Appendix I Traffic Impact Analysis

Appendices

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TRAFFIC IMPACT ANALYSIS

FOR THE PROPOSED

EASTSIDE ELEMENTARY SCHOOL

Prepared for

RIVERSIDE UNIFIED SCHOOL DISTRICT
&
PLACEWORKS

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I.
INTRODUCTION AND STUDY METHODOLOGY

This report summarizes the results of a traffic impact analysis that was conducted for an 800-student elementary school proposed by Riverside Unified School District on the north side of 14th Street, south of 13th Street, and between Howard Avenue and Victoria Street in the city of Riverside. The new school will be located on parcels of land that are currently occupied by residential properties, commercial businesses, a church, and Lincoln High School. One design option also considers the joint-use of Lincoln Park.

Three options are under consideration for the development of the elementary school. Option 1 would include the acquisition of the private properties, construction of the elementary school, relocation of Lincoln High School, and the closure/vacation of Park Avenue between 13th Street and 14th Street. Option 2 would include the acquisition of the private properties, construction of the elementary school, keeping Lincoln High School in its current location, the closure/vacation of Park Avenue between 13th Street and 14th Street, the closure/vacation of 13th Street between Howard Avenue and Park Avenue, and the joint use of Lincoln Park for play fields. Option 3 would include the acquisition of the private properties, construction of the elementary school, partial reconstruction of Lincoln High School within the project site, and the closure/vacation of Park Avenue between 13th Street and 14th Street.

Site plans for each of the three options of the proposed project are provided in Appendix A. The proposed project would not result in a change in the number of students attending the high school for the two options where the high school remains on the project site. The high school currently has approximately 196 students.

An analysis has been prepared to evaluate the traffic impacts of the proposed project. The methodology for the traffic study, in general, was to 1) establish the existing baseline traffic conditions on the streets that provide access to the school site, 2) project the future baseline traffic conditions for the target year of completion for the proposed project (year 2029), 3) estimate the levels of traffic that would be generated by the school project for each option, 4) estimate the diversion in traffic that would occur as a result of the proposed street closures, 5) conduct a comparative analysis of traffic conditions with and without the proposed project for each option, 6) evaluate the vehicle miles traveled (VMT) impacts of the proposed project, and 7) identify potential mitigation measures/recommendations.

The traffic analysis is based on morning peak hour traffic volumes on the roadways and intersections in the project area because traffic that would be generated by the school in the morning generally coincides with the morning commuter peak period. The afternoon peak period was not evaluated because the afternoon peak hour of traffic activity for a school does not typically coincide with the commuter peak hour on the roadway network. The afternoon commuter peak period generally occurs from approximately 5:00 to 6:00 p.m., while an elementary school generally experiences its peak traffic activity between 1:30 and 2:30 p.m. when the background traffic volumes are relatively light (as compared to the peak hour).

The traffic analysis addresses the impacts at 10 intersections in the vicinity of the school site (see Figure 1, *Study Area Street Network*). The study area intersections, the type of traffic control at each intersection, and the public agency with jurisdictional responsibility for the intersection are listed below in Table 1.

TABLE 1
STUDY AREA INTERSECTIONS

Intersection	*Traffic Control*	*Jurisdiction*
SIGNALIZED INTERSECTIONS		
14th Street/Victoria Avenue	Traffic Signal	City of Riverside
14th Street/Park Avenue	Traffic Signal	City of Riverside
14th Street/Howard Avenue	Traffic Signal	City of Riverside
14th Street/Eastbound 91 Freeway Ramps	Traffic Signal	Caltrans
14th Street/Mulberry Street	Traffic Signal	City of Riverside
UNSIGNALIZED INTERSECTIONS		
13th Street/Victoria Avenue	Stop Signs on 13th Street	City of Riverside
13th Street/Park Avenue	4-Way Stop Signs	City of Riverside
13th Street/Howard Avenue	Stop Sign on 13th Street	City of Riverside
12th Street/Park Avenue	Stop Signs on 12th Street	City of Riverside
12th Street/Howard Avenue	4-Way Stop Signs	City of Riverside

The traffic impact analysis is based on an evaluation of the levels of service at the affected study area intersections. Level of service (LOS) is an industry standard by which the operating conditions of a roadway segment or an intersection are measured. LOS is defined on a scale of A through F with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS A is characterized as having free flowing traffic conditions with no restrictions on maneuvering or operation speeds, where traffic volumes are low and travel speeds are high. LOS F is characterized as having forced flow with many stoppages and low operating speeds.

According to the City of Riverside standards, LOS A through D represents acceptable conditions on arterial and collector streets, while LOS E and F represent congested, over-capacity conditions. For local streets, LOS A through C represents acceptable conditions while LOS D through F represents over-capacity conditions. The levels of service at the study area intersections were determined by using the Highway Capacity Manual methodology, which is consistent with the City of Riverside's traffic impact analysis guidelines.

The levels of service for the intersections in the vicinity of the proposed project were analyzed for the following scenarios: existing conditions (2021), existing conditions plus the proposed project, future baseline conditions without the proposed project for the target year of 2029, and future conditions with the proposed project. The year 2029 was used for the future target year as that is anticipated to be the year of completion for the proposed project.

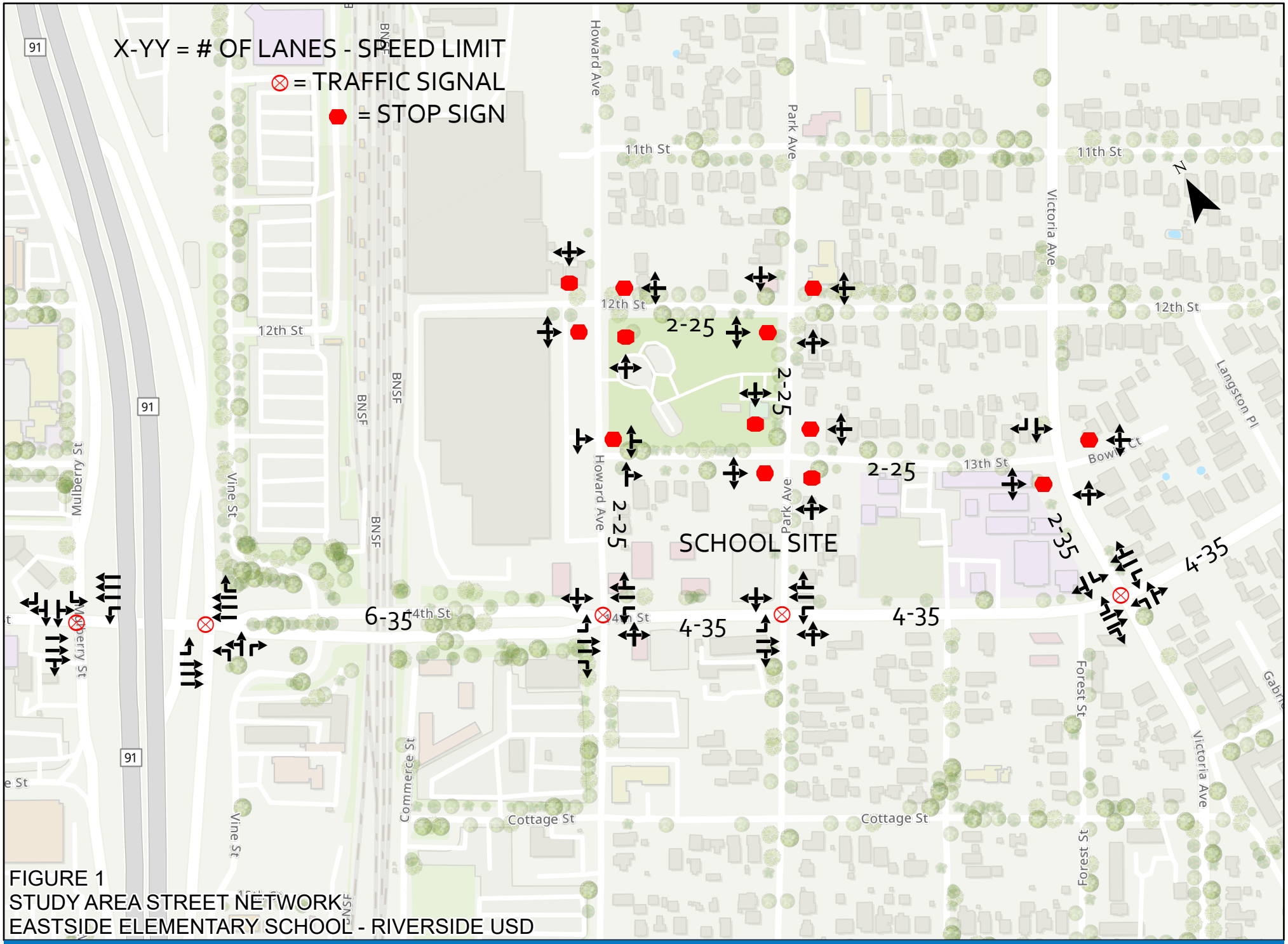

FIGURE 1
STUDY AREA STREET NETWORK
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

II.
EXISTING TRAFFIC CONDITIONS

The roadway network in the proposed project vicinity, the existing traffic volumes, and the levels of service at the affected study area intersections are described below.

Street Network

The streets that provide access to the proposed project area include 14th Street, 13th Street, 12th Street, Victoria Avenue, Park Avenue, and Howard Avenue. The following paragraphs provide a brief description of the characteristics of these streets. In addition, the Riverside Freeway (State Route 91) is located approximately one-quarter mile west of the proposed project site. A figure showing the study area street network and the existing roadway characteristics is shown on Figure 1.

14th Street

Fourteenth Street is a four to six lane east-west arterial street that abuts the south side of the project site. It has an interchange with the Riverside Freeway to provide access to and from the freeway. Fourteenth Street has four lanes east of Howard Avenue and six lanes west of Howard Avenue. The speed limit on 14th Street is 35 miles per hour.

13th Street

Thirteenth Street is a two lane east-west local street that abuts the north side of the project site. It extends for only two blocks from Howard Avenue to Victoria Avenue. The speed limit on 13th Street is 25 miles per hour.

12th Street

Twelfth Street is a two lane east-west local street located one block north of the project site. It runs along the north side of Lincoln Park. The speed limit on 12th Street is 25 miles per hour.

Victoria Avenue

Victoria Avenue is a two lane north-south collector street that abuts the east side of the project site. The speed limit on Victoria Avenue is 35 miles per hour.

Park Avenue

Park Avenue is a two lane north-south local street that runs through the middle of the project site. The speed limit on Park Avenue is 25 miles per hour.

Howard Avenue

Howard Avenue is a two lane north-south street that abuts the west side of the project site. The speed limit on Howard Avenue is 25 miles per hour.

Existing Traffic Volumes

Manual traffic counts were taken at the study area intersections on Thursday, April 29 and Tuesday, May 4, 2021, during the morning peak period. Figure 2, Existing Traffic Volumes, shows the existing peak hour traffic volumes and turning movements at each intersection. The traffic counts were taken from 7:00 to 9:00 a.m. and the highest one-hour period of traffic flow was determined for each intersection. The morning peak hour generally occurs between 7:00 and 8:00 a.m. The afternoon peak period was not addressed in the traffic impact analysis because the peak

period of traffic activity for an elementary school typically occurs from 1:30 to 2:30 p.m., which does not coincide with the late afternoon commuter peak hour, which occurs generally from 5:00 to 6:00 p.m.

Existing Intersection Levels of Service

To quantify the existing baseline traffic conditions, the 10 study area intersections were analyzed to determine their operating conditions during the morning peak hour. Based on the peak hour traffic volumes, the turning movement counts, and the existing number of lanes at each intersection, the average vehicle delay values (seconds of delay per vehicle) and corresponding levels of service (LOS) have been determined at each intersection, as summarized in Table 2. The delay values and levels of service were determined by using the Highway Capacity Software (HCS).

TABLE 2
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	*Delay Value (seconds/vehicle) & Level of Service*
SIGNALIZED INTERSECTIONS	
14th Street/Victoria Avenue	25.2 – C
14th Street/Park Avenue	7.4 – A
14th Street/Howard Avenue	11.0 – B
14th Street/Eastbound 91 Freeway Ramps	29.1 – C
14th Street/Mulberry Street	27.6 – C
UNSIGNALIZED INTERSECTIONS	
13th Street/Victoria Avenue	11.8 – B
13th Street/Park Avenue	7.6 – A
13th Street/Howard Avenue	9.9 – A
12th Street/Park Avenue	9.6 – A
12th Street/Howard Avenue	7.5 – A

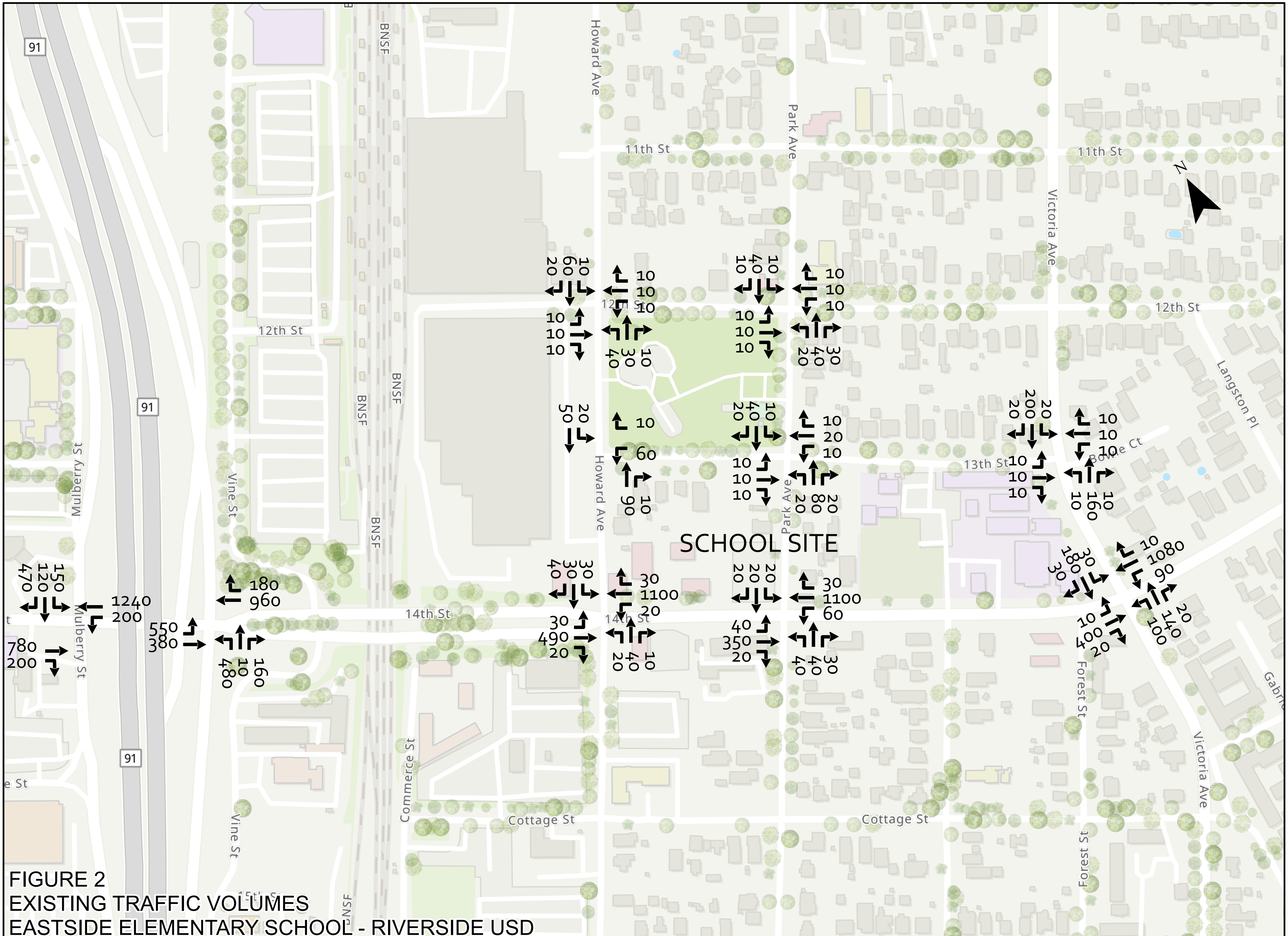

FIGURE 2
EXISTING TRAFFIC VOLUMES
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

Table 2 indicates that all 10 study area intersections currently operate at acceptable levels of service during the morning peak hour. Five intersections operate at LOS A, two intersections operate at LOS B, and three intersections operate at LOS C. It should be noted that the delay and LOS values that are shown for the signalized intersections and the intersections with four-way stop signs represent the average values for the entire intersection while the delay and LOS values for the intersections with stop signs only on the side street represent the conditions on the approach that has the highest level of delay at the stop sign.

The relationship between the average delay values and levels of service is shown in Table 3. The correlation is different for signalized intersections vs. unsignalized intersections with stop signs.

TABLE 3
RELATIONSHIP BETWEEN DELAY VALUES & LEVELS OF SERVICE

Level of Service	*Delay Value (seconds) Signalized Intersections*	*Delay Value (seconds) Unsignalized Intersections*
A	0.0 to 10.0	0.0 to 10.0
B	> 10.0 to 20.0	> 10.0 to 15.0
C	> 20.0 to 35.0	> 15.0 to 25.0
D	> 35.0 to 55.0	> 25.0 to 35.0
E	> 55.0 to 80.0	> 35.0 to 50.0
F	> 80.0	> 50.0

III.
FUTURE BASELINE TRAFFIC CONDITIONS

The future (year 2029) baseline traffic conditions without the project were estimated by considering the effects of general ambient regional growth and the cumulative increase in traffic volumes that would be generated by other development projects proposed in the area. The first step in estimating the future baseline traffic volumes was to multiply the existing traffic volumes by a growth factor of 17 percent. This represents a two percent annual growth rate for eight years (compounded annually from 2021 to 2029) and accounts for the traffic increases associated with general regional growth and development projects that are outside the immediate study area.

The second step in estimating the future baseline traffic volumes was to estimate the increased levels of traffic that would occur at the study area roadways and intersections as a result of the traffic that would be generated by other proposed development projects in the area. A list of development projects that have been proposed and/or approved in the vicinity of the project site was obtained from the DEIR traffic report that was recently prepared for the Riverside-Downtown Station Improvements Project (Riverside County Transportation Commission, December 2021), as presented in Table 4. The DEIR addresses the impacts of a major project that will improve and expand the Metrorail station that is located several blocks northwest of the project site.

TABLE 4
DEVELOPMENT PROJECTS FOR CUMULATIVE ANALYSIS

Project Name	*Description*
Riverside-Downtown Station Improvements	Metrorail Station Expansion & Parking Lot
Mission Lofts Apartment Complex	212 DUs – 3050 Mission Inn Avenue
Affordable Housing Development	8 DUs – 2719 11th Street
Medical Office Building	27,000 sq. ft. – 4508 Olivewood Avenue

Note: DUs = dwelling units, sq. ft. = square feet

The estimated volumes of traffic that would be generated by the proposed development projects are shown in Table 5. The traffic volumes were obtained from the DEIR traffic report for the Riverside-Downtown Station Improvements Project.

TABLE 5
TRAFFIC GENERATED BY OTHER PROPOSED DEVELOPMENT PROJECTS

	AM Peak Hour		
Facility	*Inbound*	*Outbound*	**Total**
Riverside-Downtown Station Improvements	115	28	143
Mission Lofts Apartment Complex	20	56	76
Affordable Housing Development	1	3	4
Medical Office Building	59	16	75
TOTAL	195	103	298

Table 5 indicates that the other proposed development projects, in total, would generate an estimated 298 vehicle trips during the morning peak hour (195 inbound and 103 outbound). The traffic from these other proposed development projects was geographically distributed onto the

roadway network to quantify the cumulative impacts at each study area intersection. Figure 3, Cumulative Traffic From Other Development Projects, in the Appendix shows the estimated cumulative increases in traffic that would occur at each intersection as a result of these projects.

The projected future baseline traffic volumes without the proposed school expansion project for the target year of 2029 are shown on Figure 4, 2029 Traffic Volumes Without Project, in the Appendix. The year 2029 traffic volumes represent an ambient growth factor of 17 percent applied to the existing traffic volumes plus the cumulative increase in traffic volumes generated by the proposed development projects.

Based on the projected peak hour traffic volumes and turning movement counts, the future baseline delay values and levels of service were calculated for each study area intersection, as summarized in Table 6 for the target year of 2029. Table 6 indicates that all 10 of the study area intersections are projected to operate at acceptable levels of service during the morning peak hour as four of the intersections would operate at LOS A, three intersections would operate at LOS B, one intersection would operate at LOS C, and two intersections would operate at LOS D. The intersections that would operate at LOS D are on an arterial street (14th Street).

TABLE 6
FUTURE BASELINE INTERSECTION LEVELS OF SERVICE WITHOUT PROJECT

Intersection	***Delay Value (seconds/vehicle) & Level of Service Year 2029***
SIGNALIZED INTERSECTIONS	
14th Street/Victoria Avenue	28.9 – C
14th Street/Park Avenue	8.2 – A
14th Street/Howard Avenue	15.2 – B
14th Street/Eastbound 91 Freeway Ramps	44.8 – D
14th Street/Mulberry Street	44.0 – D
UNSIGNALIZED INTERSECTIONS	
13th Street/Victoria Avenue	12.6 – B
13th Street/Park Avenue	7.7 – A
13th Street/Howard Avenue	11.1 – B
12th Street/Park Avenue	9.8 – A
12th Street/Howard Avenue	8.0 – A

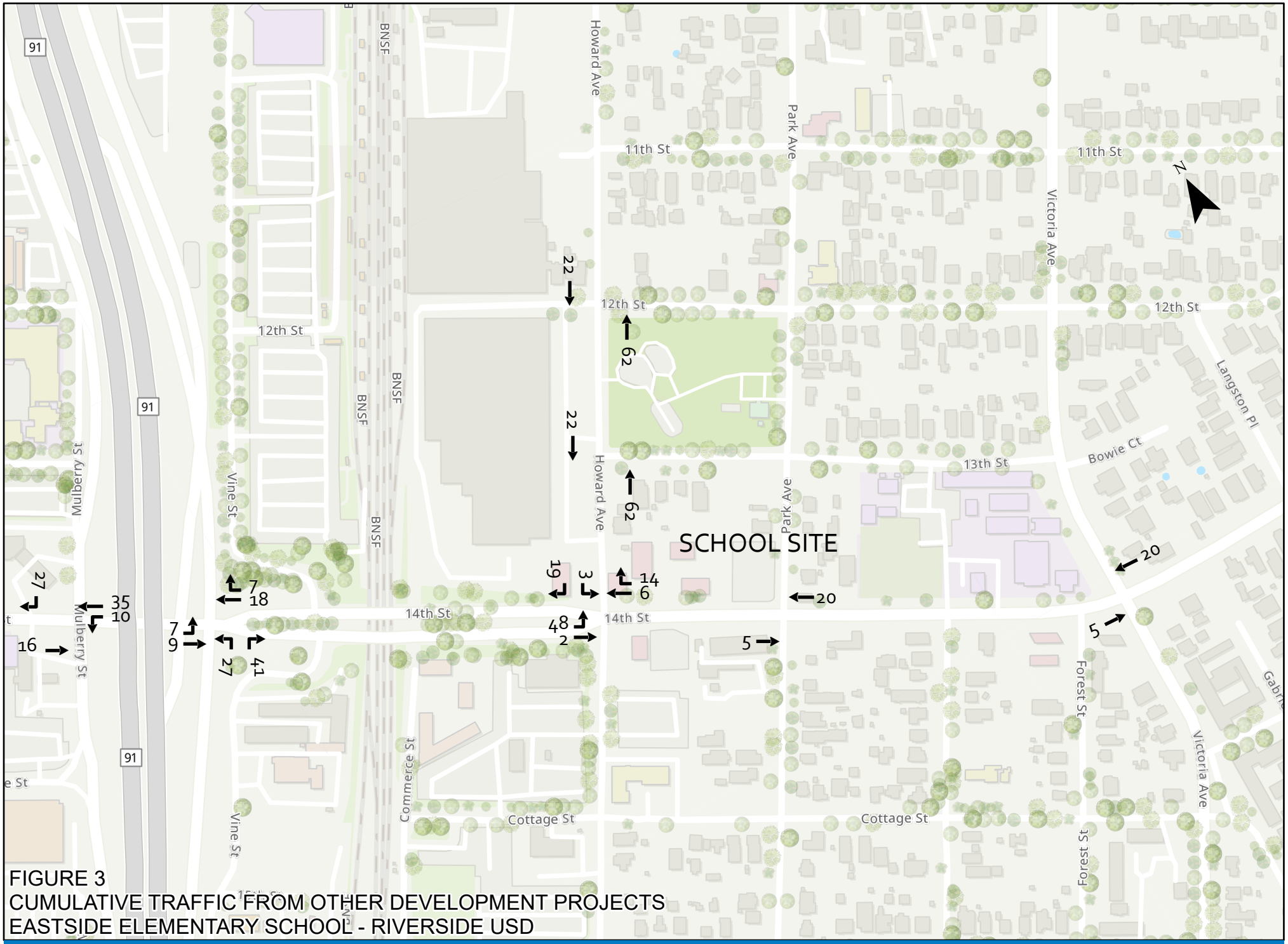

FIGURE 3
CUMULATIVE TRAFFIC FROM OTHER DEVELOPMENT PROJECTS
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

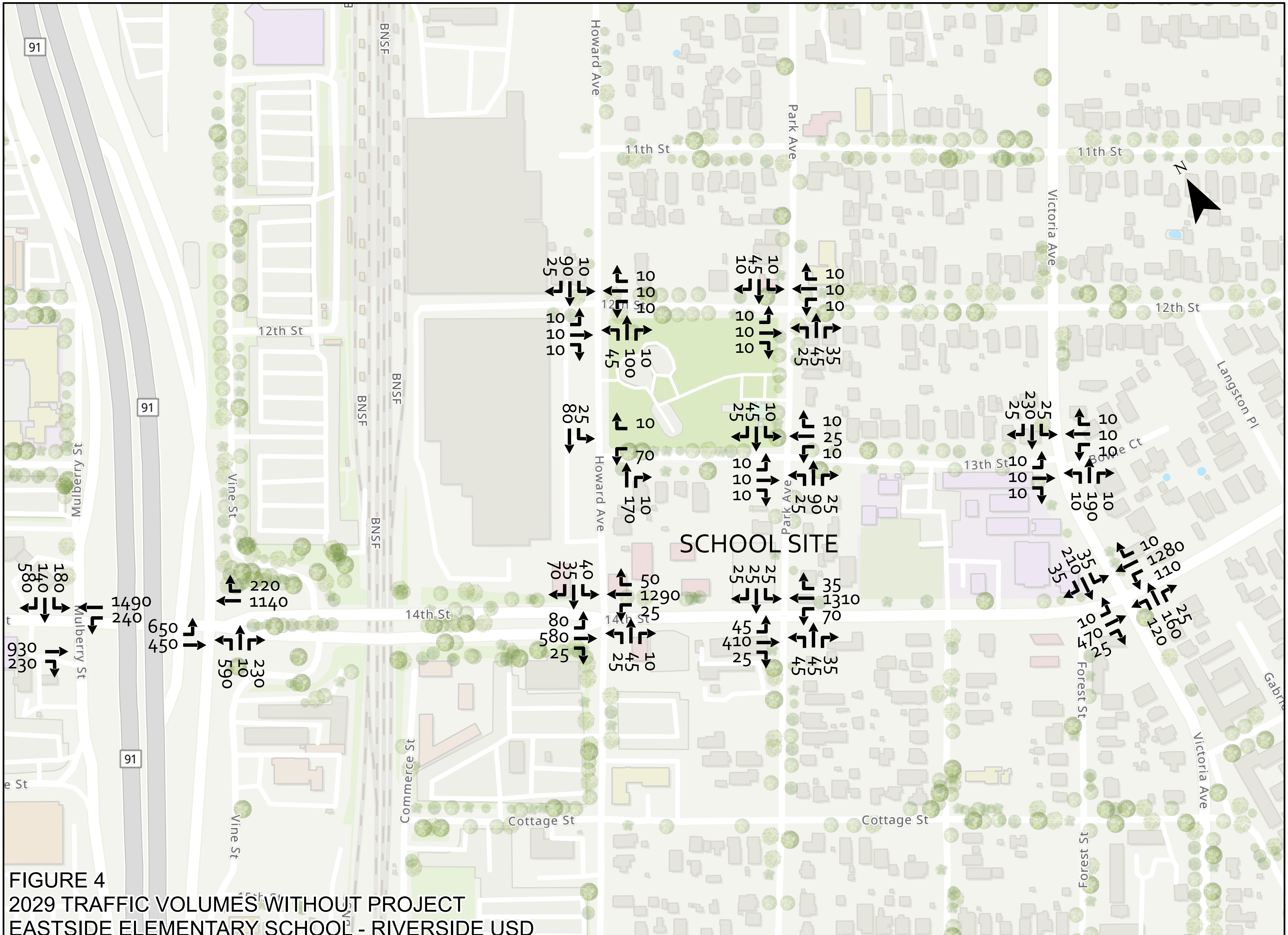

FIGURE 4
2029 TRAFFIC VOLUMES WITHOUT PROJECT
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

IV.
TRAFFIC IMPACT ANALYSIS

This section summarizes the analysis of the proposed project's impacts on study area traffic conditions. First is a discussion of project generated traffic volumes. This is followed by an analysis of the impacts of the proposed project on traffic volumes and intersection levels of service. Then the impacts associated with vehicle miles traveled (VMT), construction, parking, and safety are presented.

Standards of Significance

According to the City of Riverside standards, as stated in the City's "Traffic Impact Analysis Preparation Guide," LOS D is the maximum acceptable threshold for the study intersections and roadways of collector or higher classification. LOS C is to be maintained on local street intersections. For projects in conformance with the General Plan, a significant impact occurs at a study intersection when the peak hour LOS fall below C (for local streets) or D (for arterial and collector streets). For projects that propose uses or intensities above that contained in the General Plan, a significant impact at a study intersection is when the addition of project related trips causes either peak hour LOS to degrade from acceptable (LOS A thru D) to unacceptable levels (E or F) or the peak hour delay to increase as follows:

LOS A/B	By 10.0 seconds
LOS C	By 8.0 seconds
LOS D	By 5.0 seconds
LOS E	By 2.0 seconds
LOS F	By 1.0 second

Objective ENP 10 of the Eastside Community Plan, which is a component of the City of Riverside General Plan, states that one of the planning objectives is to expand educational opportunities and access to educational facilities for the residents of the Eastside Neighborhood. Policy ENP 10.1 states that the City should collaborate with Riverside Unified School District (RUSD) to establish new schools or increase capacity of existing schools in the Eastside Neighborhood. As the proposed project is consistent with this objective and policy, the project is in conformance with the General Plan.

According to the Caltrans standards, Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities, however, Caltrans acknowledges that this may not always be feasible. If an existing State highway facility is operating at less than the appropriate target LOS, an acceptable measure of effectiveness (MOE) should be maintained.

With regard to the CEQA thresholds of significance, Appendix G of the CEQA Guidelines states that a project would normally have a significant effect on the environment if the project could:

T-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities,

T-2 Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), which addresses vehicle miles traveled (VMT),

T-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or

T-4 Result in inadequate emergency access.

Project Generated Traffic

The volumes of traffic expected to be generated by the proposed project were determined in order to estimate the impacts of the project on the study area roadways and intersections. As the project would result in the displacement of existing land uses at the project site, the net increase in site generated traffic was determined by subtracting the traffic that is generated by the existing uses from the volumes of traffic that are projected to be generated by the new school. Option 1 would result in the elimination of the existing high school from the site, while the high school would remain in operation at the site for Options 2 and 3. The residential, commercial, and church uses would be removed from the site for all three options.

The trip generation rates that were used to calculate the volumes of traffic generated by each land use are shown in Table 7. These trip generation rates are from the Institute of Transportation Engineers *Trip Generation Manual* (11th Edition, 2021). The church is not included in the analysis because the traffic analysis is based primarily on the weekday AM peak hour when the church generates minimal or no vehicular traffic.

TABLE 7
TRIP GENERATION RATES

Land Use	AM Peak Hour			Daily Traffic
	Total	Inbound	Outbound	
Elementary School (trips per student)	0.74	54%	46%	2.27
High School (trips per student)	0.52	68%	32%	1.94
Single Family Residential (trips per unit)	0.70	26%	74%	9.43
Multi-Family Residential (trips per unit)	0.40	24%	76%	6.74
Tire Store (trips per 1,000 sf)	2.61	64%	36%	27.69
Auto Parts & Service (trips per 1,000 sf)	1.91	72%	28%	16.6

The estimated volumes of traffic that would be generated by the proposed elementary school, the volumes of traffic that are generated by the uses that would be eliminated from the site, and the net increase in site generated traffic are shown in Table 8 for Option 1 for the morning peak hour and an average weekday. Although the trip generation rates shown in Table 7 and the traffic volumes shown in Table 8 for the schools are based on the number of students at each school, the data represent the total number of vehicle trips generated by the schools, including staff/faculty vehicles, drop-off/pick-up activities, visitors, and deliveries. Table 8 indicates that the proposed elementary school would generate 592 vehicle trips during the morning peak hour (320 inbound and 272 outbound) and approximately 1,820 vehicle trips per day. After deducting the traffic that is generated by the existing land uses that will be eliminated from the project site, the net increase in site generated traffic volumes would be 457 trips during the morning peak hour (232 inbound and 225 outbound) and 1,100 trips per day.

TABLE 8
PROJECT GENERATED TRAFFIC – OPTION 1

Land Use	AM Peak Hour			Daily Traffic
	Total	Inbound	Outbound	
NEW TRIPS				
Elementary School (800 students)	592	320	272	1,820
TRIPS ELIMINATED				
High School (196 students)	102	69	33	380
Single Family Residential (9 units)	7	2	5	85
Multi-Family Residential (2 units)	1	0	1	15
Tire Store – Johnny's (5,320 sf)	14	9	5	150
Auto Parts & Service – L&M (5,699 sf)	11	8	3	90
Total Trips Eliminated	135	88	47	720
NET INCREASE IN SITE GENERATED TRAFFIC				
Net Increase	457	232	225	1,100

The estimated volumes of traffic that would be generated by the proposed project, the volumes of traffic that would be generated by the uses that would be eliminated from the site, and the net increase in site generated traffic are shown in Table 9 for Option 2 and Table 10 for Option 3 for the morning peak hour and an average weekday. The existing high school would remain in place for Option 2 and would be reconstructed in new on-site buildings for Option 3; however, the number of students and the volumes of generated traffic would remain the same.

TABLE 9
PROJECT GENERATED TRAFFIC – OPTION 2

Land Use	AM Peak Hour			Daily Traffic
	Total	Inbound	Outbound	
NEW TRIPS				
Elementary School (800 students)	592	320	272	1,820
Joint-Use Park – Public Usage	0	0	0	160
TRIPS ELIMINATED				
Single Family Residential (9 units)	7	2	5	85
Multi-Family Residential (2 units)	1	0	1	15
Tire Store – Johnny's (5,320 sf)	14	9	5	150
Auto Parts & Service – L&M (5,699 sf)	11	8	3	90
Total Trips Eliminated	33	19	14	340
NET INCREASE IN SITE GENERATED TRAFFIC				
Net Increase	559	301	258	1,640

Option 2 includes a joint-use park component that would be used by the school during the day when school is in session and would be available for public use during after-school hours (4:30 to 10:00 p.m.) on school days and throughout the day on days when school is not in session. The joint-use athletic fields for the proposed school would be regular grass fields typical of an

elementary school and would not be configured for specified sport such as soccer or baseball. However, a conservative assumption was made for the purpose of the traffic analysis, which assumed that the joint-use fields could accommodate soccer games and practices , attracting up to 60 AYSO players, 10 referees/coaches, and 90 spectators on a typical weekday as worst case scenario. In addition, it was assumed that the basketball courts could attract an estimated 40 players and 10 spectators as worst case scenario. Assuming that the AYSO players would not independently drive to the park, the referees and coaches would each drive to the park, and that the spectators and basketball players would generate one vehicle trip for every two individuals, the park would generate 80 vehicle trips per day. This equates to a total daily traffic volume of 160 trips per day (one inbound and one outbound for each driver). The assumption of one trip for every two individuals is based on the fact that some of the people would travel together and some of the people would walk to the park from the nearby residential neighborhood.

TABLE 10
PROJECT GENERATED TRAFFIC – OPTION 3

Land Use	*AM Peak Hour*			*Daily Traffic*
	Total	*Inbound*	*Outbound*	
NEW TRIPS				
Elementary School (800 students)	592	320	272	1,820
TRIPS ELIMINATED				
Single Family Residential (9 units)	7	2	5	85
Multi-Family Residential (2 units)	1	0	1	15
Tire Store – Johnny's (5,320 sf)	14	9	5	150
Auto Parts & Service – L&M (5,699 sf)	11	8	3	90
Total Trips Eliminated	33	19	14	340
NET INCREASE IN SITE GENERATED TRAFFIC				
Net Increase	559	301	258	1,480

Table 9 indicates that the proposed project would result in a net increase of 559 vehicle trips during the morning peak hour (301 inbound and 258 outbound) and approximately 1,640 vehicle trips per day. Table 10 indicates that the proposed project would result of 559 trips during the morning peak hour (301 inbound and 258 outbound) and 1,480 trips per day.

It should be noted that the school-related traffic volumes shown in Tables 8, 9, and 10 do not necessarily introduce new traffic to the overall street network but instead represent the volumes of traffic that would be re-directed to this school site from existing schools, because the number of students attending school in the district is a function of the school-age population and the demand for educational facilities. Most of the school-related traffic would be traveling on the street network regardless of the status of the proposed project. It has been assumed for the traffic analysis, however, that the additional site-generated traffic would be new traffic on the street network.

Effects of the Proposed Street Closures

One of the components of the proposed project is the closure/vacation of one block of Park Avenue between 13th Street and 14th Street. This street closure is applicable to all three options. In addition, for Option 2 it is proposed that the one block segment of 13th Street would be closed between Park

Avenue and Howard Avenue.

If these street segments were to be vacated, the traffic that currently travels on these blocks would shift to other nearby streets. The traffic impact analysis for the proposed project incorporates the anticipated shifting of traffic patterns in addition to the impacts of the project generated traffic volumes. The methodology for quantifying the impacts of the street closures was to re-route the existing traffic volumes onto the nearest or most probably alternative travel routes. For example, the southbound traffic on Park Avenue that turns right onto 14th Street would be re-routed onto 13th Street and Howard Avenue and the southbound traffic on Park Avenue that turns left onto 14th Street would be re-routed onto 13th Street and Victoria Avenue.

Currently, the segment of Park Avenue that is proposed to be closed has 60 southbound vehicles and 110 northbound vehicles during the AM peak hour. This traffic would be re-routed onto Howard Avenue and Victoria Avenue if that block of Park Avenue were to be vacated. The segment of 13th Street between Park Avenue and Howard Avenue has 60 westbound vehicles and 30 eastbound vehicles during the AM peak hour. This traffic would be re-routed onto 12th Street and 14th Street.

Projected Traffic Volumes

To quantify the increase in traffic volumes at each intersection resulting from the proposed project, the project generated traffic was geographically distributed onto the roadway network using the directional percentages shown on Figure 5, *Project Generated Traffic – Option 1*, Figure 6, *Project Generated Traffic – Option 2*, and Figure 7, *Project Generated Traffic – Option 3*. The distribution assumptions are based on the layout of the street network, the existing traffic patterns, and the anticipated geographical distribution of the students who would attend the school.

Using the generated traffic volumes shown in Tables 8, 9, and 10 and the geographical distribution assumptions shown on the figures, the volumes of project traffic on each access street and at each study area intersection were determined for the traffic impact analysis. The volumes of project generated traffic at each study area intersection are shown on Figures 5, 6, and 7.

The traffic impact analysis considers two scenarios. One is the project's impacts on existing conditions and the other is the project's impacts on the projected year 2029 conditions. To quantify the impacts on existing conditions, the project generated traffic volumes shown on Figures 5, 6, and 7 were added to the existing traffic volumes. The resulting "existing plus project" traffic volumes are shown on Figure 8, *Existing Plus Project Traffic volumes – Option 1*, Figure 9, *Existing Plus Project Traffic volumes – Option 2*, and Figure 10, *Existing Plus Project Traffic volumes – Option 3*. These traffic volumes reflect the impacts of project generated traffic as well as the shifts in traffic patterns associated with the proposed street closures.

The total volumes of traffic projected for the year 2029 scenario were determined by adding the project generated traffic to the future baseline traffic volumes. These projected traffic volumes are shown on Figure 11, *2029 Traffic Volumes With Project – Option 1*, Figure 12, *2029 Traffic Volumes With Project – Option 2*, and Figure 13, *2029 Traffic Volumes With Project – Option 3*. These traffic volumes reflect the impacts of project generated traffic as well as the shifts in traffic patterns associated with the proposed street closures.

Intersection Impact Analysis

The impact analysis for the 10 study area intersections was conducted by comparing the delay values and levels of service (LOS) for the "without project" and "with project" scenarios. For the

existing conditions scenario, the analysis compares the existing conditions to the conditions with the proposed project for Options 1, 2, and 3. Similarly, for the year 2029 scenario, the analysis compares the year 2029 baseline conditions without the proposed project to the year 2029 scenario with the proposed project for each of the three options. The year 2029 was used as the target year for future conditions as that is anticipated to be the year that the proposed project would be completed.

The comparative levels of service at the study area intersections for the existing conditions scenario are summarized in Table 11 for Option 1. The table shows the before and after delay values and the levels of service that would occur at each study area intersection. Also shown are the increases in the delay values that would occur as a result of the proposed project. The last column in Table 11 indicates if the intersections would be significantly impacted by the proposed project.

The intersection of 14th Street and Victoria Avenue, for example, would operate with an average delay value of 25.2 seconds per vehicle and LOS C for existing conditions and with an average delay value of 32.1 seconds and LOS C for the existing plus project scenario, which represents an increase in average delay of 6.9 seconds per vehicle. This impact would be less than significant according to the criteria outlined above because the intersection would continue to operate at an acceptable LOS C. Table 11 indicates that none of the study area intersections would be significantly impacted by the street closure and the additional traffic that would be generated by Option 1 of the proposed project for the existing conditions baseline scenario because all of the intersections would continue to operate at acceptable levels of service. The threshold values shown in the Standards of Significance section are not applicable because the project is consistent with the City of Riverside General Plan.

TABLE 11
PROJECT IMPACT ON INTERSECTION LEVELS OF SERVICE
EXISTING CONDITIONS AS BASELINE – OPTION 1

Intersection	*Delay Value & Level of Service*		*Increase In Delay Value*	*Significant Impact*
	Existing Conditions	*Existing plus Project*		
SIGNALIZED INTERSECTIONS				
14th Street/Victoria Avenue	25.2 – C	32.1 – C	6.9	No
14th Street/Park Avenue	7.4 – A	7.1 – A	-0.3	No
14th Street/Howard Avenue	11.0 – B	18.3 – B	7.3	No
14th Street/Eastbound 91 Freeway Ramps	29.1 – C	29.0 – C	-0.1	No
14th Street/Mulberry Street	27.6 – C	27.8 – C	0.2	No
UNSIGNALIZED INTERSECTIONS				
13th Street/Victoria Avenue	11.8 – B	18.1 – C	6.3	No
13th Street/Park Avenue	7.6 – A	8.3 – A	0.7	No
13th Street/Howard Avenue	9.9 – A	12.3 – B	2.4	No
12th Street/Park Avenue	9.6 – A	10.9 – B	1.3	No
12th Street/Howard Avenue	7.5 – A	7.6 – A	0.1	No

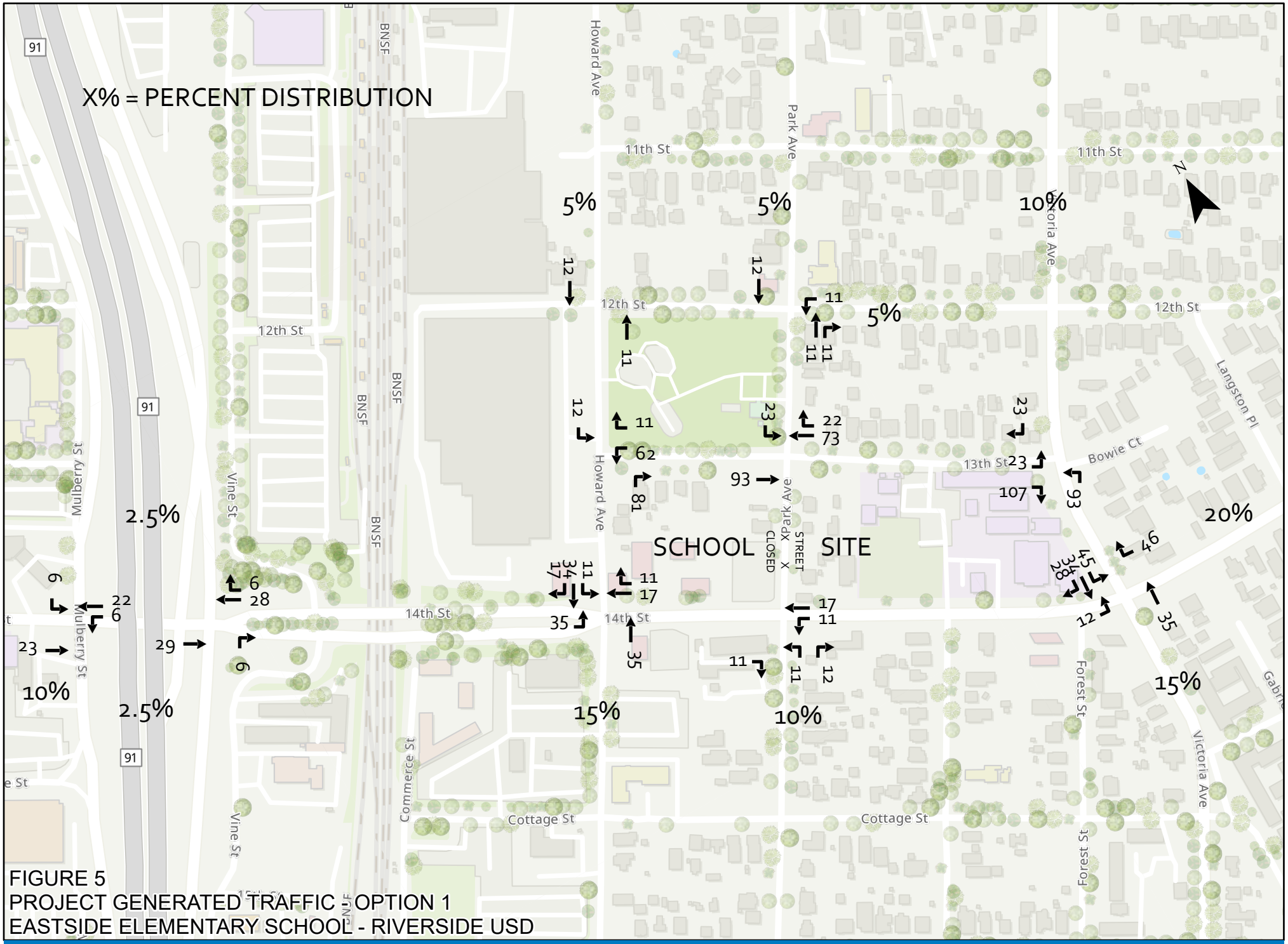

FIGURE 5
PROJECT GENERATED TRAFFIC - OPTION 1
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

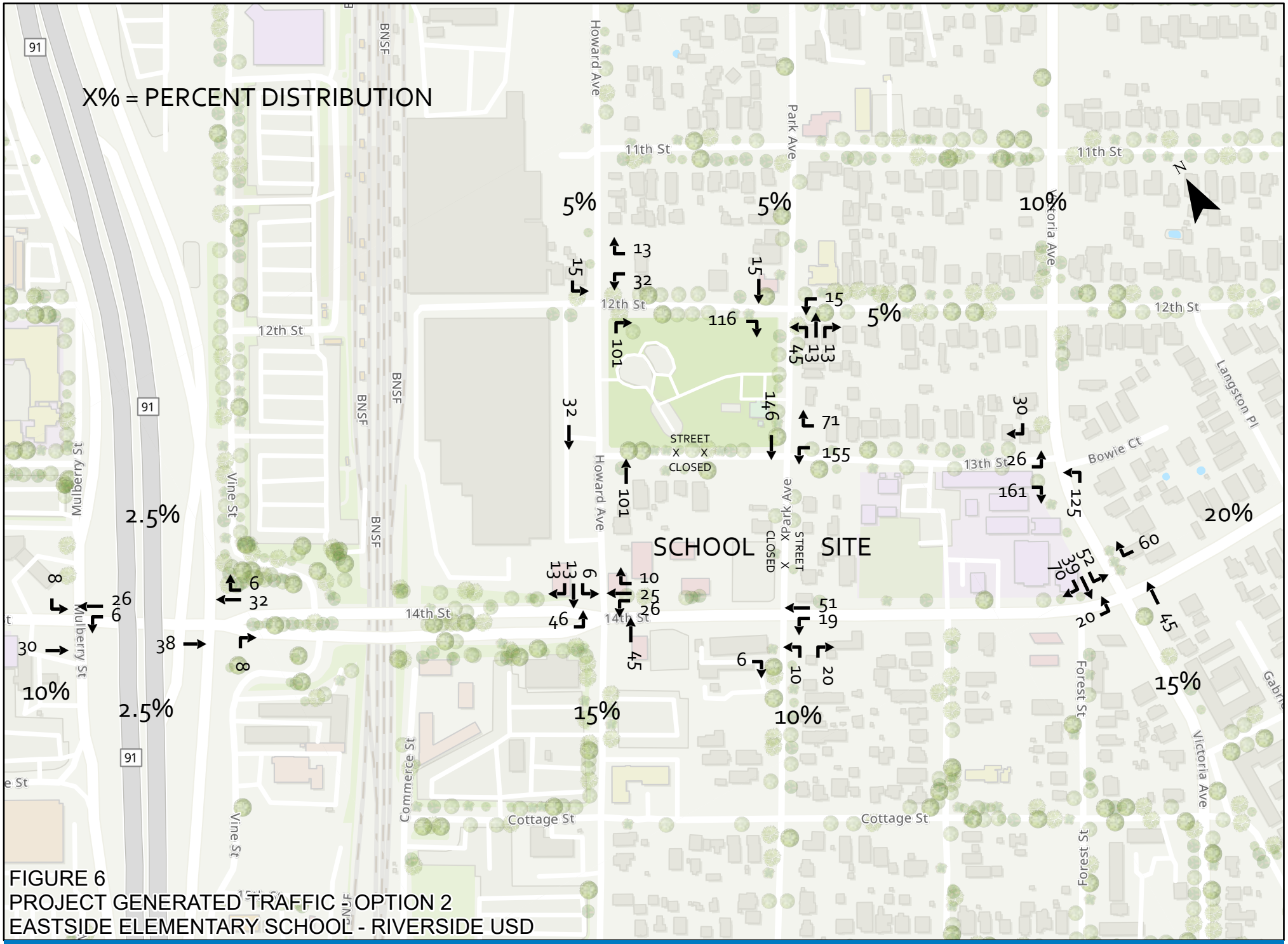

FIGURE 6
PROJECT GENERATED TRAFFIC - OPTION 2
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

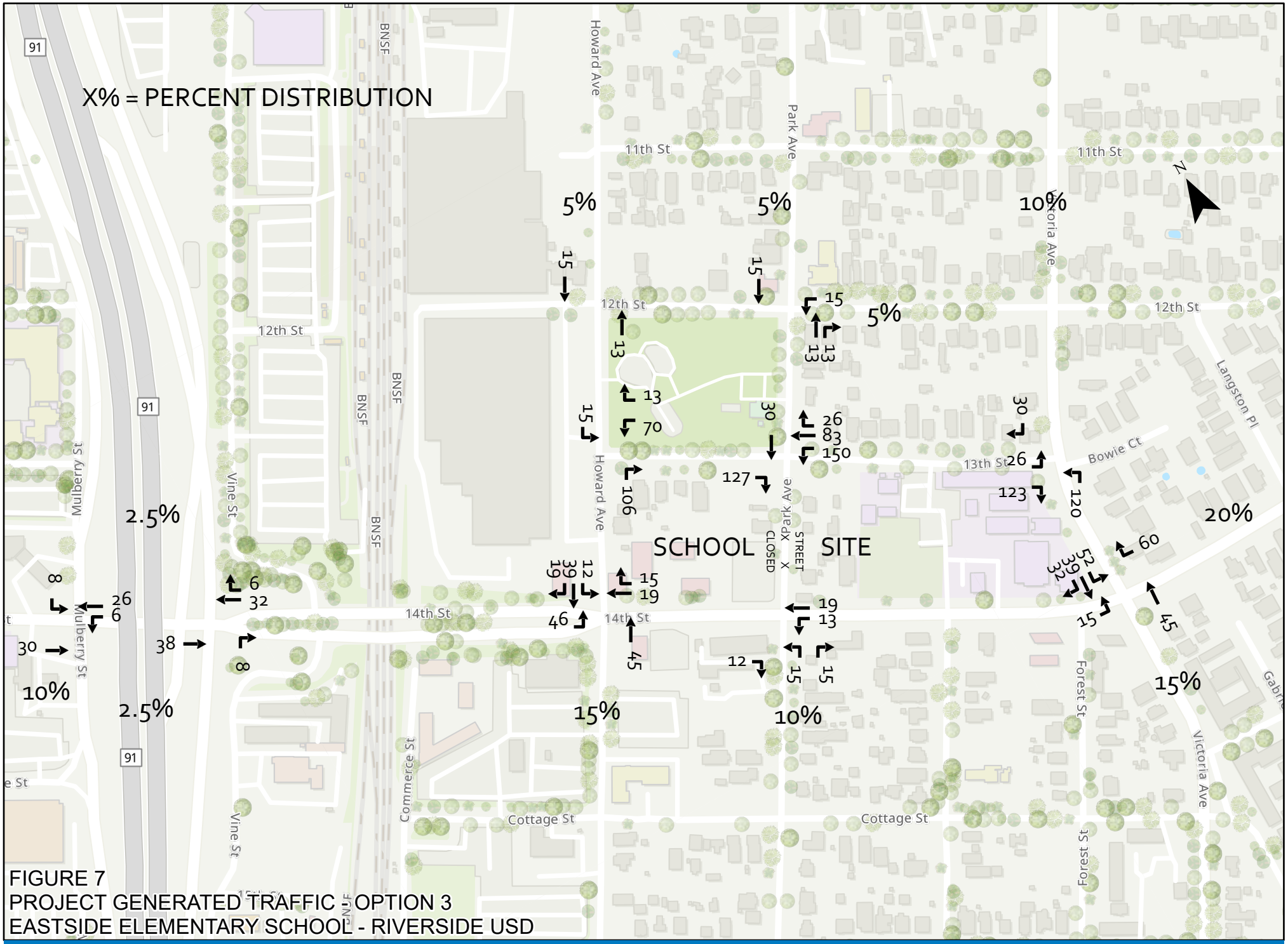

FIGURE 7
PROJECT GENERATED TRAFFIC - OPTION 3
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

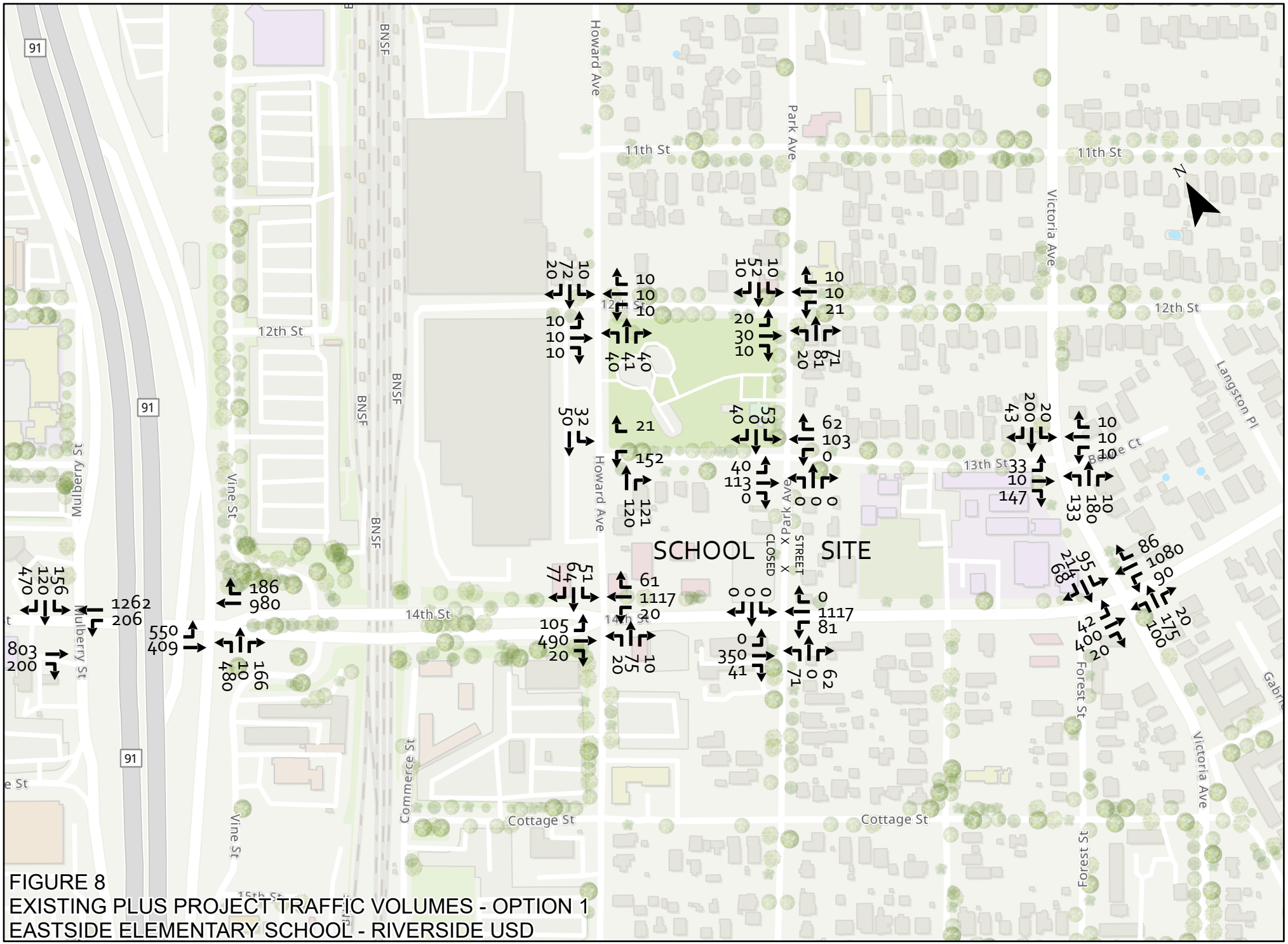

FIGURE 8
EXISTING PLUS PROJECT TRAFFIC VOLUMES - OPTION 1
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

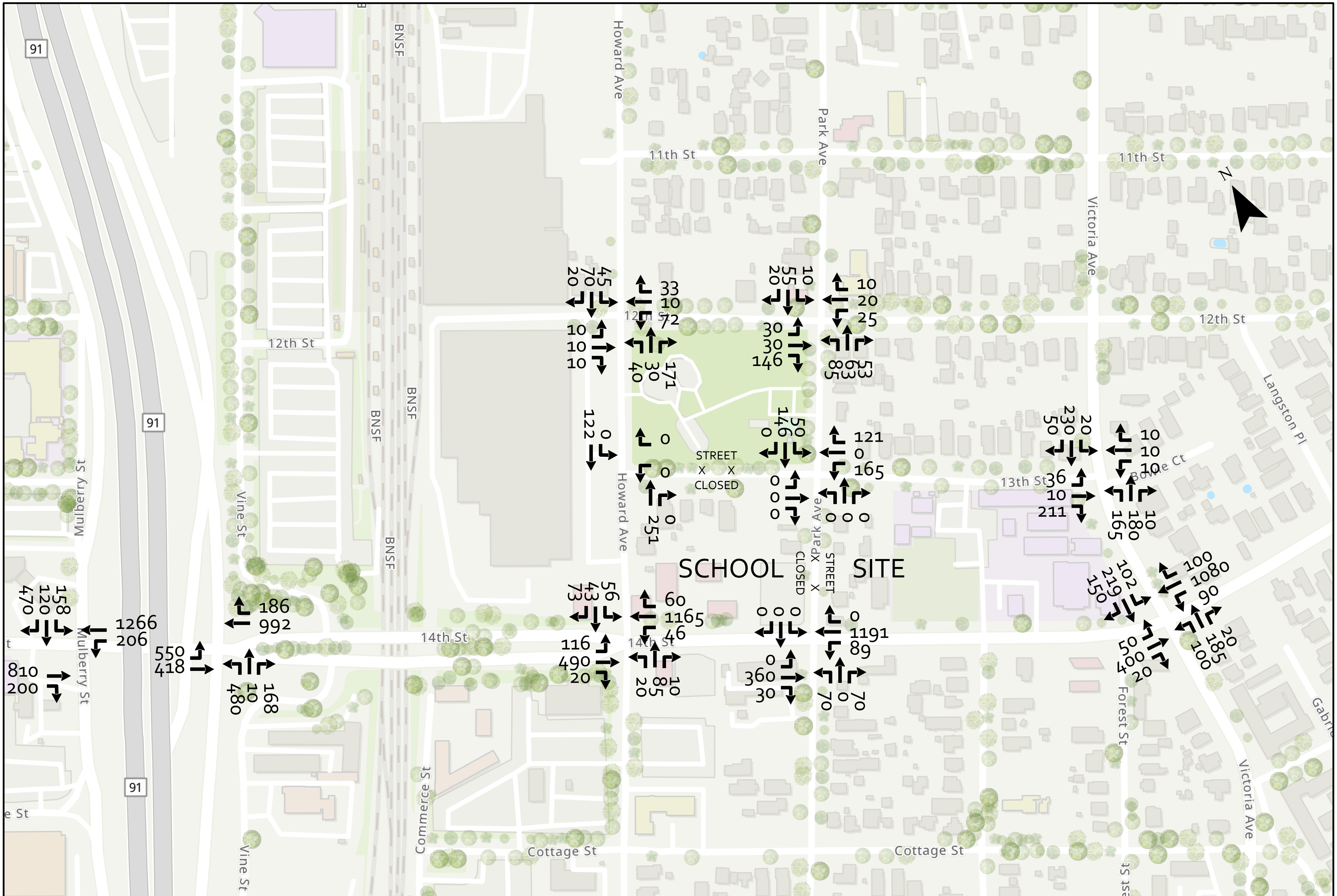

FIGURE 9
EXISTING PLUS PROJECT TRAFFIC VOLUMES - OPTION 2
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

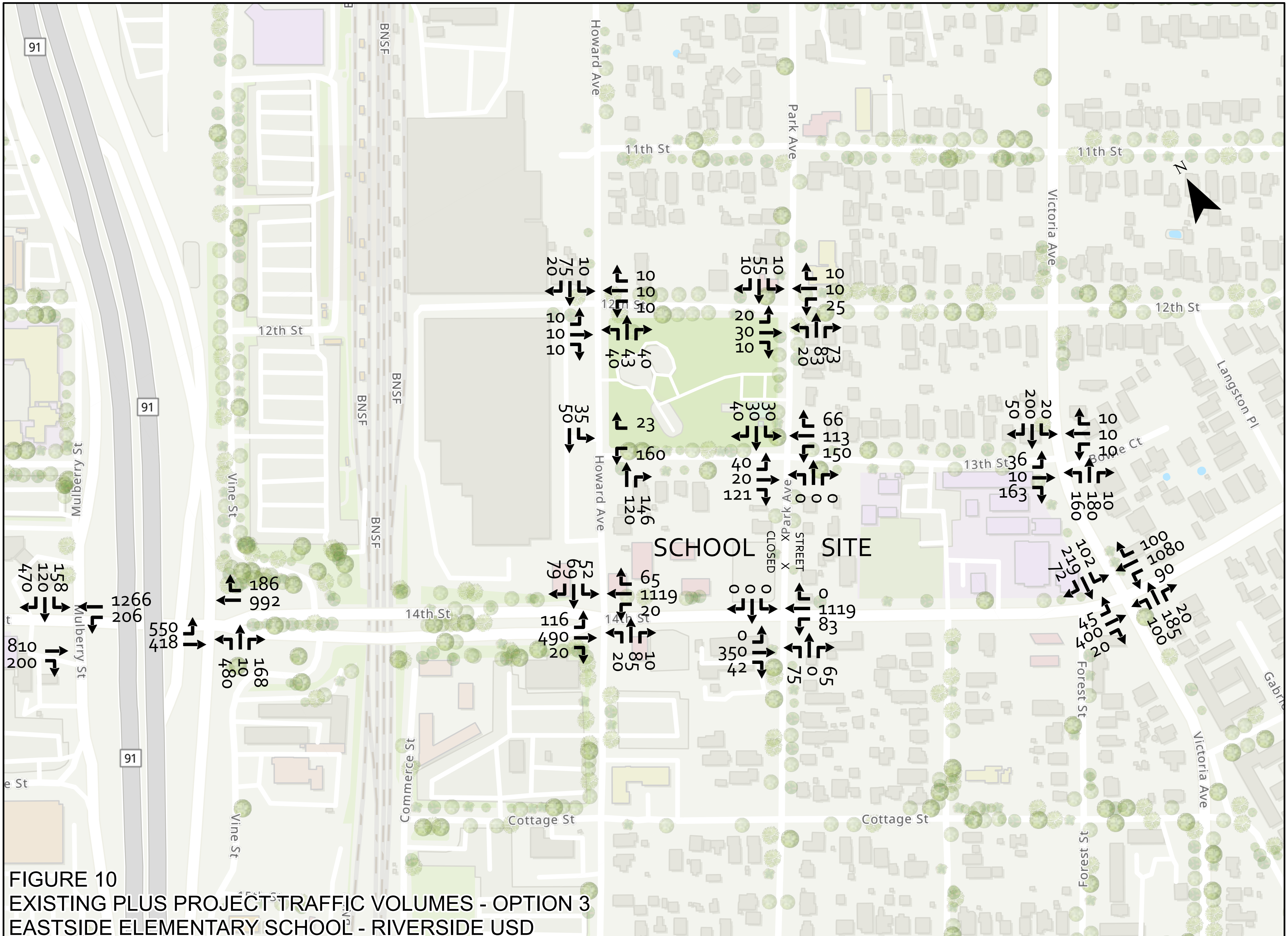

FIGURE 10
EXISTING PLUS PROJECT TRAFFIC VOLUMES - OPTION 3
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

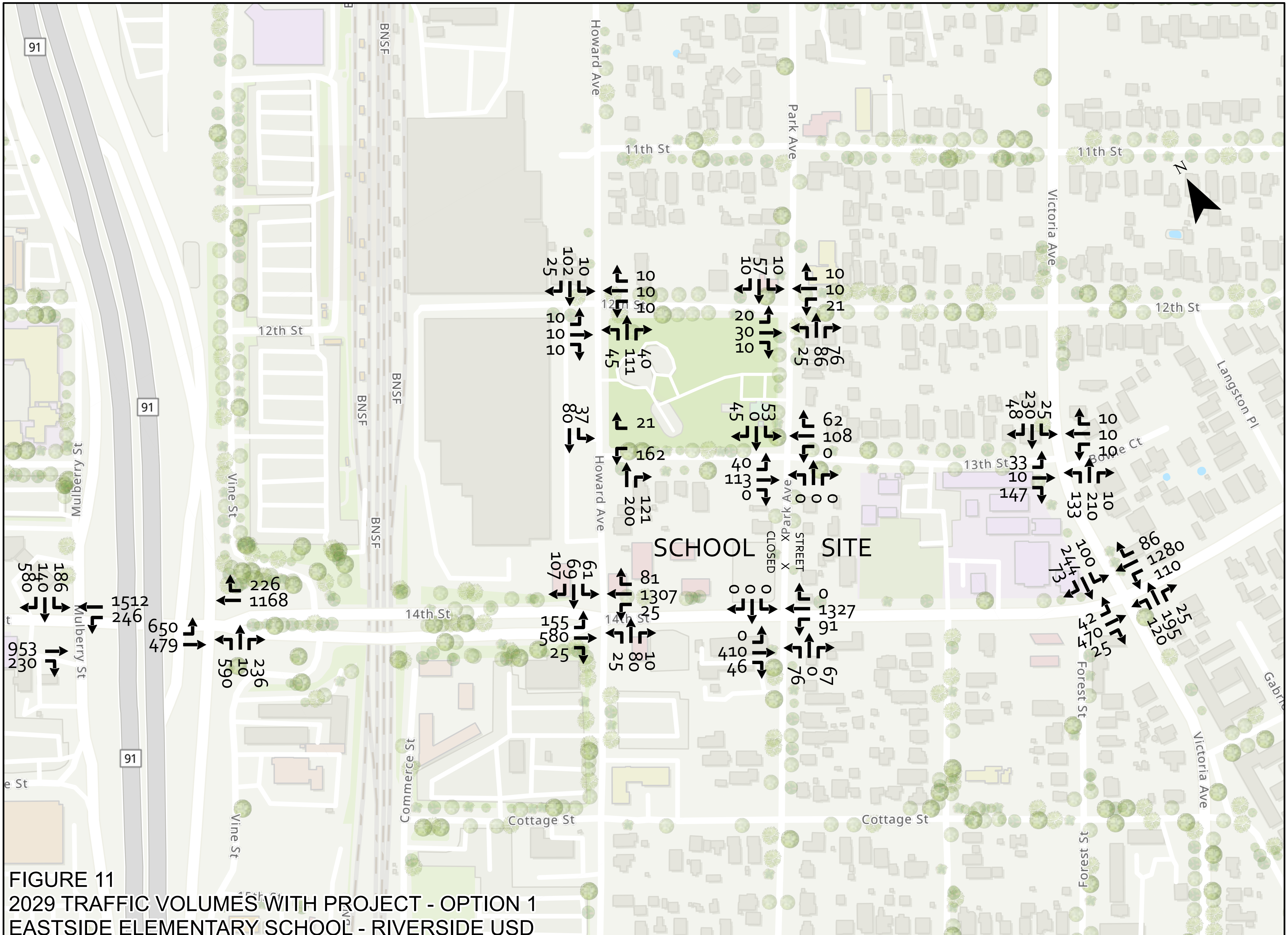

FIGURE 11
2029 TRAFFIC VOLUMES WITH PROJECT - OPTION 1
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

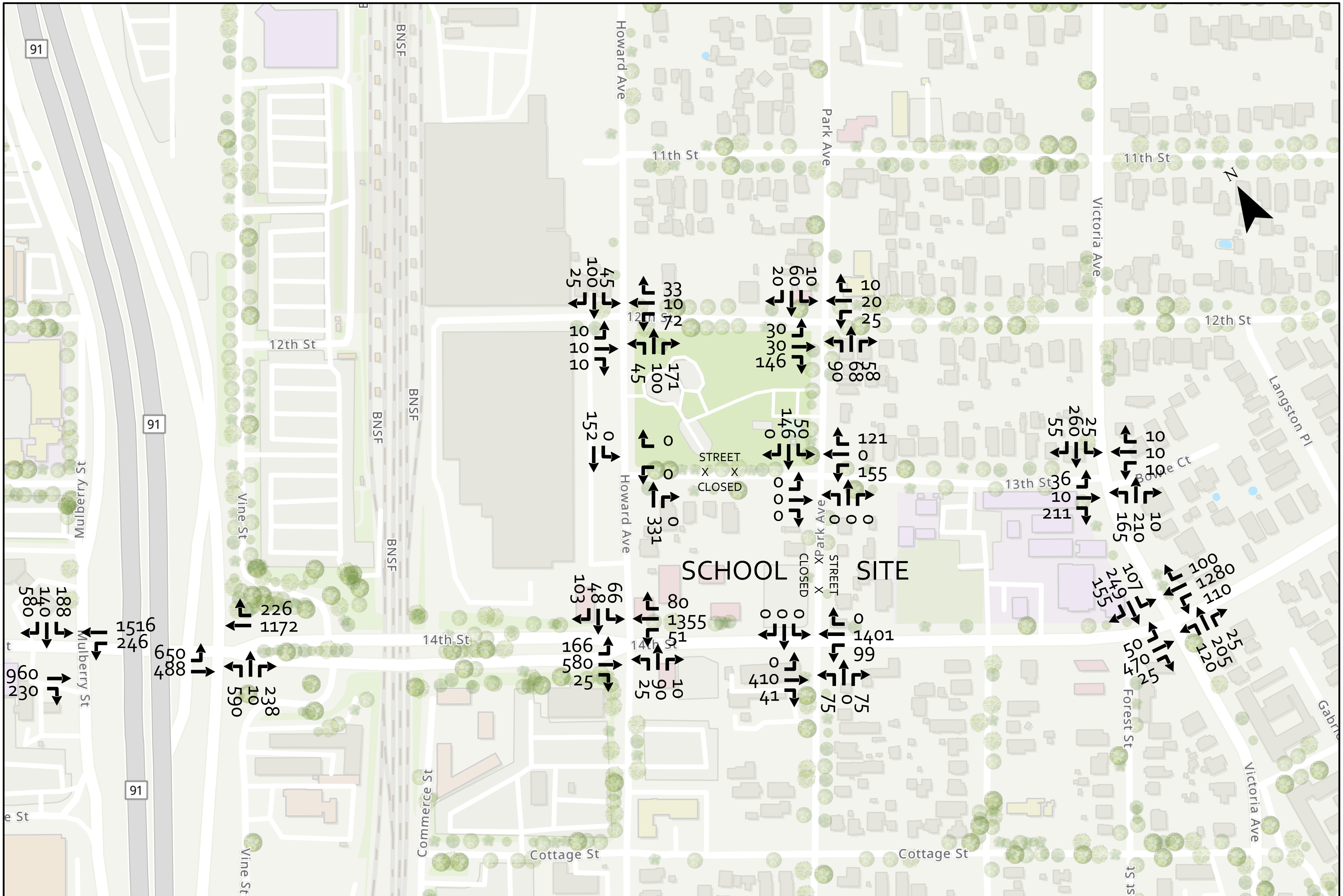

FIGURE 12
2029 TRAFFIC VOLUMES WITH PROJECT - OPTION 2
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

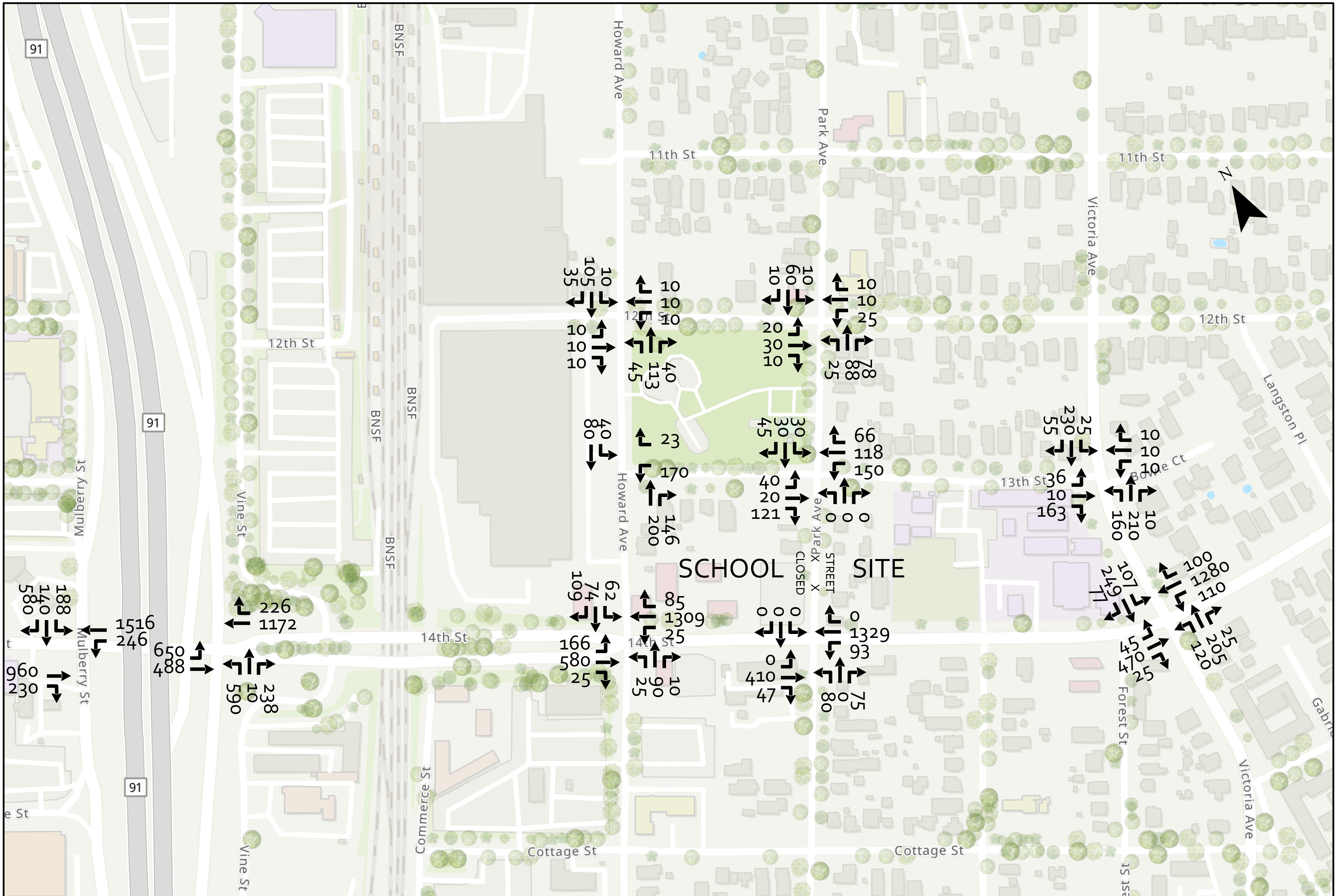

FIGURE 13
2029 TRAFFIC VOLUMES WITH PROJECT - OPTION 3
EASTSIDE ELEMENTARY SCHOOL - RIVERSIDE USD

The comparative levels of service at the study area intersections for the existing conditions scenario are summarized in Table 12 for Option 2. Table 12 indicates that none of the study area intersections would be significantly impacted by the street closures and the additional traffic that would be generated by Option 2 of the proposed project for the existing conditions baseline scenario.

TABLE 12
PROJECT IMPACT ON INTERSECTION LEVELS OF SERVICE
EXISTING CONDITIONS AS BASELINE – OPTION 2

Intersection	*Delay Value & Level of Service*		*Increase In Delay Value*	*Significant Impact*
	Existing Conditions	*Existing plus Project*		
SIGNALIZED INTERSECTIONS				
14th Street/Victoria Avenue	25.2 – C	38.7 – D	13.5	No
14th Street/Park Avenue	7.4 – A	7.6 – A	0.2	No
14th Street/Howard Avenue	11.0 – B	18.8 – B	7.8	No
14th Street/Eastbound 91 Freeway Ramps	29.1 – C	29.0 – C	-0.1	No
14th Street/Mulberry Street	27.6 – C	27.8 – C	0.2	No
UNSIGNALIZED INTERSECTIONS				
13th Street/Victoria Avenue	11.8 – B	22.9 – C	11.1	No
13th Street/Park Avenue	7.6 – A	9.6 – A	2.0	No
13th Street/Howard Avenue	9.9 – A	0.0 – A	-9.9	No
12th Street/Park Avenue	9.6 – A	13.5 – B	3.9	No
12th Street/Howard Avenue	7.5 – A	8.7 – A	1.2	No

The comparative levels of service at the study area intersections for the existing conditions scenario are summarized in Table 13 for Option 3. Table 13 indicates that none of the study area intersections would be significantly impacted by the street closure and the additional traffic that would be generated by Option 3 of the proposed project for the existing conditions baseline scenario.

TABLE 13
PROJECT IMPACT ON INTERSECTION LEVELS OF SERVICE
EXISTING CONDITIONS AS BASELINE – OPTION 3

Intersection	*Delay Value & Level of Service*		*Increase In Delay Value*	*Significant Impact*
	Existing Conditions	*Existing plus Project*		
SIGNALIZED INTERSECTIONS				
14th Street/Victoria Avenue	25.2 – C	33.0 – C	7.8	No
14th Street/Park Avenue	7.4 – A	7.9 – A	0.5	No
14th Street/Howard Avenue	11.0 – B	19.2 – B	8.2	No
14th Street/Eastbound 91 Freeway Ramps	29.1 – C	29.0 – C	-0.1	No
14th Street/Mulberry Street	27.6 – C	27.8 – C	0.2	No
UNSIGNALIZED INTERSECTIONS				
13th Street/Victoria Avenue	11.8 – B	20.2 – C	8.4	No
13th Street/Park Avenue	7.6 – A	9.7 – A	2.1	No
13th Street/Howard Avenue	9.9 – A	12.8 – B	2.9	No
12th Street/Park Avenue	9.6 – A	10.9 – B	1.3	No
12th Street/Howard Avenue	7.5 – A	7.6 – A	0.1	No

The comparative levels of service at the study area intersections for the year 2029 analysis scenario are shown in Table 14 for Option 1. Table 14 indicates that none of the study area intersections would be significantly impacted by the street closure and the additional traffic that would be generated by Option 1 of the proposed project for the year 2029 scenario.

TABLE 14
PROJECT IMPACT ON INTERSECTION LEVELS OF SERVICE
YEAR 2029 AS BASELINE – OPTION 1

Intersection	*Delay Value & Level of Service*		*Increase In Delay Value*	*Significant Impact*
	Without Project	*With Project*		
SIGNALIZED INTERSECTIONS				
14th Street/Victoria Avenue	28.9 – C	38.8 – D	9.9	No
14th Street/Park Avenue	8.2 – A	7.8 – A	-0.4	No
14th Street/Howard Avenue	15.2 – B	24.5 – C	9.3	No
14th Street/Eastbound 91 Freeway Ramps	44.8 – D	45.4 – D	0.6	No
14th Street/Mulberry Street	44.0 – D	44.0 – D	0.0	No
UNSIGNALIZED INTERSECTIONS				
13th Street/Victoria Avenue	12.6 – B	21.0 – C	7.5	No
13th Street/Park Avenue	7.7 – A	8.3 – A	0.6	No
13th Street/Howard Avenue	11.1 – B	14.6 – B	3.5	No
12th Street/Park Avenue	9.8 – A	11.2 – B	1.4	No
12th Street/Howard Avenue	8.0 – A	8.2 – A	0.2	No

The comparative levels of service at the study area intersections for the year 2029 analysis scenario are shown in Table 15 for Option 2. Table 15 indicates that none of the study area intersections

would be significantly impacted by the street closures and the additional traffic that would be generated by Option 2 of the proposed project for the year 2029 scenario.

TABLE 15
PROJECT IMPACT ON INTERSECTION LEVELS OF SERVICE
YEAR 2029 AS BASELINE – OPTION 2

Intersection	*Delay Value & Level of Service*		*Increase In Delay Value*	*Significant Impact*
	Without Project	*With Project*		
SIGNALIZED INTERSECTIONS				
14th Street/Victoria Avenue	28.9 – C	53.6 – D	29.7	No
14th Street/Park Avenue	8.2 – A	8.1 – A	-0.1	No
14th Street/Howard Avenue	15.2 – B	25.4 – C	10.2	No
14th Street/Eastbound 91 Freeway Ramps	44.8 – D	45.4 – D	0.6	No
14th Street/Mulberry Street	44.0 – D	44.0 – D	0.0	No
UNSIGNALIZED INTERSECTIONS				
13th Street/Victoria Avenue	12.6 – B	25.9 – C	13.3	No
13th Street/Park Avenue	7.7 – A	9.5 – A	1.8	No
13th Street/Howard Avenue	11.1 – B	0.0 – A	-11.1	No
12th Street/Park Avenue	9.8 – A	13.9 – B	4.1	No
12th Street/Howard Avenue	8.0 – A	9.6 – A	1.6	No

The comparative levels of service at the study area intersections for the year 2029 analysis scenario are shown in Table 16 for Option 3. Table 16 indicates that none of the study area intersections would be significantly impacted by the street closure and the additional traffic that would be generated by Option 3 of the proposed project for the year 2029 scenario.

TABLE 16
PROJECT IMPACT ON INTERSECTION LEVELS OF SERVICE
YEAR 2029 AS BASELINE – OPTION 3

Intersection	*Delay Value & Level of Service*		*Increase In Delay Value*	*Significant Impact*
	Without Project	*With Project*		
SIGNALIZED INTERSECTIONS				
14th Street/Victoria Avenue	28.9 – C	40.5 – D	11.6	No
14th Street/Park Avenue	8.2 – A	8.0 – A	-0.2	No
14th Street/Howard Avenue	15.2 – B	25.8 – C	10.6	No
14th Street/Eastbound 91 Freeway Ramps	44.8 – D	45.4 – D	0.6	No
14th Street/Mulberry Street	44.0 – D	44.0 – D	0.0	No
UNSIGNALIZED INTERSECTIONS				
13th Street/Victoria Avenue	12.6 – B	22.5 – C	9.9	No
13th Street/Park Avenue	7.7 – A	9.8 – A	2.1	No
13th Street/Howard Avenue	11.1 – B	15.3 – C	4.2	No
12th Street/Park Avenue	9.8 – A	11.2 – B	1.4	No
12th Street/Howard Avenue	8.0 – A	8.2 – A	0.2	No

Tables 11 through 16 indicate that the proposed project would not have a significant impact at any of the study area intersections during the morning peak hour based on the significance criteria presented previously because the intersections would continue to operate at LOS D or better on the arterial and collector streets and at LOS C or better on the local streets for all three options. As there would be no significant impacts, no capacity-related mitigation measures would be required.

Construction Traffic Impacts

Construction of the proposed project would generate various levels of truck and automobile traffic throughout the duration of the construction period. The construction-related traffic includes construction workers traveling to and from the site as well as trucks hauling construction materials to the site and demolition/excavation material away from the site. The construction activities would generate an estimated 50 to 60 workers' trips per day and approximately 20 to 30 truck trips per day. The truck trips would be spread out throughout the workday and would generally occur during non-peak traffic periods. This level of construction-related traffic would not result in a significant traffic impact on the study area roadway network as it would be negligible compared to the volumes of traffic that would be generated by the proposed project, which is shown to have a less than significant traffic impact.

Congestion Management Program

The nearest CMP roadway to the project site, which is the only CMP roadway in the project vicinity, is the Riverside Freeway (State Route 91). It is located approximately one-quarter mile west of the project site. It is estimated that approximately 2.5 percent of the project generated traffic would travel on any particular segment of SR 91. This equates to a maximum of 12 vehicles during the morning peak hour for Option 1 and 14 vehicles per hour for Options 2 and 3. This level of project generated traffic is negligible compared to the existing volumes of traffic on this freeway and would not result in a significant impact on this CMP roadway. The proposed project would not exceed a level of service standard established by the county congestion management agency for designated roads or highways and the project's impacts on the CMP network would be less than significant.

Non-Motorized Transportation and Transit

The proposed project would generate a demand for non-motorized travel as some students would travel to and from the school as pedestrians or on bicycles. The streets in the vicinity of the project site have sidewalks along both sides of the street and the signalized intersections along 14th Street are equipped with painted crosswalks and pedestrian crossing signals. Painted crosswalks are in place at the unsignalized intersections of 13th Street at Park Avenue, 13th Street at Victoria Avenue, and 12th Street at Park Avenue. The crosswalks at the four corners of the block where Lincoln High School is located are painted yellow to indicate that they are in a school zone. Bike racks are available at the existing Lincoln High School would also be provided at the proposed school.

With regard to public transit, Riverside Transit Agency (RTA) operates Route 10 along 14th Steet and on Victoria Avenue south of 14th Street and it operates Route 13 along 14th Street. Both of these bus lines have stops adjacent to the project site. The proposed project would not adversely affect the performance of these transit or non-motorized transportation facilities and would not conflict with any plans or policies relative to these transportation modes.

The proposed project would be consistent with policies supporting alternative transportation because busing would be provided, a bus loading/unloading zone would be installed at the school,

and bike racks would be provided at the school. The proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Vehicle Miles Traveled (VMT)

The CEQA Guidelines state that projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact. Students in the Eastside neighborhood currently attend school at Magnolia Elementary School, Castle View Elementary School, Alcott Elementary School, Pachappa Elementary School, and Longfellow Elementary School. The implementation of the proposed Eastside Elementary School would provide the opportunity for students in the Eastside neighborhood to attend a school that is much closer to their homes, which would result in shorter travel distances and thereby reduce the vehicle miles traveled compared to existing conditions. The proposed project would, therefore, have a positive impact on VMT and would not have a significant adverse impact.

Furthermore, the City of Riverside's "Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment" states that local-serving K-12 schools will not require a traffic impact analysis that includes VMT. This guideline is based on the finding that projects that are local serving would decrease the number of trips or the trip lengths and are, therefore, VMT-reducing projects.

Traffic Hazards and Incompatible Uses

Vehicular access to the proposed project site would be provided by driveways along the south side of 13th Street between Park Avenue and Victoria Avenue. The increased levels of traffic, the increased number of pedestrians, and the increased number of vehicular turning movements at the school entrances and at the nearby intersections would result in an increased number of traffic conflicts and a corresponding increase in the probability of an accident occurring. These impacts would not be significant, however, because the streets, intersections, and driveways are designed to accommodate the anticipated levels of vehicular and pedestrian activity. The streets and intersections have historically been accommodating school-related traffic on a daily basis for the existing Lincoln High School. The addition of an elementary school would be compatible with the neighborhood and the proposed project would not result in any major hazards for vehicular traffic, pedestrians, or bicyclists.

The streets in the vicinity of the project site have sidewalks adjacent to the street and the intersections adjacent to the project site are equipped with painted crosswalks and pedestrian signals at the signalized intersections. These features would enhance pedestrian safety and facilitate pedestrian access to the school. The proposed project would not, therefore, substantially increase hazards due to a geometric design feature or incompatible uses.

Emergency Access

The proposed access and circulation features at the school, including the on-site roadways, parking lots, and fire lanes, would accommodate emergency ingress and egress by fire trucks, police units, and ambulance/paramedic vehicles. All access features are subject to and must satisfy the District and the City of Riverside design requirements and would be subject to approval by the Fire Department. Emergency vehicles would be able to access the school grounds and buildings and all other areas of the school, including the play fields, via on-site travel corridors. The proposed project would not, therefore, result in inadequate emergency access.

IV.
SUMMARY OF IMPACTS AND CONCLUSIONS

The key findings of the traffic impact analysis are presented below.

- The proposed project would result in a net increase in site generated traffic of 457 vehicle trips during the morning peak hour (232 inbound and 225 outbound) for Option 1, 559 vehicle trips during the morning peak hour (301 inbound and 258 outbound) for Option 2, and 559 trips during the morning peak hour (301 inbound and 258 outbound) for Option 3.
- The proposed project includes the closure of Park Avenue between 13th Street and 14th Street for all three options and the closure of 13th Street between Park Avenue and Howard Avenue for Option 2.
- An analysis of 10 intersections in the vicinity of the project site indicates that the project generated traffic and the shift in traffic associated with the proposed street closures would not result in a significant impact at any of the intersections according to the City of Riverside and Caltrans significance criteria.
- CEQA threshold of significance T-1 asks if the proposed project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The analysis indicates that the impact would be less than significant because:

  -The level of service or CMP thresholds would not be exceeded during construction or operation, and

  -The proposed project would not adversely affect the performance or safety of any transit or non-motorized transportation facilities (pedestrians and bicycles) and would not conflict with any adopted plans, policies, or programs relative to these alternative transportation modes.
- CEQA threshold of significance T-2 asks if the proposed project would conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), which addresses vehicle miles traveled (VMT). The analysis indicates that the impact would be less than significant because the proposed project would result in a reduction in total vehicle miles traveled as the proposed elementary would be closer to most of the homes in the Eastside neighborhood attendance area as compared to the schools where the Eastside students currently attend.
- CEQA threshold of significance T-3 asks if the proposed project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). The analysis indicates that the streets, intersections, and driveways will be designed to accommodate the anticipated levels of vehicular and pedestrian activity and that the streets have historically been accommodating traffic generated by the existing Lincoln High School. The addition of an elementary school would be compatible with the neighborhood and the proposed project would not result in any major hazards for vehicular traffic, pedestrians, or bicyclists. So the proposed project would not substantially increase hazards due to a geometric design feature or incompatible uses.
- CEQA threshold of significance T-4 asks if the proposed project would result in inadequate emergency access. The proposed access and circulation features at the school, including the on-site roadways, parking lots, and fire lanes, would accommodate emergency ingress and

egress by fire trucks, police units, and ambulance/paramedic vehicles. Emergency vehicles would be able to access the school grounds and buildings and all other areas of the school, including the play fields, via on-site travel corridors. The proposed project would not result in inadequate emergency access.

APPENDIX A
Site Plans (Options 1 through 3)

EASTSIDE ELEMENTARY SCHOOL - OPTION 1

RIVERSIDE UNIFIED SCHOOL DISTRICT

OCTOBER 12, 2022

EASTSIDE ELEMENTARY SCHOOL - OPTION 2

RIVERSIDE UNIFIED SCHOOL DISTRICT

OCTOBER 12, 2022

EASTSIDE ELEMENTARY SCHOOL - OPTION 3

RIVERSIDE UNIFIED SCHOOL DISTRICT

OCTOBER 12, 2022