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Technical Memorandum

TO: Cathy Ward, City of Star

FROM: Stephen Lewis, P.E., PTOE; Keller Associates
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DATE: March 22, 2019
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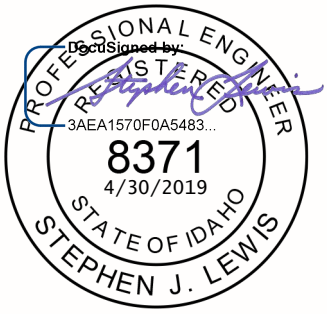

SUBJECT: 2019 Star Comprehensive Plan — Traffic Analysis

BACKGROUND

This memo presents the traffic analysis methodology used for the 2019 Star Comprehensive Plan. The following items are discussed:

- Data Collection
- Existing 2019 Traffic Volumes
- Future 2040 Traffic Volumes – COMPASS Demographics
- Future 2040 Traffic Volumes – Revised Demographics
- Level of Service Definitions
- Level of Service Analysis
- Proposed Solutions

DATA COLLECTION

Traffic data and sources include:

- Community Planning Association of Southwest Idaho (COMPASS)
  - 2018 Cube travel demand forecasting model (existing roadway network)
  - 2040 Cube travel demand forecasting model (CIM 2040 2.0 roadway network)
  - 2040 Functional Classifications
- Idaho Transportation Department (ITD)
  - 2017 Annual Average Daily Traffic (AADT)
  - 2018 24-hour Turning Movement Counts at SH-44 Intersections
  - Automatic Traffic Recorders (ATRs) #157, 159, 163, 272, and 274
- Ada County Highway District (ACHD)
  - 24-hour tube counts, performed on various days in 2016 and 2018
- Canyon Highway District #4 (CHD4)
  - 24-hour tube counts, performed on various days in 2017 and 2018

- L2 Data Collection
    - 24-hour tube counts, performed on Thursday, January 24, 2019

EXISTING 2019 TRAFFIC VOLUMES

Keller Associates established 2019 Annual Average Daily Traffic (AADT) and Peak Hour volumes on Collector, Arterial, and Expressway segments within the planning area boundary, 62 segments in total. A map of existing street classifications within the Star planning area is attached to this memo. Several steps were required to convert raw traffic counts from various years, dates, and sources into 2019 AADT and Peak Hour volumes:

- Seasonal (monthly) and day-of-week adjustment factors were developed using historical traffic volume data from ITD Automatic Traffic Recorders (ATRs) near the study area, listed below.
    - ATR #157, on SH-44 east of SH-16
    - ATR #159, on US-20/26 west of SH-16
    - ATR #163, on SH-16 between SH-44 and US-20/26
    - ATR #272, on Star Road between SH-44 and US-20/26
    - ATR #274, on SH-16 near Firebird Raceway

  Adjustment factors used for each segment are shown in the attached Existing Traffic Volumes Table and the attached Adjustment Factors Summary and spreadsheet. Adjustment factors were not applied to traffic volumes reported as Average Annual Daily Traffic (AADT), as it was assumed they had already been adjusted to an average day of the year. Also attached is a street map indicating the location of the 62 street segments.
- Where unavailable from counts, peak hour volumes were assumed 10 percent of AADT (i.e. K-factor of 0.10).
- Pre-2019 volumes and counts were projected forward to Year 2019 using growth increments calculated from COMPASS's 2018 and 2040 travel demand models[1].

FUTURE 2040 TRAFFIC VOLUMES – COMPASS DEMOGRAPHICS

After establishing 2019 AADT volumes, Keller Associates projected 2040 AADT on the study segments using growth increments calculated from COMPASS's 2018 and 2040 travel demand models[1]. The COMPASS 2040 model uses officially adopted, regional demographic projections and a roadway network that includes currently-programmed road improvement projects.

The COMPASS travel demand models (and forecasting models in general) do not match ground counts very well, but they generate good estimates of changes in traffic volume in response to changes in land use or road network assumptions. For this reason, Keller Associates did not use the "raw" COMPASS model data, but rather used the model's volume increment[2] increase and added those to existing traffic counts to develop the Adjusted COMPASS Projections.

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[1] Some Collectors in the study area are not included in the COMPASS models. Volumes on these segments were projected using model growth rates and increments from nearby segments with similar characteristics.

[2] Using a volume increment (number of vehicles) increase is preferred over using percentage growth. The growth factor method can generate large and unrealistic results when either the traffic count or base year model volume is very low. The factor method also does not guarantee continuity of flow from one link to the next.

However, there are four street segments of the 62 studied where the COMPASS model shows very little (or negative) growth from 2018 to 2040. These are not realistic. The reasons for these discrepancies are either that a modeled road does not connect through the foothills (projects not currently programmed), or roads that are at the edge of the modeled area. In the case of these four segments, Keller Associates made manual adjustments to the 2040 model output, based on model growth from nearby, similar facilities. The 2040 Adjusted COMPASS Projections for each of the 62 street segments are shown graphically on the attached map and also in the attached Traffic & LOS Summary Table.

FUTURE 2040 TRAFFIC VOLUMES – REVISED DEMOGRAPHICS

In order to estimate changes in future traffic volumes that may occur due to the new Proposed Land Use Map, several steps were needed. The proposed land uses were converted to equivalent demographics, and then compared to demographics currently in COMPASS travel demand forecasting models. The differences between the two sets of data were then used to estimate changes in 2040 traffic projections.

Using the Proposed Land Use Map prepared for the 2019 Comprehensive Plan, Keller Associates calculated total area by land use type at build-out. These areas were then used by Land Consultants, Inc. to estimate the maximum number of dwelling units and square feet of non-commercial uses; projections for Year 2040 assume an average population increase of approximately 7 percent per year from existing conditions. A summary of the development assumptions from the Proposed Land Use Map is shown in **Table 1**.

Table 1: Proposed Land Use Map Development Assumptions

Land Use	Quantity	
	Area Build-out	Year 2040
Single Family Residential	54,200 units	13,000 units (24%)
Multi-Family Residential	21,000 units	5,000 units (24%)
Commercial	27,675,000 square feet	2,200,000 square feet (8%)
Office	5,500,000 square feet	440,000 square feet (8%)
Light Industrial	1,700,000 square feet	140,000 square feet (8%)
Civic Uses	1,000,000 square feet	80,000 square feet (8%)

To convert land use area to demographics, Keller Associates used the following assumptions:

- Agricultural – 0.20 dwelling units per acre
- Rural Residential – 0.33 dwelling units per acre
- Neighborhood Residential – 3 dwelling units per acre
- Compact Residential – 8 dwelling units per acre
- High Density Residential – 16 dwelling units per acre
- Commercial and Mixed Use – 20% finished floor area, 2.37 employees per 1000 square feet
- Light Industrial – 20% finished floor area, 1.40 employees per 1000 square feet

It was assumed that Year 2040 development would occur in only part of the Star planning area, as described below. This is not assuming build out of this area but instead is the area anticipated for the majority of expansion projected within the Year 2040 threshold:

- South boundary – The toe of the bench, west of Can-Ada Road. The south boundary of the Star planning area, east of Can-Ada Road
- North boundary - ½ mile north of the Purple Sage section line
- East boundary – The east boundary of the Star planning area
- West boundary – The west boundary of the Star planning area

Within this assumed area of 2040 development lie 62 COMPASS Traffic Analysis Zones (TAZs), 48 in whole, and 14 in part. For those TAZs only partially in Star's planning area, Keller Associates estimated that percentage of land area and accompanying demographics (e.g. households and employment). A summary of the demographic comparison between COMPASS and the Proposed Land Use Map is presented in **Table 2**; detailed demographic attributes by TAZ are attached to this memo.

Table 2: Comparison of Star Planning Area Demographics

Demographic	COMPASS	Proposed Land Use Map
Households – 2018	4,662	n/a
Households – 2040	12,651	18,000
Employment – 2018	2,286	n/a
Employment - 2040	6,239	6,453

As shown previously in **Table 2**, while the forecast employment in the area is similar, the proposed land use map assumes a greater number of households in 2040. Because much of the planning area is outside of Star's existing Area of City Impact, it was not possible to modify the COMPASS travel demand model with revised demographics[3]. Therefore, a manual estimation of traffic volumes was performed.

- For roads internal to Star, it was assumed that traffic volumes would increase 42%, which is the same growth as the number of Star households over the COMPASS model.
- For external links (i.e. State Highways and principal arterials leaving Star), it was assumed that half of the traffic increment increase on the nearest Star cross street would be added to the external street.

The 2040 traffic projections for each street segment are shown graphically on the attached map and also in the attached Traffic & LOS Summary Table.

LEVEL-OF-SERVICE DEFINITION

Level of service (LOS) is a qualitative measure of traffic congestion and delay, ranging from A to F. LOS A represents very low traffic volumes compared to the capacity of the roadway, while LOS E is

[3] Approximately half of the planning area used in the Comprehensive Plan is outside Star's current Area of City Impact (AOCI), and COMPASS policy does not allow their staff to perform special model runs for member agencies that modify elements outside their AOCI.

defined as the capacity of a roadway. LOS F represents traffic demand that exceeds capacity, causing a bottleneck in traffic flow and serious congestion. LOS D is generally acceptable during peak periods in urban areas.

LEVEL-OF-SERVICE ANALYSIS

Level of service for the study area segments was estimated using planning-level Peak Hour volume thresholds (see **Table 3**), referenced from Section 7100 of ACHD's Development Policy Manual. LOS results for existing and future conditions are shown graphically on the attached maps and also in the attached Traffic & LOS Summary Table. Assumptions used in the LOS analysis include the following:

- Existing Traffic Volumes & Level of Service Map
  - Existing roadway network
  - 2019 traffic volumes
- 2040 Traffic Volumes & Level of Service Map
  - Currently-programmed roadway network
  - Forecast 2040 traffic volumes with COMPASS demographics
- 2040 Traffic Volumes & Level of Service – Revised Demographics Map
  - Currently-programmed roadway network
  - Forecast 2040 traffic volumes with Proposed Land Use Map demographics

PROPOSED SOLUTIONS

Some roadways in the study area are expected to have an unacceptable LOS (E or worse) in 2040, even with currently-programmed roadway improvements network. Keller Associates identified improvement alternatives (see **Table 4** and the attached Proposed Solutions map) to achieve acceptable LOS (D or better) with 2040 traffic volume projections using COMPASS demographics, and based on ACHD's planning-level LOS thresholds. Intersection improvements such as new traffic signals or roundabouts were not investigated in this study.

Table 3: Level of Service Thresholds for Roadway Segments (Maximum Peak Hour Volumes in One Direction)[4]

Functional Classification	Lanes	LOS D	LOS E
Principal Arterials			
No Left-Turn Lanes			
	1	600	690
Continuous Center Left-Turn Lane			
	1	770	880
	2	1680	1780
	3	2560	2720
Median-Control, Channelized Left-Turn Lanes @ Major Intersections			
	1	850	920
	2	1860	1960
	3	2800	3000
Minor Arterials			
No Left-Turn Lane			
	1	540	575
Unrestricted Median, Continuous Left-Turn Lane			
	1	675	720
	2	1395	1540
	3	2155	2370
Median-Control, Channelized Left-Turn Lanes @ Major Intersections			
	1	710	770
	2	1465	1670
	3	2270	2530
Collectors			
No Left-Turn Lanes			
	1	425	525
Unrestricted Median, Continuous Left-Turn Lane			
	1	530	660
	2	1080	1250

Source: ACHD Development Policy Manual, Section 7100

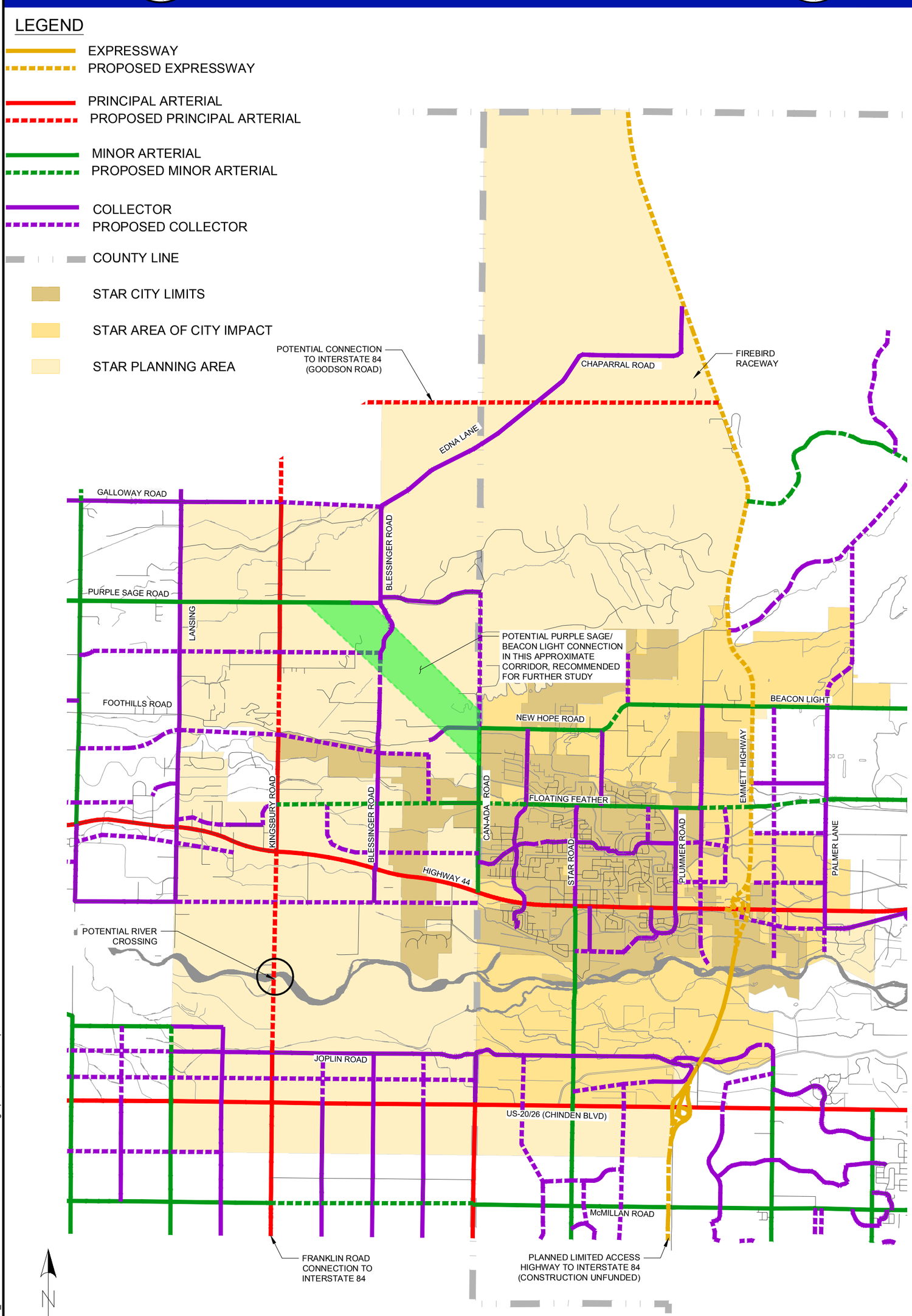
[4] Volume thresholds in **Table 3** assume interrupted flow (i.e. stop signs or traffic signals at major intersections). Therefore, thresholds were doubled for free-flowing segments of SH-16 and SH-44.

Table 4: Proposed Solutions

Roadway	Segment	Improvement
Plummer Road	Floating Feather Rd. to SH-44	Widen to 5 lanes; OR Widen to 3 lanes with the reduction in adjacent residential density, as shown on the 3/22/2019 (and later) Land Use Maps
Star Road	Floating Feather Rd. to SH-44	Widen to 5 lanes; and Upgrade to Minor Arterial functional classification (involves stricter access control); OR Widen Can-Ada Rd. to provide alternate, parallel north-south capacity
	SH-44 to US-20/26	Widen to 7 lanes (The SH-16 Extension or Kingsbury River crossing may reduce the need for this improvement)
Can-Ada Road	Floating Feather Rd. to SH-44	Widen to 5 lanes (alternative to widening Star Rd. from Floating Feather Rd to SH-44)
Beacon Light Road	Wing Rd. to Linder R.	Widen to 5 lanes
Floating Feather Road	Plummer Rd. to Linder Rd.	Widen to 5 lanes
SH-44	I-84 to Star Rd.	Widen to 4 or 5 lanes (SH-44 Corridor Study conclusion)

Attachments:

CITY OF STAR



NOTE:
PROPOSED ROAD ALIGNMENTS ARE ONLY APPROXIMATE.

SOURCES:
- ACHD MASTER STREET MAP (2018)
- CANYON COUNTY FUNCTIONAL CLASSIFICATION MAP (2011).
- CITY OF STAR ECONOMIC CORRIDOR ACCESS MANAGEMENT PLAN (2018)

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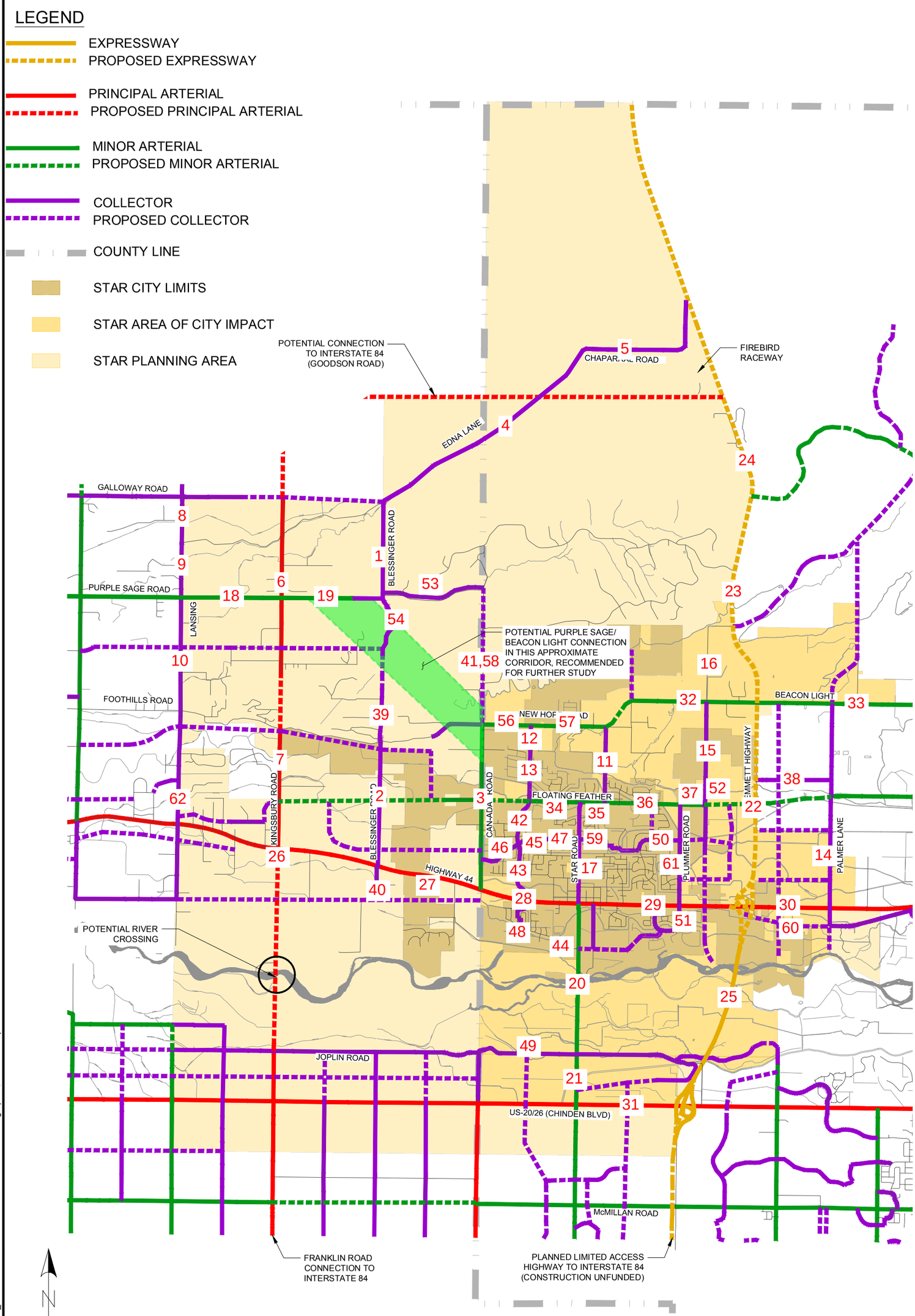
STREET CLASSIFICATION MAP

CITY OF STAR



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TRAFFIC VOLUME LOCATIONS - SEGMENT

	Segment	From	To	Raw Data Input					Day of Week Factor	Month Factor
				Daily Volume	AM	PM	Final Year	Source		
1	Blessinger Road	Edna Lane	Purple Sage Road	381			2017	CHD4	1.00	0.95
2	Blessinger Road	Foothill Road	SH-44	870			2017	CHD4	0.94	0.95
3	Can-Ada Road	W. New Hope Road	SH-44	1,800			2017	ITD	-	-
4	Edna Lane	Blessinger Road	N. Spangler Place	300			2017	ITD	-	-
5	Edna Lane	N. Spangler Place	SH-16	400			2017	ITD	-	-
6	Kingsbury Road	Edna Lane	Lanktree Lane	470			2017	ITD	-	-
7	Kingsbury Road	Foothill Road	SH-44	500			2017	ITD	-	-
8	Lansing Lane	Northview Road	Mack Attack Road	954			2017	CHD4	1.00	0.95
9	Lansing Lane	Mack Attack Road	Purple Sage Road	954			2017	CHD4	1.00	0.95
10	Lansing Lane	Purple Sage Road	Foothill Road	1,000			2017	ITD	-	-
11	N. Brandon Road	W. New Hope Road	W. Floating Feather Road	400			2017	ITD	-	-
12	N. Munger Road	W. New Hope Road	W. Rice Road	400			2017	ITD	-	-
13	N. Munger Road	W. Rice Road	W. Floating Feather Road	400			2017	ITD	-	-
14	N. Palmer Lane	W. Beacon Light Road	SH-44	250			2017	ITD	-	-
15	N. Pollard Lane	W. Beacon Light Road	W. Floating Feather Road	350			2017	ITD	-	-
16	N. Pollard Lane	SH-16	W. Beacon Light Road	480			2017	ITD	-	-
17	N. Star Road	W. Floating Feather Road	SH-44	5,300			2017	ITD	-	-
18	Purple Sage Road	Ember Road	Kingsbury Road	1,705			2017	CHD4	1.00	0.95
19	Purple Sage Road	Kingsbury Road	Blessinger Road	1,541			2017	CHD4	1.00	0.95
20	S. Star Road	SH-44	W. Joplin Road	8,500			2017	ITD	-	-
21	S. Star Road	W. Joplin Road	US 20-26	8,800			2017	ITD	-	-
22	SH-16	W. Beacon Light Road	SH-44	12,878	987	1217	2018	ITD	0.92	1.03
23	SH-16	W. Deep Canyon Drive	W. Beacon Light Road	8,700			2017	ITD	-	-
24	SH-16	W. Chaparral Road	W. Deep Canyon Drive	9,800			2017	ITD	-	-
25	SH-16	SH-44	US 20-26	15,040	1291	1507	2018	ITD	0.92	1.03
26	SH-44	Lansing Road	Blessinger Road	9,863	812	1019	2018	ITD	0.92	1.03
27	SH-44	Blessinger Road	Can-Ada Road	10,773	831	1050	2018	ITD	0.92	1.03
28	SH-44	Can-Ada Road	N. Star Road	13,275	996	1250	2018	ITD	0.91	1.03
29	SH-44	N. Star Road	SH-16	16,904	1128	1538	2018	ITD	0.92	1.03
30	SH-44	SH-16	N. Palmer Lane	23,594	1794	2166	2018	ITD	0.92	1.03
31	US 20-26	S. Star Road	SH-16	17,000			2017	ITD	-	-
32	W. Beacon Light Road	N. Wing Road	SH-16	1,100			2017	ITD	-	-
33	W. Beacon Light Road	SH-16	N. Linder Road	2,200			2017	ITD	-	-
34	W. Floating Feather Road	N. Munger Road	N. Star Road	650			2017	ITD	-	-
35	W. Floating Feather Road	N. Star Road	N. Spring Hollow Place	1,400			2017	ITD	-	-
36	W. Floating Feather Road	N. Spring Hollow Place	N. Plummer Road	1,100			2017	ITD	-	-
37	W. Floating Feather Road	N. Plummer Road	N. Pollard Lane	830			2017	ITD	-	-
38	W. Floating Feather Road	SH-16	N. Palmer Lane	600			2017	ITD	-	-
39	Blessinger Road	Willis Road	Foothill Road	445	40	43	2019	L2	0.88	1.20
40	Blessinger Road	SH-44		123	14	15	2019	L2	0.88	1.20
41	Can-Ada Road	Purple Sage Road	Lanktree Gulch Road	1,281	113	131	2019	L2	0.88	1.20
42	Deerhaven Way		W. Hidden Brook Drive	277	26	32	2019	L2	0.88	1.20
43	Deerhaven Way	W. Hidden Brook Drive	W. Gambrell Street	368	34	37	2019	L2	0.88	1.20
44	Hercules Drive	S. Hydra Ave	S. Star Road	1,498	105	141	2019	L2	0.88	1.20
45	W. Hidden Brook Drive	N. Deerhaven Way	N. Finsbury Way	171	21	36	2019	L2	0.88	1.20
46	W. Hidden Brook Drive	W. Kempshire Court	N. Deerhaven Way	292	30	37	2019	L2	0.88	1.20
47	W. Hidden Brook Drive	N. Crews Ave	N. Star Road	1,337	122	149	2019	L2	0.88	1.20
48	S. Highbrook Way	SH-44	W. Pinewoord River Lane	1,590	161	175	2019	L2	0.88	1.20
49	Joplin Road	N. Star Road		136	9	19	2019	L2	0.88	1.20
50	W. Millcreek Lane	N. Glen Aspen Way	N. Plummer Road	688	59	68	2019	L2	0.88	1.20
51	S. Plummer Way	SH-44	W. Wildbranch Drive	1,091	116	97	2019	L2	0.88	1.20
52	N. Pollard Lane	W. Floating Feather Road	W. Floating Feather Road	2,093	323	248	2019	L2	0.88	1.20
53	Purple Sage Road	Blessinger Road	Can-Ada Road	1,254			2017	CHD4	1.00	0.95
54	Blessinger Road	Purple Sage Road	Canyon Run Drive	263			2017	CHD4	0.92	1.03
56	W. New Hope Road	Can-Ada Road	N. Munger Road	1,172	94	124	2016	ACHD	0.93	0.94
57	W. New Hope Road	N. Munger Road	N. Wing Road	1,172	94	124	2016	ACHD	0.93	0.94
58	Can-Ada Road	Lanktree Gulch Road	W. New Hope Road	1,281	113	131	2019	L2	0.88	1.20
59	W. Hidden Brook Drive	N. Star Road	N. Mira Way	642	15	51	2016	ACHD	0.90	1.03
60	W Moon Valley Road	S. Herons Flight Lane	S. Palmer Lane	550	37	58	2018	ACHD	0.92	0.97
61	N. Plummer Road	W. Floating Feather Road	SH-44	1,200			2017	ITD	-	-
62	Lansing Lane	Foothill Road	SH-44	2,348			2018	CHD4	0.98	0.93

Day of Week Factor

Each column in the table below corresponds to the date of a traffic count provided for this study. The factors in the table represent average daily traffic (ADT) for that specific month, over the average ADT for a given day of the week in that same month. An average was calculated from the five ATRs to come up with the day-of-week factor for each date shown in the table. For example, the factors in the 5/18/2016 column are for an average Wednesday in May of 2016. Factors higher than 1.0 indicate traffic on that particular day is lower than the monthly average, while factors lower than 1.0 indicate traffic higher than the monthly average.

	Date										
ATR	**5/18/2016**	**11/9/2016**	**4/5/2018**	**5/15/2017**	**5/22/2017**	**3/14/2017**	**5/30/2017**	**6/11/2018**	**3/20/2018**	**3/21/2018**	**4/4/2018**
157	0.91	0.89	0.91	1.02	1.02	0.92	0.95	0.98	0.91	0.9	0.92
159	0.91	0.88	0.91	1	1	0.91	0.92	0.98	0.92	0.92	0.91
163	0.93	0.91	0.92	1.03	1.03	0.93	0.94	0.99	0.92	0.9	0.92
272	0.93	0.91	0.93	0.99	0.99	0.92	0.96	0.97	0.9	0.92	0.91
274	0.96	0.91	0.94	1.05	1.05	0.94	0.97	1.01	0.93	0.92	0.96
Average	0.93	0.90	0.92	1.02	1.02	0.92	0.95	0.99	0.92	0.91	0.92

Month Factor

The factors in the table below represent annual average daily traffic (AADT) over monthly ADT at each ATR, averaged over each year data was available. Factors higher than 1.0 indicate traffic during that particular month is lower than the annual average, while factors lower than 1.0 indicate traffic higher than the annual average. The tables on the following pages show historical monthly ADT for each ATR and further illustrate this process.

ATR	**January**	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
157	1.15	1.06	1.01	0.95	0.94	0.94	0.98	0.94	0.98	0.98	1.04	1.07
159	1.22	1.09	1.03	0.98	0.97	0.94	0.95	0.93	0.96	0.96	1.04	1.10
163	1.29	1.14	1.07	0.98	0.94	0.92	0.95	0.93	0.94	0.92	1.01	1.06
272	1.19	1.11	1.03	0.96	0.93	0.93	0.94	0.93	0.96	0.96	1.04	1.09
274	1.15	1.06	1.02	0.97	0.95	0.92	0.97	0.92	0.98	1.05	1.05	1.09
Average	1.20	1.09	1.03	0.97	0.95	0.93	0.96	0.93	0.96	0.97	1.04	1.08

ATR #157:

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2012	13,998	14,845	15,121	16,375	16,713	16,870	16,145	16,630	16,060	15,914	14,990	14,554	188,215
2013	13,360	14,712	15,020	15,259	15,230	15,129	14,404	15,131	14,371	15,003	14,395	14,255	176,269
2014	14,029	15,002	16,550	17,820	18,206	17,984	17,565	17,583	16,820	17,130	15,440	15,782	199,911
2015	15,201	16,629	17,316	18,419	18,567	18,507	17,766	18,294	17,912	17,719	16,437	15,895	208,662
2016	15,820	17,314	17,985	19,332	19,467	19,828	18,717	20,341	19,777	19,194	18,177	16,738	222,690
2017	15,523	18,192	19,185	20,539	20,999	21,597	20,611	20,919	20,521	20,806	19,414	18,753	237,059
2018	18,482	19,308	20,066	21,316	21,750	21,799	20,934	21,653	21,077	20,578	19,371	18,921	245,255
2012	1.12	1.06	1.04	0.96	0.94	0.93	0.97	0.94	0.98	0.99	1.05	1.08	
2013	1.10	1.00	0.98	0.96	0.96	0.97	1.02	0.97	1.02	0.98	1.02	1.03	
2014	1.19	1.11	1.01	0.93	0.92	0.93	0.95	0.95	0.99	0.97	1.08	1.06	
2015	1.14	1.05	1.00	0.94	0.94	0.94	0.98	0.95	0.97	0.98	1.06	1.09	
2016	1.17	1.07	1.03	0.96	0.95	0.94	0.99	0.91	0.94	0.97	1.02	1.11	
2017	1.27	1.09	1.03	0.96	0.94	0.91	0.96	0.94	0.96	0.95	1.02	1.05	
2018	1.11	1.06	1.02	0.96	0.94	0.94	0.98	0.94	0.97	0.99	1.06	1.08	
Average	1.15	1.06	1.01	0.95	0.94	0.94	0.98	0.94	0.98	0.98	1.04	1.07	

ATR #159:

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2011		10,608	11,219	11,323	11,435	11,325	11,605	10,811	10,923	10,069	9,902		109,220
2012	9,625	10,292	10,598	11,497	11,736	12,188	12,180	12,626	12,285	12,317	11,288	10,838	137,470
2013	9,753	11,073	12,009	12,616	13,325	13,488	13,342	13,680	13,318	13,555	12,244		138,403
2014													
2015				15,646	15,532	16,362	15,891	16,548	16,141	16,082	14,458	13,736	140,396
2016	13,481	14,658	15,543	16,631	16,742	17,006	16,539	17,112	16,558	16,807	15,659	13,744	190,480
2017	12,780	15,122	16,329	17,082	17,216	18,635	17,815	19,391	17,862	18,371	16,738	15,805	203,146
2018	15,439	16,672	17,558	18,443	18,737	18,963	18,417	19,057	18,210	18,463	16,833	16,157	212,949
2011		1.03	0.97	0.96	0.96	0.96	0.94	1.01	1.00	1.08	1.10		
2012	1.19	1.11	1.08	1.00	0.98	0.94	0.94	0.91	0.93	0.93	1.01	1.06	
2013	1.29	1.14	1.05	1.00	0.94	0.93	0.94	0.92	0.94	0.93	1.03		
2014													
2015				1.00	1.00	0.95	0.98	0.94	0.97	0.97	1.08	1.14	
2016	1.18	1.08	1.02	0.95	0.95	0.93	0.96	0.93	0.96	0.94	1.01	1.15	
2017	1.32	1.12	1.04	0.99	0.98	0.91	0.95	0.87	0.95	0.92	1.01	1.07	
2018	1.15	1.06	1.01	0.96	0.95	0.94	0.96	0.93	0.97	0.96	1.05	1.10	
Average	1.22	1.09	1.03	0.98	0.97	0.94	0.95	0.93	0.96	0.96	1.04	1.10	

ATR #163:

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2014								7,547	7,820	8,216	7,053	7,436	38,072
2015	7,230	8,268	8,787	9,730	10,237	10,635	10,393	10,761	10,900	11,049	10,197	9,793	117,980
2016	9,576	10,499	11,024	11,947	12,072	12,567	12,171	12,539	12,342	12,402	11,691	10,202	139,032
2017	9,010	11,157	12,131	13,110	14,104	14,300	13,664	14,367	13,658	13,935	12,905	12,283	154,624
2018	11,849	12,436	13,095	14,277	14,766	15,236	14,612	14,985	14,675	14,689	13,737	13,011	167,368
2014								1.01	0.97	0.93	1.08	1.02	
2015	1.36	1.19	1.12	1.01	0.96	0.92	0.95	0.91	0.90	0.89	0.96	1.00	
2016	1.21	1.10	1.05	0.97	0.96	0.92	0.95	0.92	0.94	0.93	0.99	1.14	
2017	1.43	1.15	1.06	0.98	0.91	0.90	0.94	0.90	0.94	0.92	1.00	1.05	
2018	1.18	1.12	1.07	0.98	0.94	0.92	0.95	0.93	0.95	0.95	1.02	1.07	
Average	1.29	1.14	1.07	0.98	0.94	0.92	0.95	0.93	0.94	0.92	1.01	1.06	

ATR #272:

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
1990	2,877	3,142	3,462	3,712	3,826	3,981	3,986	4,038	3,670	3,570	3,334	2,837	42,435
1991	2,763	3,188	3,378	3,546	3,852	3,898	3,967	4,067	3,834	3,971	3,600	3,389	43,453
1992	3,293	3,153	3,281	3,502	3,668	3,672	3,776	3,848	3,861	3,795	3,453	3,147	42,449
1993	2,939	3,159	3,432	3,829	4,002	3,990	4,067	4,210	4,088	4,195	3,751	3,647	45,309
1994	3,360	3,618	4,048	4,318	4,491	4,627	4,495	4,597	4,499	4,564	3,954	3,750	50,321
1995	3,677	3,984	4,209	4,563	4,626	4,633	4,684	4,751	4,663	4,762	4,297	4,036	52,885
1996	3,804	4,099	4,375	4,773	4,750	4,698	4,975	5,385	5,306	5,234	4,702	3,967	56,068
1997	3,913	4,327	4,556	4,812	5,067	5,263	5,329	5,255	5,093	5,079	4,744	4,768	58,206
1998	4,778	5,014	5,347	5,647	5,730	6,054	5,592	5,945	5,795	5,686	5,282	4,946	65,816
1999	4,946	4,779	5,306	5,770	5,638	5,880	5,960	5,974	5,668	5,885	5,409	5,238	66,453
2000	5,011	5,355	5,552	5,919	5,958	6,053	5,987	5,996	5,744	5,753	5,396	5,207	67,931
2001	4,843	5,149	6,078	6,577	6,281	6,332	5,966	6,034	6,019	6,149	5,673	5,308	70,409
2002	5,139	5,531	5,842	6,460	7,684	6,927	6,671	6,708	6,590	6,548	5,959	5,727	75,786
2003	4,718	4,916	5,763	6,610	8,721	7,326	6,881	6,543	6,343	6,752	6,170	6,133	76,876
2004	5,387	5,927	6,822	7,293	7,052	7,538	7,566	7,293	7,400	7,328	6,811	6,822	83,239
2005	6,445	7,120	7,825	8,196	8,375	9,057	8,707	9,107	8,730	8,822	8,121	7,736	98,241
2006	7,750	8,530	9,044	9,415	9,759	10,037	9,321	9,791	9,183	9,551	8,919	8,329	109,629
2007	8,287	8,757	9,495	10,149	10,266	10,623	10,106	10,112	9,621	9,833	8,982	8,353	114,584
2008	7,746	8,429	8,734	9,335	9,360	9,218	8,815	8,554	8,631	8,440	7,765	7,532	102,559
2009	7,272	7,912	8,029	8,934	9,132	9,231	9,256	9,075	9,028	8,859	8,187	7,892	102,807
2010	7,537	8,079	8,536	9,049	9,006	9,368	8,725	8,972	8,953	8,824	8,241	7,855	103,145
2011	7,736	8,149	8,418	9,016	9,118	9,402	9,225	9,485	9,563	9,430	8,512	8,557	106,611
2012	8,038	8,641	8,749	9,601	9,752	9,746	9,954	10,414	10,267	10,221	9,420	9,381	114,184
2013	8,325	9,572	10,385	11,314	11,788	11,840	11,630	11,515	11,496	11,390	10,520	9,569	129,344
2014	9,292	9,695	10,528	11,110	11,507	11,560	11,265	9,896	8,299	8,291	7,173	7,517	116,133
2015	7,324	7,910	8,309	8,677	8,697	8,863	8,647	8,535	8,513	8,585	8,025	7,790	99,875
2016	7,582	8,146	8,368	9,071	8,980	9,189	8,961	8,940	8,772	8,833	8,355	7,543	102,740
2017	6,639	8,009	8,698	9,576	8,994	8,693	9,268	9,376	8,981	9,383	8,966	8,605	105,188
2018	8,233	8,904	9,060	9,865	10,050	10,088	10,081	10,188	10,016	9,970	9,531	9,218	115,204
1990	1.23	1.13	1.02	0.95	0.92	0.89	0.89	0.88	0.96	0.99	1.06	1.25	
1991	1.31	1.14	1.07	1.02	0.94	0.93	0.91	0.89	0.94	0.91	1.01	1.07	
1992	1.07	1.12	1.08	1.01	0.96	0.96	0.94	0.92	0.92	0.93	1.02	1.12	
1993	1.28	1.20	1.10	0.99	0.94	0.95	0.93	0.90	0.92	0.90	1.01	1.04	
1994	1.25	1.16	1.04	0.97	0.93	0.91	0.93	0.91	0.93	0.92	1.06	1.12	
1995	1.20	1.11	1.05	0.97	0.95	0.95	0.94	0.93	0.95	0.93	1.03	1.09	
1996	1.23	1.14	1.07	0.98	0.98	0.99	0.94	0.87	0.88	0.89	0.99	1.18	
1997	1.24	1.12	1.06	1.01	0.96	0.92	0.91	0.92	0.95	0.96	1.02	1.02	
1998	1.15	1.09	1.03	0.97	0.96	0.91	0.98	0.92	0.95	0.96	1.04	1.11	
1999	1.12	1.16	1.04	0.96	0.98	0.94	0.93	0.93	0.98	0.94	1.02	1.06	
2000	1.13	1.06	1.02	0.96	0.95	0.94	0.95	0.94	0.99	0.98	1.05	1.09	
2001	1.21	1.14	0.97	0.89	0.93	0.93	0.98	0.97	0.97	0.95	1.03	1.11	
2002	1.23	1.14	1.08	0.98	0.82	0.91	0.95	0.94	0.96	0.96	1.06	1.10	
2003	1.36	1.30	1.11	0.97	0.73	0.87	0.93	0.98	1.01	0.95	1.04	1.04	
2004	1.29	1.17	1.02	0.95	0.98	0.92	0.92	0.95	0.94	0.95	1.02	1.02	
2005	1.27	1.15	1.05	1.00	0.98	0.90	0.94	0.90	0.94	0.93	1.01	1.06	
2006	1.18	1.07	1.01	0.97	0.94	0.91	0.98	0.93	0.99	0.96	1.02	1.10	
2007	1.15	1.09	1.01	0.94	0.93	0.90	0.94	0.94	0.99	0.97	1.06	1.14	
2008	1.10	1.01	0.98	0.92	0.91	0.93	0.97	1.00	0.99	1.01	1.10	1.13	
2009	1.18	1.08	1.07	0.96	0.94	0.93	0.93	0.94	0.95	0.97	1.05	1.09	
2010	1.14	1.06	1.01	0.95	0.95	0.92	0.99	0.96	0.96	0.97	1.04	1.09	
2011	1.15	1.09	1.06	0.99	0.97	0.94	0.96	0.94	0.93	0.94	1.04	1.04	
2012	1.18	1.10	1.09	0.99	0.98	0.98	0.96	0.91	0.93	0.93	1.01	1.01	
2013	1.29	1.13	1.04	0.95	0.91	0.91	0.93	0.94	0.94	0.95	1.02	1.13	
2014	1.04	1.00	0.92	0.87	0.84	0.84	0.86	0.98	1.17	1.17	1.35	1.29	
2015	1.14	1.05	1.00	0.96	0.96	0.94	0.96	0.98	0.98	0.97	1.04	1.07	
2016	1.13	1.05	1.02	0.94	0.95	0.93	0.96	0.96	0.98	0.97	1.02	1.14	
2017	1.32	1.09	1.01	0.92	0.97	1.01	0.95	0.93	0.98	0.93	0.98	1.02	
2018	1.17	1.08	1.06	0.97	0.96	0.95	0.95	0.94	0.96	0.96	1.01	1.04	
Average	1.19	1.11	1.03	0.96	0.93	0.93	0.94	0.93	0.96	0.96	1.04	1.09	

ATR #274:

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2005				9,337	9,119	9,630	9,083	9,511	8,569	8,539	7,844	8,171	79,803
2006	8,100	8,667	8,776	8,400	9,437	9,585	8,617	9,826	8,545		8,500	7,465	95,918
2007	8,262	8,407	8,978	9,497	10,139	9,358			9,536	9,274	8,599	7,990	90,040
2008	7,322	8,105	8,421		8,756	8,822	8,239				7,520		57,185
2009	7,454	7,731	7,571	8,416	8,689	8,926	8,481	8,738	8,339	8,164		7,369	89,878
2010	6,921	7,751	8,085		8,292	9,069	8,514	8,805	8,158	8,256	7,563	7,302	88,716
2011	7,213	7,434	7,698	8,422	8,228	8,717	8,251	8,644	8,144	8,243	7,580	7,542	96,116
2012	7,071	7,438	7,729	8,174	8,370	8,603	8,055	8,324	7,676	7,738	7,528	7,338	94,044
2013	6,332	7,397	7,884		8,208	8,682	8,118	8,307	8,174	8,330	7,674	7,251	86,357
2014	7,026	7,351	8,019	8,643	8,424	8,819	8,284	8,753	8,466	8,713	7,524	7,836	97,858
2015	7,445	8,272	8,575	8,905	8,913	9,238	9,037	9,288	9,030	9,171	8,435	8,149	104,458
2016	7,985	8,658	9,003	9,794	9,840	10,461	9,604	10,122	9,669	9,712	9,149	8,191	112,188
2017	7,111	8,700	9,486	10,172	10,378	10,927	10,099	10,906	10,048	10,241	9,590	9,418	117,076
2018	9,002	9,384	9,933	10,598	10,896	11,315	10,669	11,088	10,722	10,812	10,062	9,542	124,023
2005				0.95	0.97	0.92	0.98	0.93	1.03	1.04	1.13	1.09	
2006	1.08	1.01	0.99	1.04	0.92	0.91	1.01	0.89	1.02		1.03	1.17	
2007	1.09	1.07	1.00	0.95	0.89	0.96			0.94	0.97	1.05	1.13	
2008	1.12	1.01	0.97		0.93	0.93	0.99				1.09		
2009	1.10	1.06	1.08	0.97	0.94	0.92	0.96	0.94	0.98	1.00		1.11	
2010	1.17	1.04	1.00		0.97	0.89	0.95	0.92	0.99	0.98	1.07	1.10	
2011	1.11	1.08	1.04	0.95	0.97	0.92	0.97	0.93	0.98	0.97	1.06	1.06	
2012	1.11	1.05	1.01	0.96	0.94	0.91	0.97	0.94	1.02	1.01	1.04	1.07	
2013	1.24	1.06	1.00		0.96	0.90	0.97	0.95	0.96	0.94	1.02	1.08	
2014	1.16	1.11	1.02	0.94	0.97	0.92	0.98	0.93	0.96	0.94	1.08	1.04	
2015	1.17	1.05	1.02	0.98	0.98	0.94	0.96	0.94	0.96	0.95	1.03	1.07	
2016	1.17	1.08	1.04	0.95	0.95	0.89	0.97	0.92	0.97	0.96	1.02	1.14	
2017	1.37	1.12	1.03	0.96	0.94	0.89	0.97	0.89	0.97	0.95	1.02	1.04	
2018	1.15	1.10	1.04	0.98	0.95	0.91	0.97	0.93	0.96	0.96	1.03	1.08	
Average	1.15	1.06	1.02	0.97	0.95	0.92	0.97	0.92	0.98	1.05	1.05	1.09	

Italic green = manually-adjusted 2040 COMPASS model

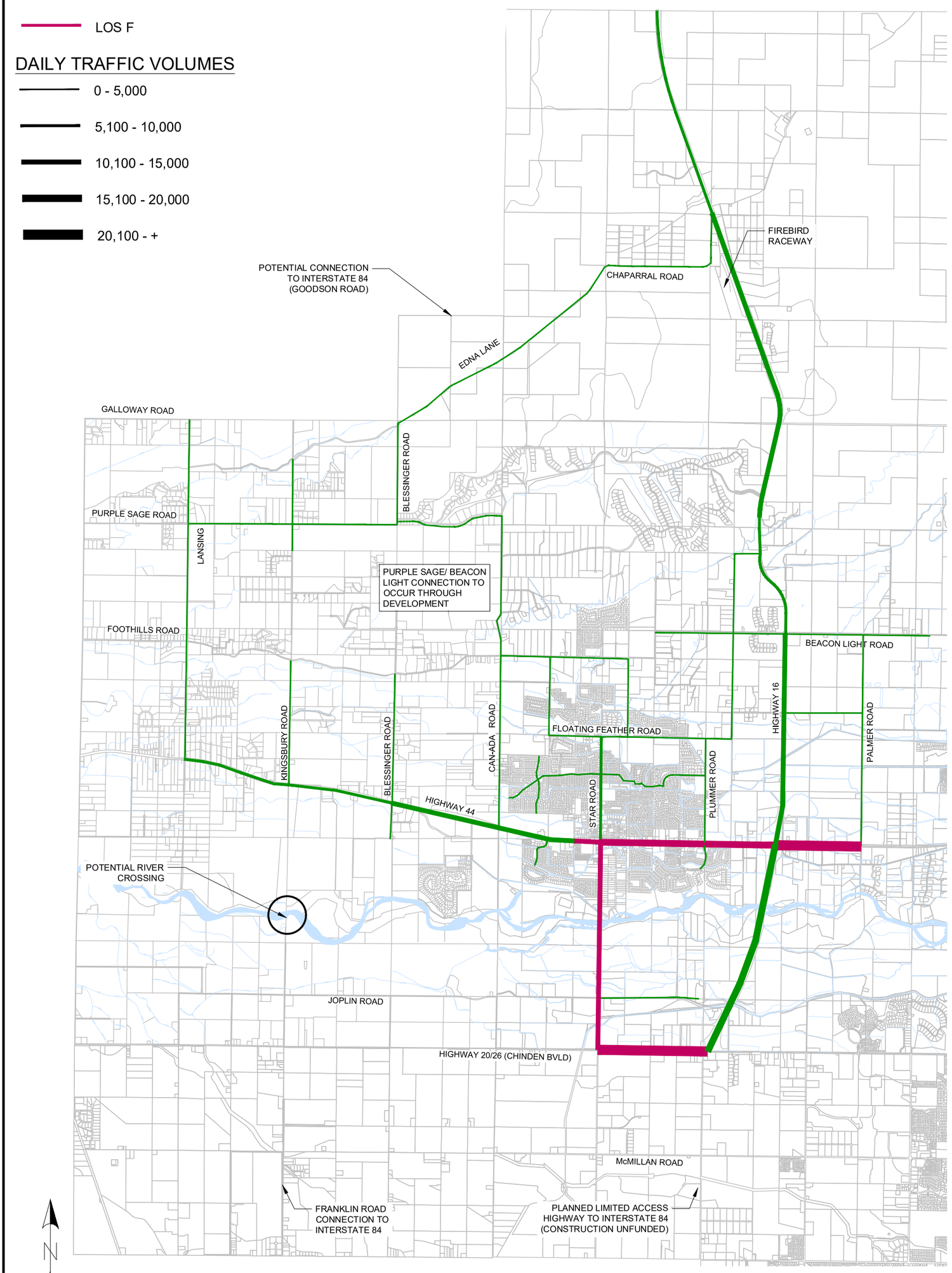
	Segment	From	To	Existing 2019 Volumes						COMPASS	2018		COMPASS	2040		2040 COMPASS Projections (Adjusted)					2040 with Revised Demographics (based on new FLUM areas)						
				Daily Volume	AM	PM	Classification	Lanes (Each Dir., Left/Median)	LOS	Daily Volume	AM	PM	Daily Volume	AM	PM	Daily Volume	AM	PM	Lanes (Each Dir., Left/Median)	LOS	Internal	External	Daily Volume	AM	PM	Lanes (Each Dir., Left/Median)	LOS
1	Blessinger Road	Edna Lane	Purple Sage Road	396	32	40	Collector	1	D	380	33	36	750	145	234	749	139	229	1	D	X		1,063		325	1	D
2	Blessinger Road	Foothill Road	SH-44	927	74	93	Collector	1	D	320	33	29	*1,970*	*193*	*245*	2,502	227	298	1	D	X		3,553		424	1	D
3	Can-Ada Road	W. New Hope Road	SH-44	2,018	161	202	M. Arterial	1	D	2,800	166	217	5,200	388	560	4,309	373	529	1	D	X		6,119		752	1	E
4	Edna Lane	Blessinger Road	N. Spangler Place	335	27	33	Collector	1	D	200	13	20	580	128	219	697	137	223	1	D	X		990		317	1	D
5	Edna Lane	N. Spangler Place	SH-16	435	35	43	Collector	1	D	200	13	20	580	128	219	797	145	233	1	D	X		1,132		331	1	D
6	Kingsbury Road	Edna Lane	Lanktree Lane	470	38	47	P. Arterial	1	D							699	92	148	1	D	X		992		210	1	D
7	Kingsbury Road	Foothill Road	SH-44	650	52	65	P. Arterial	1	D	1,360	85	121	*3,010*	*245*	*337*	2,225	205	271	1	D	X		3,160		384	1	D
8	Lansing Lane	Northview Road	Mack Attack Road	940	75	94	Collector	1	D	600	32	50	*970*	*144*	*248*	1,293	182	283	1	D	X		1,836		402	1	D
9	Lansing Lane	Mack Attack Road	Purple Sage Road	940	75	94	Collector	1	D	1,720	122	152	*2,090*	*234*	*350*	1,293	182	283	1	D	X		1,836		402	1	D
10	Lansing Lane	Purple Sage Road	Foothill Road	1,055	84	105	Collector	1	D	2,600	157	226	3,200	230	278	1,627	154	155	1	D	X		2,311		220	1	D
11	N. Brandon Road	W. New Hope Road	W. Floating Feather Road	400	32	40	Collector	1	D							1,269	81	99	1	D	X		1,802		140	1	D
12	N. Munger Road	W. New Hope Road	W. Rice Road	605	48	61	Collector	1	D	340	19	36	2,600	176	265	2,763	198	279	1	D	X		3,923		396	1	D
13	N. Munger Road	W. Rice Road	W. Floating Feather Road	605	48	61	Collector	1	D	340	19	36	2,600	176	265	2,763	198	279	1	D	X		3,923		396	1	D
14	N. Palmer Lane	W. Beacon Light Road	SH-44	250	20	25	Collector	1	D							1,067	81	87	1	D	X		1,515		124	1	D
15	N. Pollard Lane	W. Beacon Light Road	W. Floating Feather Road	652	52	65	Collector	1	D	1,880	321	161	5,200	584	519	3,821	303	407	1	D	X		5,426		578	1	D
16	N. Pollard Lane	SH-16	W. Beacon Light Road	480	38	48	Local	1	D							2,098	111	217	1	D	X		2,979		308	1	D
17	N. Star Road	W. Floating Feather Road	SH-44	5,791	463	579	Collector	1, Left turn lanes	D	7,800	479	623	13,200	724	952	10,945	697	893	1, Left turn lanes	E	X		15,543		1,268	1, Left turn lanes	F
18	Purple Sage Road	Ember Road	Kingsbury Road	1,676	134	168	M. Arterial	1	D	1,780	132	159	2,400	257	380	2,268	253	379	1	D	X		3,220		538	1	D
19	Purple Sage Road	Kingsbury Road	Blessinger Road	1,509	121	151	M. Arterial	1	D	800	62	73	1,300	184	285	1,987	237	353	1	D	X		2,821		502	1	D
20	S. Star Road	SH-44	W. Joplin Road	10,155	812	1,015	M. Arterial	1	F	12,400	730	940	30,600	1,776	2,687	27,527	1,811	2,683	2, Left turn lanes	F		X	29,397		2,870	2, Left turn lanes	F
21	S. Star Road	W. Joplin Road	US 20-26	10,500	840	1,050	M. Arterial	1	F	12,300	728	933	31,000	1,847	2,554	28,350	1,908	2,597	2, Left turn lanes	F		X	30,220		2,784	2, Left turn lanes	F
22	SH-16	W. Beacon Light Road	SH-44	12,894	984	1,192	Proposed Expressway	1, Left turn lanes, No stops	D	15,200	1,112	1,405	30,400	2,184	2,267	27,403	2,007	2,015	1, Left turn lanes, No stops	D		X	29,553		2,230	1, Left turn lanes, No stops	D
23	SH-16	W. Deep Canyon Drive	W. Beacon Light Road	9,955	796	995	Proposed Expressway	1, Left turn lanes, No Stops	D	12,600	919	1,151	26,400	1,894	1,934	23,127	1,727	1,743	1, Left turn lanes, No stops	D		X	24,337		1,864	1, Left turn lanes, No stops	D
24	SH-16	W. Chaparral Road	W. Deep Canyon Drive	11,055	884	1,105	Proposed Expressway	1, Left turn lanes, No Stops	D	11,000	754	997	24,800	1,788	1,838	24,227	1,871	1,908	1, Left turn lanes, No stops	D		X	24,227		1,908	1, Left turn lanes, No stops	D
25	SH-16	SH-44	US 20-26	15,611	1,310	1,530	Expressway	2, Median Controlled	D	17,000	1,090	1,694	46,900	3,007	3,944	44,152	3,140	3,678	2, Median Controlled, No stops	D		X	46,032		3,866	2, Median Controlled, No stops	D
26	SH-44	Lansing Road	Blessinger Road	9,623	791	996	P. Arterial	1, Left turn lanes, No stops	D	11,800	712	965	17,900	1,189	1,635	15,446	1,246	1,636	1, Left turn lanes, No stops	D		X	15,766		1,668	1, Left turn lanes, No stops	D
27	SH-44	Blessinger Road	Can-Ada Road	10,495	824	1,027	P. Arterial	1, Left turn lanes, No stops	D	11,800	687	962	18,100	1,483	1,667	16,508	1,583	1,700	1, Left turn lanes, No stops	D		X	17,118		1,761	1, Left turn lanes, No stops	D
28	SH-44	Can-Ada Road	N. Star Road	12,884	960	1,194	P. Arterial	1, Left turn lanes, No stops	D	13,600	768	1,273	23,300	1,349	1,772	22,143	1,515	1,671	1, Left turn lanes, No stops	D		X	23,253		1,782	1, Left turn lanes, No stops	D
29	SH-44	N. Star Road	SH-16	16,532	1,106	1,500	P. Arterial	1, Left turn lanes	F	17,500	1,245	1,568	28,800	2,070	2,498	27,318	1,894	2,387	2, Left turn lanes	D		X	29,378		2,593	2, Left turn lanes	D
30	SH-44	SH-16	N. Palmer Lane	23,203	1,784	2,141	P. Arterial	1, Left turn lanes	F	24,900	1,756	1,928	43,500	3,609	3,879	40,958	3,553	4,004	2, Left turn lanes	F		X	41,138		4,022	2, Left turn lanes	F
31	US 20-26	S. Star Road	SH-16	20,255	1,620	2,025	P. Arterial	1, Left turn lanes	F	20,200	1,561	1,631	56,000	3,764	4,045	54,427	3,723	4,330	2, Left turn lanes	F		X	54,427		4,330	2, Left turn lanes	F
32	W. Beacon Light Road	N. Wing Road	SH-16	2,064	165	206	M. Arterial	1, Left turn lanes	D	3,000	275	287	13,600	1,440	1,281	12,182	1,277	1,155	1, Left turn lanes	F	X		17,298	1,814		1, Left turn lanes	F
33	W. Beacon Light Road	SH-16	N. Linder Road	3,200	256	320	M. Arterial	1	D	1,900	165	229	12,900	996	1,137	13,700	1,049	1,187	1, Left turn lanes	E		X	14,910		1,308	1, Left turn lanes	F
34	W. Floating Feather Road	N. Munger Road	N. Star Road	1,132	91	113	M. Arterial	1	D	1,700	126	159	7,000	494	651	6,191	442	583	1	D	X		8,791		828	1	D
35	W. Floating Feather Road	N. Star Road	N. Spring Hollow Place	1,955	156	195	M. Arterial	1	D	1,900	190	233	8,000	635	779	7,777	581	717	1, Left turn lanes	D	X		11,044		1,018	1, Left turn lanes	D
36	W. Floating Feather Road	N. Spring Hollow Place	N. Plummer Road	1,776	142	178	M. Arterial	1	D	1,960	200	242	9,400	735	880	8,878	653	787	1, Left turn lanes	D	X		12,607		1,117	1, Left turn lanes	D
37	W. Floating Feather Road	N. Plummer Road	N. Pollard Lane	1,526	122	153	M. Arterial	1	D	1,540	171	162	9,200	680	941	8,838	608	896	1	D	X		12,550		1,273	1	F
38	W. Floating Feather Road	SH-16	N. Palmer Lane	2,009	161	201	Collector	1	D	3,400	457	448	18,900	1,119	1,380	16,805	793	1,091	1, Left turn lanes	E		X	17,745		1,185	1, Left turn lanes	F
39	Blessinger Road	Willis Road	Foothill Road	472	42	46	Collector	1	D							544	49	53	1	D	X		773		75	1	D
40	Blessinger Road	SH-44		130	15	16	Collector	1	D	860	58	75	1,260	83	113	512	39	52	1	D	X		727		74	1	D
41	Can-Ada Road	Purple Sage Road	Lanktree Gulch Road	1,358	120	139	Local	1	D	1,740	132	165	3,600	315	340	3,134	294	306	1	D	X		4,450		434	1	D
42	Deerhaven Way		W. Hidden Brook Drive	294	28	34	Collector	1	D							2,776	112	309	1	D	X		3,941		439	1	D
43	Deerhaven Way	W. Hidden Brook Drive	W. Gambrell Street	390	36	39	Collector	1	D							2,872	120	314	1	D	X		4,078		446	1	D
44	Hercules Drive	S. Hydra Ave	S. Star Road	1,588	111	149	Local	1	D		d					2,250	251	419	1	D	X		3,195		595	1	D
45	W. Hidden Brook Drive	N. Deerhaven Way	N. Finsbury Way	181	22	38	Collector	1	D							1,136	162	307	1	D	X		1,613		436	1	D
46	W. Hidden Brook Drive	W. Kempshire Court	N. Deerhaven Way	310	32	39	Collector	1	D							1,264	171	308	1	D	X		1,795		438	1	D
47	W. Hidden Brook Drive	N. Crews Ave	N. Star Road	1,418	129	158	Collector	1	D							2,008	276	388	1	D	X		2,852		550	1	D
48	S. Highbrook Way	SH-44	W. Pinewoord River Lane	1,686	171	186	Collector	1	D							3,501	334	377	1	D	X		4,972		535	1	D
49	Joplin Road	N. Star Road		144	10	20	Collector	1	D	180	5	12	3,100	150	401	2,931	148	391	1	D	X		4,163		556	1	D
50	W. Millcreek Lane	N. Glen Aspen Way	N. Plummer Road	729	63	72	Collector	1	D							1,033	133	177	1	D	X		1,467		251	1	D
51	S. Plummer Way	SH-44	W. Wildbranch Drive	1,157	123	103	Collector	1	D							2,402	241	209	1	D	X		3,411	342		1	D
52	N. Pollard Lane	W. Floating Feather Road	W. Floating Feather Road	2,219	342	263	Collector	1	D	1,780	184	179	5,200	584	519	5,484	724	587	1	E	X		7,787	1,028		1	F
53	Purple Sage Road	Blessinger Road	Can-Ada Road	1,237	99	124	Collector	1	D							2,284	265	369	1	D	X		3,244		524	1	D
54	Blessinger Road	Purple Sage Road	Canyon Run Drive	283	23	28	Collector	1	D							558	99	184	1	D	X		793		261	1	D
56	W. New Hope Road	Can-Ada Road	N. Munger Road	1,266	111	157	Collector	1	D	1,360	130	159	3,100	336	514	2,926	307	496	1, Left turn	D	X		4,156		704	1, Left turn	D
57	W. New Hope Road	N. Munger Road	N. Wing Road	1,176	92	133	Collector	1	D	1,120	114	128	2,200	185	304	2,206	160	301	1, Left turn	D	X		3,133		427	1, Left turn	D
58	Can-Ada Road	Lanktree Gulch Road	W. New Hope Road	1,358	120	139	Local	1	D	1,740	132	165	3,600	315	340	3,134	294	306	1	D	X		4,450		434	1	D
59	W. Hidden Brook Drive	N. Star Road	N. Mira Way	732	34	86	Collector	1	D							1,037	72	210	1	D	X		1,473		299	1	D
60	W Moon Valley Road	S. Herons Flight Lane	S. Palmer Lane	619	42	64	Local	1	D							1,285	81	129	1	D	X		1,824		183	1	D
61	N. Plummer Road	W. Floating Feather Road	SH-44	1,973	158	197	Collector	1	D	1,400	101	151	9,900	687	972	10,086	717	981	1	F	X		14,323		1,393	1	F
62	Lansing Lane	Foothill Road	SH-44	2,181	174	218	Collector	1	D	3,500	241	307	4,400	339	395	3,040	268	302	1	D	X		4,317		429	1	D

Star TAZ Attribute Table

2040-affected Traffic Analysis Zones

TAZ			Star 2040 Planning Area			COMPASS Households		COMPASS Employment		COMPASS Adjusted for % Fill Households		COMPASS Adjusted for % Fill Employment		Full Build-out of 2040 Planning Area ACRES by Land Use								Full Build-out of 2040 Planning Area DEMOGRAPHICS by Land Use Households					Employees		
ID	COUNTY	Impact Area	Whole	Part	Fill	2018	2040	2018	2040	2018	2040	2018	2040	A	RR	NR	CR	HDR	C	MU	LI	A	RR	NR	CR	HDR	C	MU	LI
758	Ada	Eagle and Star		X	33%	7	692	4	18	2	228	1	6	0	0.0	0.0	80.8	0.0	0.0	0.0	40.6	0	0	0	647	0	0	0	495
759	Ada	Eagle		X	3%	0	500	40	350	0	15	1	11	0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0	0	0	0	0	206	0	0
766	Ada	Star	X		100%	3	110	74	632	3	110	74	632	0	0.0	0.0	0.0	0.0	43.7	85.3	0.0	0	0	0	0	0	902	1,761	0
767	Ada	Star	X		100%	3	251	72	630	3	251	72	630	0	0.0	0.0	76.2	0.0	0.0	0.0	40.1	0	0	0	610	0	0	0	489
770	Ada	Eagle and Star		X	50%	14	179	7	51	7	90	4	26	0	0.0	0.0	40.5	0.0	0.0	42.2	0.0	0	0	0	324	0	0	872	0
771	Ada	Eagle		X	30%	77	450	69	269	23	135	21	81	0	0.0	188.0	0.0	0.0	0.0	0.0	0.0	0	0	564	0	0	0	0	0
772	Ada	Star	X		100%	3	3	48	48	3	3	48	48	0	0.0	0.0	11.9	8.0	26.5	39.3	0.0	0	0	0	95	128	548	811	0
773	Ada	Star	X		100%	23	360	46	206	23	360	46	206	0	0.0	0.0	0.0	0.0	79.4	179.8	0.0	0	0	0	0	0	1,640	3,713	0
795	Ada	Ada Co. and Star		X	19%	13	772	61	320	2	147	12	61	0	0.0	39.8	0.0	0.0	0.0	65.8	0.0	0	0	119	0	0	0	1,359	0
804	Ada	Ada Co. and Star	X		100%	58	870	51	110	58	870	51	110	0	12.8	647.2	0.0	0.0	0.0	207.4	0.0	0	4	1,942	0	0	0	4,282	0
805	Ada	Ada Co. and Star	X		100%	142	305	18	91	142	305	18	91	0	124.0	240.8	0.0	0.0	3.7	0.0	0.0	0	41	723	0	0	75	0	0
806	Ada	Ada Co. and Star		X	70%	233	245	77	110	163	172	54	77	0	386.6	989.9	0.0	0.0	7.3	0.0	0.0	0	128	2,970	0	0	151	0	0
808	Ada	Star	X		100%	467	557	97	97	467	557	97	97	0	0.0	278.7	0.0	0.0	0.0	0.0	0.0	0	0	836	0	0	0	0	0
809	Ada	Star	X		100%	53	160	4	18	53	160	4	18	0	0.0	150.2	0.0	0.0	0.0	0.0	0.0	0	0	451	0	0	0	0	0
810	Ada	Star	X		100%	0	260	0	0	0	260	0	0	0	0.0	72.3	0.0	0.0	3.7	0.0	0.0	0	0	217	0	0	75	0	0
811	Ada	Star	X		100%	12	14	3	4	12	14	3	4	0	0.0	116.2	0.0	0.0	0.0	0.0	0.0	0	0	349	0	0	0	0	0
812	Ada	Star	X		100%	135	519	32	44	135	519	32	44	0	0.0	162.2	0.0	0.0	0.0	0.0	0.0	0	0	487	0	0	0	0	0
813	Ada	Star	X		100%	19	98	7	7	19	98	7	7	0	0.0	81.7	0.0	0.0	0.0	0.0	0.0	0	0	245	0	0	0	0	0
814	Ada	Star	X		100%	27	166	80	188	27	166	80	188	0	0.0	246.3	0.0	0.0	0.0	0.0	0.0	0	0	739	0	0	0	0	0
815	Ada	Star	X		100%	181	268	11	11	181	268	11	11	0	0.0	287.6	0.0	0.0	0.0	0.0	0.0	0	0	863	0	0	0	0	0
816	Ada	Star	X		100%	133	198	16	24	133	198	16	24	0	0.0	120.6	0.0	0.0	0.0	0.0	0.0	0	0	362	0	0	0	0	0
817	Ada	Star	X		100%	234	235	15	24	234	235	15	24	0	0.0	159.5	0.0	0.0	0.0	0.0	0.0	0	0	479	0	0	0	0	0
818	Ada	Star	X		100%	190	229	26	28	190	229	26	28	0	0.0	142.4	0.0	0.0	0.0	0.0	0.0	0	0	427	0	0	0	0	0
819	Ada	Star	X		100%	220	277	7	8	220	277	7	8	0	0.0	106.1	0.0	0.0	0.0	0.0	0.0	0	0	318	0	0	0	0	0
820	Ada	Star	X		100%	6	106	11	90	6	106	11	90	0	0.0	0.0	19.5	0.0	44.0	0.0	0.0	0	0	0	156	0	908	0	0
821	Ada	Star	X		100%	133	135	58	59	133	135	58	59	0	0.0	76.0	0.0	0.0	0.0	0.0	0.0	0	0	228	0	0	0	0	0
822	Ada	Star	X		100%	63	86	24	25	63	86	24	25	0	0.0	0.0	30.2	0.0	11.2	0.0	0.0	0	0	0	242	0	232	0	0
823	Ada	Star	X		100%	5	120	120	350	5	120	120	350	0	0.0	0.0	3.5	0.0	37.1	0.0	0.0	0	0	0	28	0	765	0	0
824	Ada	Star	X		100%	359	371	155	180	359	371	155	180	0	0.0	86.2	12.3	0.0	10.2	1.1	0.0	0	0	259	98	0	210	22	0
825	Ada	Star	X		100%	98	134	77	77	98	134	77	77	0	0.0	0.0	29.9	0.0	11.1	0.0	0.0	0	0	0	239	0	230	0	0
826	Ada	Star	X		100%	0	0	19	143	0	0	19	143	0	0.0	0.0	0.0	0.0	22.6	0.0	0.0	0	0	0	0	0	467	0	0
827	Ada	Star	X		100%	35	47	152	151	35	47	152	151	0	0.0	0.0	0.0	0.0	22.0	0.0	0.0	0	0	0	0	0	454	0	0
828	Ada	Star	X		100%	12	127	79	541	12	127	79	541	0	0.0	261.8	0.0	0.0	0.0	0.0	58.6	0	0	785	0	0	0	0	714
829	Ada	Star	X		100%	26	630	23	243	26	630	23	243	0	0.0	158.4	15.3	0.0	0.0	26.1	0.0	0	0	475	123	0	0	539	0
830	Ada	Star	X		100%	31	718	77	535	31	718	77	535	0	0.0	110.4	0.0	0.0	43.0	0.0	88.2	0	0	331	0	0	888	0	1,076
831	Ada	Star	X		100%	451	515	156	331	451	515	156	331	0	0.0	170.8	0.0	5.2	64.0	41.1	0.0	0	0	512	0	84	1,322	848	0
832	Ada	Star	X		100%	370	878	83	81	370	878	83	81	0	0.0	266.4	8.6	0.0	42.0	18.9	0.0	0	0	799	69	0	868	390	0
833	Ada	Star	X		100%	62	77	171	211	62	77	171	211	0	0.0	0.0	14.8	0.0	38.5	27.4	0.0	0	0	0	119	0	795	566	0
834	Ada	Star	X		100%	8	435	15	61	8	435	15	61	0	0.0	295.4	0.0	0.0	48.6	56.7	0.0	0	0	886	0	0	1,003	1,171	0
835	Ada	Star	X		100%	7	401	11	31	7	401	11	31	0	0.0	29.7	0.0	0.0	110.2	16.9	0.0	0	0	89	0	0	2,275	349	0
836	Ada	Star	X		100%	7	14	0	0	7	14	0	0	0	0.0	34.4	0.0	0.0	0.0	119.4	0.0	0	0	103	0	0	0	2,465	0
837	Ada	Meridian and Star		X	25%	22	66	14	14	6	17	4	4	0	0.0	0.0	0.0	0.0	0.0	235.9	0.0	0	0	0	0	0	0	4,870	0
839	Ada	Star	X		100%	11	858	12	66	11	858	12	66	0	0.0	334.8	0.0	0.0	63.9	253.4	0.0	0	0	1,004	0	0	1,320	5,233	0
840	Ada	Star	X		100%	12	50	10	51	12	50	10	51	0	0.0	44.7	0.0	0.0	298.8	10.5	0.0	0	0	134	0	0	6,170	217	0
858	Ada	Meridian	X		100%	8	21	20	164	8	21	20	164	0	0.0	79.9	0.0	0.0	119.4	40.8	0.0	0	0	240	0	0	2,465	843	0
861	Ada	Meridian		X	50%	5	97	12	90	3	49	6	45	0	0.0	0.0	0.0	0.0	76.9	0.0	0.0	0	0	0	0	0	1,589	0	0
876	Ada	Meridian		X	50%	11	12	24	22	6	6	12	11	0	0.0	120.0	0.0	0.0	79.5	115.1	0.0	0	0	360	0	0	1,642	2,376	0
2091	Canyon	Middleton	X		100%	17	60	2	5	17	60	2	5	0	0.0	455.5	106.3	0.0	44.4	0.0	0.0	0	0	1,367	851	0	917	0	0
2092	Canyon	Middleton	X		100%	79	133	43	63	79	133	43	63	0	278.7	864.5	0.0	0.0	33.6	196.9	0.0	0	92	2,593	0	0	694	4,066	0
2102	Canyon	Middleton	X		100%	41	42	6	15	41	42	6	15	0	0.0	202.4	253.5	0.0	49.4	0.0	0.0	0	0	607	2,028	0	1,021	0	0
2103	Canyon	Middleton	X		100%	40	56	25	25	40	56	25	25	0	0.0	134.3	366.9	0.0	38.6	164.8	0.0	0	0	403	2,935	0	797	3,402	0
2104	Canyon	Middleton	X		100%	125	149	42	51	125	149	42	51	0	0.0	859.0	0.0	0.0	3.7	0.0	0.0	0	0	2,577	0	0	75	0	0
2117	Canyon	Canyon County		X	50%	56	80	13	14	28	40	7	7	0	107.1	188.7	0.0	0.0	3.7	0.0	0.0	0	35	566	0	0	75	0	0
2118	Canyon	Canyon County		X	50%	49	62	11	13	25	31	6	7	0	0.0	316.3	0.0	0.0	3.7	0.0	0.0	0	0	949	0	0	75	0	0
2119	Canyon	Middleton	X		100%	85	91	20	23	85	91	20	23	0	0.0	871.4	0.0	0.0	3.7	0.0	0.0	0	0	2,614	0	0	75	0	0
2123	Canyon	Middleton	X		100%	45	48	20	21	45	48	20	21	0	0.0	422.1	0.0	0.0	3.7	0.0	0.0	0	0	1,266	0	0	75	0	0
2124	Canyon	Canyon County		X	35%	57	64	4	4	20	22	1	1	0	0.0	312.7	0.0	0.0	7.3	0.0	0.0	0	0	938	0	0	151	0	0
2130	Canyon	Middleton	X		100%	109	115	17	20	109	115	17	20	0	500.1	271.2	0.0	0.0	3.7	0.0	0.0	0	165	814	0	0	75	0	0
2145	Canyon	Middleton	X		100%	211	211	88	105	211	211	88	105	0	365.4	324.8	0.0	0.0	38.2	11.2	0.0	0	121	974	0	0	788	230	0
2211	Canyon	Caldwell		X	14%	9	12	13	13	1	2	2	2	26.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5	0	0	0	0	0	0	0
2227	Canyon	Caldwell		X	33%	9	509	4	4	3	168	1	1	180.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36	0	0	0	0	0	0	0
2438	Canyon	Nampa	X		100%	15	23	13	13	15	23	13	13	838.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	168	0	0	0	0	0	0	0
TOTAL			**48**	**14**		**4,936**	**15,271**	**2,509**	**7,193**	**4,662**	**12,651**	**2,286**	**6,239**	1,046.0	1,774.7	11,321.3	1,070.4	13.2	1,550.8	1,956.0	227.5	209	586	8,563	212		32,021	40,386	2,775
																	18,959.9							**43,533**				**75,181**		
																						41.3%	=	**18,000**			13,510,800	17,040,375	1,981,873 sq ft
																						Star 2040 Full					2,640,000	140,000	sq ft @ 2040
																											8.6%	7.1%	
																											6,257	196	emp @ 2040
																											6,453		emp @ 2040

CITY OF STAR



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4/24/19

EXISTING TRAFFIC VOLUMES & LEVEL OF SERVICE

CITY OF STAR

PROGRAMMED CAPACITY IMPROVEMENTS

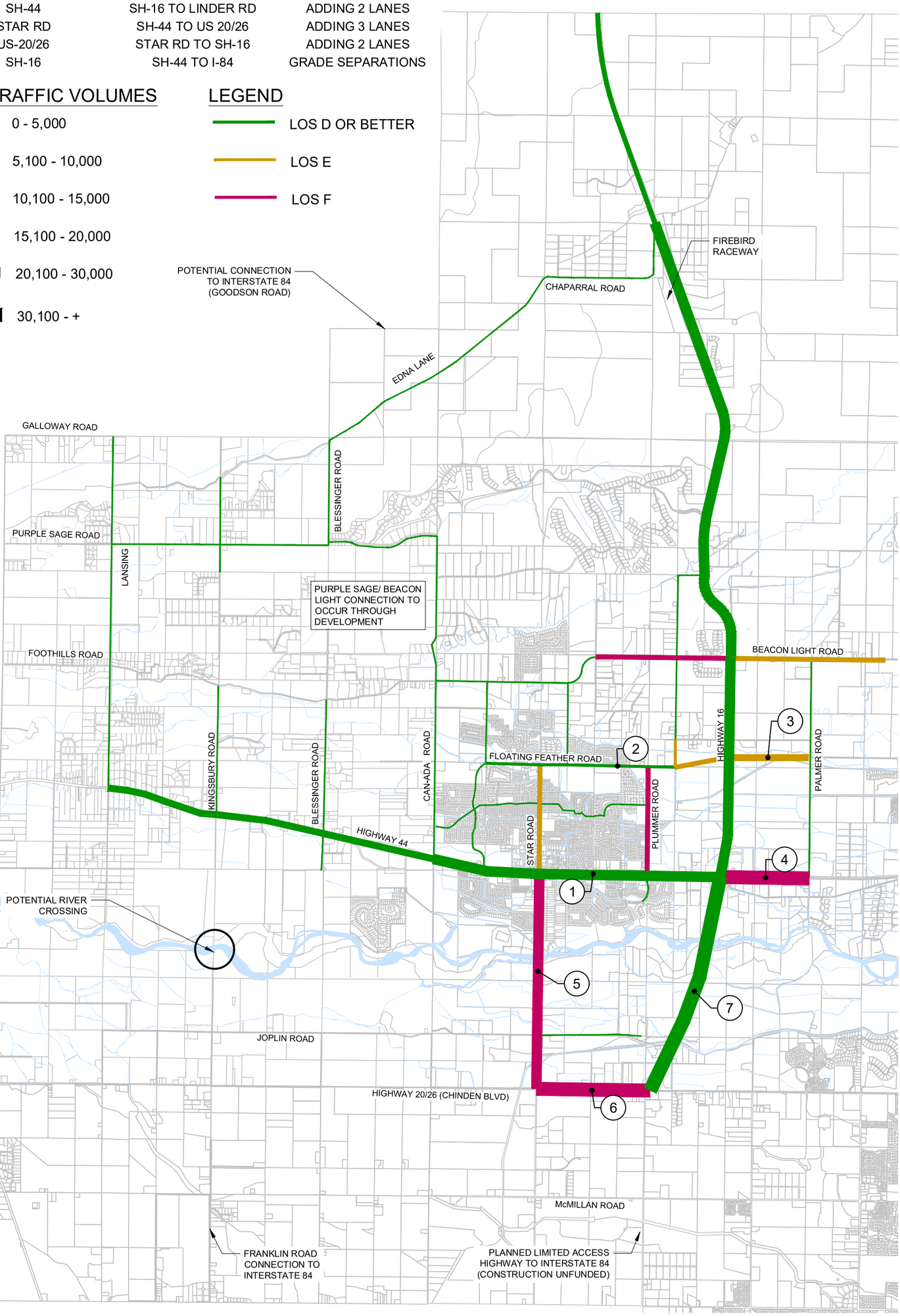
	ROAD	SEGMENT	IMPROVEMENT
1	SH-44	STAR RD TO SH-16	ADDING 2 LANES
2	FLOATING FEATHER RD	STAR RD TO PLUMMER RD	ADDING 1 LANE
3	FLOATING FEATHER RD	PLUMMER TO PALMER RD	NEW 3 LANE ROAD
4	SH-44	SH-16 TO LINDER RD	ADDING 2 LANES
5	STAR RD	SH-44 TO US 20/26	ADDING 3 LANES
6	US-20/26	STAR RD TO SH-16	ADDING 2 LANES
7	SH-16	SH-44 TO I-84	GRADE SEPARATIONS

DAILY TRAFFIC VOLUMES

- 0 - 5,000
- 5,100 - 10,000
- 10,100 - 15,000
- 15,100 - 20,000
- 20,100 - 30,000
- 30,100 - +

LEGEND

- LOS D OR BETTER
- LOS E
- LOS F



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2040 TRAFFIC VOLUMES & LEVEL OF SERVICE

CITY OF STAR

PROGRAMMED CAPACITY IMPROVEMENTS

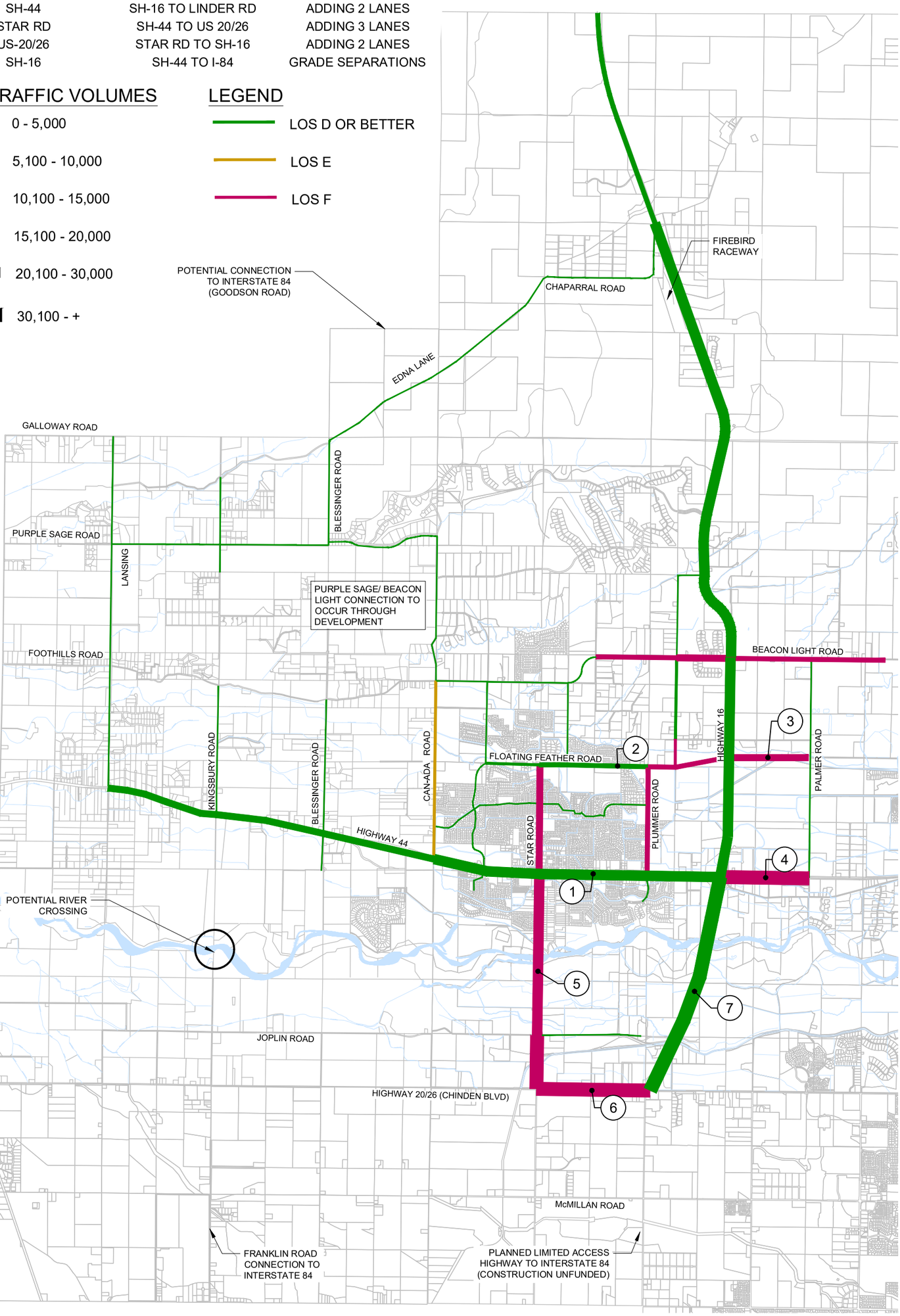
	ROAD	SEGMENT	IMPROVEMENT
1	SH-44	STAR RD TO SH-16	ADDING 2 LANES
2	FLOATING FEATHER RD	STAR RD TO PLUMMER RD	ADDING 1 LANE
3	FLOATING FEATHER RD	PLUMMER TO PALMER RD	NEW 3 LANE ROAD
4	SH-44	SH-16 TO LINDER RD	ADDING 2 LANES
5	STAR RD	SH-44 TO US 20/26	ADDING 3 LANES
6	US-20/26	STAR RD TO SH-16	ADDING 2 LANES
7	SH-16	SH-44 TO I-84	GRADE SEPARATIONS

DAILY TRAFFIC VOLUMES

- 0 - 5,000
- 5,100 - 10,000
- 10,100 - 15,000
- 15,100 - 20,000
- 20,100 - 30,000
- 30,100 - +

LEGEND

- LOS D OR BETTER
- LOS E
- LOS F



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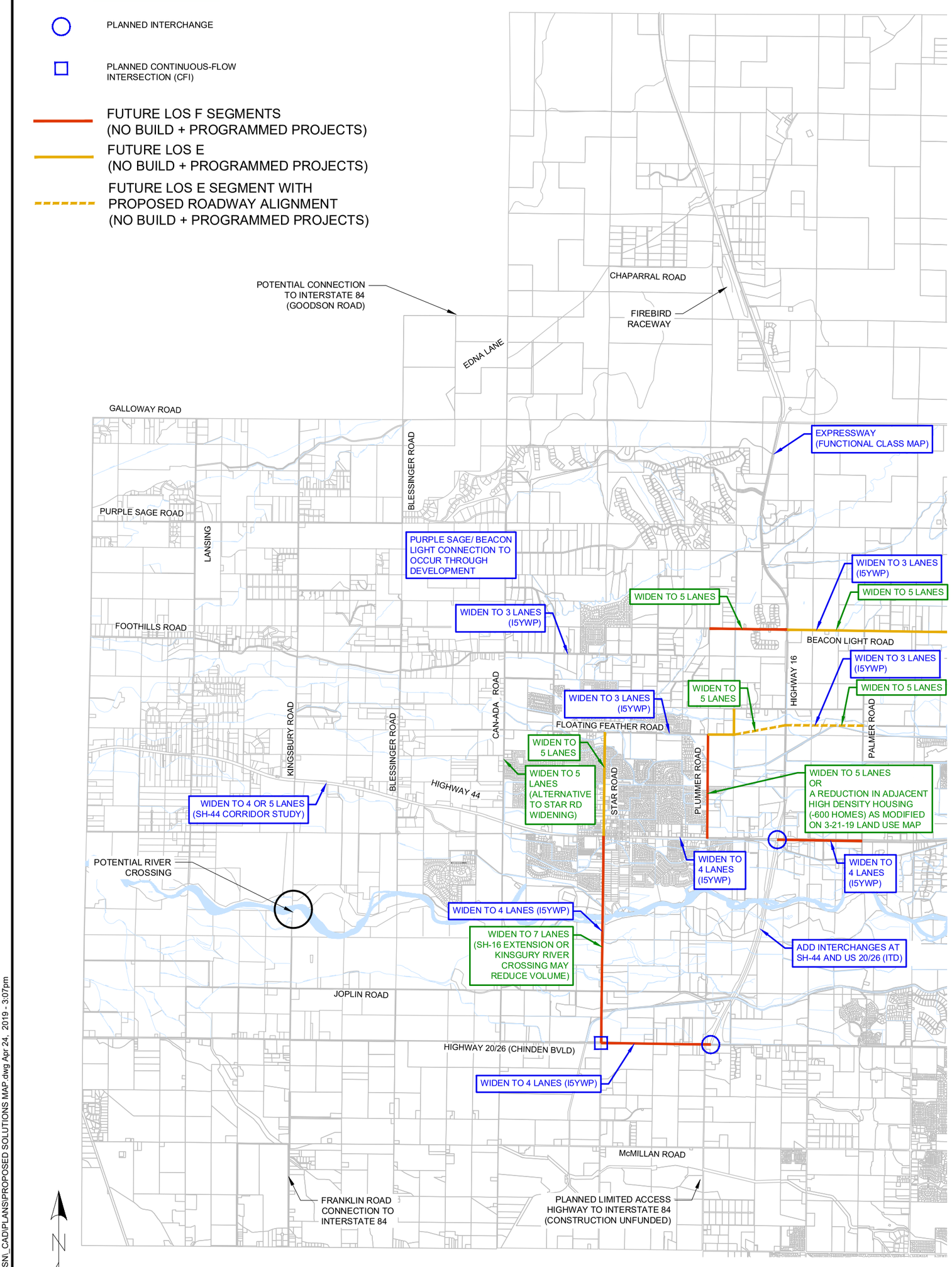
2040 TRAFFIC & LOS - REVISED DEMOGRAPHICS

CITY OF STAR



KELLER ASSOCIATES

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PROPOSED SOLUTIONS MAP