

**APPENDIX C**  
Transportation Analysis

# Draft Memorandum

Date: June 6, 2025  
To: Andrew Hill, Dyett and Bhatia  
From: Paul Herrmann, P.E.  
Andre Pham  
**Subject: City of Chino General Plan Transportation Analysis**

OC22-0918

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Fehr & Peers has completed traffic forecasting and roadway capacity analysis for Level of Service (LOS) and Vehicle Miles Traveled (VMT) in support of the Chino General Plan Circulation Element and Environmental Impact Report (EIR). This memorandum details the traffic volume forecasting, LOS results, and VMT results.

## Introduction

The traffic forecasts and capacity assessment was completed following methodologies and assumptions identified in the *City of Chino General Plan Modeling & Forecasting Assumptions Memorandum* (Fehr & Peers, September 2024), provided as **Attachment B**. The three scenarios included in the analysis are Existing, Adopted General Plan (AGP), and Proposed General Plan (PGP) scenarios. Existing conditions represent baseline conditions consistent with the Notice of Preparation (NOP) year 2024. AGP and PGP scenarios are reflective of the cumulative scenario (future year 2045) studied in the EIR.

## Modeling Approach

The San Bernardino Traffic Analysis Model (SBTAM+) was utilized to prepare the traffic forecasts. The land use Socioeconomic Data (SED) assumptions for each model year are summarized in **Table 1**. SBTAM+ uses a 2019 base year and 2050 future year. Interim year project land use forecasts (years 2024 and 2045) were estimated by interpolating between base and future models. SED is presented for the following boundaries:

- City of Chino
- Chino's Sphere of Influence (Chino's SOI)
- City of Chino and SOI (Chino + SOI)

The SED summarized below represents the data within the Transportation Analysis Zones (TAZs) within each identified boundary. SBTAM+ TAZs are not perfectly aligned with the City or SOI boundaries and the areas analyzed are slightly larger than the boundaries. This is a limitation of the travel demand forecasting model and represents a conservative scenario that reviews a slightly larger area for impact determination purposes.

**Table 1: City of Chino and Sphere of Influence (SOI) Land Use Inputs Summary**

Land Use	2019 (Base Year)	2024 (Existing Baseline) <sup>1</sup>	Adopted General Plan (2045) <sup>1</sup>	Proposed General Plan (2045) <sup>2</sup>	Adopted General Plan (2050)	Proposed General Plan (2050)
<b>City of Chino</b>						
Households (HH)	25,934	28,226	37,853	37,860	40,145	40,153
Population	101,675	103,417	110,735	112,161	112,477	114,177
Population/HH	3.9	3.7	2.9	3.0	2.8	2.8
Total Employment	51,528	53,334	60,918	61,317	62,724	63,200
Retail Employment	9,584	10,324	13,429	13,123	14,169	13,804
Non-Retail Employment	41,944	43,010	47,489	48,194	48,555	49,396
Service Population	153,203	156,751	171,653	173,478	175,201	177,377
<b>Chino's SOI</b>						
Households (HH)	1,499	1,515	1,583	1,561	1,599	1,573
Population	5,503	5,422	5,079	5,015	4,998	4,921
Population/HH	3.7	3.6	3.2	3.2	3.1	3.1
Total Employment	1,307	1,311	1,328	1,350	1,332	1,358
Retail Employment	46	50	67	71	71	76
Non-Retail Employment	1,261	1,261	1,261	1,279	1,261	1,282
Service Population	6,810	6,733	6,407	6,365	6,330	6,279
<b>City of Chino + SOI</b>						
Households (HH)	27,433	29,741	39,436	39,421	41,744	41,726
Population	107,178	108,839	115,814	117,175	117,475	119,098
Population/HH	3.9	3.7	2.9	3.0	2.8	2.9
Total Employment	52,835	54,645	62,246	62,667	64,056	64,558
Retail Employment	9,630	10,374	13,496	13,195	14,240	13,880
Non-Retail Employment	43,205	44,271	48,750	49,473	49,816	50,678
Service Population	160,013	163,484	178,060	179,843	181,531	183,656

Notes:

1. Baseline 2024 and Adopted General Plan (2045) SED was estimated by interpolating between base year (2019) and Adopted General Plan (2050) SED.
2. Proposed General Plan (2045) SED was estimated by interpolating between (2019) and Proposed General Plan (2050) SED.

Source: SBTAM+, 2025.

## Traffic Volume Forecasts

Daily traffic volume forecasts were prepared for 47 roadway segments for the Existing (2024), AGP (2045), and PGP (2045) scenarios. The study roadway segments chosen were coordinated with the City of Chino and cover all major arterials throughout the City. Daily traffic volumes for City streets were collected between April and May in 2021. Some 2021 traffic count data was not available and was supplemented with a Big Data vendor, Streetlight<sup>1</sup>. The Average Daily Traffic (ADT) data was pulled for a typical weekday (Tuesday–Thursday) in March 2021. Traffic growth between base and future years was reviewed and added to 2021 traffic counts to prepare the 2024 and 2045 roadway segment forecasts. Traffic forecasts for the three scenarios are documented in **Attachment A**.

## Traffic Operations Analysis

The capacity assessment was performed based on the Highway Capacity Manual (HCM) 7<sup>th</sup> Edition methodology. This methodology determines the level-of-service (LOS) based on a Volume-to-Capacity (V/C) ratio, letter grade criteria LOS A through F. As shown in **Table 2**, these grades range from LOS A (minimal delay) to LOS F (congested conditions). LOS E represents at-capacity operations. For the City of Chino, LOS D is the minimum acceptable standard for roadways. Roadway classifications utilized in this assessment are consistent with the Chino General Plan Circulation Element Map.

**Table 2: Maximum Daily Motor Vehicle Volumes Level of Service**

No. Lanes	Highway		Major Arterial			Primary Arterial			Secondary Arterial		Collector
	4	8	4	6	8	2	4	6	2	4	2
LOS A	24,500	49,000	22,400	33,700	44,900	10,800	18,000	28,800	9,600	16,800	9,000
LOS B	28,600	57,200	26,200	39,300	52,400	12,600	21,000	33,600	11,200	19,600	10,500
LOS C	32,700	65,400	29,900	44,900	59,800	14,400	24,000	38,400	12,800	22,400	12,000
LOS D	36,800	73,500	33,700	50,500	67,300	16,200	27,000	43,200	14,400	25,200	13,500
LOS E	40,900	81,700	37,400	56,100	74,800	18,000	30,000	48,000	16,000	28,000	15,000

Source: *Highway Capacity Manual* 7th Edition (Transportation Research Board, 2017).

<sup>1</sup> Streetlight uses anonymized information (ex. GPS data and location services enabled mobile devices) with advanced modeling to develop representative estimates of traffic volumes.

## LOS Results

Roadway capacities used in the LOS analysis reflect the buildout of the circulation elements and for the respective AGP and PGP scenarios. Most roadway segments are forecasted to operate acceptable (LOS D or better) for each scenario. The following study segments are forecasted to be near or over capacity (LOS E or F) in 2045 in the AGP scenario:

- Chino Hills Parkway from West City Limit to Monte Vista Avenue (4-lane Primary Arterial, LOS E)
- Kimball Avenue from Mill Creek Avenue to Main Street (4-lane Primary Arterial, LOS F)
- Pine Avenue from El Prado Road to Euclid Avenue (4-lane Primary Arterial, LOS E)

Within the PGP (2045) conditions, Kimball Avenue and Pine Avenue continue to operate at LOS F and E, respectively, while Chino Hills Parkway improves and operates at an acceptable LOS due to the roadway classification upgraded from Primary Aerial to Major Arterial.

Under both scenarios, these roadways are forecasted to operate below the adopted LOS standard (LOS D). It may not be feasible to widen these roads given the adjacent land uses, capital improvement costs, and other modes the street serves (like bicycles and pedestrians) that should also be considered in the Circulation Element when reserving future right-of-way.

Compared to the AGP scenario, the PGP scenario includes reduced capacity on Central Avenue and Riverside Avenue; however, the LOS results for these roadways remain within acceptable conditions.

## VMT Analysis

VMT forecasts were prepared for transportation impact analysis purposes and to provide metrics for the air quality impact analysis. The City of Chino adopted VMT thresholds for transportation impact analysis in June 2020. VMT Impacts are based on the Origin/Destination (OD) method using VMT per service population within the County of San Bernardino jurisdictional boundary.

### VMT Forecasting Methodologies

Project VMT was estimated using the Half Accounting (for Greenhouse Gas (GHG) Emissions impact analysis) and Full Accounting (for transportation impact analysis) OD Methods. There are three types of trips that were considered for this analysis (trips that pass through the City are not included in the Project OD VMT forecasts):

- I-I: Trips that start within the boundary and end within the boundary
- I-X: Trips that start within the boundary and end outside the boundary

- X-I: Trips that start outside the boundary and end inside the boundary

Lastly, cumulative VMT impacts were assessed using the boundary method. These three methods are described in more detail below.

### Half Accounting Method

The Half Accounting Method is referred to as the Regional Targets Advisory Committee (RTAC) method. The Half Accounting Method is used to evaluate GHG Emissions for General Plan documents (especially when looking at GHG as it relates to Climate Action Plans).

Using this methodology, 100 percent of the trip length with two trip ends within a jurisdiction is attributed to that agency, and 50 percent of the trip length with only one trip end within a jurisdiction is allocated to the jurisdiction (the other 50 percent is allocated to the jurisdiction where the other trip end is located). This accounting method also provides VMT by passenger vehicles, light heavy-duty trucks, medium heavy-duty trucks and heavy heavy-duty trucks.

VMT forecasts using the Half Accounting Method and are provided in **Table 3**. As shown, the PGP is forecast to result in a net decrease in Citywide VMT.

**Table 3: VMT by Vehicle Class (Half-Accounting OD VMT/RTAC Methodology)**

Year	Auto <sup>1</sup> OD VMT		LHDT <sup>2</sup> OD VMT		MHDT <sup>3</sup> OD VMT		HHDT <sup>4</sup> OD VMT		Total OD VMT		RTAC VMT	
	i	x	i	x	i	x	i	x	i	x	100% ii +50% ix & xi	
<b>City of Chino + SOI</b>												
Existing (2024)	i	185,225	2,710,964	2,890	48,508	2,952	44,475	1,924	216,523	204,747	3,113,272	3,315,103
	x	3,110,189	-	50,188	-	45,953	-	223,071	-	3,107,440	-	
Adopted General Plan (2045)	i	214,654	3,119,780	3,559	63,591	3,619	58,437	2,580	300,587	235,510	3,633,810	3,858,652
	x	3,190,064	-	65,438	-	60,046	-	308,026	-	3,612,475	-	
Proposed General Plan (2045)	i	216,141	3,184,860	3,851	66,323	3,920	60,885	2,881	314,498	226,793	3,626,565	3,843,480
	x	3,164,721	-	66,389	-	60,935	-	314,763	-	3,606,808	-	

Notes:

1. Auto = Passenger Cars.
2. LHDT = Light heavy-duty trucks.
3. MHDT = Might heavy-duty trucks.
4. HHDT = Heavy heavy-duty trucks.

Source: SBTAM+, 2025.

### Full Accounting Method

The Full Accounting Method is used to calculate OD VMT for transportation impact analysis. The Full Accounting Method evaluates 100 percent of the trip length with one or both trip ends within a jurisdiction.

This method aggregates passenger vehicles and trucks into one VMT forecast. OD VMT per service population (SP) is used to determine project-level impact due to its ability to quantify travel induced by a project, regardless of jurisdictional boundaries. VMT forecasts using the Full Accounting Method are presented below under Project-Level VMT Impact Analysis.

### *Boundary Method*

The Boundary Method multiplies the volume on each roadway segment by the segment length within a specified geographic boundary. This method includes trips on the roadway within that boundary, without discriminating where the trip began or ended. The boundary method is used to understand the “project’s effect” on VMT, which is inclusive of trips within the boundary that may take longer routes due to congestion along corridors. Boundary VMT per service population (SP) is used to determine cumulative-level impacts due to its ability to assess the effect of a project on the overall City roadway network. The boundary utilized in the assessment needs to be big enough to capture the influence area of a project, but small enough such that other model “noise” outside the study area doesn’t skew the results. In Chino, the City boundary or City + SOI is typically used for the Boundary Method assessment.

### *Impact Analysis Thresholds*

Per the *City of Chino General Plan Infrastructure Element, Action INF-3.b*:

- A **Project-level VMT Impact** would be identified if the proposed City of Chino General Plan Update (PGP (2045)) OD VMT per Service Population (SP) exceeds the current City of Chino General Plan Buildout (AGP (2045) representative of the current adopted RTP/SCS) OD VMT/SP using the full accounting method.
- A **Cumulative VMT Impact** would be identified if the cumulative year link-level boundary VMT/SP within the City of Chino boundary increases under proposed City of Chino General Plan Update (i.e., PGP (2045)) as compared to the current City of Chino General Plan Buildout (AGP (2045) representative of the current adopted RTP/SCS).

### *Project-Level VMT Impact Analysis*

As shown in **Table 4**, the City of Chino OD VMT/SP under the PGP (2045) Conditions decreases as compared to AGP (2045) Conditions, indicating that the population is expected to travel in a more efficient manner. The improvement in travel efficiency is generally contributed to people making fewer trips and/or traveling shorter distances due to increased availability of active modes of transportation and/or better accessibility to destinations by all modes of transportation. The Chino SOI is shown to increase in VMT and VMT/SP when isolated, but when included with the City of Chino as the City + SOI, the trend of more efficient travel is shown. The lower VMT/SP identified in the SOI is attributed to the differing land use characteristics,

primarily the ratio of employees to households (which is lower in the SOI) and the lack of retail employment in the SOI (retail employment tends to increase VMT (generated by both customers and employees) in the numerator of the VMT/SP calculation while only accounting for employees in the denominator, service population).

**Table 4: Project-Level Daily VMT Assessment (Full Accounting OD VMT)**

Metric	Existing Year (2024)	Adopted General Plan (2045)	Proposed General Plan (2045)
<b>City of Chino</b>			
OD VMT	6,409,324	7,501,336	7,470,049
SP	156,751	171,653	173,478
<b>OD VMT/SP</b>	<b>40.9</b>	<b>43.7</b>	<b>43.1</b>
<b>Chino's SOI</b>			
OD VMT	220,882	215,969	216,911
SP	6,733	6,407	6,365
<b>OD VMT/SP</b>	<b>32.8</b>	<b>33.7</b>	<b>34.1</b>
<b>City of Chino + SOI</b>			
OD VMT	6,630,206	7,717,305	7,686,959
SP	163,484	178,060	179,843
<b>OD VMT/SP</b>	<b>40.6</b>	<b>43.3</b>	<b>42.7</b>

Note:

1. SP = Service population, defined as population plus employment within the specified boundary.

Source: SBTAM+, 2024.

### Cumulative VMT Impact Analysis

The boundary VMT was completed by selecting all roadway segments in the SBTAM+ model within the City of Chino and SOI boundary and multiplying the number of trips on each roadway segment by the length of that roadway segment. As presented in **Table 5**, the boundary VMT and VMT/SP within the City of Chino decreases under the PGP (2045) Conditions decreases as compared to AGP (2045) Conditions. Similar to the OD VMT assessment, the boundary VMT within the SOI increases, while the City of Chino + SOI VMT and VMT/SP decreases under the PGP (2045) Conditions decreases as compared to AGP (2045) Conditions.

**Table 5: Cumulative-Level Daily VMT Assessment (Boundary Method)**

Metric	Adopted General Plan (2045)	Proposed General Plan (2045)
<b>City of Chino</b>		
Boundary VMT	4,470,580	4,453,586
SP	171,653	173,478
<b>Boundary VMT/SP</b>	<b>26.0</b>	<b>25.7</b>
<b>Chino's SOI</b>		
Boundary VMT	223,758	222,940
SP	6,407	6,365
<b>Boundary VMT/SP</b>	<b>34.9</b>	<b>35.0</b>
<b>City of Chino + SOI</b>		
Boundary VMT	4,694,338	4,676,526
SP	178,060	179,843
<b>Boundary VMT/SP</b>	<b>26.4</b>	<b>26.0</b>

Note:

1. SP = Service population, defined as population plus employment within the specified boundary.

Source: SBTAM+ & Fehr & Peers, 2024.

### VMT Impact Conclusion

Overall, the VMT analysis shows that the SBTAM+ model predicts VMT/SP to decrease in the future under the PGP (2045) conditions compared to the AGP conditions. Although SBTAM+ is the best available tool to estimate VMT for the City of Chino (and the City has identified it as the most appropriate tool to estimate VMT as part of their VMT guidelines update), there are some qualitative factors impacting travel behavior that are not completely captured by the model.

- Gas Prices:** The cost of fuel has been shown to have a dramatic effect on people's choices regarding how much they drive. Gas prices have fluctuated in recent years due to a mix of geopolitical events, supply chain shifts, and domestic policy. The City of Chino does not have control of the cost of fuel; however, it is something the State could have control over as the legislature could impose regulations that would manage the cost of fuel to influence driver behavior to attain state goals. To date, the state has discussed measures that would influence VMT significantly, including a VMT tax or modifications to the fuel tax. These behavioral shifts leading to increased or decreased driving are not fully captured in SBTAM+ outputs, which assume static economic inputs and are unable to represent sudden market or policy changes.
- Telecommuting:** The increase (and potential decrease) of remote or hybrid work may impact VMT. While the COVID-19 pandemic contributed to a reduction in commuting, subsequent reversals back

to in-person or hybrid work may vary widely amongst employers or even regions. SBTAM+ is not able to represent changes in commuting behavior due to varying internal changes amongst large employers or regions.

- **Economic Shifts:** Economic changes can influence commuting behavior and subsequently VMT impacts. Economic recoveries or downturns can trigger increases in commuting, business travels, or deliveries. For example, regional accelerated job growth that outpaces housing production may incentivize a larger population of people to commute longer distances outside of the City. On the other hand, economic downturns may also result in difficulties in finding local employment and increased longer distance commutes. SBTAM+ applies regional employment growth assumptions but cannot capture short-term economic surges or variations in regional development that impact VMT.
- **Consumer Trends and Cultural Shifts:** Consumer preferences, lifestyle habits, and social norms may also impact VMT in multiple ways. The rise of e-commerce and on-demand delivery services have replaced some personal trips but generate commercial vehicle miles instead. The streamlining of these services or introduction of new on-demand services could result in varying local and regional VMT changes. Generational culture shifts such as preferences towards or away from vehicle ownership can also result in long-term travel behavior changes. SBTAM+ is not able to accurately model the nuances of evolving consumer trends and cultural preferences.

Although the findings from the modeling indicate that the PGP is beneficial from a VMT efficiency perspective using the best tool available in San Bernardino County, the uncertainty of driving behavior due to the economy, gas prices, telecommuting changes, and consumer trends could dramatically influence VMT production in the City. As the modeling assumes a fully implemented PGP that will reduce VMT compared to the AGP as shown in Tables 4 and 5, projects that occur before buildout may increase VMT until the cumulative condition is reached. Although CEQA does not require the assessment to investigate speculative and unforeseeable circumstances, for the purposes of a Citywide planning effort, the City is recommended to disclose a significant VMT impact due to speculative influences to provide complete transparency.

At the Project level, these qualitative factors largely outside of the City's control could result in higher-than-modeled VMT levels from both within and outside the City. Given this information, the project-level VMT impact is considered **significant and unavoidable**.

At the Cumulative level, these factors can easily scale at the City level and result in higher-than-modeled VMT levels on the City's roadway network. These qualitative factors could also have an effect on regional VMT goals. Regional and statewide policy uncertainties further limit the ability to rely solely on SBTAM+ modeled VMT results. Given this information, the cumulative-level VMT impact is considered **significant and unavoidable**.

As the PGP encompasses many different individual projects, potential mitigations to address this significant VMT impact would need to be applied to the citywide level. The following policies in the PGP support VMT reduction within the City:

- **Regional network:** Support the development of regional transportation facilities that ensure the safe and efficient movement of people and goods between the city and outside areas, accommodating regional travel demands while minimizing adverse transportation impacts on Barstow residents and businesses.
- **Traffic management:** Utilize intelligent transportation systems and research changing trends in mobility to more efficiently and safely move people and vehicles while managing motor vehicle speeds.
- **Pedestrian Network:** Establish and maintain pedestrian walkways that promote safe and convenient travel to transit stops and between residential and commercial areas, schools, parks, recreation facilities and other key destination points.
- **Bicycle Network:** Establish and maintain a citywide bicycle network that consists primarily of Class I multipurpose trails, Class II bike lanes, or Class IV separated bikeways. Additionally:
  - Class III bike routes are acceptable facilities in constrained circumstances to attain connectivity.
  - When truck routes and bicycle facilities share a right-of-way, provide safe separation between bicycle and truck traffic through the designation of Class I multipurpose trails, enhanced Class II lanes, or Class IV separated bikeways.
- **Transit service:** Coordinate with Omnitrans to provide residents and workers with accessible and convenient service between residential neighborhoods, commercial centers, educational facilities, employment nodes, and medical facilities. Coordinate with Omnitrans to install, improve, and maintain safe, clean, comfortable, well-lit, and rider-friendly transit stops that are well marked and visible to motorists.
- **Downtown Chino:** Enhance the public realm to create a pedestrian- and transit-friendly environment along Central Avenue between Riverside Drive and Chino Avenue at the center of the City. Promote increased development or rezone areas of the City to shift housing into the Downtown area to foster a mixed-use district with proximity to transit connections and pedestrian facilities.
- **Public space and networks:** Leverage public rights-of-way, easements, and other public spaces to maintain and expand bicycle and pedestrian networks.
- **Access management:** Minimize access points and curb cuts along primary and secondary arterials and in the proximity of an intersection to improve traffic flow and safety for vehicles and bicycles. Eliminate and/or consolidate driveways when new development occurs or when traffic operation or safety warrants.

- **Site design:** Require new development to incorporate amenities and pathways so that pedestrians and bicyclists can access the site and onsite businesses safely and conveniently from the public right-of-way and parking areas.
- **VMT reduction:** Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.
- **Train facilities:** Support improvements to roadways and rail facilities that increase the efficiency of goods movement; enhance the safety of rail operations, motor vehicles, and non-motorized modes of mobility; and minimize noise and vibration impacts on sensitive land uses.

While these policies and standard conditions of approval could help reduce VMT in the City, the applicability of them as project-level mitigation would be dependent on the significance and context of individual projects and the size of the impact. Additional analysis would need to be conducted to determine how and where the mitigation measures would need to be implemented to mitigate the impact of the project. As the VMT impact would be citywide, the mitigation measures would be focused on changing or improving the citywide travel patterns, transportation network, or infrastructure. The cost of implementing these measures is unknown and could vary substantially. If some or all these measures are included in a capital improvement program, the payment of the fees occurs incrementally meaning that development happens first to the pay the fees, and then the improvements can be constructed once sufficient revenue is collected. Given the uncertainty of the effectiveness of implementing these mitigation measures at a citywide level in the short-term implementation of the PGP, the impact would be significant and unavoidable in the short-term, and less than significant at buildout. Nonetheless, the VMT impact is considered ***significant and unavoidable***.

## Attachments

**Attachment A – Final Chino General Plan Roadway Segment Forecasts and Analysis**

**Attachment B – City of Chino General Plan Modeling & Forecasting Assumptions**

## Attachment A: Final Chino General Plan Roadway Segment Forecasts and Analysis

No	Roadway	Classification	Existing (2021) Conditions					Future (2045) Conditions				
			Lanes	ADT	Capacity	V/C	LOS	Lanes	ADT	Capacity	V/C	LOS
1	Benson Avenue from Philadelphia Street to Walnut Avenue	Secondary Arterial	4	10,583	28,000	0.38	A	4	10,590	28,000	0.38	A
2	Benson Avenue from Chino Avenue to Schaefer Avenue	Secondary Arterial	2	3,289	16,000	0.21	A	2	3,290	16,000	0.21	A
3	Benson Avenue from Francis Avenue to SR-60	Secondary Arterial	4	N/A	28,000	N/A	N/A	2	6,619	16,000	0.41	A
4	Central Avenue from Philadelphia Street to Walnut Avenue	Major Arterial	6	38,206	56,100	0.68	B	8	41,750	74,800	0.56	A
5	Central Avenue from Chino Avenue to Schaefer Avenue	Major Arterial	4	23,719	37,400	0.63	B	6	24,110	56,100	0.43	A
6	Central Avenue from Edison Avenue to Eucalyptus Avenue	Major Arterial	4	26,108	37,400	0.70	B	6	26,520	56,100	0.47	A
7	Central Avenue from El Prado to SR 71	Major Arterial	6	23,358	56,100	0.42	A	6	23,990	56,100	0.43	A
8	Chino Avenue from Monte Vista Avenue to Central Avenue	Secondary Arterial	2	8,360	16,000	0.52	A	2	13,910	16,000	0.87	D
9	Chino Avenue from Monte Vista Avenue to Benson Avenue	Secondary Arterial	2	N/A	16,000	N/A	N/A	2	6,681	16,000	0.42	A
10	Chino Avenue from Oaks Avenue to Mountain Avenue	Secondary Arterial	4	8,193	28,000	0.29	A	4	12,730	28,000	0.45	A
11	Chino Avenue from West City Limit to East End Avenue	Major Arterial	4	17,096	37,400	0.46	A	6	19,810	56,100	0.35	A
12	Chino Corona Rd North-South from Pine Avenue to Chino Corona Rd East-West	Collector	2	3,687	15,000	0.25	A	2	3,690	15,000	0.25	A
13	Chino Hills Pkwy from West City Limit to Monte Vista Avenue	Primary Arterial	4	27,317	30,000	0.91	E	4	28,250	30,000	0.94	E
14	Edison Avenue from Monte Vista Avenue to Central Avenue	Major Arterial	4	18,880	37,400	0.50	A	6	37,360	56,100	0.67	B
15	Edison Avenue from Oaks Avenue to Mountain Avenue	Major Arterial	4	20,084	37,400	0.54	A	6	42,720	56,100	0.76	C
16	El Prado Road from Kimball Avenue to Pine Avenue	Secondary Arterial	2	6,753	16,000	0.42	A	4	6,760	28,000	0.24	A
17	Eucalyptus Avenue from Monte Vista Avenue to Central Avenue	Secondary Arterial	4	9,580	28,000	0.34	A	4	9,580	28,000	0.34	A
18	Eucalyptus Avenue from Oaks Avenue to Mountain Avenue	Primary Arterial	4	6,674	30,000	0.22	A	4	7,440	30,000	0.25	A
19	Eucalyptus Avenue from West City Limit to Pipeline Avenue	Primary Arterial	4	13,724	30,000	0.46	A	4	14,520	30,000	0.48	A
20	Euclid Avenue from Chino Avenue to Schaefer Avenue	Highway	4	25,404	40,900	0.62	B	8	57,990	81,700	0.71	C
21	Euclid Avenue from Eucalyptus Avenue to Merrill Avenue	Highway	4	27,223	40,900	0.67	B	8	56,070	81,700	0.69	B
22	Euclid Avenue from Pomona Rincon Road to SR 71	Highway	4	34,512	40,900	0.84	D	8	61,250	81,700	0.75	C
23	Francis Avenue from Yorba to Monte Vista Avenue	Secondary Arterial	2	3,138	16,000	0.20	A	4	3,140	28,000	0.11	A
24	Grand Avenue from West City Limit to Pipeline Avenue	Major Arterial	8	27,610	74,800	0.37	A	8	33,680	74,800	0.45	A
25	Hellman Avenue from Kimball Avenue to Pine Avenue	Primary Arterial	4	15,315	30,000	0.51	A	4	17,700	30,000	0.59	A
26	Hellman Avenue from Legacy Park Street to Chandler Street	Primary Arterial	2	8,591	18,000	0.48	A	4	17,700	30,000	0.59	A
27	Kimball Avenue from Mill Creek Avenue to Main Street	Primary Arterial	4	18,474	30,000	0.62	B	4	42,110	30,000	1.40	F
28	Merrill Avenue from Grove Avenue to Flight Avenue	Secondary Arterial	2	13,982	16,000	0.87	D	4	18,800	28,000	0.67	B
29	Monte Vista Avenue from Philadelphia Street to Walnut Avenue	Secondary Arterial	2	9,568	16,000	0.60	A	2	9,820	16,000	0.61	B
30	Monte Vista Avenue from Chino Avenue to Schaefer Avenue	Secondary Arterial	2	7,197	16,000	0.45	A	2	7,200	16,000	0.45	A
31	Monte Vista Avenue from Edison Avenue to Eucalyptus Avenue	Secondary Arterial	4	7,112	28,000	0.25	A	4	9,590	28,000	0.34	A
32	Mountain Avenue from Philadelphia Street to Walnut Avenue	Major Arterial	4	29,061	37,400	0.78	C	6	42,570	56,100	0.76	C
33	Mountain Avenue from Chino Avenue to Schaefer Avenue	Primary Arterial	4	13,400	30,000	0.45	A	4	13,400	30,000	0.45	A
34	Philadelphia Street from Yorba Avenue to Monte Vista Avenue	Secondary Arterial	2	9,978	16,000	0.62	B	4	19,790	28,000	0.71	C
35	Philips Blvd From West City Limits to Benson Avenue	Secondary Arterial	2	3,532	16,000	0.22	A	4	3,540	28,000	0.13	A
36	Pine Avenue from El Prado Road to Euclid Avenue	Primary Arterial	2	6,962	18,000	0.39	A	4	31,520	30,000	1.05	F
37	Pine Avenue from Rincon Meadows Avenue to West Preserve Loop	Major Arterial	4	29,585	37,400	0.79	C	6	51,560	56,100	0.92	E
38	Pipeline Avenue from Philadelphia Street to Walnut Ave	Secondary Arterial	2	9,313	16,000	0.58	A	4	9,320	28,000	0.33	A
39	Pipeline Avenue from Chino Avenue to Schaefer Avenue	Secondary Arterial	4	12,023	28,000	0.43	A	4	13,880	28,000	0.50	A
40	Ramona Avenue from Philadelphia Street to Walnut Ave	Primary Arterial	4	14,131	30,000	0.47	A	4	14,140	30,000	0.47	A
41	Riverside Dr from Monte Vista Avenue to Central Avenue	Major Arterial	4	15,945	37,400	0.43	A	6	17,400	56,100	0.31	A
42	Riverside Dr from Oaks Avenue to Mountain Avenue	Major Arterial	4	15,476	37,400	0.41	A	6	16,100	56,100	0.29	A
43	Riverside Dr from Reservoir Avenue to SR-71	Major Arterial	4	15,834	37,400	0.42	A	6	16,300	56,100	0.29	A
44	San Antonio Avenue from Philadelphia Street to Walnut Ave	Secondary Arterial	4	8,284	28,000	0.30	A	4	11,120	28,000	0.40	A
45	San Antonio Avenue from Chino Avenue to Schaefer Avenue	Collector	2	1,800	15,000	0.12	A	2	2,500	15,000	0.17	A
46	Schaefer Avenue from Central Avenue to Benson Avenue	Primary Arterial	4	N/A	30,000	N/A	N/A	4	23,223	30,000	0.77	C
47	Schaefer Avenue from Monte Vista Avenue to Central Avenue	Primary Arterial	4	17,198	30,000	0.57	A	4	20,610	30,000	0.69	B
48	Schaefer Avenue from Oaks Avenue to Mountain Avenue	Primary Arterial	4	18,670	30,000	0.62	B	4	22,335	30,000	0.74	C
49	Walnut Avenue from Monte Vista Avenue to Central Avenue	Secondary Arterial	2	7,832	16,000	0.49	A	2	8,910	16,000	0.56	A
50	Walnut Avenue from Oaks Avenue to Mountain Avenue	Secondary Arterial	2	8,779	16,000	0.55	A	2	8,780	16,000	0.55	A

Note:

1. Segments with LOS E or F are highlighted in red.

Source: SBTAM+, 2024

# Draft Memorandum

Date: December 3, 2024  
To: Andrew Hill, Dyett and Bhatia  
From: Paul Herrmann, P.E.  
Ethan Yue Sun, Ph.D  
**Subject: City of Chino General Plan Modeling & Forecasting Assumptions**

OC22-0918

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Fehr & Peers has prepared this memorandum to disclose traffic modeling assumptions that are reflective of the Proposed General Plan (PGP) Circulation Element for City of Chino, California.

## Background

Fehr & Peers previously prepared a traffic forecasting assessment for the Adopted General Plan (AGP) scenario in *City of Chino General Plan Circulation Element Preliminary Roadway Traffic Forecasting Analysis* (January 19, 2023) which is included as **Attachment A**. The previous assessment observed that several roadways are classified as Major Arterials and are programmed to be widened to add a lane in each direction. However, the future forecasts do not warrant the increase in capacity, nor is there room within the curb-to-curb space to perform the widening. Several reductions in roadway classifications were recommended for the PGP based on these findings. Fehr & Peers will incorporate these changes in the traffic forecasting for the EIR analysis.

## Forecasting Methodology

The San Bernardino Transportation Analysis Model Plus (SBTAM+) was adopted in summer of 2024. It will be used to generate traffic forecasts and conduct Vehicle Miles Traveled (VMT) analysis for this assessment. SBTAM+ has been calibrated to align with the SCAG 2024 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), using a 2019 base year and projecting to 2050.

### ***Roadway Network Assumptions***

Fehr & Peers has updated the SBTAM+ base year roadway networks to reflect the existing (2024) conditions by adding in roadways that are shown on the Circulation Element Map and roadways that have been constructed recently, such as in the Preserve area. The AGP scenario roadway network in Chino will align with the SBTAM+ 2050 scenario, which is consistent with the SCAG 2024 RTP/SCS. The number of lanes for the updated SBTAM+ 2019 base year and 2050 future year scenarios are illustrated in **Figures 1** and **2**. A detailed list of funded and planned roadway infrastructure projects that are assumed in SBTAM+, consistent with the SCAG RTP/SCS, are included as **Attachment B**.

Key local and regional improvements assumed in future conditions include:

- Central Avenue:
  - Widening to six lanes within City of Montclair limits
  - Widening to six lanes from Chino/Montclair limit to Francis Avenue
  - Widening to eight lanes from Francis Avenue to Riverside Drive
  - Widening to six lanes from Riverside Drive to SR-71
- Chino Avenue: Widening to six lanes from SR-71 Northbound Ramps to East End Avenue
- Edison Avenue/Ontario Ranch Road:
  - Widening to six lanes from Romona Avenue to Euclid Avenue in Chino
  - Widening to eight lanes east of Euclid Avenue in Ontario
- Euclid Avenue:
  - Relinquishment of Euclid Avenue (SR-83) from Caltrans
  - Widening North Bound Euclid Avenue from two to four lanes from Riverside Drive to Merrill Avenue
  - Widening to eight lanes from Kimball Avenue to SR-71
- Mountain Avenue: Widening to six lanes from Philadelphia Street to Riverside Drive
- Pine Avenue:
  - Extension from El Prado Road to SR-71
  - Widening to four lanes from SR-71 to Euclid Avenue
  - Widening to six lanes from Euclid Avenue to Harrison Avenue
- Riverside Drive:
  - Widening to six lanes from Pipeline Avenue to Euclid Avenue
  - Widening to six lanes Ficus Street to Reservoir Street
- SR-71:
  - Widening to 3 lanes each direction from SR-91 to San Bernardino County line
  - Includes new interchange configuration currently under construction at SR-91

- Eastvale Development:
  - Limonite Avenue widening to six lanes east of Archibald Avenue
  - Limonite Avenue bridge extension project connecting to Kimball Avenue (four lanes)
- Ontario Ranch Development:
  - Many roadway widenings within the Ontario Ranch area adjacent to Chino are proposed that would provide four to six lanes, including:
    - Chino Avenue from Euclid Avenue to Milliken Boulevard (four lanes)
    - Eucalyptus Avenue from Euclid Avenue to Milliken Boulevard (four lanes)
    - Merrill Avenue from Euclid Avenue to Ontario Avenue (four lanes)
    - Ontario Ranch Road from Euclid Avenue to Milliken Boulevard (eight lanes)
    - Schaefer Avenue from Euclid Avenue to Haven Avenue (four lanes)
    - Vineyard Avenue from Riverside Drive to Merrill Avenue (six lanes)

### *Land Use Assumptions*

Within the City of Chino, base year 2019 and future year 2050 land use estimates recently prepared by the City for the 2024 SCAG RTP/SCS Update. The land use assumptions for each model year are summarized in **Table 1**. Fehr & Peers will update the land use assumptions in SBTAM+ to align with the City’s estimates for both existing and future conditions within the City of Chino.

**Table 1: Land Use Inputs Summary**

Land Use	City of Chino 2019	City of Chino 2050
Households (HH)	25,906	40,089
Total Employees	51,252	62,374
Retail Employees <sup>1</sup>	9,584	14,169
Non-Retail Employees	41,668	48,205

Notes:

1. Retail Employment is the sum of retail, art, entertainment, and recreation employment.

### *Proposed Plan*

The PGP land use data is anticipated to have the same net increases in households, population and employment consistent with the Citywide growth projections in the SCAG RTP/SCS. However, Dyett & Bhatia has identified key focus areas where the growth is anticipated to occur and will provide adjusted land use data by TAZ for Fehr & Peers to employ in the PGP modeling.

The PGP scenario will reflect the Roadway Classification changes and Ultimate Number of Lanes map

consistent with **Table 2**. The number of lanes for the 2050 PGP future year scenario are illustrated in **Figure 3**.

**Table 2: PGP Map Revisions**

Roadway	AGP Scenario		PGP Scenario	
	Classification	# of Lanes	Classification	# of Lanes
Central Ave from El Prado Rd to Riverside Dr	Major Arterial	6	Primary Arterial	4
Riverside Dr from Pipeline Ave to Euclid Ave	Major Arterial	6	Primary Arterial	4
Chino Ave from West City Limit to East End Ave	Major Arterial	6	Secondary Arterial	4
Chino Avenue from Monte Vista Ave to Benson Ave	Secondary Arterial	4	Secondary Arterial	2
Schaefer Ave from Central Ave to Benson Ave	Major Arterial	6	Primary Arterial	4
Benson Avenue from Francis Ave to SR-60	Secondary Arterial	4	Secondary Arterial	2

The PGP scenario will reflect the Roadway Classification changes and Ultimate Number of Lanes map consistent with **Table 2**.

## Schedule

Fehr & Peers anticipates the following schedule upon receipt of the land use data from Dyett & Bhatia:

- 2 weeks: AGP & PGP land use review and traffic modeling
- 4 weeks: Draft VMT forecasts, draft forecasts for AQ/GHG/Noise
- 6 weeks: Draft VMT assessment
- 8 weeks: Finalize Circulation Element Map

## Figures

**Figure 1 – Updated SBTAM+ Base Year 2019 Roadway Network Number of Lane Plot**

**Figure 2 – Updated SBTAM+ Future Year 2050 AGP Scenario Roadway Network Number of Lane Plot**

**Figure 3- Updated SBTAM+ Future Year 2050 PGP Scenario Roadway Network Number of Lane Plot**

## Attachments

**Attachment A – City of Chino General Plan Circulation Element Preliminary Roadway Traffic Forecasting Analysis Memo**

**Attachment B – 2024 SCAG RTP/SCS Financially Constrained Project List**

Figure 1 – Updated SBTAM+ Base Year 2019 Roadway Network Number of Lane Plot

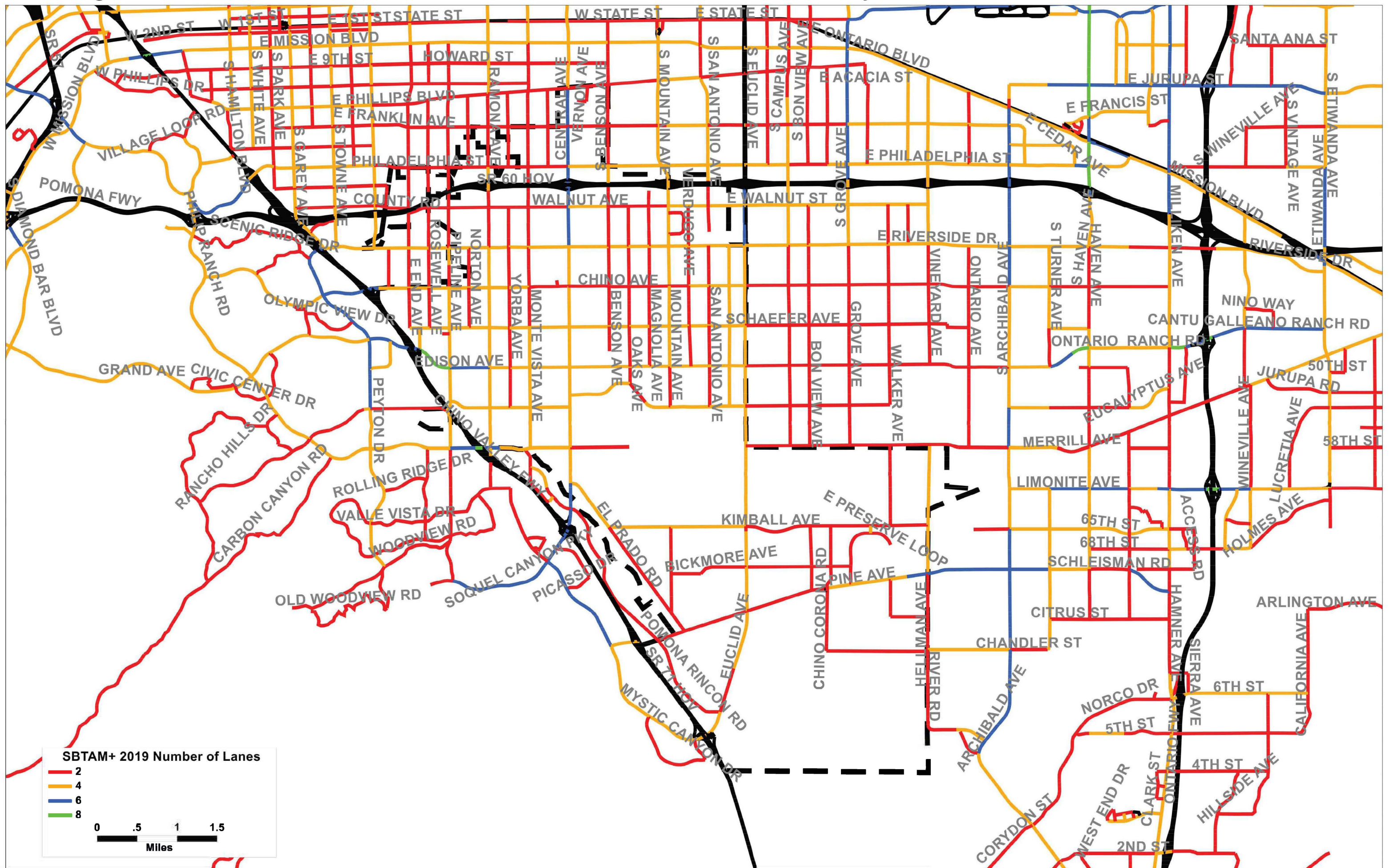


Figure 2 – Updated SBTAM+ Future Year 2050 AGP Scenario Roadway Network Number of Lane Plot

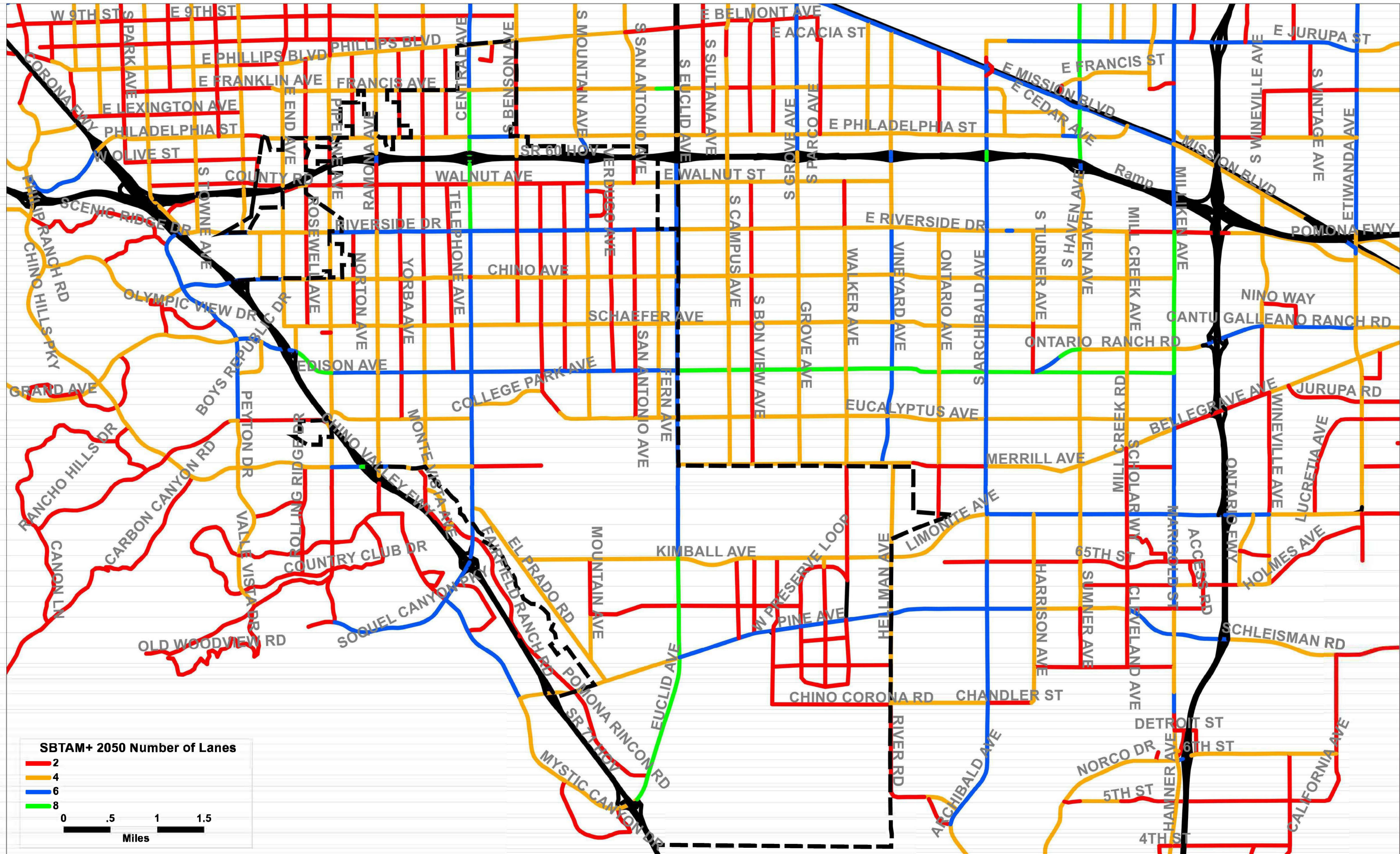
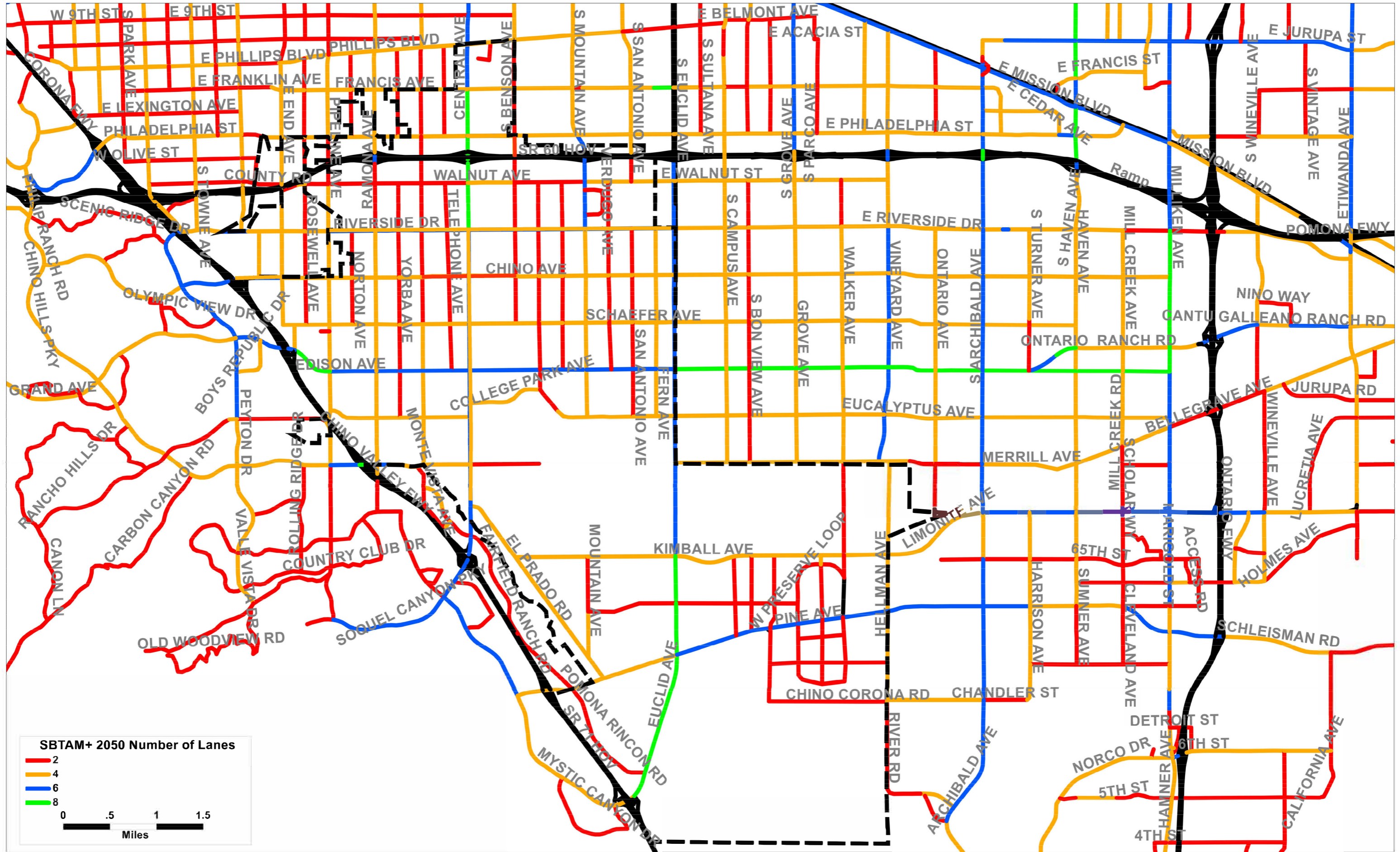


Figure 3 – Updated SBTAM+ Future Year 2050 PGP Scenario Roadway Network Number of Lane Plot



# Draft Memorandum

Date: January 19, 2023

To: Andrew Hill, Dyett and Bhatia

From: Paul Herrmann, P.E.  
Ethan Yue Sun, Ph.D

**Subject: City of Chino General Plan Circulation Element Preliminary Roadway Traffic Forecasting Analysis**

OC22-0918

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Fehr & Peers has completed preliminary traffic forecasting and Level of Service (LOS) analysis in support of the Chino General Plan Circulation Element. This memorandum details the traffic modeling approach, traffic volume forecasting, Level of Service (LOS) calculations, and our observations.

## Introduction

The purpose of this assessment is to prepare preliminary traffic forecasts to inform the City on potential changes that may be appropriate for consideration as part of the General Plan Update. The following draft information should be considered when reviewing the data:

- The future land use data in traffic modeling is reflective of the Southern California Association of Governments (SCAG) growth allocations for year 2040 and generally reflects the adopted Chino General Plan land use plan through 2040. This does **not** reflect the full buildout of the general plan land use.
- Decisions to widen or calm specific streets should consider additional variables beyond vehicular capacity, such as peak hour conditions, safety, collision frequency, the desire to prioritize specific modes of travel (e.g. prioritize the roadway for autos/trucks or prioritize the roadway for bicycles and pedestrians), and emergency access. However, using vehicular demand is a good initial screening criteria to consider at this stage.

## Modeling Approach

The San Bernardino Traffic Analysis Model (SBTAM) was utilized to prepare the traffic forecasts for this assessment. SBTAM began as the SCAG regional travel demand forecasting model and underwent a subarea model development to add detail and refinement within San Bernardino County. SBTAM was originally developed in 2012 and has undergone updates to the land use dataset and transportation network to reflect the SCAG 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) program with a 2016 base year and a 2040 future year projection.

Fehr & Peers updated the base year roadway networks to reflect the existing (2022) condition. The future year roadway network in Chino was updated to be consistent with the buildout of the Circulation Element. The model roadway network is provided as **Attachment A** for the existing scenario and **Attachment B** for the future year scenario. The Circulation Element roadway classifications are provided on **Figure 1**. Study roadway segments are shown on **Figure 2**.

Following direction received from the City of Chino, Fehr & Peers made the following updates to the land use assumptions in SBTAM to best reflect existing conditions and future conditions within the City of Chino and the broader surrounding areas:

1. Within the City of Chino, base year 2019 and future year 2050 land use estimates recently prepared for the 2024 SCAG RTP/SCS Update were utilized. In addition, this dataset was corrected to account for the recent developments in the Preserve Area.
2. The land uses within Ontario were updated to reflect the city's general plan buildout land use. The Ontario Plan (TOP) was adopted in 2022 by the City of Ontario and the 2019 base year and 2050 future year land use datasets were utilized to update SBTAM.
3. Within the City of Eastvale, the Leal Master Plan was reviewed to be consistent with ongoing planning efforts.

The land use assumptions for each model year are summarized in **Table 1** and data is presented by Traffic Analysis Zone (TAZ) for each scenario within the City of Chino in **Attachments C, D, E and F**.

**Table 1: Land Use Inputs Summary**

Land Use	City of Chino 2019	City of Chino 2050	City of Ontario <sup>3</sup> 2019	City of Ontario <sup>3</sup> 2050	Leal Master Plan (City of Eastvale) 2019	Leal Master Plan (City of Eastvale <sup>4</sup> ) 2050
Households (HH)	25,906	40,089	50,367	124,380	0	3,194
Population	90,869	128,352	179,597	410,492	0	10,592
Single-Family Household (SFHH)	19,640	23,278	25,163	45,790	0	2,533
Multi-Family Household (MFHH)	7,817	16,811	25,204	78,590	0	661
Population/HH	3.51	3.20	3.57	3.30	-	3.32
Total Employment	51,252	62,374	131,999	296,002	0	1,704
Retail Employment <sup>1</sup>	9,584	14,169	26,363	37,276	0	1,069
Non-Retail Employment	41,668	48,205	105,636	258,726	0	635

Notes:

1. Retail Employment is the sum of retail, art, entertainment, and recreation employment.
2. Census Household and population data are from 2020. Census Employment data is from 2019. The Census SFHH & MFHH are not available.
3. City of Ontario data are from *The Ontario Plan 2050* (August 2022)
4. Leal Project at City of Eastvale data are from *Leal Master Plan* (December 2017)

As shown in **Table 1**, the 2024 RTP forecast the social economic data growth in City of Chino from year 2019 to year 2050 are with 14,183 new households, 37,483 population increase, 4,585 new Retail Employment, and 6,537 new non-retail jobs. The Ontario Plan (TOP) has 74,013 new households, 230,895 population increase, 10,913 new Retail Employment, and 153,090 new non-retail jobs. In addition, the Leal Master Plan in the City of Eastvale included 2,533 Single-Family homes, 661 Multi-Family homes, and 1,704 Employments.

## Traffic Volume Forecasts

Traffic volume forecasts were prepared for 47 roadway segments for the Existing (2021) and Future (2045) scenarios. The study roadway segments chosen were coordinated with the City of Chino and cover all major arterials throughout the City. Daily traffic volumes for City streets were collected between April and May in 2021. Some 2021 traffic count data was not available and was supplemented through the use of a Big Data vendor, Streetlight. Streetlight uses anonymized information (ex. GPS data and location services enabled mobile devices) with advanced modeling to develop representative estimates of traffic volumes. The ADT data was pulled for a typical weekday (Tuesday–Thursday) in March 2021. Traffic growth between base and

future years was reviewed and added to Existing (2021) traffic counts to prepare the 2045 roadway segment forecasts. The traffic forecasts are provided as **Attachment G**.

## Traffic Operations Analysis

Capacity assessment was performed based on the Highway Capacity Manual (HCM) 6<sup>th</sup> Edition methodology. This methodology determines the level-of-service (LOS) based on a Volume-to-Capacity (V/C) ratio, letter grade criteria LOS A through F. As shown in **Table 2**, these grades range from LOS A (minimal delay) to LOS F (congested conditions). LOS E represents at-capacity operations. For the City of Chino, LOS D is the minimum acceptable standard for roadways.

**Table 2: Maximum Daily Motor Vehicle Volumes Level of Service**

No. Lanes	Highway		Major Arterial			Primary Arterial			Secondary Arterial		Collector
	4	8	4	6	8	2	4	6	2	4	2
LOS A	24,500	49,000	22,400	33,700	44,900	10,800	18,000	28,800	9,600	16,800	9,000
LOS B	28,600	57,200	26,200	39,300	52,400	12,600	21,000	33,600	11,200	19,600	10,500
LOS C	32,700	65,400	29,900	44,900	59,800	14,400	24,000	38,400	12,800	22,400	12,000
LOS D	36,800	73,500	33,700	50,500	67,300	16,200	27,000	43,200	14,400	25,200	13,500
LOS E	40,900	81,700	37,400	56,100	74,800	18,000	30,000	48,000	16,000	28,000	15,000

Source: *Highway Capacity Manual* 6th Edition (Transportation Research Board, 2017).

## Observations

Roadway capacities in future 2045 conditions reflect the full buildout of the Circulation Element. The following study segment on Chino Hills Parkway is forecast to be near or over capacity (LOS E or F) in 2045:

- Chino Hills Parkway from the West City Limit to Monte Vista Avenue (4-lane Primary Arterial, LOS F)

This roadway is forecast to operate below the adopted LOS standard (LOS D). It may not be feasible or in the City's best interest to widen these roads given the adjacent land uses, capital improvement costs, and other competing needs the street serves (like bicycles and pedestrians) that should also be considered in the Circulation Element when reserving future right-of-way.

Some roadway segments are forecast to have excess capacity and operate at LOS A or B under future conditions. These include segments along Riverside Drive, Chino Avenue, and Central Avenue as shown in **Table 3**. These roadways may be candidates for lane reductions and/or changes in roadway classification

in the Circulation Element. As shown in **Table 3**, these roadway segments are forecast to operate acceptably under existing capacity which are without the widening identified in the Circulation Element.

Other roadways have already been widened to the full extent and are candidates for road diets<sup>1</sup>. Those roadways would allow for the right-of-way to be repurposed to include traffic calming and/or multi-modal treatments such as pedestrian facilities, bicycle facilities, parking, or transit lane improvements.

**Table 3: Future Roadway Level of Service under Existing Capacity**

Roadway	Classification	Existing # of Lanes	Existing Capacity	2045 Forecast Volume	V/C	LOS
Central Ave from Philadelphia Street to Walnut Ave	Major Arterial	6	56,100	39,030	0.70	B
Central Avenue from Chino Avenue to Schaefer Avenue	Major Arterial	4	37,400	26,030	0.70	B
Central Avenue from Edison Avenue to Eucalyptus Avenue	Major Arterial	4	37,400	29,890	0.80	C
Chino Avenue from West City Limit to East End Avenue	Major Arterial	4	37,400	18,120	0.48	A
Riverside Dr from Monte Vista Avenue to Central Avenue	Major Arterial	4	37,400	16,090	0.43	A
Riverside Dr from Oaks Ave to Mountain Avenue	Major Arterial	4	37,400	22,390	0.60	A
Riverside Dr from Reservoir Avenue to SR-71	Major Arterial	4	37,400	16,610	0.44	A

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<sup>1</sup> A Road Diet is generally described as "removing travel lanes from a roadway and utilizing the space for other uses and travel modes." Refer to Federal Highway Administration's web site for more information at:

[https://safety.fhwa.dot.gov/road\\_diets/guidance/info\\_guide/ch1.cfm#n4](https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/ch1.cfm#n4)

## **Attachments**

**Attachment A – SBTAM Base Year Roadway Network**

**Attachment B – SBTAM Future Year Roadway Network**

**Attachment C – Chino 2019 Employment SED Review**

**Attachment D – Chino 2050 Employment SED Review**

**Attachment E – Chino 2019 Residential SED Review**

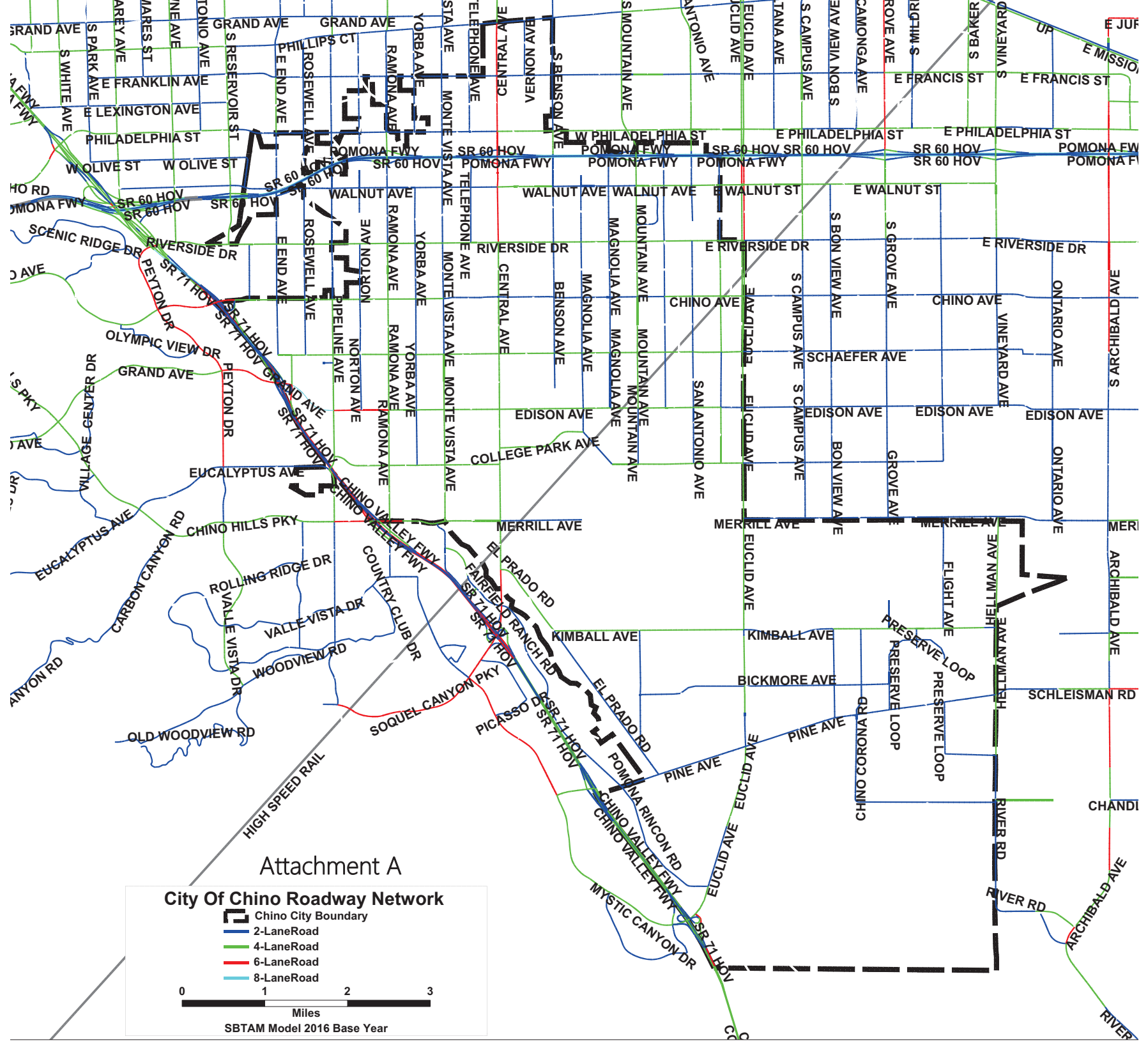
**Attachment F – Chino 2050 Residential SED Review**

**Attachment G – Roadway Segment Forecasts & LOS**

## **Figures**




**Figure 1 – Roadway Classification**

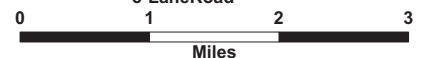
**Figure 2 – SBTAM Study Roadway Segments**



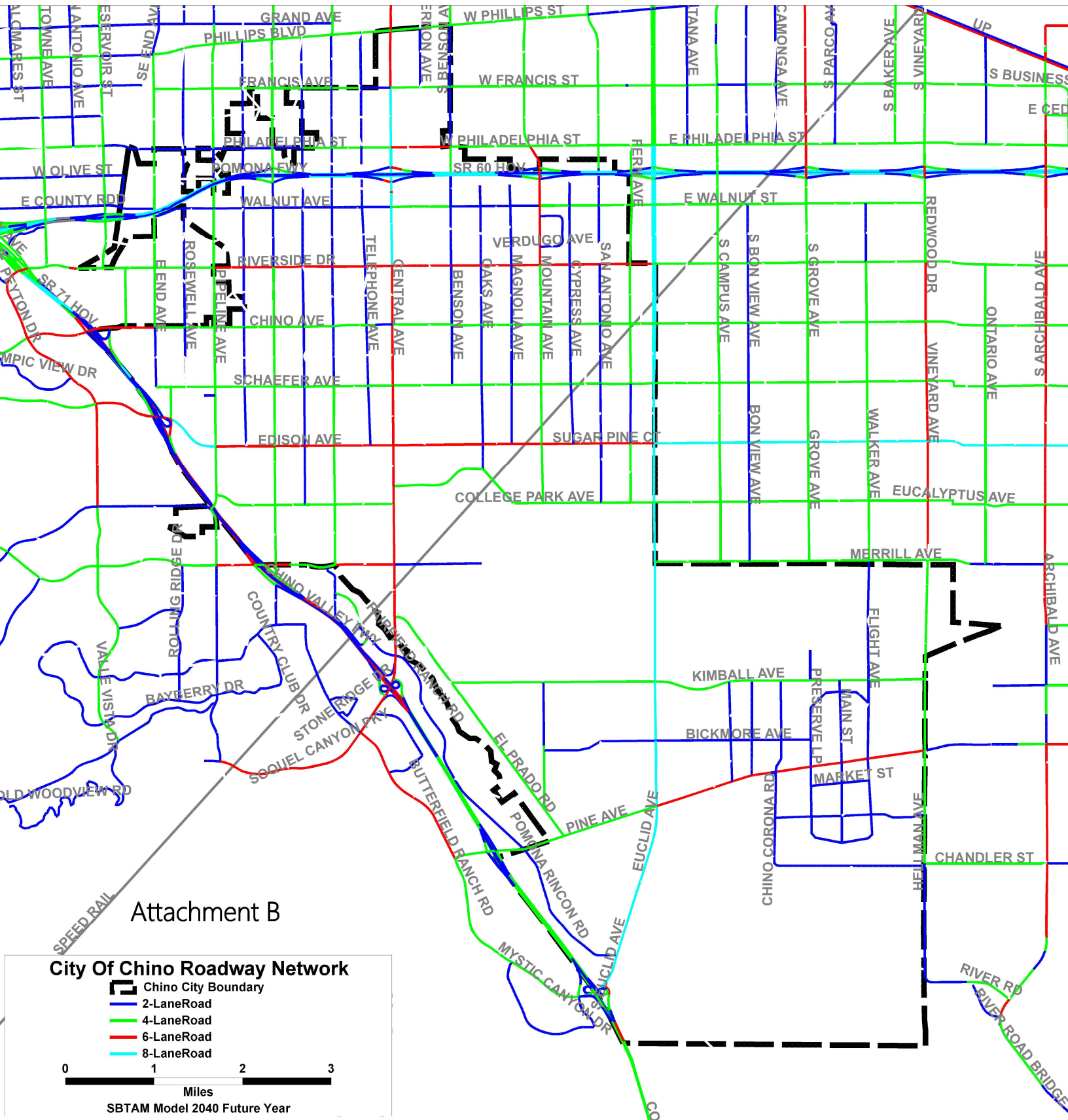
### Attachment A

#### City Of Chino Roadway Network

-  Chino City Boundary
-  2-Lane Road
-  4-Lane Road
-  6-Lane Road
-  8-Lane Road



SBTAM Model 2016 Base Year



Attachment B

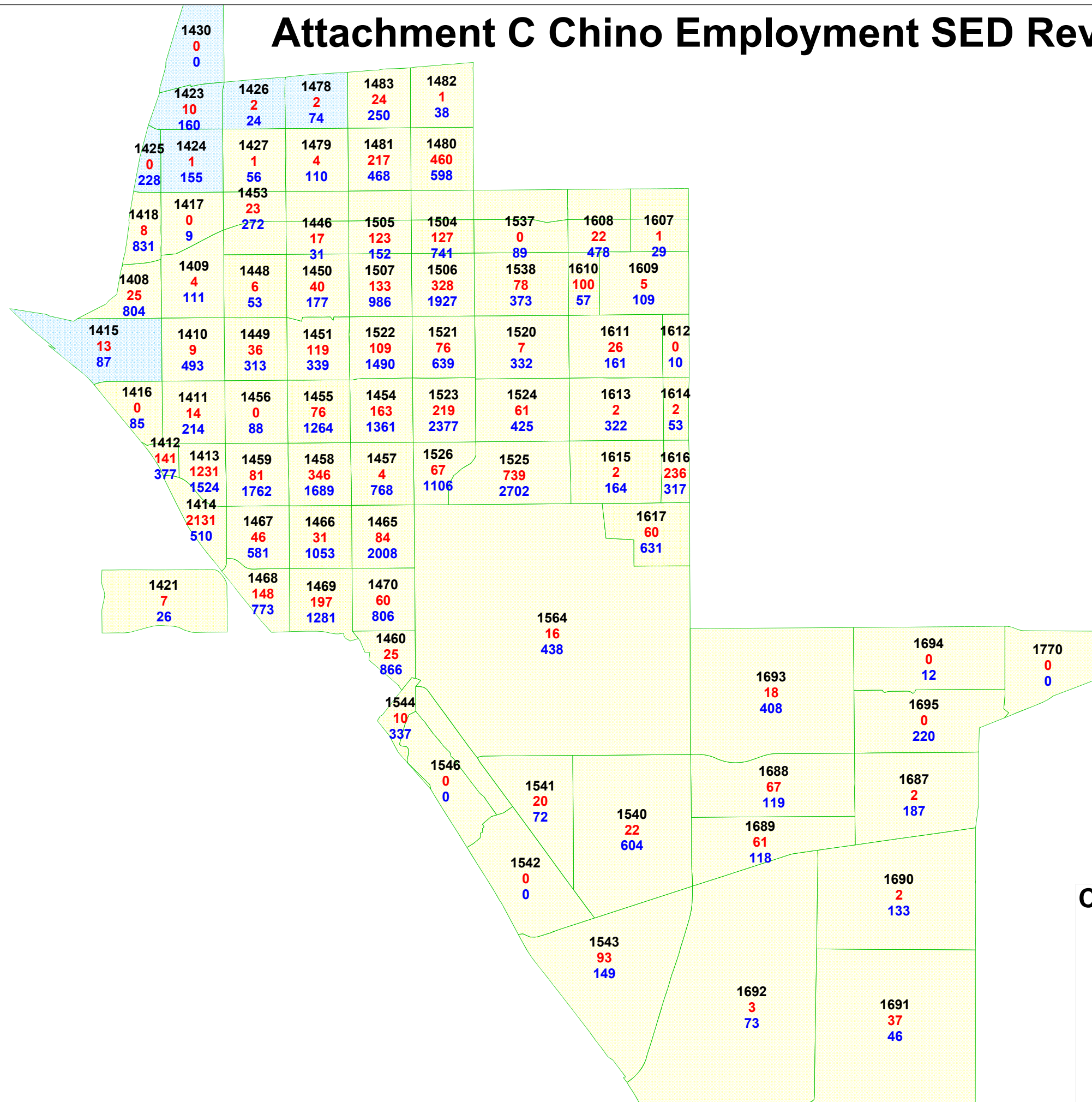
**City of Chino Roadway Network**

-  Chino City Boundary
-  2-Lane Road
-  4-Lane Road
-  6-Lane Road
-  8-Lane Road



SBTAM Model 2040 Future Year

# Attachment C Chino Employment SED Review BY 2019



Attachment C

## Chino Employment SED Review

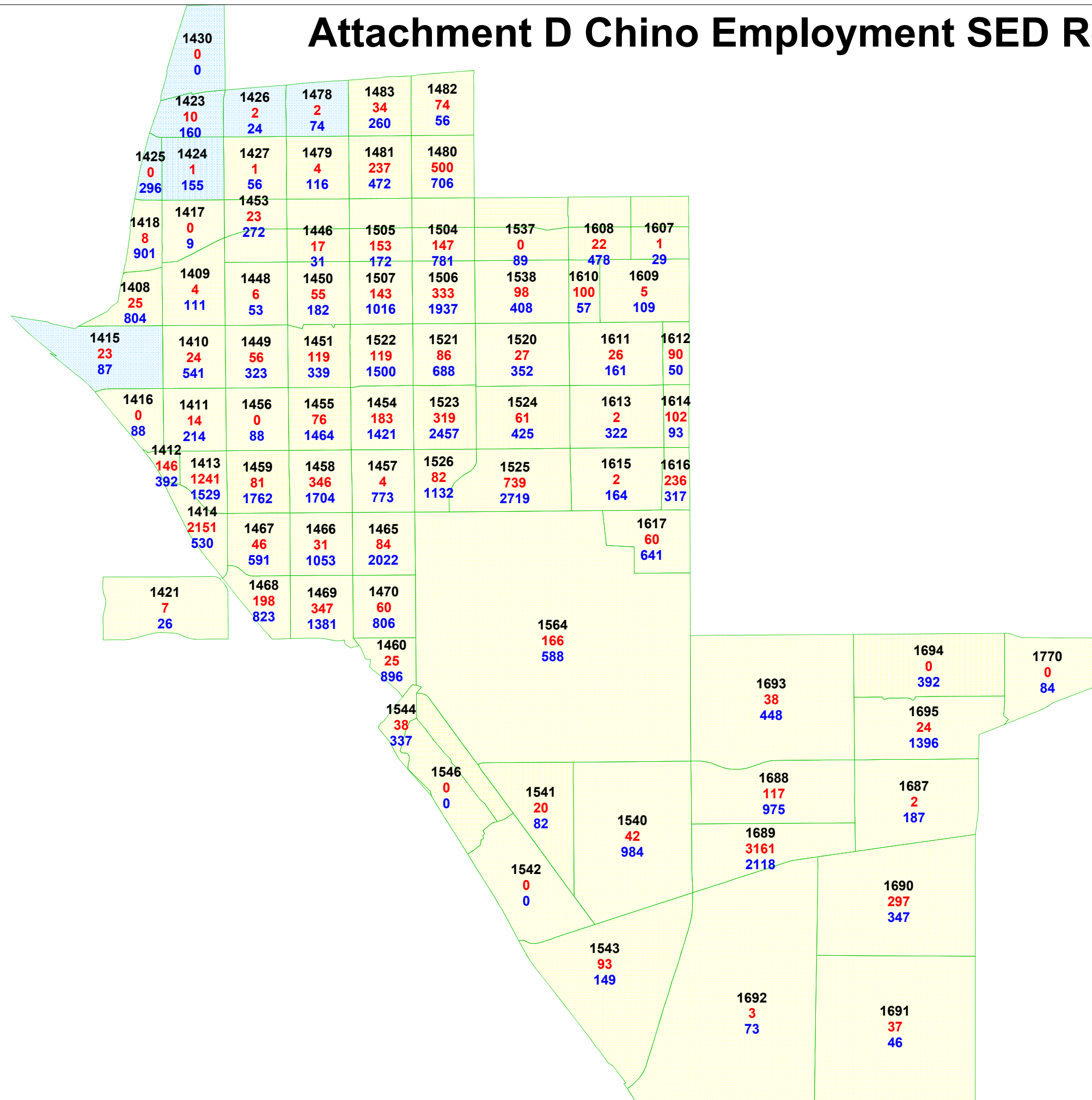
TAZ ID  
**Retail Employment**  
**Non-Retail Employment**

Chino TAZ  
 Chino SOI TAZ



Base Year 2019

# Attachment D Chino Employment SED Review FY 2050



Attachment D

## Chino Employment SED Review

TAZ ID

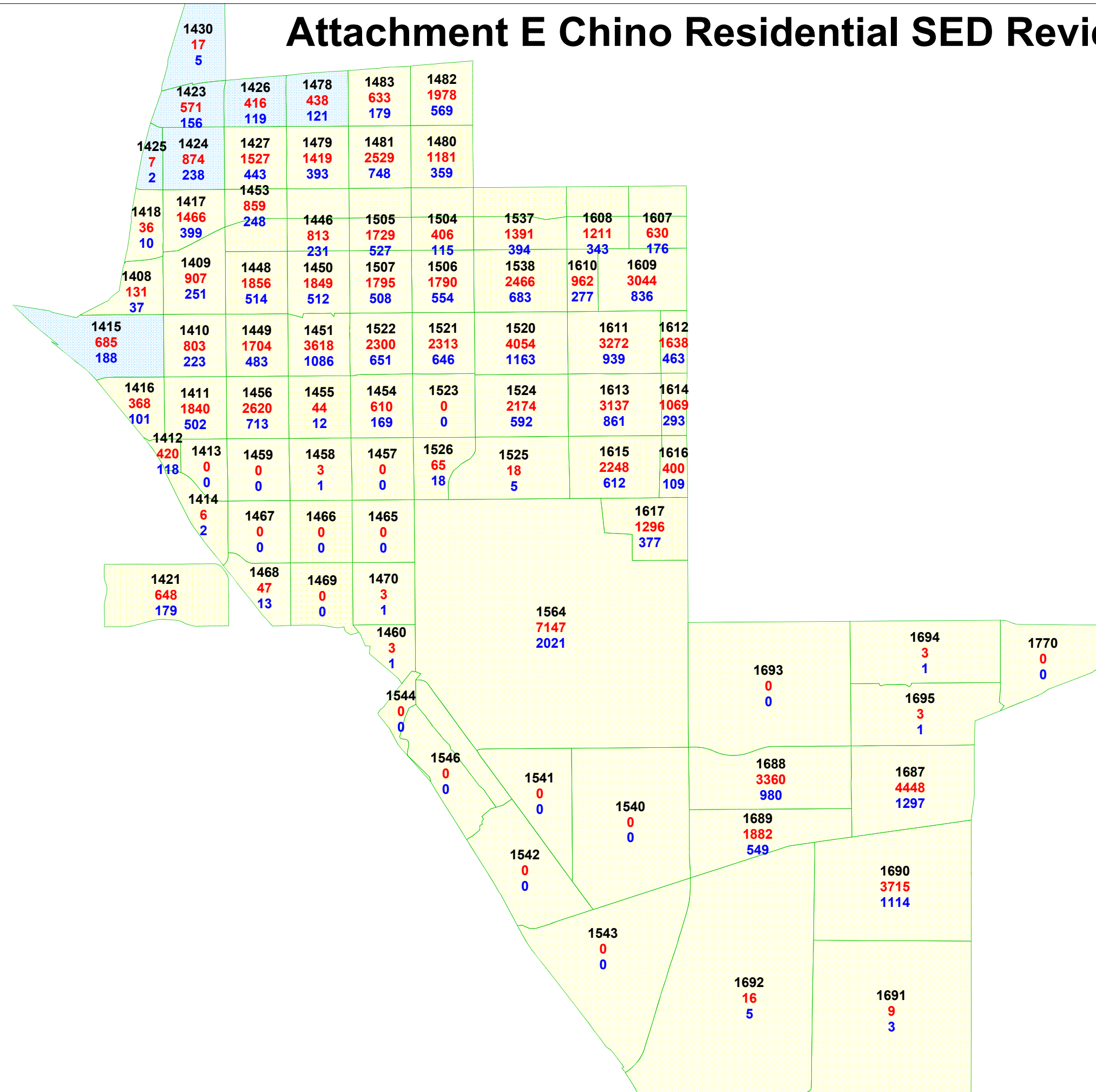
- Retail Employment
- Non-Retail Employment

- Chino TAZ
- Chino SOI TAZ

0 1 2 Miles

Future Year 2050

# Attachment E Chino Residential SED Review BY 2019



Attachment E

### Chino Residential SED Review

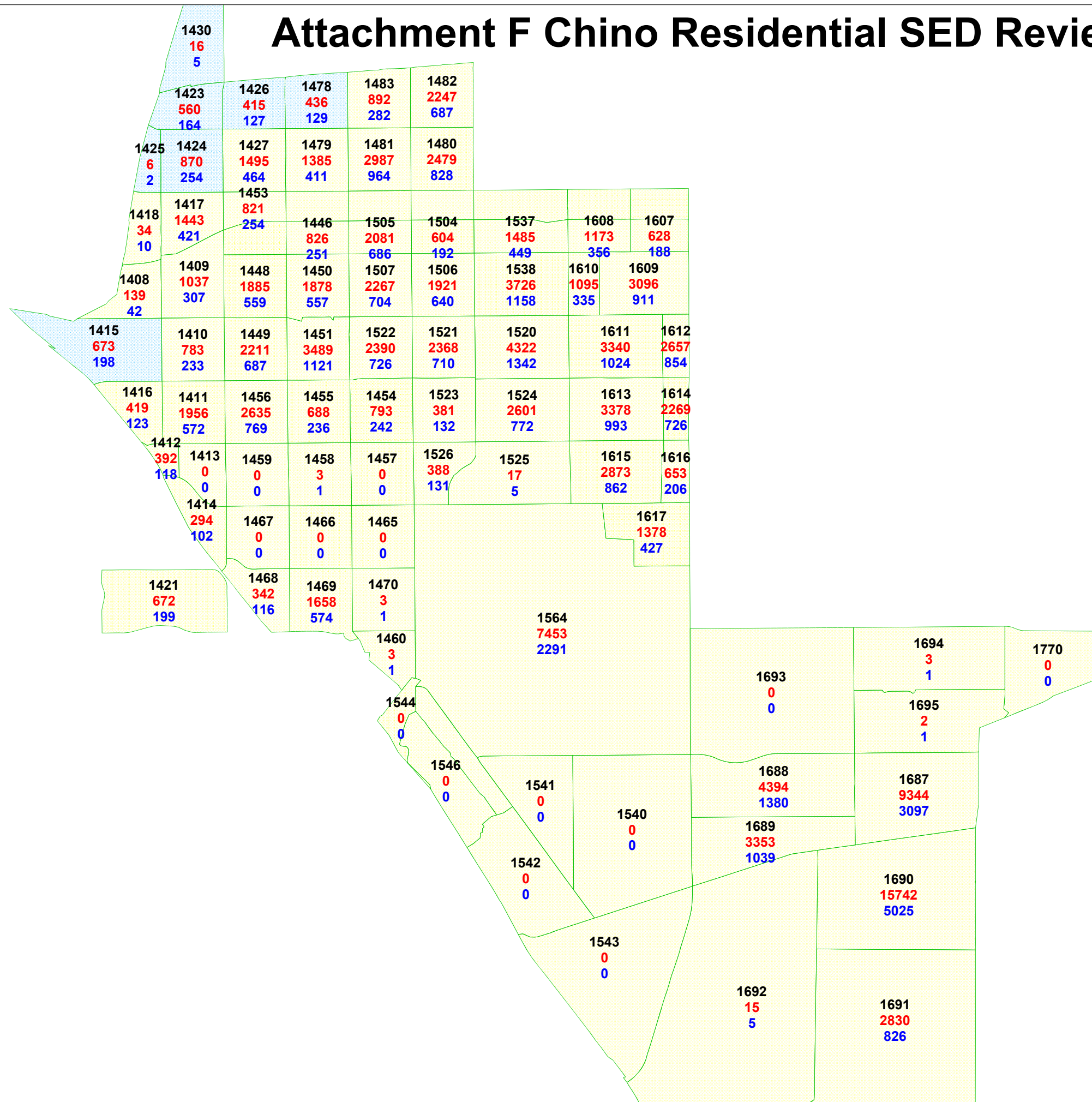
TAZ ID

- Population
- Household

- Chino TAZ
- Chino SOI TAZ

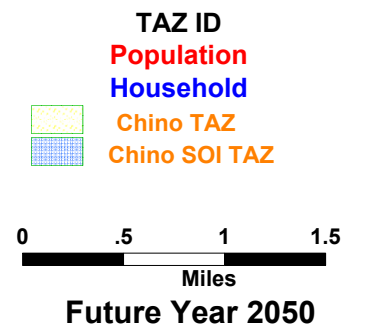
0 .5 1 1.5  
Miles  
Base Year 2019

# Attachment F Chino Residential SED Review FY 2050



Attachment F

## Chino Residential SED Review



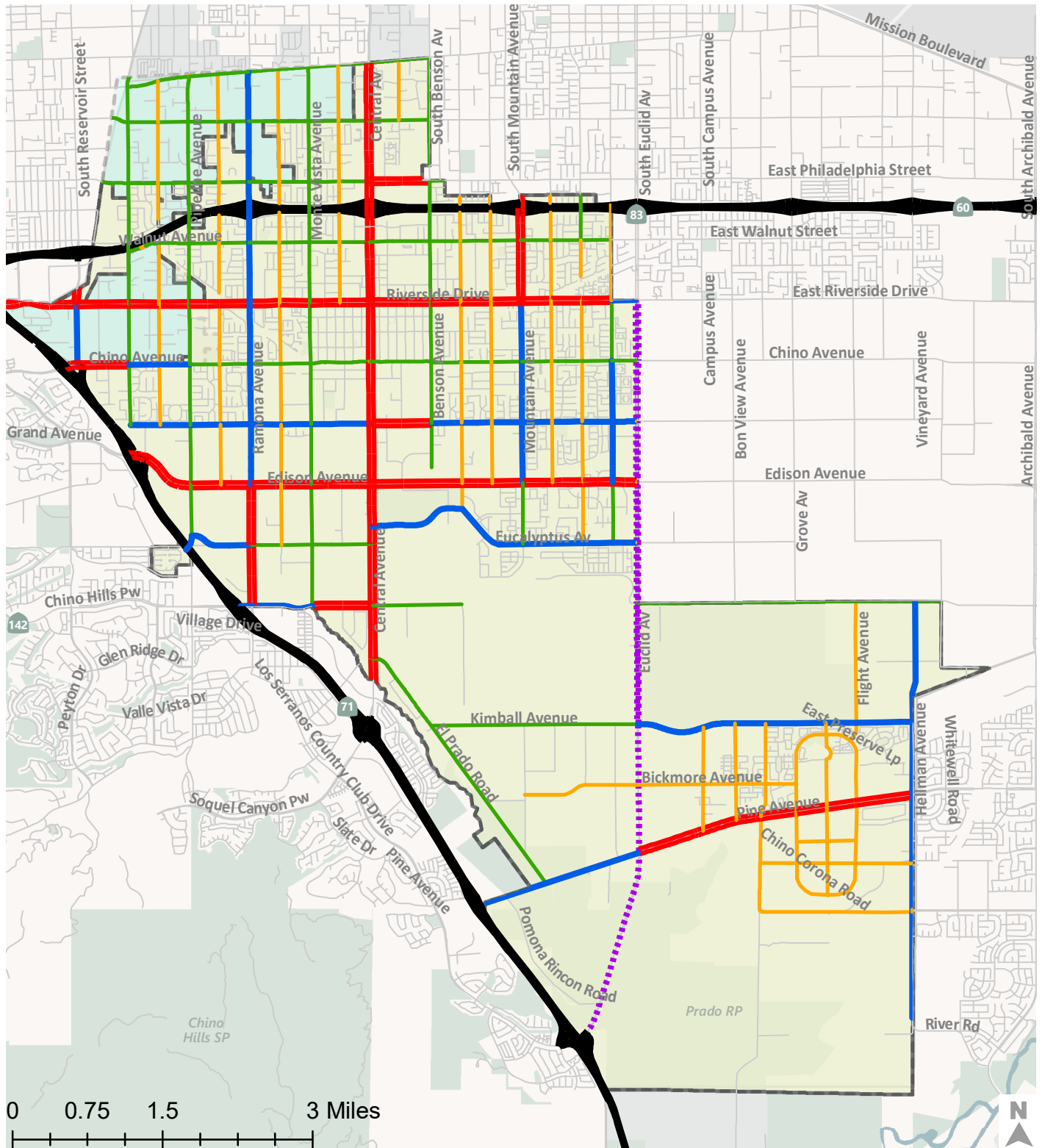
## Attachment G: Preliminary Chino General Plan Roadway Segment Forecasts and Analysis

No	Roadway	Classification	Existing (2021) Conditions					Future (2045) Conditions				
			Lanes	ADT	Capacity	V/C	LOS	Lanes	ADT	Capacity	V/C	LOS
1	Benson Ave from Philadelphia Street to Walnut Ave	Secondary Arterial	4	10,583	28,000	0.38	A	4	10,590	28,000	0.38	A
2	Benson Avenue from Chino Avenue to Schaefer Avenue	Secondary Arterial	2	3,289	16,000	0.21	A	2	3,290	16,000	0.21	A
3	Central Ave from Philadelphia Street to Walnut Ave	Major Arterial	6	38,206	56,100	0.68	B	8	39,030	74,800	0.52	A
4	Central Avenue from Chino Avenue to Schaefer Avenue	Major Arterial	4	23,719	37,400	0.63	B	6	26,030	56,100	0.46	A
5	Central Avenue from Edison Avenue to Eucalyptus Avenue	Major Arterial	4	26,108	37,400	0.70	B	6	29,890	56,100	0.53	A
6	Central Avenue from El Prado to SR 71	Major Arterial	6	23,358	56,100	0.42	A	6	23,360	56,100	0.42	A
7	Chino Avenue from Monte Vista Avenue to Central Avenue	Secondary Arterial	2	8,360	16,000	0.52	A	2	11,330	16,000	0.71	C
8	Chino Avenue from Oaks Ave to Mountain Avenue	Secondary Arterial	4	8,193	28,000	0.29	A	4	14,010	28,000	0.50	A
9	Chino Avenue from West City Limit to East End Avenue	Major Arterial	4	17,096	37,400	0.46	A	6	18,120	56,100	0.32	A
10	Chino Corona Rd North-South from Pine Ave to Chino Corona Rd East-West	Collector	2	3,687	15,000	0.25	A	2	3,690	15,000	0.25	A
11	Chino Hills Pkwy from West City Limit to Monte Vista Avenue	Primary Arterial	4	27,317	30,000	0.91	E	4	30,010	30,000	1.00	F
12	Edison Avenue from Monte Vista Avenue to Central Avenue	Major Arterial	4	18,880	37,400	0.50	A	6	32,690	56,100	0.58	A
13	Edison Avenue from Oaks Ave to Mountain Avenue	Major Arterial	4	20,084	37,400	0.54	A	6	39,010	56,100	0.70	B
14	El Prado Road from Kimball Avenue to Pine Avenue	Secondary Arterial	2	6,753	16,000	0.42	A	4	6,760	28,000	0.24	A
15	Eucalyptus Avenue from Monte Vista Avenue to Central Avenue	Secondary Arterial	4	9,580	28,000	0.34	A	4	10,780	28,000	0.39	A
16	Eucalyptus Avenue from Oaks Avenue to Mountain Avenue	Primary Arterial	4	6,674	30,000	0.22	A	4	6,730	30,000	0.22	A
17	Eucalyptus Avenue from West City Limit to Pipeline Avenue	Primary Arterial	4	13,724	30,000	0.46	A	4	16,190	30,000	0.54	A
18	Euclid Avenue from Chino Avenue to Schaefer Avenue	Highway	4	25,404	40,900	0.62	B	8	60,270	81,700	0.74	C
19	Euclid Avenue from Eucalyptus Avenue to Merrill Avenue	Highway	4	27,223	40,900	0.67	B	8	43,760	81,700	0.54	A
20	Euclid Avenue from Pomona Rincon Road to SR 71	Highway	4	34,512	40,900	0.84	D	8	48,370	81,700	0.59	A
21	Francis Ave from Yorba to Monte Vista Avenue	Secondary Arterial	2	3,138	16,000	0.20	A	4	4,270	28,000	0.15	A
22	Grand Avenue from West City Limit to Pipeline Avenue	Major Arterial	8	27,610	74,800	0.37	A	8	38,960	74,800	0.52	A
23	Hellman Avenue from Kimball Avenue to Pine Avenue	Primary Arterial	4	15,315	30,000	0.51	A	4	15,320	30,000	0.51	A
24	Hellman Avenue from Legacy Park Street to Chandler Street	Primary Arterial	2	8,591	18,000	0.48	A	4	21,150	30,000	0.71	C
25	Kimball Avenue from Mill Creek Avenue to Main Street	Primary Arterial	4	18,474	30,000	0.62	B	4	22,020	30,000	0.73	C
26	Merrill Avenue from Grove Avenue to Flight Avenue	Secondary Arterial	2	13,982	16,000	0.87	D	4	22,260	28,000	0.80	C
27	Monte Vista Ave from Philadelphia Street to Walnut Ave	Secondary Arterial	2	9,568	16,000	0.60	A	2	10,010	16,000	0.63	B
28	Monte Vista Avenue from Chino Avenue to Schaefer Avenue	Secondary Arterial	2	7,197	16,000	0.45	A	2	7,340	16,000	0.46	A
29	Monte Vista Avenue from Edison Avenue to Eucalyptus Avenue	Secondary Arterial	4	7,112	28,000	0.25	A	4	8,610	28,000	0.31	A
30	Mountain Ave from Philadelphia Street to Walnut Ave	Major Arterial	4	29,061	37,400	0.78	C	6	38,150	56,100	0.68	B
31	Mountain Avenue from Chino Avenue to Schaefer Avenue	Primary Arterial	4	13,400	30,000	0.45	A	4	13,400	30,000	0.45	A
32	Philadelphia Street from Yorba Ave to Monte Vista Ave	Secondary Arterial	2	9,978	16,000	0.62	B	4	12,070	28,000	0.43	A
33	Philips Blvd From West City Limits to Benson Avenue	Secondary Arterial	2	3,532	16,000	0.22	A	4	3,540	28,000	0.13	A
34	Pine Avenue from El Prado Road to Euclid Avenue	Primary Arterial	2	6,962	18,000	0.39	A	4	23,060	30,000	0.77	C
35	Pine Avenue from Rincon Meadows Avenue to West Preserve Loop	Major Arterial	4	29,585	37,400	0.79	C	6	39,190	56,100	0.70	B
36	Pipeline Ave from Philadelphia Street to Walnut Ave	Secondary Arterial	2	9,313	16,000	0.58	A	4	10,400	28,000	0.37	A
37	Pipeline Avenue from Chino Avenue to Schaefer Avenue	Secondary Arterial	4	12,023	28,000	0.43	A	4	14,180	28,000	0.51	A
38	Ramona Ave from Philadelphia Street to Walnut Ave	Primary Arterial	4	14,131	30,000	0.47	A	4	14,620	30,000	0.49	A
39	Riverside Dr from Monte Vista Avenue to Central Avenue	Major Arterial	4	15,945	37,400	0.43	A	6	16,090	56,100	0.29	A
40	Riverside Dr from Oaks Ave to Mountain Avenue	Major Arterial	4	15,476	37,400	0.41	A	6	22,390	56,100	0.40	A
41	Riverside Dr from Reservoir Avenue to SR-71	Major Arterial	4	15,834	37,400	0.42	A	6	16,610	56,100	0.30	A
42	San Antonio Ave from Philadelphia Street to Walnut Ave	Secondary Arterial	4	8,284	28,000	0.30	A	4	9,320	28,000	0.33	A
43	San Antonio Avenue from Chino Avenue to Schaefer Avenue	Collector	2	1,800	15,000	0.12	A	2	2,570	15,000	0.17	A
44	Schaefer Avenue from Monte Vista Avenue to Central Avenue	Primary Arterial	4	17,198	30,000	0.57	A	4	19,560	30,000	0.65	B
45	Schaefer Avenue from Oaks Ave to Mountain Avenue	Primary Arterial	4	18,670	30,000	0.62	B	4	22,660	30,000	0.76	C
46	Walnut Ave from Monte Vista Avenue to Central Avenue	Secondary Arterial	2	7,832	16,000	0.49	A	2	7,840	16,000	0.49	A
47	Walnut Avenue from Oaks Ave to Mountain Avenue	Secondary Arterial	2	8,779	16,000	0.55	A	2	8,940	16,000	0.56	A

Note:

1. Segments with LOS E or F are highlighted in red.

Source: SBTAM, 2022.

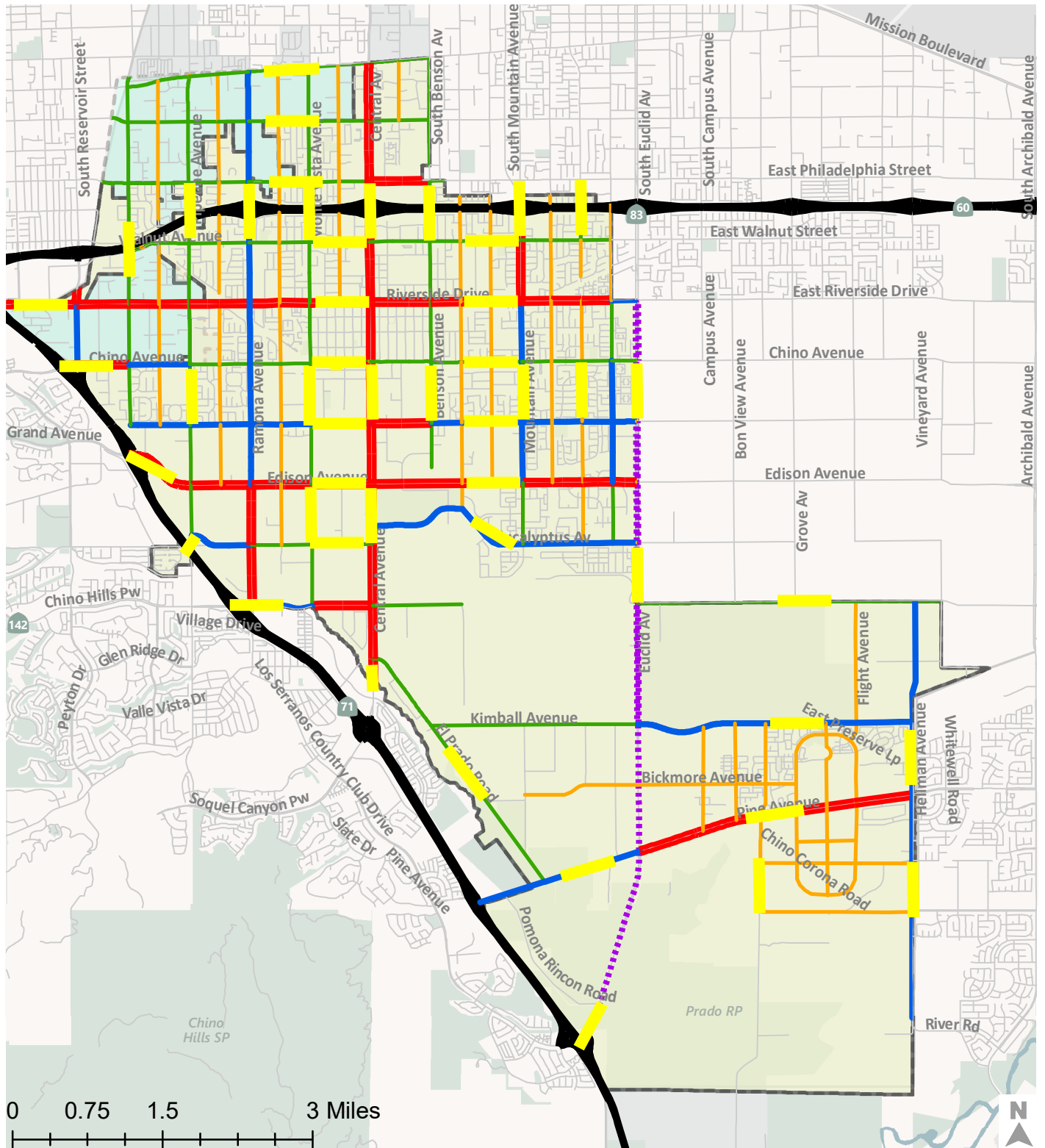


- Major Arterial
- Primary Arterial
- Secondary Arterial
- Collector
- Freeways
- - - Highway
- City Boundary
- SOI

Figure 1



## Roadway Classification



- Major Arterial
- Primary Arterial
- Secondary Arterial
- Collector
- Study Segment
- Freeways
- - - Highway
- City Boundary
- SOI

Figure 2



## Study Roadway Segments

**Attachment B: 2024 SCAG RTP/SCS Financially Constrained Project List**

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	200202					IN CHINO - ON CHINO AVENUE FROM MONTE VISTA TO SIXTH STREET- WIDEN EXISTING 2 LANES TO 4 LANES AND INSTALL SIGNAL AT INTERSECTION OF CHINO AVE. AND MONTE VISTA
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	200207					NEW ROADWAY CONNECTION (0-4 LANES) FROM EL PRADO TO SR71 AND WIDENING PINE AVENUE FROM 2 TO 4 LANES FROM EL PRADO TO EUCLID AVENUE.
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4120100		FRANCIS AVE	600' E/O SNYDER AVE	BENSON AVE	WIDEN FRANCIS AVE FROM 600' E/O SNYDER AVE TO BENSON AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4120104		CENTRAL AVE	RIVERSIDE DR	SR-71	WIDEN CENTRAL AVE FROM RIVERSIDE DR TO SR-71 FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4120107		MOUNTAIN AVE	SCHAEFER AVE	EDISON AVE	WIDEN MOUNTAIN AVE FROM SCHAEFER AVE TO EDISON AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4120108		RIVERSIDE DR	WEST CHINO CITY LIMITS	800' E/O RESERVIOR AVE	WIDEN RIVERSIDE DR FROM WEST CHINO CITY LIMITS TO 800' E/O RESERVIOR AVE FROM 4 TO 6 LANES (WB ONLY)
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01026		CENTRAL AVE	FRANCIS AVE	RIVERSIDE DR	WIDEN CENTRAL AVE FROM FRANCIS AVE TO RIVERSIDE DR FROM 6 TO 8 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01028		CHINO AVE	CENTRAL AVE	MOUNTAIN AVE	WIDEN CHINO AVE FROM CENTRAL AVE TO MOUNTAIN AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01031		CHINO AVE	SR-71	EAST END AVE	WIDEN CHINO AVE FROM SR-71 TO EASTEND AVE FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01032		EDISON AVE	CENTRAL AVE	EUCLID AVE	WIDEN EDISON AVE FROM CENTRAL AVE TO EUCLID AVE FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01040		MERRILL AVE	EUCLID AVE	EAST CHINO CITY LIMIT	WIDEN MERRILL AVE FROM EUCLID AVE TO EAST CHINO CITY LIMIT FROM 2 TO 3 LANES (EASTBOUND ONLY)

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01041		MOUNTAIN AVE	PHILADELPHIA ST	RIVERSIDE DR	WIDEN MOUNTAIN AVE FROM PHILADELPHIA ST TO RIVERSIDE DR FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01042		PHILADELPHIA ST	CENTRAL AVE	BENSON AVE	WIDEN PHILADELPHIA ST FROM CENTRAL AVE TO BENSON AVE FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01043		PHILADELPHIA ST	LA COUNTY LINE	CENTRAL AVE	WIDEN PHILADELPHIA ST FROM LA COUNTY LINE TO CENTRAL AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01047		RIVERSIDE DR	FERN AVE	EUCLID AVE	WIDEN RIVERSIDE DR FROM FERN AVE TO EUCLID AVE FROM 2 TO 6 LANES(EASTBOUND ONLY)
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01049		RIVERSIDE DR	PIPELINE AVE	FERN AVE	WIDEN RIVERSIDE DR FROM PIPELINE AVE TO FERN AVE FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01063		EL PRADO RD	CENTRAL AVE	PINE AVE	WIDEN EL PRADO RD FROM CENTRAL AVE TO PINE AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01266		CENTRAL AVE	PHILLIPS BLVD	STATE ST	WIDEN CENTRAL AVE FROM PHILLIPS BLVD TO STATE ST FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A01272		FRANCIS AVE	0.11 MILES W/O EAST END	0.13 MILES E/O TELEPHONE AVE	WIDEN FRANCIS AVE FROM 0.11 MILES W/O EAST END TO 0.13 MILES E/O TELEPHONE AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A04035		EUCLID AVE	KIMBALL AVE	PINE AVE	WIDEN EUCLID AVE FROM KIMBALL AVE TO PINE AVE FROM 4 TO 8 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A04036		EUCLID AVE	PINE AVE.	SR-71	WIDEN EUCLID AVE FROM PINE AVE TO SR-71 FROM 2/4 TO 8 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A04038		HELLMAN AVE	KIMBALL AVE	CHINO CORONARD	WIDEN HELLMAN AVE FROM KIMBALL AVE TO CHINO CORONA RD FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A04045		PINE AVE	EUCLID AVE	HELLMAN AVE	WIDEN PINE AVE FROM EUCLID AVE TO HELLMAN AVE FROM 2 TO 6 LANES

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A07052		KIMBALL AVE	EUCLID AVE	HELLMAN AVE	WIDEN KIMBALL AVE FROM EUCLID AVE TO HELLMAN AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A07151		RAMONA AVE	PHILADELPHIA AVE	PHILLIPS BLVD	WIDEN RAMONA AVE AV FROM PHILADELPHIA AVE TO PHILLIPS BLVD FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A07205		CHINO AVE	MOUNTAIN AVE	CYPRESS AVE	WIDEN CHINO AVE FROM MOUNTAIN AVE TO CYPRESS AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A07279		PIPELINE AVE	RIVERSIDE DR	WALNUT AVE	WIDEN PIPELINE AV FROM RIVERSIDE DR AV TO WALNUT AVE AV FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A07303		PIPELINE AVE	WALNUT AVE	0.25 MILES N/O WALNUT AVE	WIDEN PIPELINE AVE FROM WALNUT AVE TO 0.25 MILES N/O WALNUT AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A07329		MOUNTAIN AVE	BICKMORE AVE	EL PRADO RD	WIDEN MOUNTAIN AVE FROM BICKMORE AVE TO EL PRADO RD FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	4A07333		EAST END AVE	PHILADELPHIA/CHINO AVE	WALNUT AVE/SCHAEFER AVE	WIDEN EAST END AVE FROM PHILADELPHIA ST TO WALNUT AVE AND CHINO AVE TO SCHAEFER AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	CHINO	SBD031152					RIVERSIDE DRIVE AT SAN ANTONIO FLOOD CONTROL CHANNEL WIDEN BRIDGE FROM 4 LANES TO 6 LANES (PA&ED ONLY)
SAN BERNARDINO	LOCAL HIGHWAY	CHINO HILLS	200401					FAIRFIELD RANCH RD: CONSTRUCT BOX CULVERT (APPROX. 0.40 MILES SOUTH OF STANFIELD CT.) TO RE-OPEN 0.76 MILES OF FAIRFIELD RANCH RD AT CURRENT CLOSURE SOUTH TO PINE AVE. CONSTRUCT RD IMPROVEMENTS AND ADD MARKED BIKE LANES IN BOTH DIRECTIONS.

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
SAN BERNARDINO	LOCAL HIGHWAY	CHINO HILLS	4A07116		PINE AVE	SR-71	CHINO CREEK	WIDEN PINE AVE FROM SR-71 TO CHINO CREEK (NORTH SIDE ONLY) IN CONJUNCTION WITH CHINO PROJECT ID 200207
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	200804		ARCHIBALD AVE	ARCHIBALD AVE	ARCHIBALD AVE @ UPRR (MISSION BLVD)	SOUTH ARCHIBALD AVE GRADE SEPARATION (AT MISSION BLVD). CONSTRUCT GRADE SEPARATION AT EXISTING AT-GRADE CROSSING SOUTH OF ARCHIBALD AVE AND THE UPRR-LOSANGELES LINE. WIDEN FROM 2 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4120145		AIRPORT DR	ROCHESTER AVE	ETIWANDA AVE	WIDEN AIRPORT DR FROM ROCHESTER AVE TO ETIWANDA AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4120147		MOUNTAIN AVE	BROOKS ST	6TH ST	WIDEN MOUNTAIN AVE FROM BROOKS ST TO 6TH ST FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160019		8TH ST	WESTCUCAMONGA CHANNEL	GROVE AVE	WIDEN 8TH ST FROM WEST CUCAMONGA CHANNEL TO GROVE AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160023		ARCHIBALD AVE	INLAND EMPIREBLVD	4TH ST	EMPIRE BLVD TO 4TH ST FROM 4 TO 6
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160025		BON VIEW AVE	MISSION BLVD	BELMONT AVE	WIDEN BON VIEW AVE FROM MISSION BLVD TO BELMONT AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160026		CAMPUS AVE	WOODLAWN ST	MISSION BLVD	WIDEN CAMPUS AVE FROM WOODLAWN ST TO MISSION BLVD FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160035		GUASTI RD	HOLT BLVD	ARCHIBALD AVE	WIDEN GUASTI RD FROM HOLT BLVD TO ARCHIBALD AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160044		MILLIKEN/HAMNER AVE	SR-60	RIVERSIDE DR	WIDEN MILLIKEN/HAMNER AVE FROM SR-60 TO RIVERSIDE DR FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160050		PHILLIPS ST	BENSON AVE	MOUNTAIN AVE	WIDEN PHILLIPS ST FROM BENSON AVE TOMOUNTAIN AVE FROM 2 TO 4 LANES

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160060		SAN ANTONIO AVE	PARK ST	PHILLIPS ST	WIDEN SAN ANTONIO AVE FROM PARK ST TO PHILLIPS ST FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160061		SAN ANTONIO AVE	IN ONTARIO	ALHAMBRA/LOS ANGELES LINES	CONSTRUCT 4 LANE GRADE SEPARATION ON SAN ANTONIO AVE AT ALHAMBRA/LOS ANGELES LINE
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160063		STATE ST	BON VIEW AVE	GROVE AVE	WIDEN STATE ST FROM BON VIEW AVE TO GROVE AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160066		TURNER AVE	INLAND EMPIRE BLVD	4TH ST	SPOT WIDEN TURNER AVE FROM INLAND EMPIRE BLVD TO 4TH ST FROM 2 TO 4 LANES IN SOUTHBOUND DIRECTION ONLY
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4160070		WALKER AVE	RIVERSIDE DR	MERRILL AVE	WIDEN WALKER AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	2002160-20150201					BETWEEN FOURTH ST AND STATE ST / AIRPORT DR (4-6 LNS); AND IMPROVEMENTS TO GROVE AVE / HOLT BLVD INTERSECTION. TOLL CREDIT TO MATCH EARREPU
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A01203		FRANCIS ST	BENSON AVE	CAMPUS AVE	WIDEN FRANCIS ST FROM BENSON AVE TO CAMPUS AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A01210		HOLT BLVD	BENSON AVE	VINEYARD AVE	WIDEN HOLT BLVD FROM BENSON AVE TO VINEYARD AVE FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A01213		JURUPA ST	TURNER AVE	HOFER RANCH RD	WIDEN JURUPA ST FROM TURNER AVE TO HOFER RANCH RD FROM 2 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A01222		VINEYARD AVE	4TH ST	I-10	WIDEN VINEYARD AVE FROM 4TH ST TO I-10 FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04189		ARCHIBALD AVE	EDISON AVE	SOUTH ONTARIO CITY LIMITS	WIDEN ARCHIBALD AVE FROM EDISON AVE TO SOUTH ONTARIO CITY LIMITS FROM 2 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04190		ARCHIBALD AVE	RIVERSIDE AVE	EDISON AVE	WIDEN ARCHIBALD AVE FROM RIVERSIDE AVE TO EDISON AVE FROM 2 TO 6 LANES

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04192		BELLEGRAVE AVE	SUMNER AVE	MILLIKEN AVE	WIDEN BELLEGRAVE AVE FROM SUMNER AVE TO MILLIKEN AVE (HAMNER AVE) FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04193		CAMPUS AVE	RIVERSIDE DR	MERRILL AVE	WIDEN CAMPUS AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04194		CHINO AVE	EUCLID AVE	MILLIKEN BLVD	WIDEN CHINO AVE FROM EUCLID TO MILLIKEN BLVD FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04196		EDISON AVE	MILL CREEK AVE	MILLIKEN AVE	WIDEN EDISON AVE FROM MILL CREEK AVE TO MILLIKEN AVE FROM 2 TO 8 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04197		EDISON AVE	EUCLID AVE	WALKER AVE	WIDEN EDISON AVE FROM EUCLID AVE TO WALKER AVE FROM 2 TO 8 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04198		EDISON AVE	VINEYARD AVE	MILL CREEK AVE	WIDEN EDISON AVE FROM VINEYARD AVE TO MILL CREEK AVE FROM 2 TO 8 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04199		EDISON AVE	WALKER AVE	VINEYARD AVE	WIDEN EDISON AVE FROM WALKER AVE TO VINEYARD AVE FROM 2 TO 8 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04200		EUCALYPTUS AVE	EUCLID AVE	MILLIKEN AVE	WIDEN EUCALYPTUS AVE FROM EUCLID AVE TO MILLIKEN AVE (HAMNER AVE) FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04201		EUCLID AVE	RIVERSIDE DR	MERRILL AVE	WIDEN EUCLID AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES (NORTHBOUND ONLY)
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04206		GROVE AVE	RIVERSIDE DR	MERRILL AVE	WIDEN GROVE AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04208		HAVEN AVE	RIVERSIDE DR	BELLEGRAVE AVE	WIDEN HAVEN AVE FROM RIVERSIDE DR TO BELLEGRAVE AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04214		MILL CREEK AVE	RIVERSIDE DR	BELLEGRAVE AVE	WIDEN MILL CREEK AVE FROM RIVERSIDE DR TO BELLEGRAVE AVE 2-4 LANES

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04215		MILLIKEN AVE	EDISON AVE	SOUTH ONTARIO CITY LIMITS	WIDEN MILLIKEN AVE (HAMNER AVE) FROM EDISON AVE TO SOUTH ONTARIO CITY LIMITS FROM 2 TO 3 LANES (SB ONLY)
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04216		MILLIKEN AVE	RIVERSIDE AVE	EDISON AVE	WIDEN MILLIKEN AVE (HAMNER AVE) FROM RIVERSIDE DRIVE TO EDISON AVE FROM 1 TO 4 LANES (SB ONLY)
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04218		ONTARIO/HELLMAN AVE	RIVERSIDE DR	BELLGRAVE AVE	WIDEN ONTARIO/HELLMAN AVE FROM RIVERSIDE DR TO BELLGRAVE FROM 0 TO 2/4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04219		RIVERSIDE DR	EUCLID AVE	MILLIKEN AVE	WIDEN RIVERSIDE DR FROM EUCLID AVE TO MILLIKEN AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04220		SCHAEFER AVE	EUCLID AVE	HAVEN AVE	WIDEN SCHAEFER AVE FROM EUCLID AVE TO HAVEN AVE FROM 0 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A04223		VINEYARD AVE	RIVERSIDE DR	MERRILL AVE	WIDEN VINEYARD AVE FROM RIVERSIDE DR TO MERRILL AVE FROM 0 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07138		PHILADELPHIA ST	VINEYARD AVE	CUCAMONGA CREEK	WIDEN PHILADELPHIA ST FROM VINEYARD AVE TO CUCAMONGA CREEK FROM 2 TO 4 LANES, INCLUDING BRIDGE OVER CUCAMONGA CREEK
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07174		8TH ST	8TH ST	CUCAMONGA CREEK	WIDEN 2-LANE BRIDGE ON EIGHTH ST OVER CUCAMONGA CREEK TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07208		FRANCIS ST	FRANCIS ST	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON FRANCIS ST OVER CUCAMONGA CREEK-SIDEWALK ONLY
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07215		MISSION BLVD	MISSION BLVD	WEST CUCAMONGA CREEK	CONSTRUCT BRIDGE ON MISSION BLVD OVER WEST CUCAMONGA CREEK AND WIDEN FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07227		FRANCIS ST	FRANCIS ST	WEST CUCAMONGA CREEK	CONSTRUCT 4-LANE BRIDGE ON FRANCIS ST OVER WEST CUCAMONGA CREEK

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07233		MISSION BLVD	BENSON AVE	MILLIKEN AVE	WIDEN MISSION BLVD FROM BENSON TOMILLIKEN AVE FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07260		CONSTRUCT A BRIDGE ON 6TH ST OVERCUCAMONGA CREEK	6TH ST	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON 6TH ST OVER CUCAMONGA CREEK-SIDEWALK ONLY
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07266		PHILADELPHIA ST	CAMPUS AVE	750' E/O GROVE AVE	WIDEN PHILADELPHIA ST FROM CAMPUSAVE TO 750' E/O GROVE AVE FROM 2 TO 4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07267		RIVERSIDE DR	RIVERSIDE DR	CUCAMONGA CREEK	CONSTRUCT BRIDGE ON RIVERSIDE DROVER CUCAMONGA CREEK AND WIDEN FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07277		ARCHIBALD AVE	ARCHIBALD AVE	UPPER DEEK CREEK	WIDEN 4-LANE BRIDGE ON ARCHIBALD AVEOVER UPPER DEER CREEK TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07278		ARCHIBALD AVE	ARCHIBALD AVE	UPPER DEEK CREEK SPILLWAY	WIDEN 4-LANE BRIDGE ON ARCHIBALD AVE OVER UPPER DEER CREEK SPILLWAY TO 6LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07317		MISSION BLVD	MISSION BLVD	CUCAMONGACREEK	WIDEN BRIDGE ON MISSION BLVD OVERCUCAMONGA CREEK FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07326		ARCHIBALD AVE	ARCHIBALD AVE	LOWER DEERCREEK	WIDEN 1-LANE BRIDGE ON ARCHIBALD AVEOVER LOWER DEER CREEK TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4A07327		HOLT BLVD	HOLT BLVD	CUCAMONGACREEK	WIDEN 4-LANE BRIDGE ON HOLT BLVDOVER CUCAMONGA CREEK TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	4G0104/ 4G0112		CAMPUS AVE	CAMPUS AVE	UPRR ALHAMBRA/LOSANGELES LINES	WIDEN GRADE SEPARATION @ UPRR ALHAMBRA/LOS ANGELES LINES FROM 2 TO4 LANES
SAN BERNARDINO	LOCAL HIGHWAY	ONTARIO	SBD590004		FRANCIS ST	BON VIEW AVE	GROVE AVE	WIDEN FRANCIS ST FROM BON VIEW AVE TO GROVE AVE FROM 2 TO 4 LANES (STORMDRAIN FROM BON VIEW TO PARCO)

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
RIVERSIDE	LOCAL HIGHWAY	EASTVALE	3120002		LIMONITE AVE.	ARCHIBALD	HELLMAN AVE	IN WESTERN RIV CO IN THE CITY OF EASTVALE - CONSTRUCT THE LIMONITE AVE GAP CLOSURE AND CONSTRUCT BRIDGE OVER CUCAMONGA CREEK INCLUDING CAPACITY ENHANCEMENT.
RIVERSIDE	LOCAL HIGHWAY	EASTVALE	3A04WT188					IN WESTERN RIV CO IN THE CITY OF EASTVALE - WIDENING OF SCHLEISMAN RD FROM 2 TO 4 LANES (2-LANES EA DIR) BETWEEN SUMNER AVE AND HAMNER AVE (APPROX 1.1 MILES).
RIVERSIDE	LOCAL HIGHWAY	EASTVALE	3A07014		SCHLEISMAN RD	I-15	ARLINGTON AVE	CONSTRUCT 4 LANE ARTERIAL
RIVERSIDE	LOCAL HIGHWAY	EASTVALE	424L012		HELLMAN AVENUE	OUTBACK WAY	RIVER ROAD	WIDENING OF HELLMAN AVENUE FROM 2 TO 4 LANES INCLUDING HELLMAN AVENUE BRIDGE OVER CUCAMONGA CREEK
RIVERSIDE	LOCAL HIGHWAY	EASTVALE	424L013		RIVER ROAD	HALL ROAD	HELLMAN AVENUE	WIDENING OF RIVER ROAD FROM 2 TO 4 LANES
RIVERSIDE	LOCAL HIGHWAY	EASTVALE	424L014		WALTER ROAD	JAKY WAY	WALTERS STREET	INSTALLATION OF BRIDGE ALONG WALTERS STREET OVER CUCAMONGA CREEK TO CLOSE THE GAP OF WALTERS STREET.
RIVERSIDE	LOCAL HIGHWAY	CORONA	3160012		RADIO RD	SAMPSON AVE	WALKER LN	GRADE SEPARATION - 2 LANES OVER BNSF RR TRACKS

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
RIVERSIDE	LOCAL HIGHWAY	CORONA	2016A319-RIV180109					IN WESTERN RIV CO FOR THE CITY OF CORONA - ATMS PHASE 3 PROJECT TO INCLUDE UPDATE OF EXISTING ATMS MASTER PLAN, ENHANCE EXISTING SYSTEM WITH ADDITION OF ITS ELEMENTS TO GREEN RIVER RD, EAST FOOTHILL BLVD, RIVER RD, AND OTHER IN-FILL LOCATIONS. ITS ELEMENTS TO INCLUDE COMMUNICATIONS INFRASTRUCTURE, ADVANCE TRAFFIC CONTROLLER UPGRADES, TRAFFIC MONITORING CAMERAS, UPGRADED VEHICLE DETECTION SYSTEMS AND COUNT STATIONS, ENTIRE CITY TRAFFIC NETWORK WILL BE UPDATED W/ NEW TRAFFIC SIGNAL SYNC. (PAED ONLY).

RIVERSIDE	LOCAL HIGHWAY	CORONA	3161L005					IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF CORONA - MAGNOLIA AVE BRIDGE WIDENING FROM 4 TO 6 LANES FROM EL CAMINO AVE TO 1000 FT E/O ALL AMERICAN WY, INCLUDING THE WIDENING OVER THE TEMESCAL CHANNEL; PROJECT TO INCLUDE CONSTRUCTION OF MISSING SIDEWALK, BIKE LANES, ADA COMPLIANT RAMPS, AND DECORATIVE LANDSCAPING.
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COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
RIVERSIDE	LOCAL HIGHWAY	CORONA	3200L016		FULLERTON AVE	MAGNOLIA AVE	BEVERLY RD	IN THE CITY OF CORONA ON EXISTING FULLERTON AVE. - WIDEN AND REALIGN EXISTING 2 TO 4 LANES BY ADDING 1 NORTHWEST AND SOUTHEAST THRU LANE. CONSTRUCT SIDEWALK W/ADA RAMPS ALONG FULLERTON AVE
RIVERSIDE	LOCAL HIGHWAY	CORONA	3200L017		ONTARIO AVE	LINCOLN AVE	125 W/O CONEJO ST	IN THE CITY OF CORONA ON EXISTING ONTARIO AVENUE-- WIDEN AND REALIGN EXISTING 4 TO 6 LANES BY ADDING 1 EB THRU LANE, CONSTRUCT 900' SIDEWALK W/ADA RAMP ON THE SOUTHEAST SIDE OF ONTARIO AVE AND LINCOLN AVE.
RIVERSIDE	LOCAL HIGHWAY	CORONA	3200L018		RIMPAU AVE	MAGNOLIA AVE	OLYMPIC DR	IN THE CITY OF CORONA ON EXISTING RIMPAU AVE. - WIDEN AND REALIGN EXISTING 4 TO 5 LANES BY ADDING 1 NB THRU LANE. CONSTRUCT SIDEWALK W/ADA RAMPS ALONG RIMPAU AVE AND SIGNAL MODIFICATION IN CALIFORNIA AVE.
RIVERSIDE	LOCAL HIGHWAY	CORONA	3200L019		RIMPAU AVE	FRANCIS ST	MAGNOLIA AVE	RIMPAU AVE. - WIDEN AND REALIGN EXISTING 2 TO 4 LANES BY ADDING 1 SB AND NB THRU LANE. CONSTRUCT SIDEWALK W/ADA RAMPS ALONG RIMPAU AVE
RIVERSIDE	LOCAL HIGHWAY	CORONA	3A04T027		MAGNOLIA AVE	ONTARIO AVE	KELLOGG AVE.	INTERSECTION UPGRADES ON MAGNOLIA AVE. BETWEEN ONTARIO AVE. AND KELLOGG AVE.TO ACCOMMODATE RESTRIPIING FROM 4 TO 6 LANES.

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
RIVERSIDE	LOCAL HIGHWAY	CORONA	3A04WT030		MAIN ST	SOUTH GRAND BLVD.	ONTARIO AVE.	WIDEN FROM 2 TO 4 LANES.
RIVERSIDE	LOCAL HIGHWAY	CORONA	3A04WT032		RAILROAD ST	VIOLET ST	GRAND BLVD	WIDEN FROM 2 TO 4 LANES
RIVERSIDE	LOCAL HIGHWAY	CORONA	RIV011240					CONSTRUCT UP TO 4 LANE GRADE SEPARATION OVERCROSSING BRIDGE OVER EXISTING BNSF RAILROAD CROSSING AND ROADWAY IMPROVEMENTS. INCLUDING BUT NOT LIMITED TO CONS OF STRUCTURAL WALLS, DRAINAGE FACILITIES, BIKE & PED FACILITIES, AND UTILITY WORK. ROW ACQUISITION & RELOCATION ANTICIPATED
SAN BERNARDINO	LOCAL HIGHWAY	MONTCLAIR	4A01183		MONTE VISTA AVE	SAN BERNARDINO ST	ARROW HWY	WIDEN MONTE VISTA AVE FROM SANBERNARDINO ST TO ARROW HWY FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	MONTCLAIR	4A01184		SAN BERNARDINO ST	LA COUNTY LINE	BENSON AVE	WIDEN SAN BERNARDINO ST FROM LA COUNTY LINE TO BENSON AVE FROM 4 TO 6LANES
SAN BERNARDINO	LOCAL HIGHWAY	MONTCLAIR	4A01267		CENTRAL AVE	MONTCLAIR CITY LIMIT	CHINO CITY LIMIT	WIDEN CENTRAL AVE FROM MONTCLAIR CITY LIMIT TO CHINO CITY LIMIT FROM 4 TO 6 LANES
SAN BERNARDINO	LOCAL HIGHWAY	MONTCLAIR	4G07421		CENTRAL AVE	CENTRAL AVE	ALHAMBRA/LOS ANGELES LINES	BRIDGE NO. 54C0112, CENTRAL AVE OVER UP RR AMTRAK METROLINK, 0.2 MI S HOLT AVENUE. BRIDGE REPLACEMENT. REPLACE AND WIDEN THE EXISTING FOUR LANE BRIDGE ON CENTRAL AVENUE OVER UPRR/ AMTRAK/METROLINK WITH A NEW SIX LANE BRIDGE WITH SIDEWALKS.

COUNTY	SYSTEM	LEAD AGENCY	RTP ID	ROUTE #	ROUTE NAME	FROM	TO	DESCRIPTION
VARIOUS	STATE HIGHWAY	RCTC	2M0737	91	SR-91	SR-241	SR-71	ADD 1 EASTBOUND LANE FROM SR-241 TO SR-71 AND OTHER OPERATIONAL IMPROVEMENTS
RIVERSIDE	STATE HIGHWAY	RCTC	424S012	91	SR 91	I-15	MAGNOLIA AVE. (SR 91)	CONSTRUCT ONE EASTBOUND AND ONE WESTBOUND LANE ON SR-91 FROM I-15 TO MAGNOLIA AVE.
RIVERSIDE	STATE HIGHWAY	RCTC	424S011	91	SR 91	SR71	SR241	ADD ONE LANE FROM SR71 TO GREEN RIVER ROAD WB ON-RAMP. UPGRADE ROADWAY TO STANDARD FROM GREEN RIVER ROAD WB ON-RAMP TO SR-241.
RIVERSIDE	STATE HIGHWAY	RCTC	3M01MA09	71	SR-71	SR-91	SAN BERNARDINO COUNTY LINE	WIDEN TO 3 MF LANES EACH DIRECTION