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File:	2042555700	Date:	May 2, 2019

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**Reference: Traffic Technical Memorandum for Pico Rivera Regional Bikeway, CIP No. 21280**

## 1. Existing Conditions – Roadway Network

The existing roadway system in the project area is shown on Figure 1. The Project is in a developed, urban environment surrounded by single-family housing, commercial/retail, health center, library, public recreational facilities, and senior center land uses. Figure 1 indicates intersection controls, the number of through lanes, and posted speed limit on roadways within the project area. Figure 1 also provides weekday average daily traffic volumes on Mines Avenue. Volume counts were conducted in April 2014 and because existing development and the roadway network surrounding the project area have remained unchanged, these volumes are also considered representative of 2019 conditions.

### Mines Avenue

The proposed project improvements occur along Mines Avenue from the San Gabriel River to Paramount Boulevard. Mines Avenue is designated a Collector Street between Paramount Boulevard and Passons Boulevard and a local street from Passons Boulevard to the roadway terminus at the San Gabriel River. Mines Avenue provides one continuous through lane in both the eastbound and westbound directions with on-street parking allowed on both sides of the roadway. Additional turn lanes are provided at the intersections of Passons Boulevard, Lindsey Avenue, Rosemead Boulevard, Manzanar Avenue, Paramount Lane, and Paramount Boulevard. On-street parking is provided by a combination of parallel parking and striped diagonal parking spaces. The local street segment of Mines Avenue (east of Passons Boulevard) has a volume of approximately 2,800 vehicles per weekday and a posted speed limit of 25 mph while the collector street segment accommodates 7,000 vehicles per weekday with a posted 30 mph speed limit between Passons Boulevard and Rosemead Boulevard and a volume of approximately 5,800 vehicles per weekday with a posted 35 mph speed limit from Rosemead to Paramount Boulevard. Mines Avenue is not served by any transit routes and has posted signs identifying the street as a bike route.

### Paramount Boulevard

Paramount Boulevard is designated a Major Arterial on the City General Plan and is located at the westerly project limits along Mines Avenue. Valley Boulevard is a four-lane divided roadway with a center striped or raised median in vicinity of Mines Avenue and provides two travel lanes in the northbound and southbound directions. On-street parking is prohibited and the posted speed limit is 40 mph. The T-intersection of Paramount Boulevard at Mine Avenue is controlled by a 3-phase traffic signal.

### Rosemead Boulevard

Rosemead Boulevard is designated a Major Arterial on the City General Plan and is located approximately one-third of a mile east from Paramount Boulevard along Mines Avenue. Rosemead Boulevard is a four-lane divided roadway with a center raised median and provides two travel lanes in the northbound and southbound

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directions. On-street parking is prohibited and the posted speed limit is 40 mph. The intersection of Paramount Boulevard at Mine Avenue is controlled by an 8-phase traffic signal.

### Passons Boulevard

Passons Boulevard is designated as a Collector Street on the City General Plan and is located approximately four-tenths of a mile east from Rosemead Boulevard along Mines Avenue. Passons Boulevard is a two-lane undivided roadway with a striped centerline and provides one continuous travel lane in the northbound and southbound directions. At the Mines Avenue intersection, an additional through lane is provided in each direction for 260 feet through the intersection. South of Mines Avenue on-street parking is prohibited along the west side of the street and is time restricted on the east side to 1 hour during non-peak periods. North of Mines Avenue on-street parking is prohibited along the east side of the street and is time restricted on the west side to 1 hour during non-peak periods. The posted speed limit is 25 mph. The intersection of Passons Boulevard at Mines Avenue is 4-way stop-controlled enhanced by a span wire mounted flashing beacon and lighted LED borders on the stop signs.

## **2. Project Conditions – Roadway Network**

The project would provide a raised center median with a 10-foot Class I bikeway for two-way bike travel. The bikeway would be separated from the eastbound and westbound vehicle travel lane by a bioswale on each side of the bikeway. One travel lane varying from 11.5' to 15.25' would be provided in each direction of Mines Avenue with a 13.75' diagonal on-street parking area against the curb. Separate left turn lanes would typically be provided at median openings at side streets and intersections. Table 1 provides a summary of existing and proposed intersection lane configurations throughout the project limits.

For project conditions, Table 1 highlights in red existing lanes or access conditions that are eliminated at project intersections and highlights in green the addition of lanes that currently are not delineated. Table 1 shows that several dedicated right-turn lanes will be eliminated at project intersections, but six left turn lanes, three in each direction, will be provided with implementation of the project where currently not existing.

Existing full access would be maintained at all existing side streets and intersections with the following noted exceptions:

- a) Paramount Lane – The existing centerline to centerline distance from Paramount Lane to Paramount Boulevard is less than 330 feet. This distance is too short to provide a feasible median opening at Paramount Lane and provide an appropriate left turn lane and transition at the Paramount Boulevard intersection. This access would become right-in/right-out only with project implementation.
- b) Dunlap Crossing Road – The existing centerline distance from Dunlap Crossing Road to Lindsey Street is approximately 255 feet and it is planned to maintain full access to Lindsey Street to maintain existing traffic circulation patterns as much as possible. Providing two closely spaced median openings would not be consistent with either driver or bicyclist expectations within the project limits and is not desirable. This access would become right-in/right-out only with project implementation.
- c) Existing commercial driveways – Between Manzanar Avenue and Rosemead Boulevard there are four full-access commercial driveways along Mines Avenue (two on each side of the street) that will not be provided median openings. The centerline to centerline distance of these two intersections is approximately 565 feet and the current design concept is to provide a median opening at each

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intersection with no intermediate openings. These access driveways would become right-in/right-out only with project implementation.

### Bikeway Operation

The project proposes to maintain existing traffic controls at intersections and side streets. Bicycle traffic using the bikeway along Mines Avenue would be controlled in the same manner as adjacent through vehicle traffic. Table 1 shows the existing type of control at side street intersections where openings in the median/bikeway will be provided. It is recommended that the three 2-way stop-control intersections within the project limits be evaluated for all-way stop control so that east-west Mines Avenue through traffic be required to stop and mitigate potential conflicts with opposing left turns (see discussion regarding safety in Section 4 below). The existing traffic signals at Paramount Boulevard and Rosemead Boulevard would be modified to provide bicycle signal indications. After complying with prevailing traffic control devices, bikes would cross intersections and side streets at grade to the far side median/bikeway. There will be no mid-block access to the median/bikeway. All access to the bikeway would be at the end of street segments or at intersections and side streets. Fencing or other type barrier system is anticipated to keep bikes and pedestrians from crossing through the bioswale area to access the median bikeway.

### 3. Project Bikeway and Traffic Calming Features

The proposed project focuses on providing capacity and enhancing use for bicyclists by providing a Class I bikeway in a new raised center median along Mines Avenue. The bikeway will be separated from parking areas and vehicle travel lanes by a bioswale on each side. The reduced through lane width of 11.5 feet and proximity of vehicles to the bioswale and on-street parking is expected to decrease speeds along the roadway. It is expected that the prevailing speed along the roadway will decrease and if confirmed by required engineering and speed survey studies, the posted speed limits for individual roadway segments may be lowered. This may be considered a project benefit to the extent a goal of the project is to normalize speeds along the project limits and create a more accommodating environment for increased bike volumes.

### 4. Project Roadway Capacity, Safety, and Traffic Circulation Impacts

#### Capacity Impacts

As stated above, the design concept includes traffic calming features that may reduce vehicle speeds and lower the maximum capacity of the roadway. However, the provided roadway capacity on Mines Avenue together with the project intersection configurations shown in Table 1, will be adequate to accommodate expected traffic volumes throughout the project limits (less than 8,000 vehicles per day on all segments).

#### Safety Considerations

The wide center median width necessary to accommodate the bikeway offsets opposing left-turning vehicles making it potentially difficult for left turning drivers to see oncoming through traffic at intersections where the through vehicles are not required to stop. An opposing left turn vehicle or queue of left turning vehicles can block the view of drivers to oncoming traffic. The view to oncoming vehicles could also be obscured by large groups of bicyclists in the median or fencing/tall landscaping in the bioswale area.

As stated above, left turn offset is typically not an issue where all vehicles are required to stop or where protected left turns are provided by traffic signals. Therefore, the left turn lane offset is not an issue at the Rosemead Boulevard intersection where the traffic signal provides protected left-turn movements on Mines

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Avenue, at locations where median openings will not be provided, and at existing 4-way stop-controlled intersections. At remaining 2-way stop-controlled intersections with uncontrolled left turn movements on Mines Avenue at Coolhurst Drive/Calico Avenue, Manzanar Avenue, and Cord Avenue all-way stop control may be evaluated and recommended, if appropriate, to mitigate this concern.

### Circulation Impacts

Considering the locations of access restrictions due to median/bikeway implementation at Paramount Lane, Dunlap Crossing Road, and the commercial driveways discussed in Section 2 above, some traffic diversion will occur as a result of the project as follows:

- a) Paramount Lane – This access would become right-in/right-out only with project implementation. For vehicles to head east on Mines Avenue from Paramount Lane they would be required to make a U-turn at Paramount Boulevard. The total length of this diversion is approximately 300 feet. To enter Paramount Lane from Mines Avenue heading east, vehicles would be required to make a U-turn at Calico Avenue, a total diversion length of approximately 300 feet. These volumes would be very low and less than 10 trips per hour during peak hours.
- b) Dunlap Crossing Road - This access would become right-in/right-out only with project implementation. Existing single-family residences and apartment units between Mines Avenue and Rosemead Boulevard would be impacted by this change. For vehicles to head east on Mines Avenue from Dunlap Crossing Road they would be required to detour via Rosemead Boulevard-Bradhurst Street-Lindsey Avenue. The total length of this diversion is approximately a third of a mile but the volume is expected to be low. To access Dunlap Crossing Road from Mines Avenue heading east, there is no detour movement required.
- c) Commercial Driveways – Four existing commercial access driveways between Rosemead Boulevard and Manzanar Avenue would become right-in/right-out only with project implementation and would result in minor diversions of U-turning traffic to those intersections.

### 5. Project Impacts on Vehicle Miles Traveled (VMT)

This project does not increase roadway capacity for vehicles and is intended to increase the use of bikes and therefore reduce vehicle miles traveled (VMT). The slight increase in VMT due to the few vehicles that are diverted by access revisions at specific locations, is expected to be more than offset by the increase in bike use.

### 6. Project Construction Traffic Impacts

There will be a significant earth moving component of the project associated with the flood control work and hauling material to the spreading grounds. Up to 350 construction trucks per day are anticipated for a duration of 9 months to a year. A haul route will be identified using truck routes identified in the City's General Plan. It is recommended that a traffic management plan (TMP) be prepared to address potential impacts and mitigation measures during the construction phase of the project.

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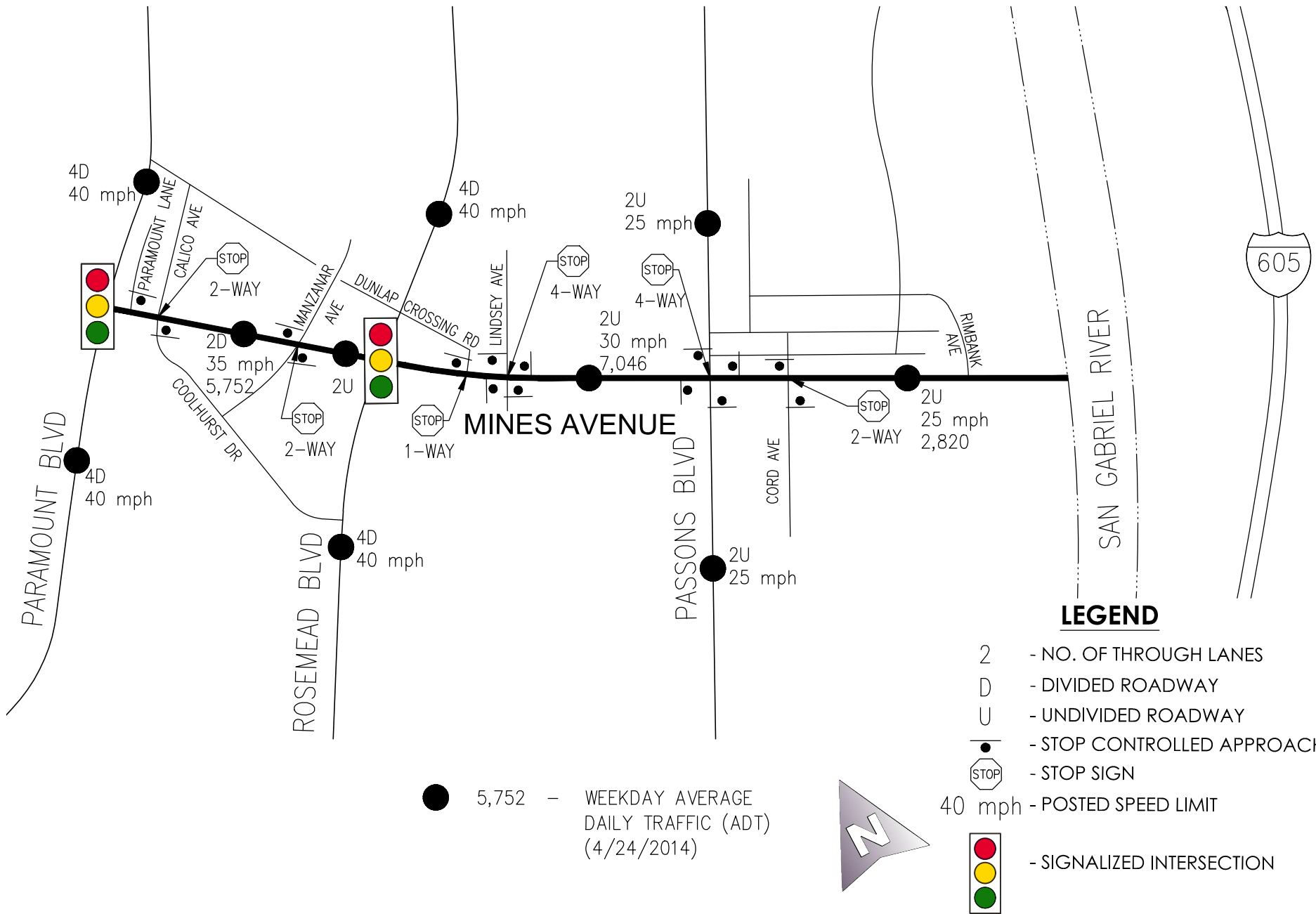
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Attachment:



**Table 1**  
**Mines Avenue Regional Bikeway Project - Existing and Proposed Intersection Lane Configurations**

Intersection	Intersection Control	Existing/Proposed Lane Configurations	Northbound			Southbound			Eastbound			Westbound		
			NBLT	NBT	NBRT	SBLT	SBT	SBRT	EBLT	EBT	EBRT	WBLT	WBT	WBRT
Paramount Blvd.	Traffic Signal	Existing	-	2	-	1	2	-	-	-	-	1	-	1
		Proposed	-	2	-	1	2	-	-	-	-	1	-	1
Paramount Lane	Uncontrolled	Existing	-	-	-	-	1	-	-	1	-	-	1	-
		Proposed	-	-	-	-	1*	-	-	1	-	-	1	-
Coolhurst Drive	2-way Stop	Existing	-	1	-	-	1	-	1	1	-	-	1	-
		Proposed	-	1	-	-	1	-	1	1	-	1	1	-
Manzanar Ave.	2-way Stop	Existing	-	1	-	-	1	-	1	1	-	-	1	-
		Proposed	-	1	-	-	1	-	1	1	-	1	1	-
Rosemead Blvd.	Traffic Signal	Existing	1	2	-	1	2	-	1	1	1	1	1	-
		Proposed	1	2	-	1	2	-	1	1	-	1	1	-
Dunlap Crossing Rd	1-way Stop	Existing	-	-	-	-	1	-	-	1	-	-	1	-
		Proposed	-	-	-	-	1*	-	-	1	-	-	1	-
Lindsey Avenue	4-way Stop	Existing	-	1	-	-	1	-	-	2	-	-	1	-
		Proposed	-	1	-	-	1	-	1	1	-	-	1	-
Passons Blvd.	4-way Stop	Existing	-	2	-	-	2	-	1	1	1	1	1	1
		Proposed	-	2	-	-	2	-	1	1	-	1	1	-
Cord Avenue	2-way Stop	Existing	-	1	-	-	1	-	-	1	-	-	1	-
		Proposed	-	1	-	-	1	-	1	1	-	1	1	-
Rimbank Avenue	Uncontrolled	Existing	-	-	-	-	1	-	-	1	-	-	1	-
		Proposed	-	-	-	-	1	-	1	1	-	-	1	-

\*Access becomes Right-in/Right-out Only with Implementation of Project Improvements