	11	5	7	3	68	74	142	48	20	52	22
		SHOP	820	34,000 sf	0.96	5.56	26	151	62	38	48	52	16	10	26	11	5	7	3	73	79	151	51	22	55	24
		BANK	912	5,000 sf	17.57	26.69	70	107	53	47	51	49	37	33	70	26	11	23	10	54	52	107	38	16	37	16
																Total	478	205	450	193			566	242	572	245
	Fitness/Entertainment	FITNESS	492	35,000 sf	1.43	4.06	40	114	47	53	51	49	19	21	40	6	13	6	15	58	56	114	17	41	17	39
		SPORTING GOODS	861	30,000 sf	0.25	1.84	6	44	80	20	48	52	5	1	6	1	3	0	1	21	23	44	6	15	7	16
		THEATRE	445	11,000 sf		17.87		157												91	66	157	27	64	20	46
		SHOP	820	19,000 sf	0.96	5.56	15	85	62	38	48	52	9	6	15	3	6	2	4	41	44	85	12	28	13	31
		BANK	912	5,000 sf	17.57	26.69	70	107	53	47	51	49	37	33	70	11	26	10	23	54	52	107	16	38	16	37
		REST	932	11,000 sf	13.33	18.49	117	163	53	47	54	46	62	55	117	19	44	17	39	88	75	163	26	62	22	52
		FF	934	4,000 sf	53.61	47.3	172	151	51	49	52	48	87	84	172	26	61	25	59	79	73	151	24	55	22	51
		VISITOR CENTER	418	2 employees	3.05	5.58	5	9	50	50	50	50	2	2	5	1	2	1	2	4	4	9	1	3	1	3
																Total	67	155	61	142			131	306	118	275

6. Future Conditions

6.1 Future Traffic

Year 2020 ADT volumes were determined by utilizing the 2% yearly rate growth. The following is a summary of the existing and projected daily traffic for freeways traversing Barstow:

	<u>Year 2014</u>	<u>ADT</u>	<u>Year 2020</u>
• I-15 Freeway east of Fort Irwin Road:	49,000		60,000
• I-15 Freeway south of Outlet Center Drive:	66,000		78,000
• I-40 Freeway at Barstow City Limit:	24,000		29,500
• State Route 58 west of Lenwood Road:	15,000		19,000

The Year 2020 ADT volumes were converted to weekday AM and PM peak hour volumes for use in the traffic analysis. Both peak hours were chosen for analysis due to the typical peak periods experienced by most of the twelve developments.

There are freeway projects in the planning area that are identified by Caltrans but not yet funded. However, the following projects are anticipated to be constructed by the Year 2020:

- I-15 Freeway, the widening of the freeway from four lanes to six lanes (three in each direction) from Barstow (Lenwood Road) to Victorville (“D” Street).
- State Route 58, the construction of a four lane limited access expressway from the new West Main Street interchange westerly to the existing four lane expressway west of the community of Hinkley.

Major improvements to the I-15 and I-40 Freeways northerly and easterly of the City have not been identified by Caltrans.

The local traffic analysis was developed for typical weekday based traffic and does not include weekend recreational trips. As such, I-15 and I-40 northerly and easterly of the City can accommodate Year 2020 weekday traffic, but may not accommodate Year 2020 recreational weekend (Friday and Sunday) traffic volumes.



Once the analysis was calibrated to Existing (Year 2014) conditions and the Year 2020 traffic analysis were conducted, projected maximum potential daily traffic volumes can be estimated.

6.2 Future (Year 2020) without Developments

Figure 6.1 depicts the Future (Year 2020) without Developments ADT volumes for the arterial streets in the City of Barstow. **Figure 6.2** and **6.3** illustrate the AM and PM peak hour intersection LOS, respectively.

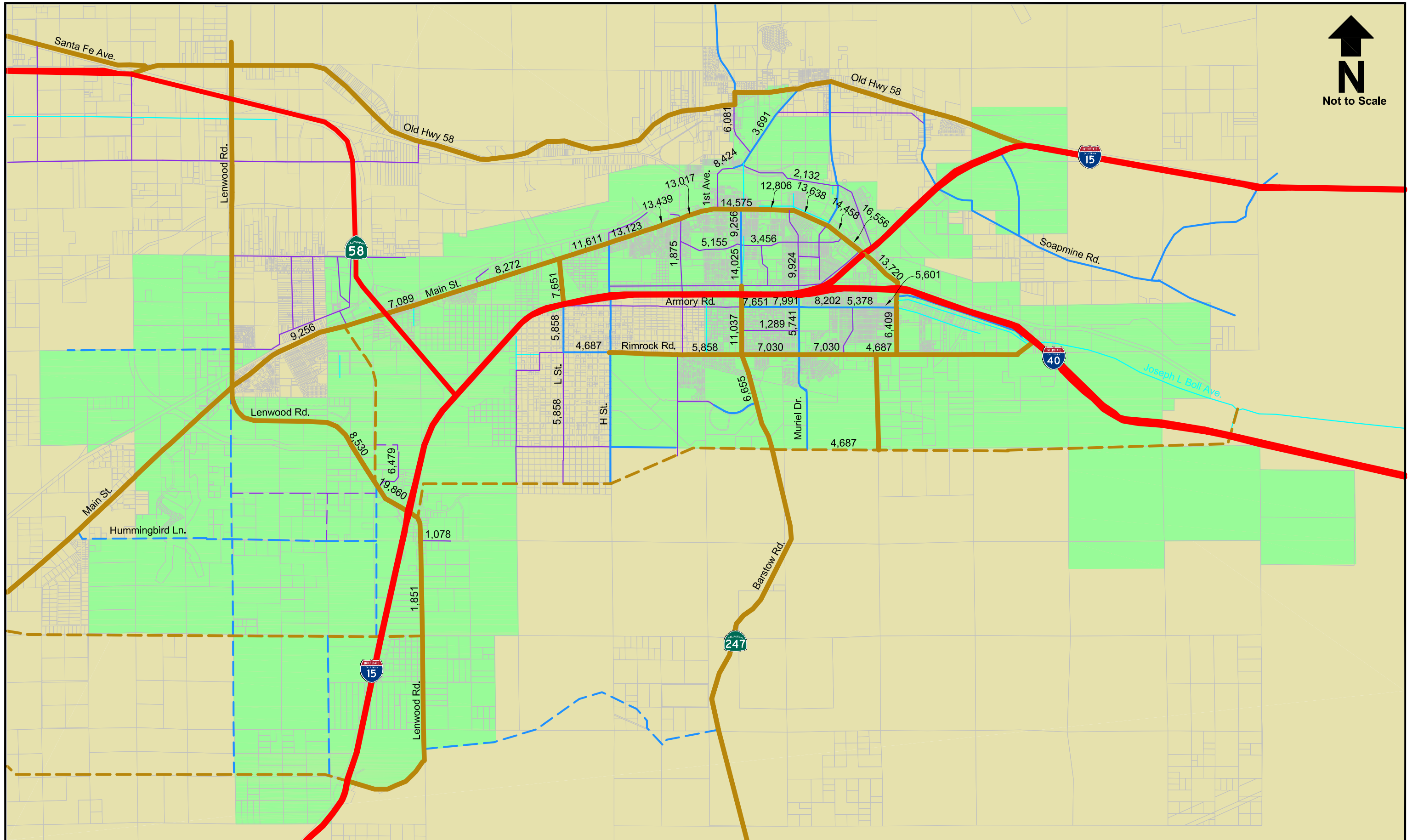
6.3 Future (Year 2020) with Developments

Figure 6.4 depicts the Future (Year 2020) with Developments ADT volumes for the arterial streets in the City of Barstow. **Figure 6.5** and **6.6** illustrate the AM and PM peak hour intersection LOS, respectively.



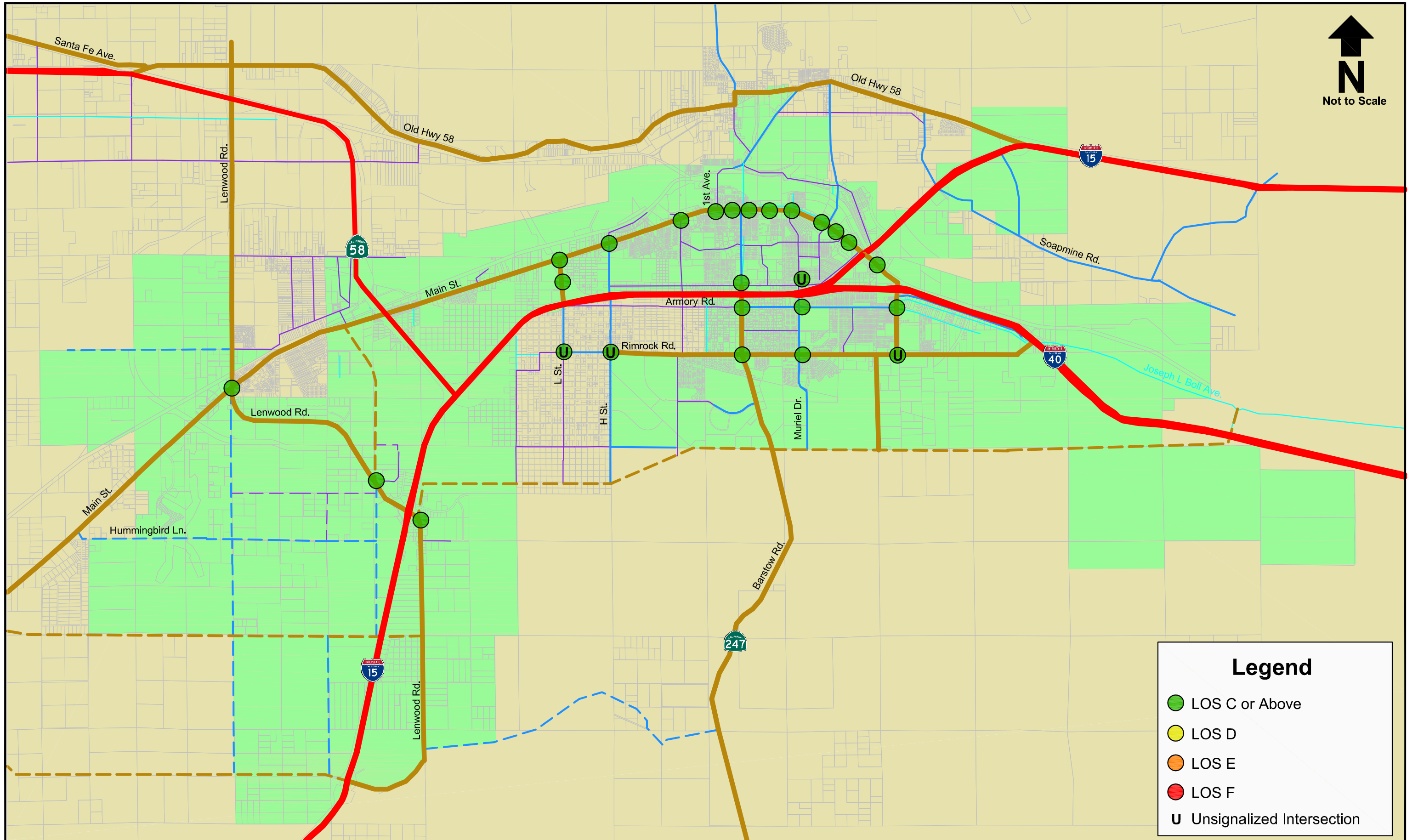


Not to Scale



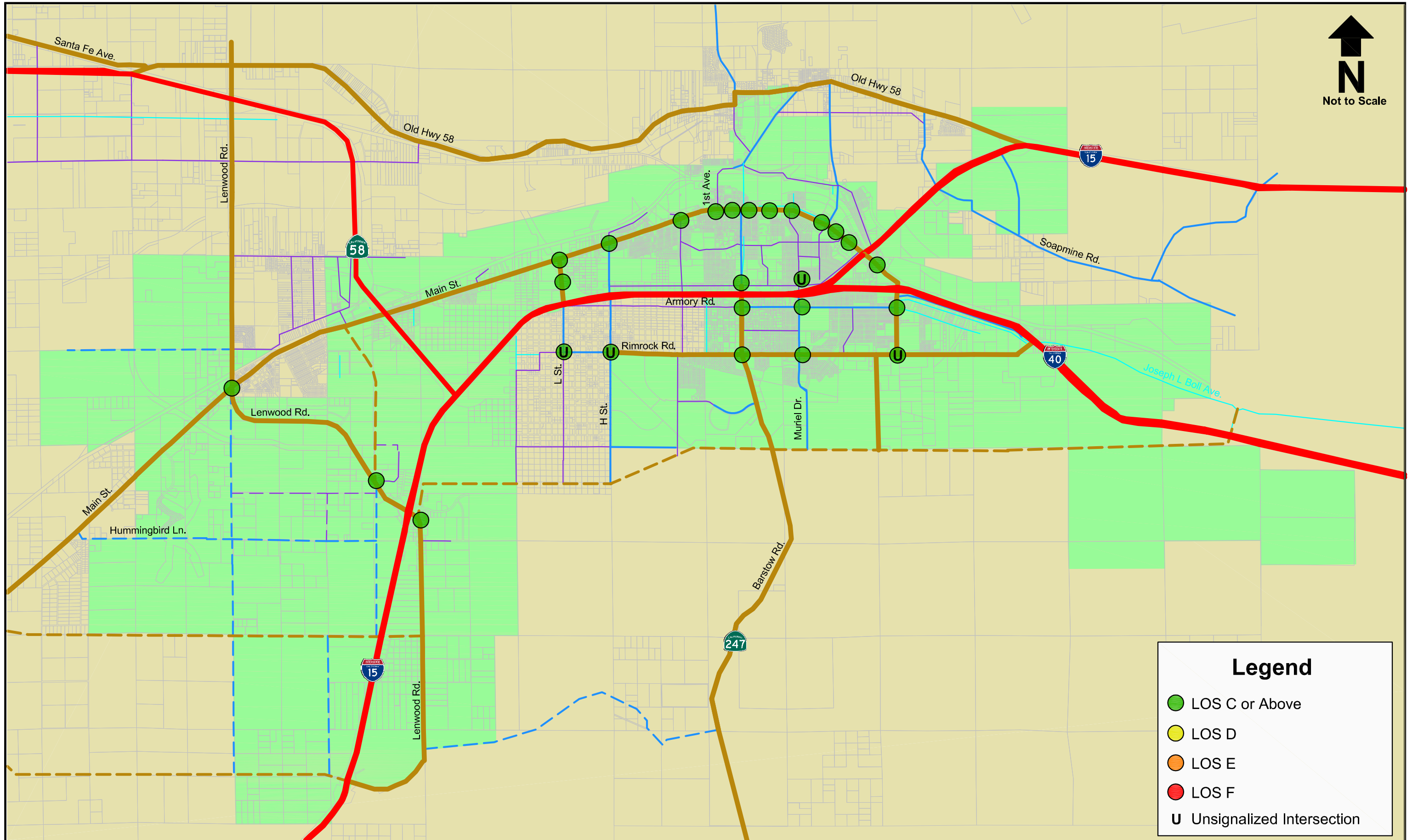


Not to Scale





Not to Scale



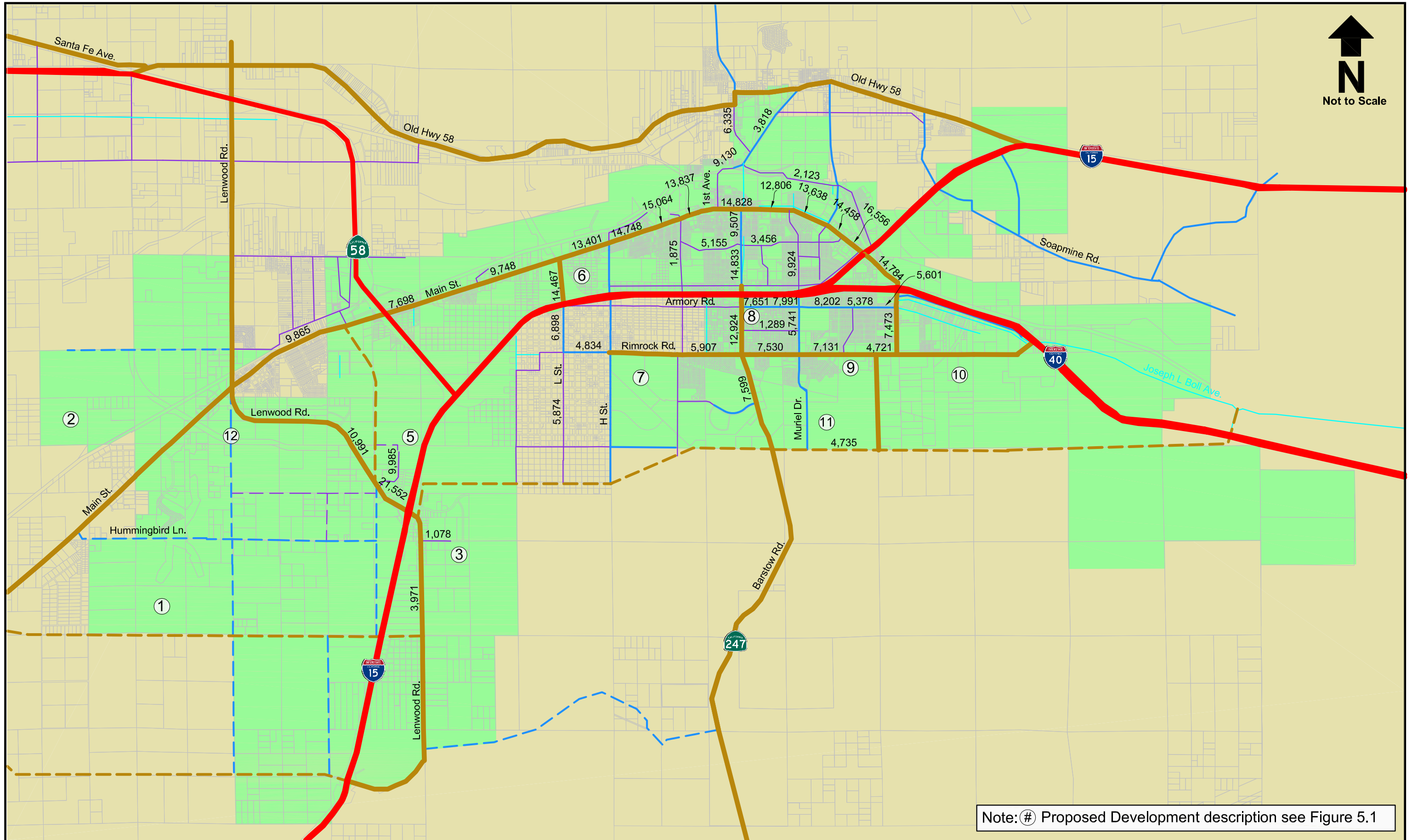
Legend

- LOS C or Above
- LOS D
- LOS E
- LOS F
- U Unsignalized Intersection

2020 PM Peak Hour LOS without Developments

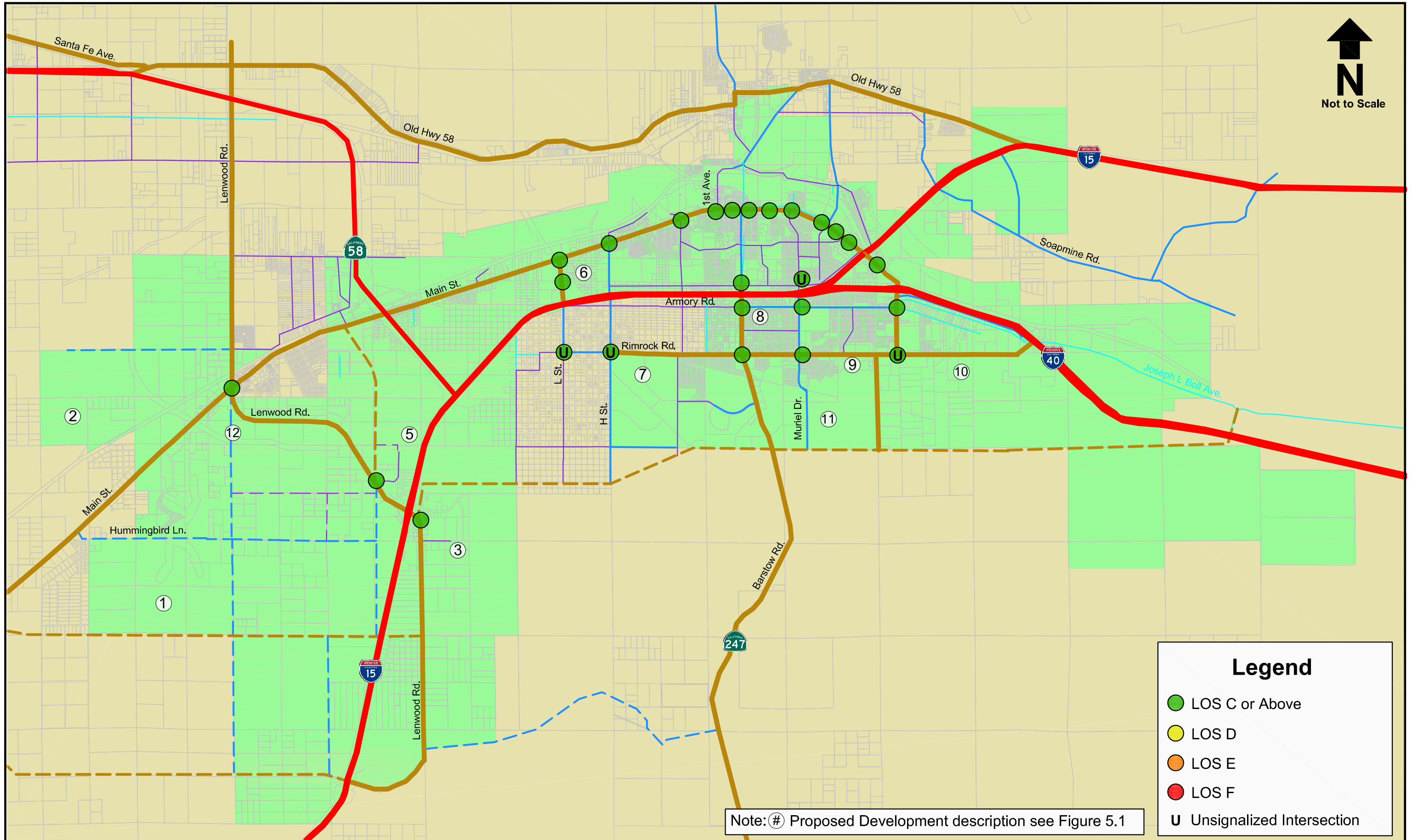


Not to Scale





Not to Scale



Legend

- LOS C or Above
- LOS D
- LOS E
- LOS F
- U Unsignalized Intersection

Note: # Proposed Development description see Figure 5.1

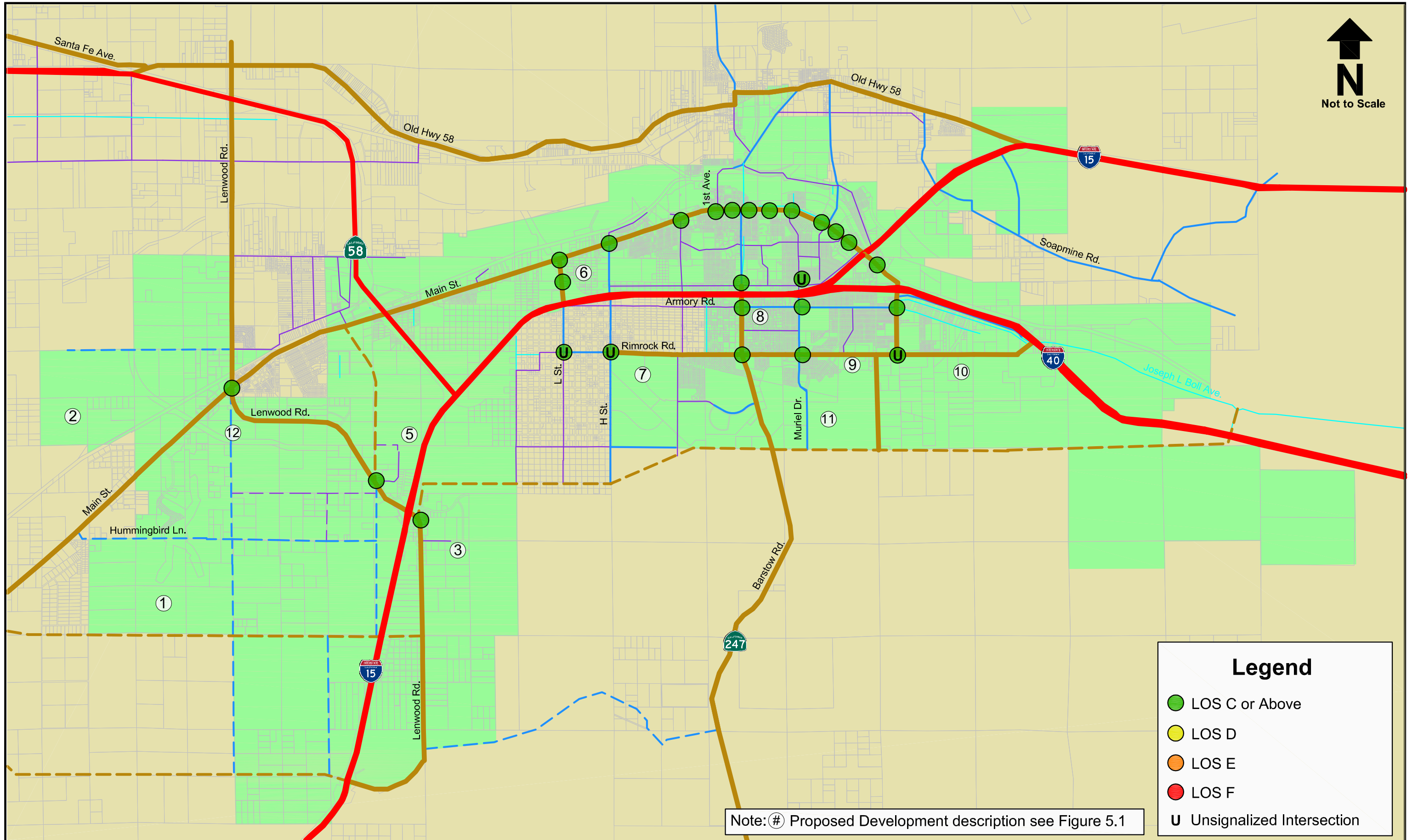
2020 AM Peak Hour LOS with Developments

Signalized Arterial Intersections

Figure 6.5



Not to Scale



Legend

- LOS C or Above
- LOS D
- LOS E
- LOS F
- U Unsignalized Intersection

Note: # Proposed Development description see Figure 5.1

2020 PM Peak Hour LOS with Developments

Signalized Arterial Intersections

Figure 6.6

7. Future LOS Comparison

7.1 Streets

As shown on **Table 7.1**, a comparison of ADT volumes for the Future (Year 2020) with and without the developments was conducted. The comparison reveals that the City's Year 2020 street infrastructure can accommodate Year 2020 ADT volumes for both the with and without development conditions.

7.2 Intersections

An intersection LOS comparison for with and without development conditions is provided in **Table 7.2**. All arterial intersections will operate at LOS C or above for both with and without development conditions in the Year 2020.



Table 7.1: Street Volumes Comparison – With and Without Development

STREET	SEGMENT LOCATIONS	2020 ADT VOLUMES W/O DEVELOPMENTS	2020 ADT VOLUMES W/ DEVELOPMENTS	CAPACITY
Main Street	Between the west city limit and Highway 58	9,256	9,865	22,000
Main Street	Between Highway 58 and Woodham Avenue	7,089	7,698	22,000
Main Street	Between Woodham Avenue and L Street	8,272	9,748	22,000
Main Street	Between L Street and Avenue H	11,611	13,401	22,000
Main Street	Between Avenue H and Avenue D	13,123	14,748	22,000
Main Street	Between Avenue D and Avenue A	13,439	15,064	22,000
Main Street	Between Avenue A and First Avenue	13,017	13,837	22,000
Main Street	Between First Avenue and Barstow Road	14,575	14,828	22,000
Main Street	Between Barstow Road and Muriel Drive	12,806	12,806	22,000
Main Street	Between Muriel Drive and Yucca Avenue	13,638	13,638	22,000
Main Street	Between Yucca Avenue and Coolwater Lane	14,458	14,458	22,000
Main Street	Between Coolwater Lane and the I-15 Freeway	16,556	16,556	32,000
Main Street	Between I-15 Freeway and the I-40 Freeway	13,720	14,784	32,000
Barstow Road	Between Main Street and Mountain View Street	9,256	9,507	22,000
Barstow Road	Between Mountain View Street and Virginia Way	14,025	14,833	22,000
Barstow Road	Between Armory Road and Rimrock Road	11,037	12,924	22,000
Barstow Road	South of Rimrock Road	6,655	7,599	22,000
Armory Road	Between Barstow Road and Eleventh Street	7,651	7,651	22,000
Armory Road	Between Eleventh Street and Muriel Drive	7,991	7,991	22,000
Armory Road	Between Muriel Drive and Broadway Avenue	8,202	8,202	22,000
Armory Road	Between Broadway Avenue and Higgins Road	5,378	5,378	22,000
Armory Road	Between Higgins Road and Montara Road	5,601	5,601	22,000
Montara Rd	Between I-40 Freeway Avenue and Armory Road	13,720	14,784	22,000
Montara Rd	Between Armory Road and Rimrock Road	6,409	7,473	22,000
Muriel Drive	North of Armory Road	9,924	9,924	10,000
Muriel Drive	Between Armory Road and Rimrock Road	5,741	5,741	22,000
Windy Pass	Between Barstow Road and Eleventh Street	1,289	1,289	12,000
Mountain View Street	East of Barstow Road	3,456	3,456	10,000
Mountain View Street	West of Barstow Road	5,155	5,155	10,000
Avenue A	South of Main Street.	1,875	1,875	10,000
First Avenue	Between Main Street and the BNSF Railroad	8,424	9,130	10,000
First Avenue	Between Irwin Road and Old Highway 58	3,691	3,818	10,000
Irwin Road	Between Old Highway 58 and First Avenue	6,081	6,335	10,000
Riverside Drive	Between First Avenue and Yucca Avenue	2,132	2,319	10,000
Lenwood Road	North of Commerce Pkwy	8,530	10,991	10,000
Lenwood Road	Between the I-15 Freeway and Mercantile Way	19,860	21,552	32,000
Lenwood Road	South of Mercantile Way	1,851	3,971	2,200
Commerce Pkwy	North of Lenwood Road	6,479	9,985	10,000
Mercantile Way	East of Lenwood Road	1,078	1,078	10,000
L Street	Between Rimrock and Linda Vista	5,858	5,874	10,000
L Street	Between Rimrock and I-15	5,858	6,898	10,000
L Street	Between I-15 and Main St	7,651	8,446	22,000
Rimrock	Between L Street and H Street	4,687	4,834	10,000
Rimrock	Between H Street and Barstow Road	5,858	5,907	10,000
Rimrock	Between Barstow Road and Muriel Rd	7,030	7,530	22,000
Rimrock	Between Muriel Rd and Broadway Ave	7,030	7,131	22,000
Rimrock	Between Broadway Ave and Montara Rd	4,687	4,721	10,000
Un-Named Road	Between Muriel Rd and Montara Rd	4,687	4,735	10,000

Table 7.2: Future Year Intersection LOS Comparison

STREET NAME	CROSS STREET	AM PEAK HOUR		PM PEAK HOUR	
		2020 W/O DEVELOPMENTS	2020 W/ DEVELOPMENTS	2020 W/O DEVELOPMENTS	2020 W/ DEVELOPMENTS
		LOS	LOS	LOS	LOS
Main Street	Lenwood Road	C or Above	C or Above	C or Above	C or Above
Main Street	L Street	C or Above	C or Above	C or Above	C or Above
Main Street	H Street	C or Above	C or Above	C or Above	C or Above
Main Street	A Avenue	C or Above	C or Above	C or Above	C or Above
Main Street	1st Avenue	C or Above	C or Above	C or Above	C or Above
Main Street	2nd Avenue	C or Above	C or Above	C or Above	C or Above
Main Street	Barstow Road	C or Above	C or Above	C or Above	C or Above
Main Street	7th Avenue	C or Above	C or Above	C or Above	C or Above
Main Street	Muriel Drive	C or Above	C or Above	C or Above	C or Above
Main Street	Yucca Avenue	C or Above	C or Above	C or Above	C or Above
Main Street	Mountain View Street	C or Above	C or Above	C or Above	C or Above
Main Street	Coolwater Lane	C or Above	C or Above	C or Above	C or Above
Main Street	Cal Avenue	C or Above	C or Above	C or Above	C or Above
Barstow Road	Rimrock Road	C or Above	C or Above	C or Above	C or Above
Barstow Road	Armory Road	C or Above	C or Above	C or Above	C or Above
Barstow Road	Virginia Way	C or Above	C or Above	C or Above	C or Above
Armory Road	Muriel Drive	C or Above	C or Above	C or Above	C or Above
Montara Rd	Armory Road	C or Above	C or Above	C or Above	C or Above
Montara Rd	Rimrock Road	C or Above	C or Above	C or Above	C or Above
Muriel Drive	Virginia Way	C or Above	C or Above	C or Above	C or Above
Lenwood Road	Commerce Parkway	C or Above	C or Above	C or Above	C or Above
Lenwood Road	High Point Parkway	C or Above	C or Above	C or Above	C or Above
L Street	Home Depot	C or Above	C or Above	C or Above	C or Above
L Street	Rimrock Road	C or Above	C or Above	C or Above	C or Above
Rimrock	H Street	C or Above	C or Above	C or Above	C or Above
Rimrock	Muriel Drive	C or Above	C or Above	C or Above	C or Above

8. Conclusion and Recommendations

The Traffic Study for the Barstow 2014 General Plan Amendment has revealed that the City's street and infrastructure proposed for the Year 2020 can accommodate the additional trips generated by the proposed twelve developments.

