

Appendix J
Traffic Impact Study



TRAFFIC IMPACT ANALYSIS

Grijalva Park Extension Conceptual Master Plan

Prepared for:

City of Orange, 300 East Chapman Avenue, Orange, California.

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Prepared by Greer & Co.

October 2004

**Revised in May 2005 by Mr. Tom Mahood, City of Orange Traffic Engineer and
Jennifer McDonald, City of Orange Environmental Review Coordinator**

1. The first part of the document is a list of names and titles.

2. The second part is a list of dates and times.

3. The third part is a list of locations and addresses.

4. The fourth part is a list of names and titles.

TRAFFIC IMPACT ANALYSES

for

**GRIJALVA PARK
ORANGE, CA.**

PREPARED FOR

CITY OF ORANGE

PREPARED BY



GREER & CO.
Engineers and Planners
Anaheim, California

OCTOBER 2004



TRAFFIC IMPACT ANALYSES

for

**GRIJALVA PARK
CITY OF ORANGE**

PREPARED FOR

CITY OF ORANGE

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PREPARED BY

**GREER & CO.
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October 4, 2004

1. The first part of the text discusses the importance of maintaining accurate records of all transactions.

2. It also emphasizes the need for regular audits to ensure compliance with relevant laws and regulations.

3. Furthermore, it highlights the role of technology in streamlining financial processes.

4. Finally, it concludes by stating that transparency is a key factor in building trust with stakeholders.



INTRODUCTION/ PROJECT DESCRIPTION

This report presents the results of the traffic and parking impact analyses for the proposed park expansion for Grijalva Park on the northwest corner of Prospect Street and Spring Street in the City of Orange. The total 42.6-acre site has been partially developed with approximately 15 acres presently improved with three soccer fields, two basketball courts, a volleyball court, a park building with restrooms and concession facilities, picnic tables and shelters, a tot-lot, an interpretive nature trail, and passive park area. The existing park improvements also include three individual surface parking areas. The major parking lot in the northwest section of the park provides 104 parking spaces, while the parking area adjacent to the park road along the northwesterly park boundary provides 37 parking spaces. The parking area along the northerly side of Spring Street/park road along the southerly park boundary currently provides 44 parallel parking spaces for a total of 185 parking spaces.

The remaining 27.6 acres is proposed to be developed with a 30,000 square foot gymnasium/sports center building, a 47,300 square foot aquatic center, a 10,000 square foot skateboard park, a 1,200-person-capacity outdoor amphitheater, additional picnic areas, picnic shelter, restroom building, tot-lot, passive park area, and bike trails along with additional parking facilities.

The gymnasium/sports center building will incorporate a full gymnasium, aerobics/dance room, men's and women's shower facilities, an arts and crafts room, classrooms and associated office/staff space and storage areas. The aquatic center will include two outdoor pools, a water play area and a 7,500 square foot building incorporating men's and women's restrooms, locker rooms, guard stations, a first aid area, therapeutic area, utility/janitorial/storage rooms, pool equipment building, concession area, bleachers area and a spa area.

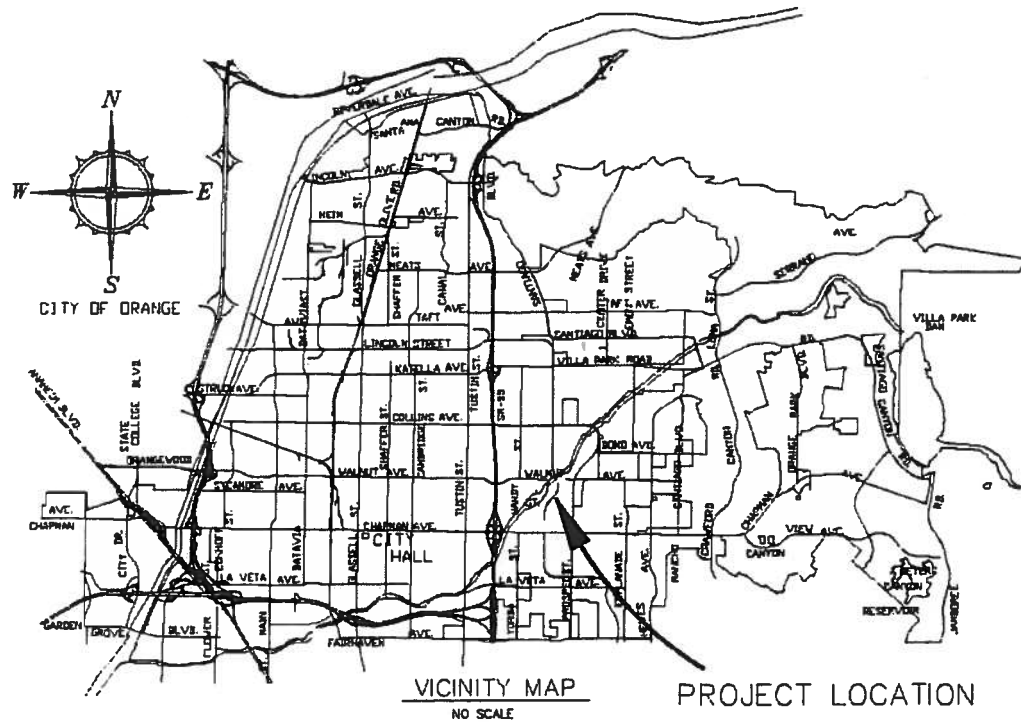
The project proposes an additional 450 parking spaces. Two primary parking lots are proposed—one lot of approximately 106 parking spaces near the Walnut Street entrance adjacent to the aquatics center, and a second lot of approximately 274 parking spaces near the gymnasium/sports center and community building. In addition, the project includes restriping of Spring Street to perpendicular parking to add 70 additional spaces on Spring Street.

Primary access to the proposed project site will be from Prospect Street at Spring Street. The present access provided by McPherson Road from Chapman Avenue will be closed as an element of the proposed project. New park access will be provided from the westerly end of Walnut Street to form an internal park loop road to serve the various activity areas. The existing parallel parking, collector drive and channelization island on Spring Street will be converted to 90° parking along the north curb to increase the amount of parking spaces for park uses from the current 44 spaces to 114 spaces. The City may opt to abandon or vacate this portion of Spring Street, making it a park road (as opposed to a public street. Removal of the extension of Yorba Street as a "special study

street" from the City's General Plan (Circulation Element) is also being undertaken as part of the proposed project.

The proposed project will be developed in two phases. Phase 1 is proposed to be completed in 2007 and will include the gymnasium/sports center, southerly parking lot (274 parking spaces), new access to Walnut Street, closure of McPherson Road access, improvements to Spring Street (70 additional parking spaces) and linkage of the loop road between the Walnut Street access and the existing park road. Phase 2 is proposed to be completed by 2010 and will incorporate the aquatic center, community building, skate park, amphitheater, northerly parking lot (106 spaces) and the remainder of the proposed park facilities.

These analyses were undertaken in compliance with the County's Congestion Management Program (CMP) with study guidelines from City staff. City staff established the study parameters for these analyses, including the identification of the study intersections. A vicinity map shown in Figure 1 identifies the project location and the surrounding street system. The conceptual site plan is provided in Figure 2.



591-01



VICINITY MAP

GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE

1



STUDY METHODOLOGY

The following approach methodology was used to conduct this traffic and parking analysis:

1. **Data Collection:** A field reconnaissance was conducted of the street system in the vicinity of the project by Greer & Co. staff. A total of five (5) study intersections were identified (in consultation with the City Traffic Engineer) to be evaluated for this project. Turning movement counts for the weekday p.m. peak period (the period in which park operations would be most likely to adversely affect traffic on adjacent streets) were conducted at the study intersections, namely Prospect Street/ Chapman Avenue, Prospect Street/Spring Street, Prospect Street/Walnut Avenue, Chapman Avenue/ McPherson Road and Chapman Avenue/Yorba Street. Automatic, 24-hour traffic counts were conducted at four street segments identified in consultation with the City Traffic Engineer to identify current daily traffic volumes on streets in the vicinity of the project site.
2. **Analysis of Existing Conditions:** Intersection capacity analyses were conducted for the study intersections based on 2004 existing p.m. peak hour traffic volumes and existing intersection geometrics. The Intersection Capacity Utilization (ICU) methodology, as required by the City and consistent with the County's Congestion Management Program (CMP), was used to determine current intersection operational levels. The ICU worksheets referenced throughout this report are contained in the Appendix.
3. **Analysis of 2007 Pre-Project Conditions:** Pre-project traffic volumes for the year 2007 as obtained from the "East Orange Project Traffic Study"¹ were provided by the City Traffic Engineer. Pre-project traffic volumes include traffic generated by other area development projects as well as growth in ambient traffic volumes through the project opening year for Phase 1 of 2007. Pre-project conditions for 2007 were evaluated using the same ICU analysis methodology.
4. **Phase 1 Project Traffic:** The calculation of Phase 1 project traffic was undertaken to identify the potential for project traffic impacts. Project trip generation for the gymnasium/sports center use proposed for completion in 2007 (as part of Phase 1 of the project) was calculated based on the estimated number of persons involved in particular uses under assumed weekday p.m. peak hour conditions and actual traffic counts of similar facilities. Although weekday traffic generation for parks are typically less than on weekends, the weekday p.m. peak period was selected since traffic on adjacent streets is highest and thus any park impacts would be most likely create the greatest adverse impact during this period, representing a "worse case" analysis. Project traffic was assigned to the local street system based on an area distribution and assignment pattern, and existing area traffic patterns, site access and general

¹ "East Orange Project Traffic Study", Irvine Company, Austin-Foust Associates, 2002.

- demographic distributions. Phase 1 project traffic volumes were added to 2007 pre-project traffic volumes to obtain 2007 post-project traffic volumes.
5. Analysis of 2007 Post-Project Conditions: The same analysis methodology was again applied in determining intersection operational conditions for the weekday p.m. peak hour for 2007 Phase 1 post-project conditions. Project traffic impacts, if any, were identified, based upon City standards.
 6. Analysis of 2010 Pre-Project Conditions: Similar to 2007 pre-project conditions, the City Traffic Engineer provided 2010 pre-project traffic volumes obtained from the "East Orange Project Traffic Study"². Pre-project traffic volumes include traffic generated by other area development projects as well as growth in ambient traffic volumes through 2010, the project-opening year for completion of both Phases 1 and 2 of park development. Pre-project conditions for 2010 were evaluated using the same ICU analysis methodology.
 7. Project Traffic for Phases 1 and 2: The calculation of Phase 2 project trip generation was based on surveys of similar uses or was calculated based on the estimated number of persons involved in particular uses under assumed weekday conditions. Trip generation surveys were conducted for the aquatic center use and the skate park use. Trip generation estimates were calculated for the community center based on the number of persons (estimated by the City Community Services Department) to be using the facility on a typical weekday during the p.m. peak traffic hour. Based on scheduling information provided by the City Community Services Department, the amphitheatre will be scheduled for weekday evening use (after 6:00 p.m.) or weekend special event use. Therefore, trip generation from the amphitheatre use is not included in the p.m. peak hour analysis. Passive recreational uses such as use of the totlot, picnic areas and trails are considered "ancillary uses" and are not included for trip generation purposes. Phase 1 and Phase 2 project traffic volumes were added to 2010 pre-project traffic volumes to obtain 2010 post-project traffic volumes.
 8. Analysis of 2010 Post-Project Conditions: The same analysis methodology was again applied in determining intersection operational conditions for the weekday p.m. peak hour for 2010 Phase 1/Phase 2 post-project conditions. Project traffic impacts, if any, were identified.
 9. Analysis of 2025 Pre-Project Conditions: As for 2007 and 2010 conditions, 2025 pre-project traffic volumes were obtained from the "East Orange Project Traffic Study". Pre-project conditions for 2025 were evaluated using the same ICU analysis methodology.
 10. Analysis of 2025 Post-Project Conditions: Phase 1 and Phase 2 project traffic volumes were added to 2025 pre-project traffic volumes to obtain 2025 post-project traffic volumes. Post-project conditions for 2025 were evaluated using the same ICU analysis methodology.
 11. Review of Site Access and Circulation: The proposed site access was reviewed in terms of internal circulation, parking access, and pedestrian access and

² "East Orange Project Traffic Study", Irvine Company, Austin-Foust Associates, 2002.

circulation. An evaluation of the closure of McPherson Road access to the park and the proposed changes to Spring Street (including the vacation or abandonment of Spring Street as a public street in favor of an internal park road) was undertaken. Any appropriate project modifications or mitigations, were identified and recommended.

12. Review of Parking Demands. Project parking demands were calculated for typical weekday conditions and for peak event conditions, typically weekend conditions. Parking surveys were conducted for similar aquatic center and skate park uses, and parking demand rates applied to the proposed project uses. Parking demand for the gymnasium, community building and the amphitheater uses were calculated based on the estimated number of persons using the facility (based on scheduling information provided by the City Community Services Department) and estimated vehicle occupancy rates (reviewed and approved by the City Traffic Engineer). Any appropriate parking mitigation measures and controls were recommended.

13. Recommended Project Mitigation Measures: Overall traffic mitigation improvements were recommended based on the intersection capacity analyses, and the site access, circulation and parking analyses. The principal objectives were to determine the anticipated traffic impacts, which would result from the proposed project, and to recommend improvements and modifications necessary to improve roadway capacities and to provide safe, efficient operations, to mitigate those impacts attributed directly to project traffic. Any appropriate project mitigation measures related to project parking provisions with regard to sufficient parking and parking distribution relative to proposed uses were also recommended based upon the results of the parking evaluation.

14. Documentation: This report was prepared presenting the findings and conclusions of the traffic and parking impact analyses.

EXISTING CONDITIONS

This report chapter presents a discussion of the primary street system within the vicinity of the project site and provides the p.m. peak hour traffic volume data for the study intersections. This is followed by the results of the level of service analyses for existing conditions.

EXISTING STREET SYSTEM

The following constitutes a general discussion of the primary area street system serving the project site.

Prospect Street, in the vicinity of the project site, provides for north-south arterial turning west to become Collins Avenue northerly of the project site. Prospect is designated a Secondary arterial highway on the City's Master Plan of Street and Highways. Prospect Street is generally improved with a 64-foot roadway with a landscaped median within an 80-foot right of way adjacent to the project site. Prospect generally provides for two travel lanes in each direction with separate left turn lanes at intersections. Striped bike lanes are provided on each side of Prospect north of Spring Street. South of Spring Street, Prospect is designated as a Class II on-road bike route, but bike lanes are not yet provided. On-street parking is prohibited on both sides of the street within the vicinity of the project and the study intersections.

Spring Street is an east-west street extending easterly from Prospect Street to Rancho Santiago Boulevard as a designated Secondary arterial highway. Spring extends westerly from Prospect as a local street to terminate at McPherson Road prior to reaching the Santiago Creek channel. Spring Street east of Prospect within the vicinity of the project site is improved for two travel lanes in each direction with separate left turn lanes at intersections, and on-street parking generally permitted on both sides of the street. The intersection of Spring Street with Prospect Street is offset with the centerline of the west leg approximately 30 to 35 feet north of the centerline on the east leg. The lane geometry at the Prospect/Spring intersection provides for two through lanes northbound and southbound on Prospect with separate left turn lanes. The westbound approach on Spring Street is striped for one thru-right turn lane and two left turn lanes with two eastbound exit lanes. The eastbound approach on Spring Street is striped for one approach lane for through and left and right turn movements, and with one westbound exit lane. The Prospect/Spring intersection is signalized with protected left turns northbound and southbound, and split phases eastbound and westbound.

Spring Street adjacent to the existing park has been improved with a 40-foot wide street with a channelized collector drive and parallel parking for park use along the northerly side and an asphalt curb along the south side, with parking prohibited on the south side.

Chapman Avenue is an east-west arterial street designated as an augmented primary arterial on the City's Master Plan of Streets and Highways. Chapman provides for three

travel lanes in each direction with separate left turn lanes at intersections and on-street parking prohibited. The intersection of Prospect and Chapman is signalized with an 8-phase signal operation, and is striped for two through lanes and a separate left turn lane northbound and southbound, and three through lanes eastbound and westbound with a single, separate left turn lane westbound and dual left turn lanes eastbound.

Walnut Avenue is an east-west local collector street extending easterly to beyond Rancho Santiago Boulevard. This portion of Walnut presently terminates westerly of Prospect Street in a cul de sac in a residential subdivision. The City's Master Plan of Streets and Highways indicates the future connection of Walnut to the west across the Santiago Creek channel, where the roadway presently continues to the west. Walnut in the vicinity of the project provides for one travel lane in each direction with on-street parking permitted on both sides of the street. At the Prospect/Walnut intersection, on-street parking is prohibited on Walnut with a separate left turn lane provided on each approach. The Prospect approaches provide for two through lanes northbound and southbound with separate left turn lanes in each direction.

Yorba Street is a north-south street extending southerly of Chapman Avenue and designated as a Secondary arterial highway on the City's Master Plan of Streets and Highways. It provides for two travel lanes in each direction with separate left turn lanes at intersections with on-street parking generally permitted. At Yorba's approach to Chapman Avenue, Yorba provides dual left turn lanes and on-street parking is prohibited. Chapman approaches to the Yorba intersection provide three through lanes with separate left and right turn lanes in each direction with on-street parking prohibited.

McPherson Road is a north-south local street extending between Chapman Avenue and Spring Street. It provides for one travel lane in each direction and is stop sign controlled at Chapman and at Spring. Parking is presently prohibited on the west side of McPherson.

STUDY INTERSECTIONS

In consultation with the City staff, five (5) key intersections have been identified as potentially impacted by the proposed project, and therefore, designated as study intersections. These intersections are as follows:

1. Prospect Street and Chapman Avenue
2. Prospect Street and Spring Street
3. Prospect Street and Walnut Avenue
4. Chapman Avenue and McPherson Road
5. Chapman Avenue and Yorba Street

All of the study intersections except the Chapman/McPherson intersection are presently signalized. The Chapman/McPherson intersection is a tee intersection with McPherson Road as the tee leg of the intersection being stop sign controlled at Chapman.

Committed Street Improvements. The City has approved improvements for two of these study intersections to be completed by 2005-2006. The intersection of Prospect Street and Chapman Avenue will be improved with the widening of the northwest and southeast quadrants of the intersection. The southbound approach of Prospect would then be striped for one through lane, one optional thru/right turn lane, one separate right turn lane, and one separate left turn lane.

This lane allocation will also require traffic signal phase changes to provide "split phasing" for the northbound and southbound approaches.

The intersection of Yorba Street and Chapman will be improved with the widening of the south side of Chapman Avenue east of Yorba Street and restriping of Chapman Avenue both east and west of Yorba Street to provide four eastbound through lanes extending from the freeway underpass through the Yorba intersection to Malena Street. The eastbound approach of Chapman at Yorba would then be striped for four through lanes, one separate right turn lane, and one separate left turn lane.

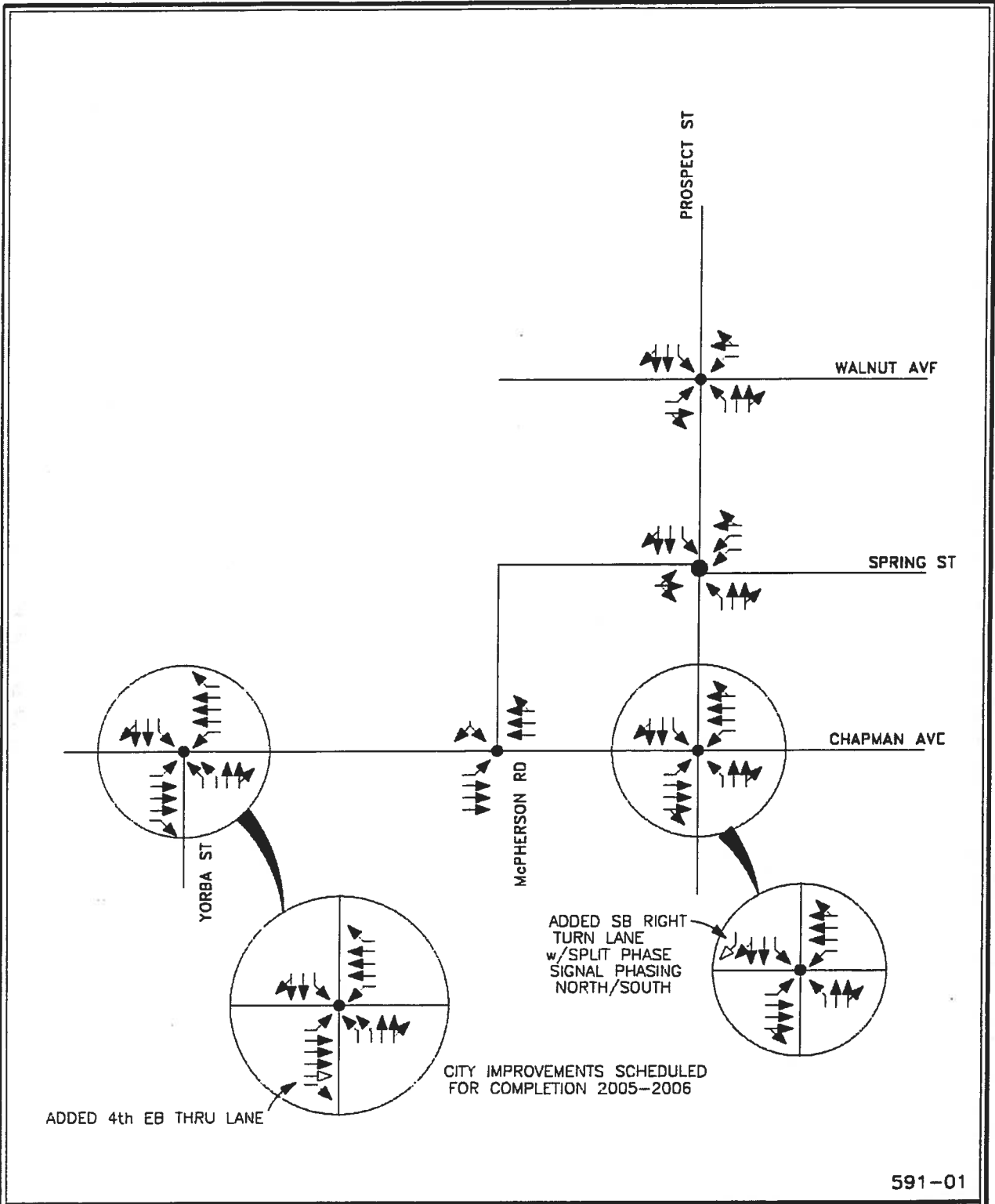
Conceptual plans, and environmental documentation have been completed and approved for both projects^{3 4}, and construction plans are currently under design. This analysis assumes these projects will be complete by the park's first expansion phase in 2007.

EXISTING TRAFFIC VOLUMES

Turning movement traffic counts at the five study intersections were conducted during the last two weeks of August 2004. The counts were conducted between the hours of 4:00-6:00 p.m. The automatic 24-hour counts were conducted on Tuesday, August 31, 2004. Existing intersection lane configurations along with the additional lanes to be added in 2005-2006 are shown in Figure 3 with existing daily and peak hour traffic volumes shown in Figure 4.

³ "Initial Study and Mitigated Negative Declaration No. ENV 1725-03, Chapman Avenue/Prospect Street Intersection Improvement Project, Capital Improvement Project No. 3226", City of Orange, June 9, 2004, Civic Solutions, Inc.

⁴ "Mitigated Negative Declaration No. ENV 1730-04, Chapman Avenue/Yorba Street Intersection Widening Project", City of Orange, May 2004.



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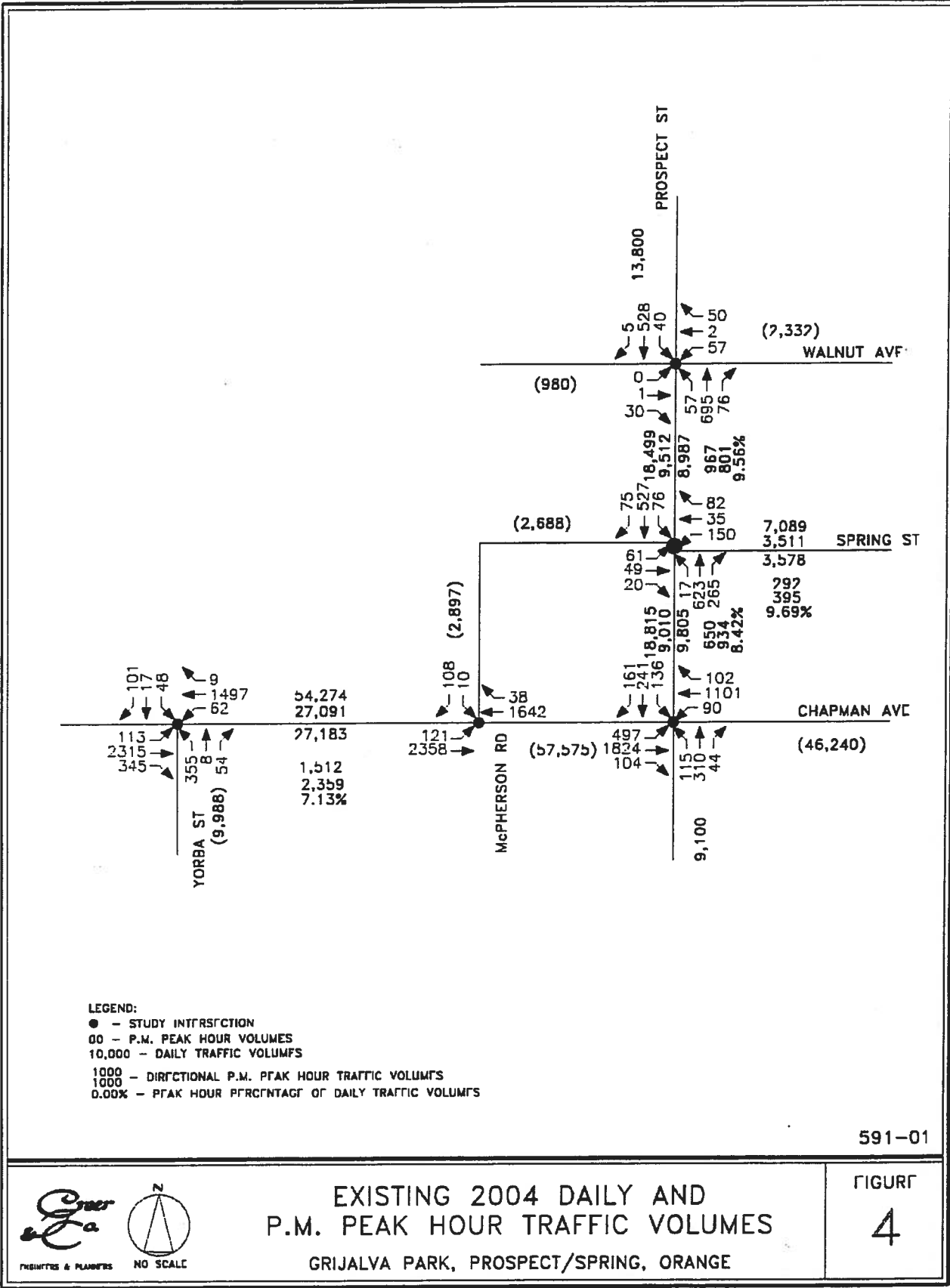


**STUDY INTERSECTION
LANE GEOMETRICS**

GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE
3





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EXISTING 2004 DAILY AND P.M. PEAK HOUR TRAFFIC VOLUMES

GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE 4



EXISTING CONDITIONS INTERSECTION ANALYSES

The analyses were based on the existing intersection geometrics and current p.m. peak hour traffic volumes. Table 1 presents the Volume-to-Capacity ratios (V/C) and the Levels of Service (LOS) for each study intersection under current conditions. The LOS is an index of the quality of traffic flow through an intersection as defined by the Highway Capacity Manual⁵. The LOS definitions qualitatively describe operating characteristics under various conditions. The LOS definitions and corresponding V/C ratios are presented in the Appendix of this report, as are the intersection capacity worksheets.

TABLE 1
LEVEL OF SERVICE -- EXISTING CONDITIONS - 2004
Grijalva Park, Orange -- Traffic Impact Analyses

| Intersection | P.M. Peak Hour | |
|----------------------|------------------|------------------|
| | LOS ¹ | V/C ² |
| 1. Prospect/Chapman | B | 0.67 |
| 2. Prospect/Spring | A | 0.48 |
| 3. Prospect/Walnut | A | 0.35 |
| 4. Chapman/McPherson | A | 0.58 |
| 5. Chapman/Yorba | B | 0.68 |

1 - Level of Service

2 - Volume to Capacity Ratio

Source: Greer & Co., Engineers and Planners

As can be seen from Table 1, all of the study intersections are currently operating at LOS "B" or better during the p.m. peak hour. The City of Orange considers LOS "D" an acceptable level of service for urban conditions.

THRESHOLDS OF SIGNIFICANCE

Per the guidelines established in the City of Orange General Plan Circulation Element, a project would have a "significant" impact to traffic if the ICU value for the "with project" condition is 0.91 or greater (LOS E or F), and if the ICU increase that is attributable to the project is 0.01 or greater. LOS definitions are provided in the City's General Plan Circulation Element.

⁵ Highway Capacity Manual, Transportation Research Board, National Academy of Sciences, Washington, D.C., 1985.

2007 PHASE 1 CONDITIONS

This report chapter provides the discussion, calculations, and analyses of pre-project and post-project conditions for the 2007 Phase 1 of the project.

PHASE 1 PRE-PROJECT CONDITIONS ANALYSIS

Pre-project traffic volumes for 2007 were provided by the City Traffic Engineer, and were generated by the "East Orange Project Traffic Study"⁶ for the intersections of Prospect/Chapman and Yorba/Chapman. The 2007 traffic volumes were the result of traffic modeling efforts conducted for that project with guidance and review by the City. Applying growth factors calculated for the traffic increases between existing traffic volumes and 2007 traffic volumes at those two intersections, the 2007 traffic volumes at the three remaining study intersections were calculated. The pre-project traffic volumes are shown in Figure 5.

The previously referenced ICU intersection analysis methodology was applied at each of the study intersections using the pre-project 2007 traffic volumes and existing geometrics at three of the study intersections and with the City improvements committed for the intersections of Yorba/Chapman and Prospect/Chapman. The resulting LOS and V/C ratios are presented in Table 2. The V/C analysis worksheets are contained in the Appendix to this report.

As can be seen from Table 2, all study intersections will be operating at LOS "B" or better during the p.m. peak hour under 2007 pre-project conditions.

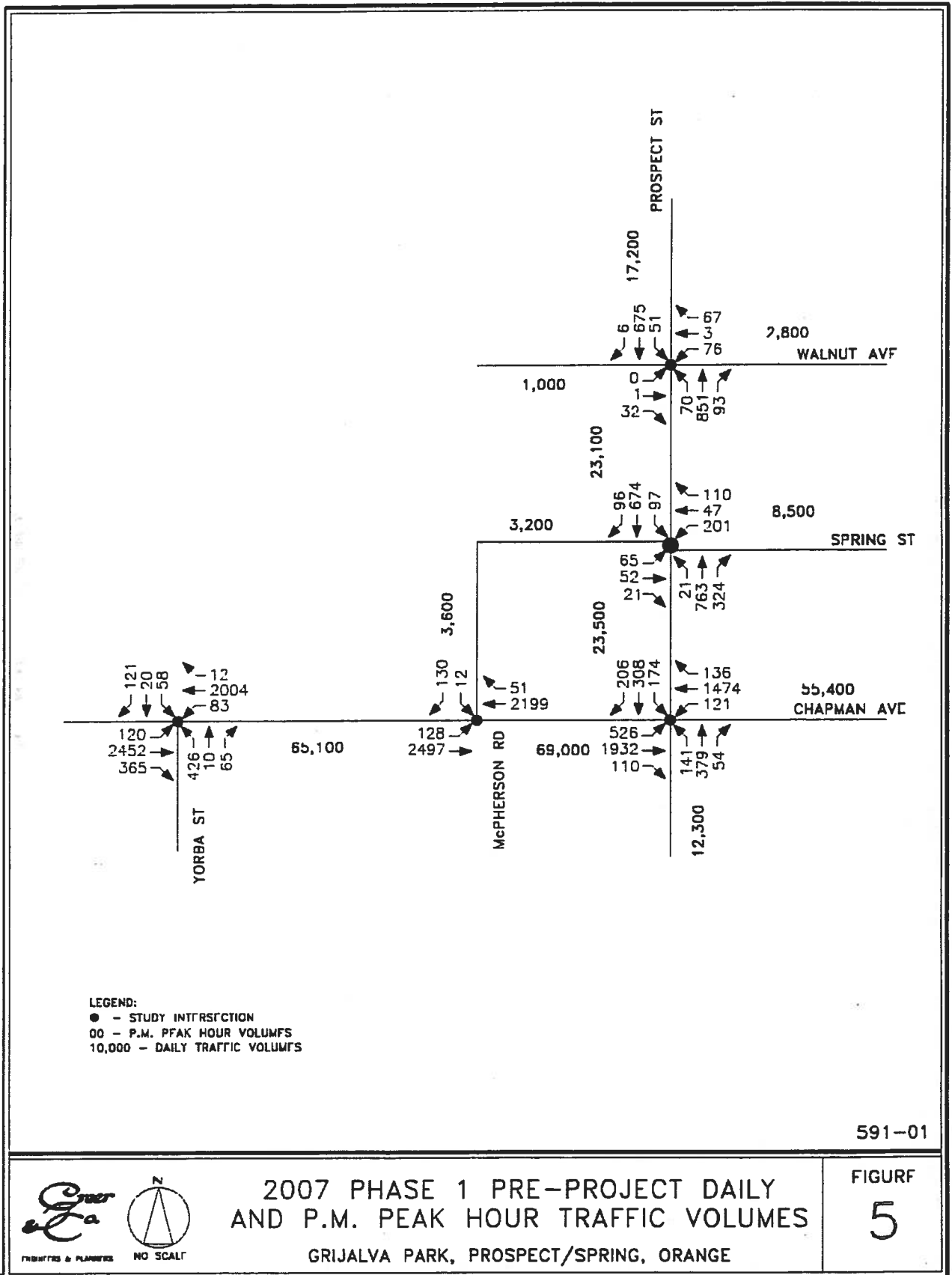
PHASE 1 POST-PROJECT CONDITIONS ANALYSIS

Phase 1 Project Traffic Volumes

Project traffic volumes for Phase 1 consist of three elements—diverted traffic resulting from the project's proposed closure of McPherson Road at Spring Street at the southerly park boundary, a connection from the park to the existing terminus of Walnut Avenue and trips generated by the proposed development of the gymnasium/sports center.

Presently, the Spring Street-McPherson Road linkage between Prospect Street and Chapman Avenue provides a short-cut route for traffic avoiding the Prospect/Chapman intersection. With the development of the existing park facilities, it is the intent to vacate or abandon Spring Street between Prospect Street and McPherson Road and to close McPherson Road at its northerly terminus at Spring Street to eliminate the short-cutting of through traffic through the park. The closure of this linkage will divert the existing through traffic to Prospect Street and Chapman Avenue, placing an additional burden on that intersection. With the elimination of turning traffic to and from the short-cut at Chapman Avenue, the Chapman/McPherson intersection should experience an improvement in operations, particularly because it is stop sign controlled.

⁶ "East Orange Project Traffic Study", Irvine Company, Austin-Foust Associates, 2002.



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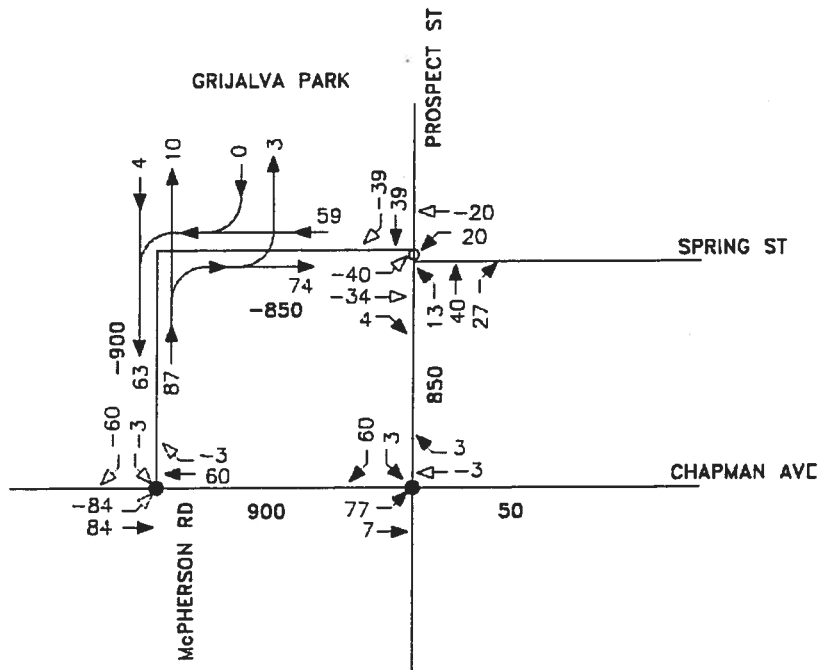
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Traffic counts were conducted of the through traffic movements on the Spring/McPherson short-cut, including the direction of turning movements for those trips at the intersections of Prospect/Spring and at Chapman/McPherson. The p.m. peak hour short-cut volumes and the diverted path of those trips are shown in Figure 6. Approximately 150 short-cutting trips will be diverted from Spring and McPherson to Prospect and Chapman.

Phase 1 Project Trip Generation Phase 1 of the proposed project will consist of the construction of a 30,000 square foot gymnasium/sports center. The gymnasium/sports center will include double basketball courts, an aerobics/dance room, an arts and crafts room, classrooms, restrooms, and staff and storage areas. Activities will be oriented to both adults and youth activities. Activities and classes will likely end in late afternoon between 3:30 and 5:00 p.m. with evening activities most likely to resume between 5:30 and 7:00 p.m. Based on the trip generation surveys at the Janet Evans Swim Center in Independence Park in the City of Fullerton, there was very little activity in the gymnasium and activity rooms during the 4:00 to 6:00 p.m. period. Some free-play on the basketball courts was commencing by 6:00 p.m. by some young adults (20 to 35 years old). Based on scheduling information provided by the City's Community Services Department, scheduling of classes and late afternoon activities at the proposed gymnasium would occur during the p.m. traffic peak hour and would involve some 75 to 80 persons in various activities with 4 to 5 staff members present. Assuming an average vehicle occupancy rate of 1.2 persons per vehicle, approximately 70 total trips would be generated by the gymnasium/sports center during the p.m. peak hour on a typical weekday with 20 trips inbound and 50 trips outbound.

1941-1942
The first year of the war was a time of great hardship and sacrifice for the people of the United States. The government had to ration many goods, and the economy was in a state of emergency. The war effort was a national effort, and everyone had to contribute in some way.

The war was a time of great change for the United States. The country was united in a common purpose, and the people were willing to make great sacrifices for the sake of the nation. The war was a time of great heroism and courage, and it was a time when the American spirit was truly tested. The war was a time when the people of the United States showed their true character, and it was a time when the world saw the power of the American people.



LEGEND:
 ● - STUDY INTERSECTION
 △ - EXISTING P.M. PFAK HOUR TRIPS BEING DIVERTED
 ◀ - P.M. PFAK HOUR DIVERTED TRIPS

591-01



DIVERSION OF PARK THROUGH TRAFFIC
 w/CLOSURE OF McPHERSON ROAD
 GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE

6

Phase 1 will include not only the closure of the McPherson Road access to the park, but will also provide for the opening of the Walnut Avenue park access with a linkage to the existing park road to provide a loop road through the park to access various activity centers within the park. The assignment of park trips for the proposed park development reflected the revisions to the park access system. The assignment pattern for project trips is shown in Figure 7 with the Phase 1 project traffic volumes shown in Figure 8.

The trip diversions were combined with the Phase 1 project traffic and added to the 2007 pre-project traffic volumes to provide 2007 post-project traffic volumes as shown in Figure 9.

The previously referenced ICU intersection analysis methodology was applied at each of the study intersections using the post-project traffic volumes and existing geometrics at three of the study intersections and with the City improvements committed for the intersections of Yorba/Chapman and Prospect/Chapman. The resulting LOS and V/C ratios are presented in Table 2. The V/C analysis worksheets are contained in the Appendix to this report.

As shown by Table 2, all study intersections will continue to operate at LOS "C" or better during the p.m. peak hour under 2007 post-project traffic conditions, except for the Prospect/Chapman intersection, which is expected to deteriorate to LOS "D" with a V/C ratio of 0.83. Level of service "D" is considered acceptable by the City of Orange under urban traffic conditions. All intersections will continue to operate acceptably. With the diversion of short-cutting traffic from the McPherson/Spring short-cut, implemented as part of Phase 1 of the project, the intersection of McPherson/Chapman will be improved.

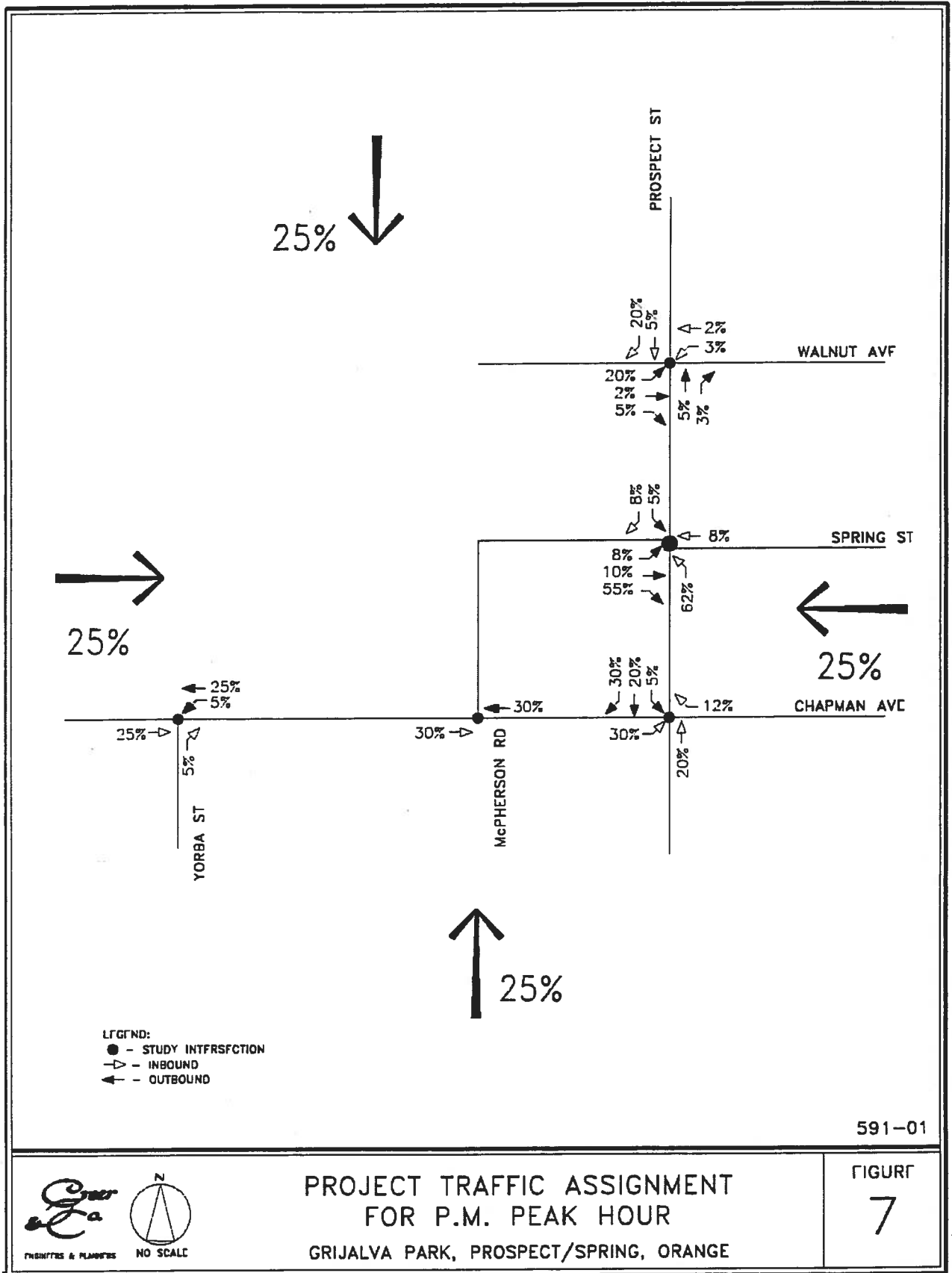
TABLE 2
LEVEL OF SERVICE--PRE-PROJECT CONDITIONS--2007-POST-PROJECT CONDITIONS-2007
Grijalva Park, Orange -- Traffic Impact Analysis

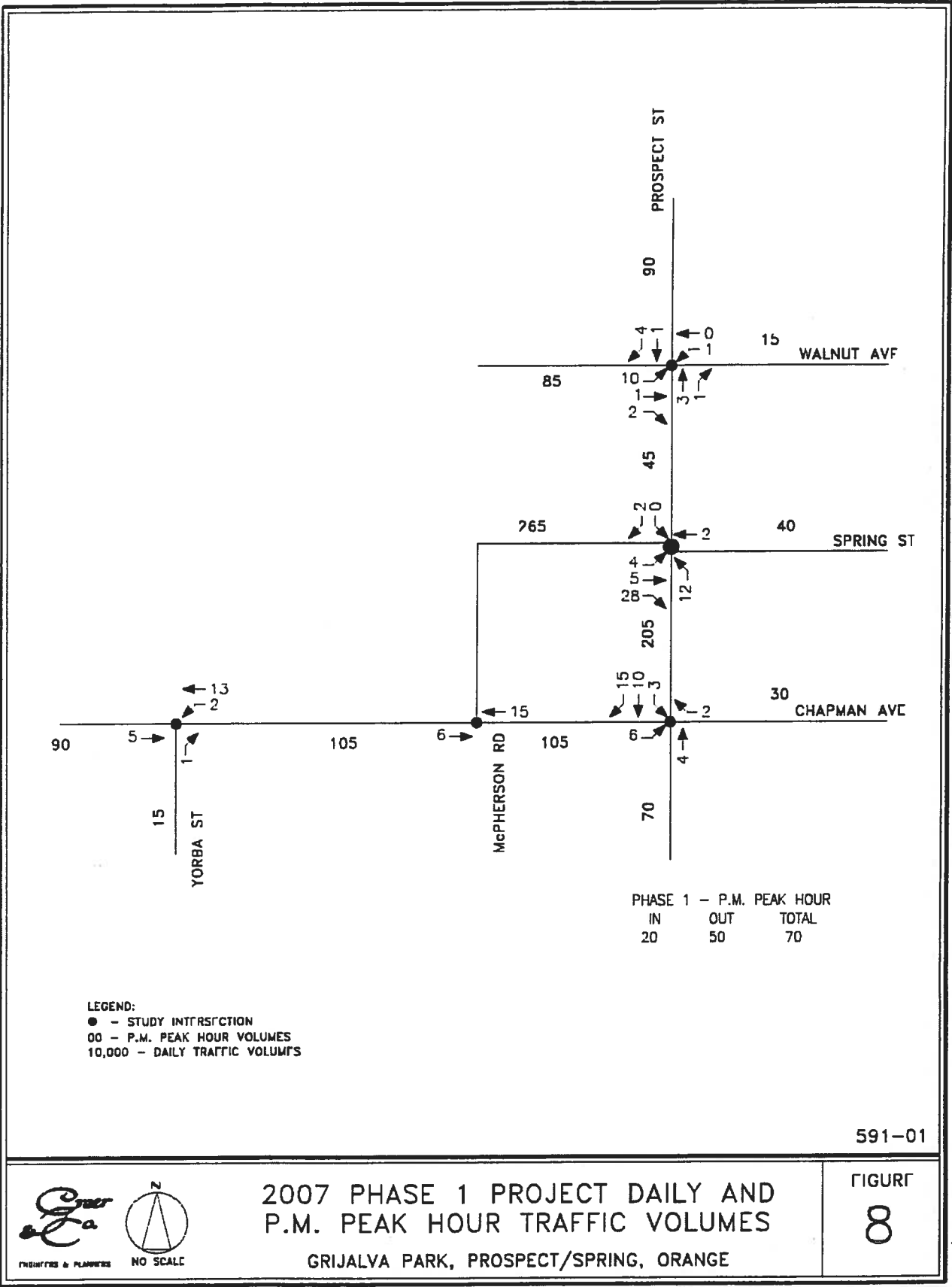
| Intersection | Existing 2004 | | Pre-Project 2007 | | Post-Project 2007 | |
|----------------------|-----------------------|------------------------|------------------|-----------|-------------------|-----------|
| | P.M. LOS ¹ | Pk Hr V/C ² | P.M. LOS | Pk Hr V/C | P.M. LOS | Pk Hr V/C |
| 1. Prospect/Chapman | B | 0.67 | C | 0.77 | D | 0.83 |
| 2. Prospect/Spring | A | 0.48 | A | 0.57 | A | 0.58 |
| 3. Prospect/Walnut | A | 0.35 | A | 0.42 | A | 0.43 |
| 4. Chapman/McPherson | A | 0.58 | B | 0.64 | B | 0.61 |
| 5. Chapman/Yorba | B | 0.68 | B | 0.68 | B | 0.69 |

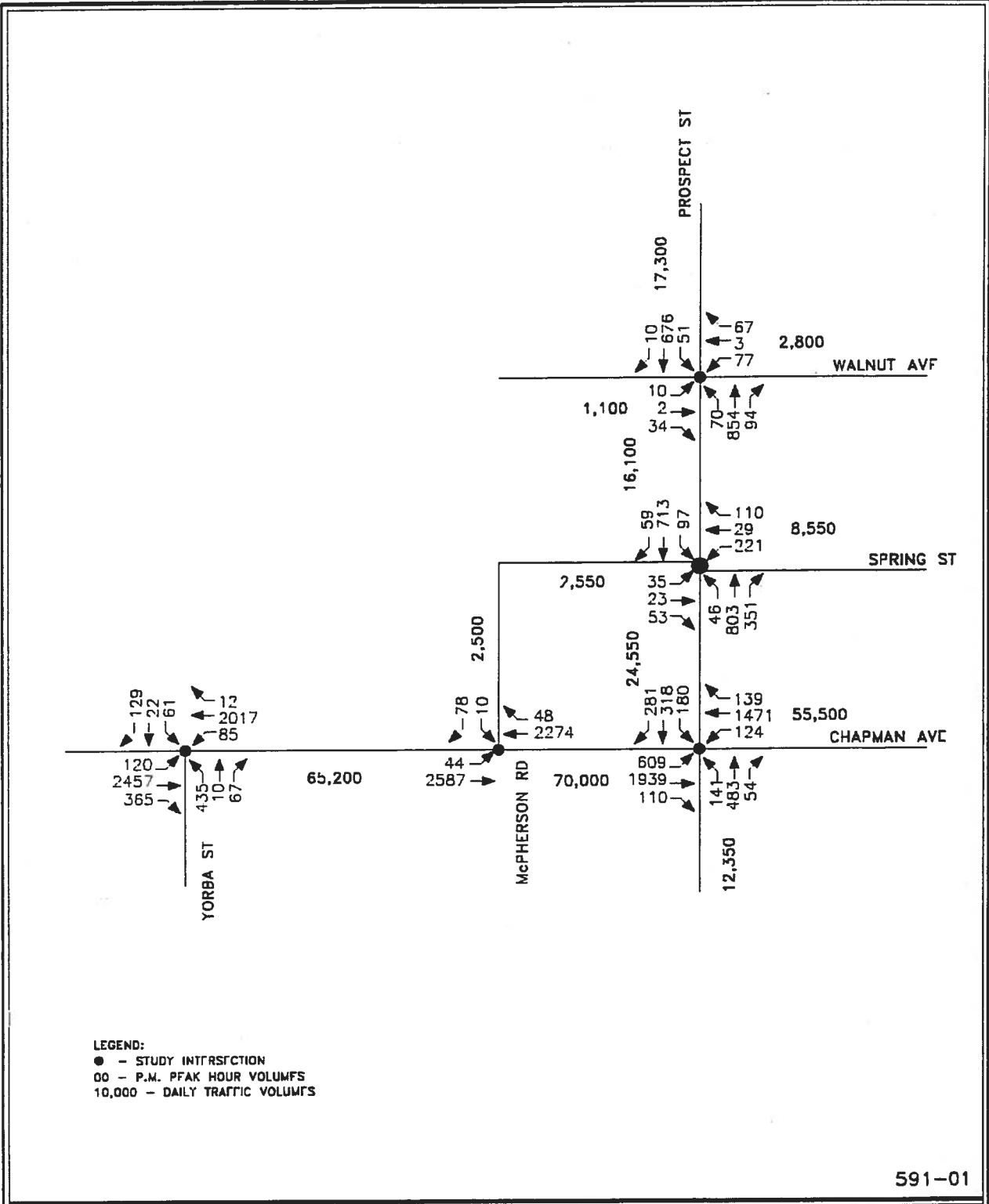
¹ Level of Service

² Volume to Capacity Ratio

Source: Greer & Co., Engineers and Planners







591-01



2007 PHASE 1 POST PROJECT DAILY AND P.M. PEAK HOUR TRAFFIC VOLUMES
 GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE
 9

2010 PHASES 1 & 2 CONDITIONS (Project Build Out)

This report chapter provides the discussion, calculations, and analyses of pre-project and post-project conditions for the 2010 Phases 1 and 2 of the project.

2010 PRE-PROJECT CONDITIONS ANALYSIS

As with the 2007 pre-project traffic volumes, pre-project traffic volumes for 2010 were provided by City staff and generated by the "East Orange Project Traffic Study"⁷ for the intersections of Prospect/Chapman and Yorba/Chapman. The 2010 traffic volumes were the result of traffic modeling efforts conducted for that project with guidance and review by City staff, and do not include project-related traffic from either Phase 1 or Phase 2 development. Growth factors were calculated from the traffic increases between existing traffic volumes and 2010 traffic volumes at those two intersections, and these factors were then applied to the three remaining study intersections for estimation of 2010 traffic volumes. The pre-project traffic volumes are shown in Figure 10.

The previously referenced ICU intersection analysis methodology was applied at each of the study intersections using the pre-project traffic volumes and existing geometrics at three of the study intersections and with the City improvements committed for the intersections of Yorba/Chapman and Prospect/Chapman. The resulting LOS and V/C ratios are presented in Table 3. The V/C analysis worksheets are contained in the Appendix to this report.

As can be seen from Table 3, all study intersections will be operating at LOS "C" or better during the p.m. peak hour under 2010 pre-project conditions.

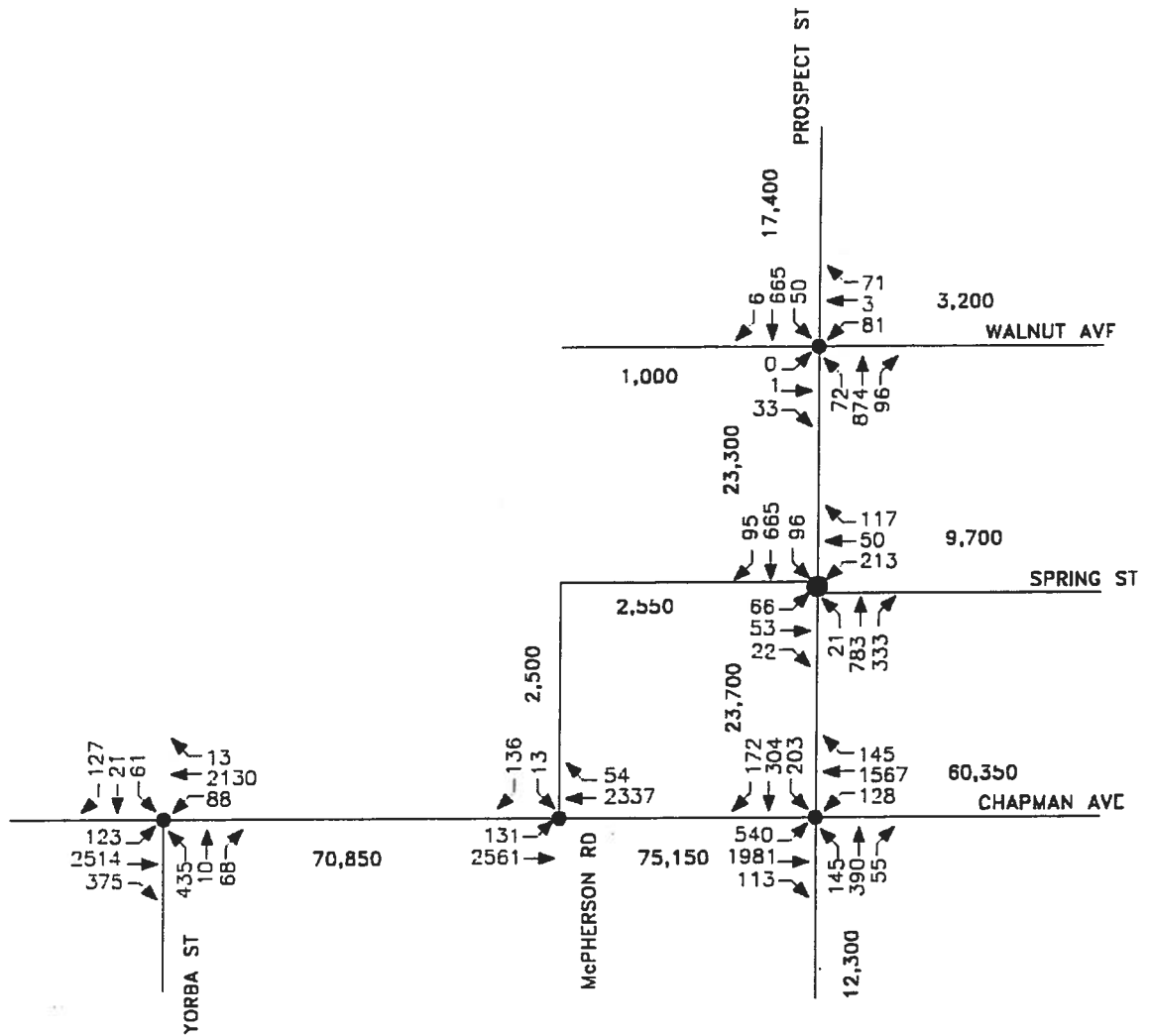
2010 PHASES 1 & 2 POST-PROJECT CONDITIONS ANALYSIS

Phases 1 & 2 Project Traffic Volumes

Project traffic volumes for Phases 1 and 2 consist of three elements—diverted traffic resulting from the project's proposed closure of McPherson Road at Spring Street at the southerly park boundary, trips generated by the proposed development of the gymnasium/sports center under Phase 1, and trips generated by the proposed development of Phase 2 consisting of the aquatic center, the community center, the skate park, the amphitheater, tot-lot, and the picnic and passive park areas.

Phase 2 Project Trip Generation Trip generation surveys were conducted for the aquatic center use and the skate park use. The survey data is attached in the Appendix of the report. For the aquatic center, existing aquatic

⁷ "East Orange Project Traffic Study", Irvine Company, Austin-Foust Associates, 2002.



LEGEND:
 ● - STUDY INTERSECTION
 00 - P.M. PEAK HOUR VOLUMES
 10,000 - DAILY TRAFFIC VOLUMES

591-01



2010 PHASES 1&2 PRE-PROJECT
 DAILY AND P.M. PEAK HOUR
 TRAFFIC VOLUMES
 GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE
 10

facilities were surveyed at The Plunge in City Hall Park in the City of Brea, and the Janet Evans Swim Center in Independence Park in the City of Fullerton. Both facilities have two pools and a building and a swim equipment building. The Plunge closed at 4:00 p.m., so there was no traffic generated at that facility during the typical p.m. peak period between 4:00 and 6:00 p.m. The parking areas at Independence Park for the Janet Evans Swim Center were separated providing separate parking areas for different park areas and uses. The front and west parking areas jointly served the aquatic facility and the gymnasium building. However, there was very little activity in the gymnasium building at the time of the surveys (perhaps 4 to 6 persons including the staff attendant), so the entire trip generation from those two lots was predominantly generated by the swim center. The trip rates are expressed for the aquatic center as a whole since both the Janet Evans Swim Center and the proposed aquatic center project are similar in number of pool, buildings and scale. Estimated trips for the proposed aquatic center during a typical summer weekday p.m. peak hour would be 48 total trips with 16 trips inbound and 32 trips outbound.

Trip generation surveys for existing skate parks were conducted at Brookhurst Park in the City of Anaheim and Independence Park in the City of Fullerton. The results of previous trip generation surveys for the skate park at the Laguna Niguel Soccer and Skate Park Complex in the City of Laguna Niguel⁸ were also available and used in this study. Trip rates for the p.m. peak hour were calculated for each 1,000 square feet of area within the skate park facility. The average of the trip rates for the existing skate parks per 1,000 square feet of facility area is 1.42 total trips with 0.75 trips inbound and 0.67 trips outbound. Based on these rates for the proposed 10,000 square foot facility, the skate park is estimated to generate 15 total trips with 8 trips inbound and 7 trips outbound during the typical weekday p.m. peak hour.

The trip generation survey data for both the aquatic centers and the skate parks is attached in the Appendix of this report.

Trip generation for the community building was calculated on the basis of an estimated number of persons that would occupy the building on a typical weekday afternoon. The occupancy would be influenced by demand for the facilities, and scheduling of activities.

The building of approximately 10,800 square feet will contain a 4,000 square foot multipurpose room, a performance platform, a catering kitchen, storage rooms, offices and restrooms. The multipurpose room would be the primary traffic generator along with staff in attendance. Based on 35 square feet per person typically allotted by building codes for assembly areas, the multipurpose room would accommodate approximately 114 persons at capacity. With 5 to 6 staff members, the capacity occupancy of the community building would be approximately 120 persons. Based on an average vehicle occupancy rate of 1.8 persons per vehicle (a reasonable value given the family-oriented nature of the use with several family members typically sharing the ride), a total trip generation of 67 trips would be generated. An 80-20 split between entering and exiting traffic is a conservative value to use, and results in the trip generation during the p.m. peak hour for the community building estimated at 67 total trips with 54 entering trips and 13 exiting trips. This assumes (based on scheduling information provided by the

⁸ "El Camino Park Rehab Project Traffic Study", City of Orange, LLG Engineers

City Community Services Department) that the daytime use ended about 3:30 p.m. with an early evening use commencing about 6:00 p.m.

Trips for the remainder of the proposed park uses including the tot-lot, picnic areas and passive park uses were estimated based on the number of persons utilizing those facilities at Grijalva Park. Counts were conducted at the existing Grijalva park facilities including the tot-lot, picnic areas, and running track and passive park areas. On two different weekdays between 4:00 and 6:00 p.m., there were 40 and 43 persons using these facilities at Grijalva. At Independence Park in the City of Fullerton, there were 18 persons using these park facilities, and at City Hall Park in the City of Brea, there were 36 persons using these facilities. Using a conservative estimate of 50 persons and an assumed vehicle occupancy rate of 1.2 persons per vehicle (a reasonable and conservative estimate for less family-intensive uses than the multipurpose room), a total of 42 trips would be generated. This level of use is consistent with persons coming and going, with the turnover occurring during the peak hour resulting in 42 total p.m. peak hour trips with 21 trips inbound and 21 trips outbound.

Based on scheduling information provided by the City Community Services Department, the amphitheater will be primarily an evening (after 6:00 p.m.) or weekend peak event use with minimal weekday p.m. peak hour trip generation. Therefore, the amphitheatre is not included in weekday p.m. peak hour traffic calculations.

The total Phase 1 and Phase 2 trip generation estimates are presented in Table 3. The proposed project is estimated to generate a total of 1,085 daily trips with 242 p.m. peak hour trips with 119 inbound trips and 123 outbound trips for combined Phases 1 and 2.

TABLE 3
PROJECT TRIP GENERATION – TYPICAL WEEKDAY P.M. PEAK HOUR
Grijalva Park, Orange -- Traffic Impact Analysis

| | Daily | Generated Trips | | Total |
|--|-------|-----------------|----------|-------|
| | | Inbound | Outbound | |
| Phase 1 | | | | |
| Gymnasium/Sports Center 30,000 square feet | 350 | 20 | 50 | 70 |
| Phase 2 | | | | |
| Aquatic Center 47,300 square feet (two pools) | 250 | 16 | 32 | 48 |
| Skate Park 10,000 square feet | 100 | 8 | 7 | 15 |
| Community Building 10,800 square feet (4,000 square foot meeting room) | 135 | 54 | 13 | 67 |
| Tot-lot, picnic area, passive uses | 250 | 21 | 21 | 42 |
| SUBTOTAL | 735 | 99 | 73 | 172 |
| TOTAL | 1,085 | 119 | 123 | 242 |

Source: Greer & Co., Engineers and Planners

Project trips for both Phases 1 and 2 were assigned to the area street system based on the assignment patterns presented in Figure 7. Phases 1 and 2 project traffic volumes for 2010 are presented in Figure 11. Diverted traffic volumes resulting from the closure of McPherson Road were combined with the 2010 Phases 1 and 2 project traffic

volumes and added to the 2010 pre-project traffic volumes to obtain the 2010 post-project traffic volumes as shown in Figure 12.

The previously referenced ICU intersection analysis methodology was applied at each of the study intersections using the post-project traffic volumes and existing geometrics at three of the study intersections and with the City improvements committed for the intersections of Yorba/Chapman and Prospect/Chapman. The resulting LOS and V/C ratios are presented in Table 4. The V/C analysis worksheets are contained in the Appendix to this report.

As shown by Table 4, all study intersections will continue to operate at LOS "C" or better during the p.m. peak hour under 2010 post-project traffic conditions, except for the Prospect/Chapman intersection, which is expected to deteriorate to LOS "D" with a V/C ratio of 0.85. Level of service "D" is considered acceptable under urban traffic conditions by the City of Orange, thus all intersections will continue to operate acceptably at project buildout.

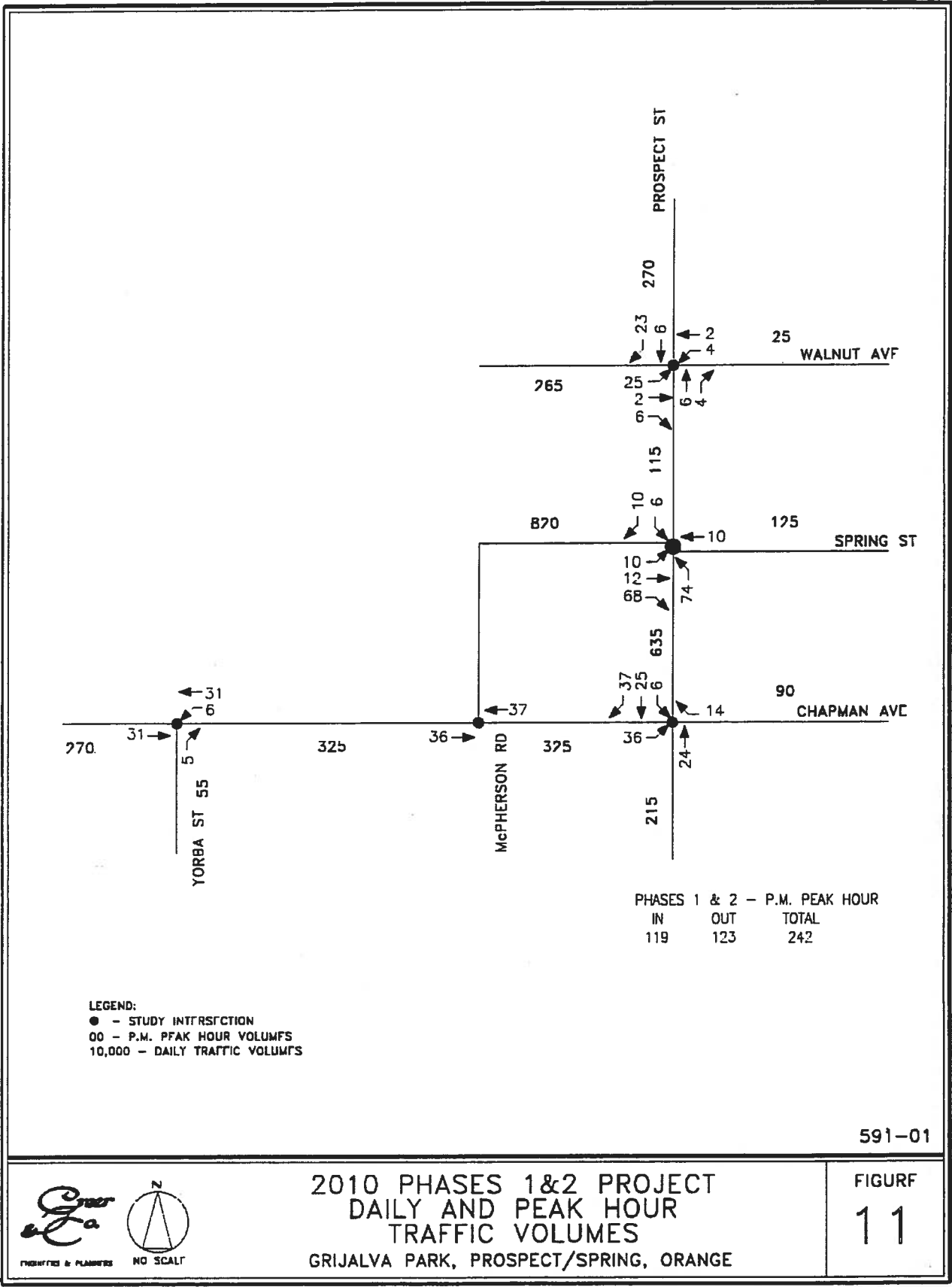
TABLE 4
LEVEL OF SERVICE--PRE-PROJECT CONDITIONS-2010--POST-PROJECT CONDITIONS-2010
Grijalva Park, Orange -- Traffic Impact Analysis

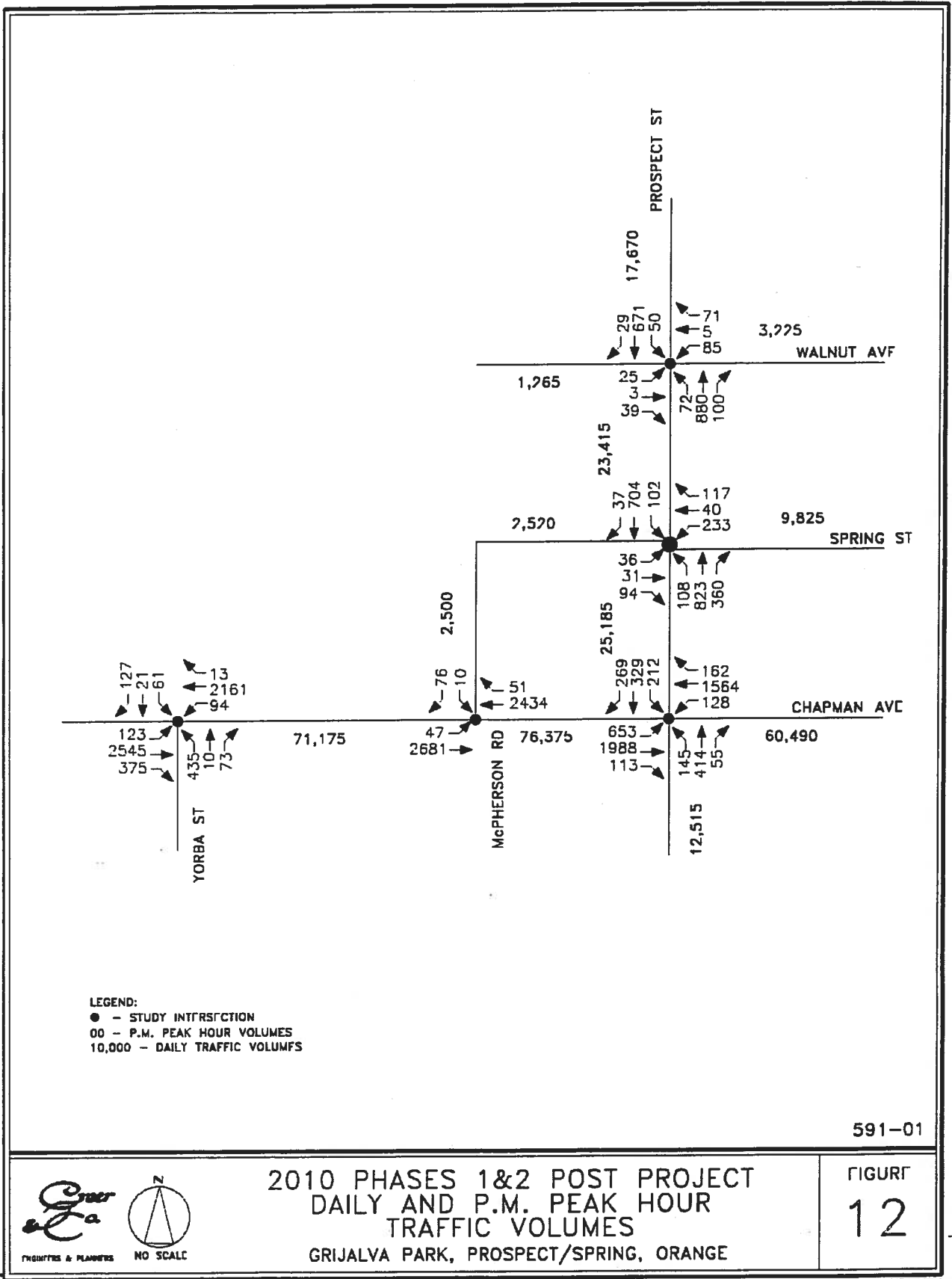
| Intersection | Existing 2004 | | Pre-Project 2010 | | Post-Project 2010 | |
|----------------------|------------------|------------------|------------------|-------|-------------------|-------|
| | P.M. | Pk Hr | P.M. | Pk Hr | P.M. | Pk Hr |
| | LOS ¹ | V/C ² | LOS | V/C | LOS | V/C |
| 1. Prospect/Chapman | B | 0.67 | C | 0.79 | D | 0.85 |
| 2. Prospect/Spring | A | 0.48 | A | 0.58 | B | 0.62 |
| 3. Prospect/Walnut | A | 0.35 | A | 0.43 | A | 0.44 |
| 4. Chapman/McPherson | A | 0.58 | B | 0.67 | B | 0.63 |
| 5. Chapman/Yorba | B | 0.68 | C | 0.71 | C | 0.72 |

¹ Level of Service

² Volume to Capacity Ratio

Source: Greer & Co., Engineers and Planners





2025 CONDITIONS

This report chapter provides the discussion, calculations, and analyses of pre-project and post-project conditions for 2025.

2025 PRE-PROJECT CONDITIONS ANALYSIS

As with the 2007 and 2010 pre-project traffic volumes, pre-project traffic volumes for 2025 were provided by the City Traffic Engineer as obtained from the "East Orange Project Traffic Study"⁹ for the intersections of Prospect/Chapman and Yorba/Chapman. The 2025 traffic volumes were also the result of traffic modeling efforts conducted for that project with guidance and review by the City. It may be noted that some 2025 traffic volumes on the Chapman intersections are lower than 2010 traffic volumes. This results from the modeling process when all street improvements are assumed to be completed on the basis of General Plan street designations and standard street improvements. This results in some redistribution of traffic on the citywide street network with some reductions in predicted traffic volumes on the Chapman corridor. Specifically, the extension of Walnut Avenue across Santiago Creek and improvements on Tustin Avenue and Collins Street will affect this traffic redistribution in the area of the project site. As before, applying growth factors calculated for the traffic increases between existing traffic volumes and 2025 traffic volumes at the Yorba/Chapman and the Prospect/Chapman intersections, the 2025 traffic volumes at the three remaining study intersections were calculated. The pre-project traffic volumes are shown in Figure 13.

Due to the classification of the Yorba Street Extension (Yorba Street between Chapman and Walnut) as a "Special Study Street" on the City's Master Plan of Streets and Highways, it was not included as a link in the main 2025 traffic modeling efforts. Therefore the numbers shown in this section of the report do not reflect the presence of the Yorba Extension. This is a reasonable approach as the "Special Study Street" classification denotes a potential, but unstudied, need for a facility, and acts primarily as a method of preserving right of way. Later in this report, the need for the Yorba Extension will be specifically examined.

The previously referenced ICU intersection analysis methodology was applied at each of the study intersections using the pre-project traffic volumes and existing geometrics at three of the study intersections and with the City improvements committed for the intersections of Yorba/Chapman and Prospect/Chapman. The resulting LOS and V/C ratios are presented in Table 5. The V/C analysis worksheets are contained in the Appendix to this report.

As can be seen from Table 5, all study intersections will be operating at LOS "C" or better during the p.m. peak hour under 2025 pre-project conditions.

⁹ "East Orange Project Traffic Study", Irvine Company, Austin-Foust Associates, 2002.

2025 POST-PROJECT CONDITIONS ANALYSIS

Project traffic volumes for Phases 1 and 2 were combined with the diverted traffic volumes resulting from the McPherson Road closure and added to the 2025 pre-project traffic volumes to obtain 2025 post-project traffic volumes shown in Figure 14. Applying the referenced ICU intersection analysis methodology to the study intersections resulted in the LOS and V/C ratios presented in Table 5 for 2025 post-project conditions. The V/C analysis worksheets are contained in the Appendix to this report.

9 "East Orange Project Traffic Study", Irvine Company, Austin-Foust Associates, 2002.

As can be seen from Table 5, all study intersections will be operating at LOS "B" or better during the p.m. peak hour under 2025 post-project conditions, except for the Prospect/Chapman intersection, which is expected to deteriorate to LOS "D" with a V/C ratio of 0.822. Level of service "D" is considered acceptable under urban traffic conditions. All intersections will continue to operate acceptably.

TABLE 5
LEVEL OF SERVICE-PRE-PROJECT CONDITIONS-2025-POST-PROJECT CONDITIONS-2025
Grijalva Park, Orange -- Traffic Impact Analysis

| Intersection | Existing 2004 | | Pre-Project 2025 | | Post-Project 2025 | |
|----------------------|---------------|-----------------------------------|------------------|---------|-------------------|---------|
| | P.M. Pk Hr | LOS ¹ V/C ² | P.M. Pk Hr | LOS V/C | P.M. Pk Hr | LOS V/C |
| 1. Prospect/Chapman | B | 0.67 | C | 0.78 | D | 0.82 |
| 2. Prospect/Spring | A | 0.48 | A | 0.56 | A | 0.60 |
| 3. Prospect/Walnut | A | 0.35 | A | 0.41 | A | 0.42 |
| 4. Chapman/McPherson | A | 0.58 | B | 0.65 | B | 0.64 |
| 5. Chapman/Yorba | B | 0.68 | B | 0.69 | B | 0.70 |

¹ - Level of Service

² - Volume to Capacity Ratio

Source: Greer & Co., Engineers & Planners

Table 6 summarizes the level of service and V/C ratios for all conditions for 2004, 2007, 2010 and 2025. In all cases, the level of service will be LOS "D" or better during the p.m. peak hour. Level of service "D" is an acceptable level of service for urban conditions, and is accepted by the City of Orange and under the County's Congestion Management Program. The analyses indicate that the proposed project will not generate any significant project traffic impacts at the study intersections, and as such, the project will not be required to construct any mitigation improvements at those intersections.

TABLE 6
SUMMARY -- LEVEL OF SERVICE
Grijalva Park, Orange -- Traffic Impact Analysis

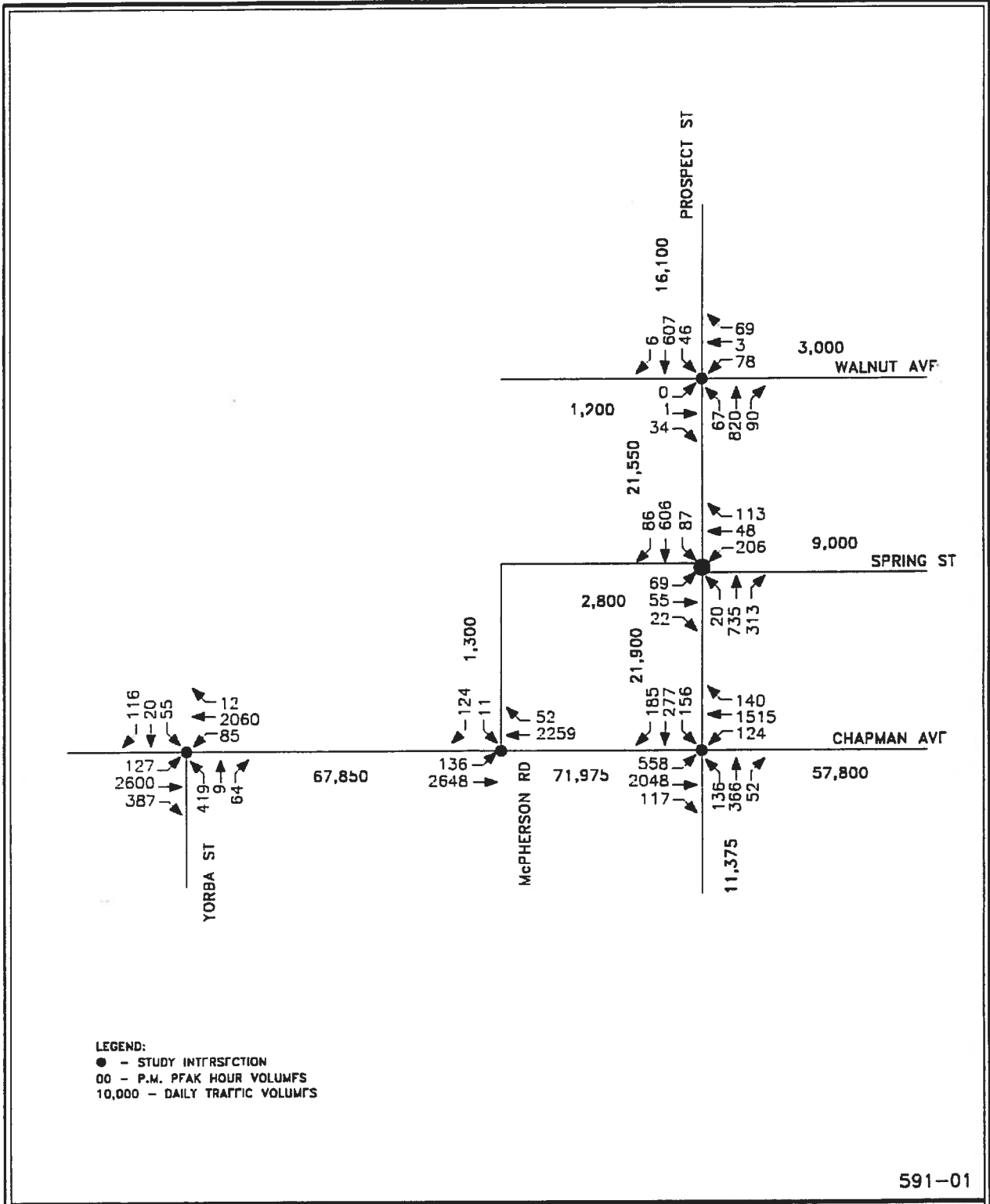
| Intersection | Existing 2004 P.M. Pk Hr LOS ¹ V/C ² | Phase 1 2007 | | Phases 1 & 2 2010 | | Pre-Project 2025 | | Post Project 2025 | |
|---------------------|---|-----------------|------------|----------------------|------------|---------------------|------------|----------------------|------------|
| | | P.M. Pk Hr | A.M. Pk Hr | P.M. Pk Hr | A.M. Pk Hr | P.M. Pk Hr | A.M. Pk Hr | P.M. Pk Hr | A.M. Pk Hr |
| 1. Prospect/Chapman | B 0.67 | C 0.77 | D 0.828 | C 0.80 | D 0.85 | C 0.78 | D 0.82 | C 0.78 | D 0.82 |
| 2. Prospect/Spring | A 0.48 | A 0.57 | A 0.577 | A 0.58 | B 0.62 | A 0.56 | A 0.60 | A 0.56 | A 0.60 |

| | | | | | | | | | | | | | | |
|----------------------|---|------|---|------|---|-------|---|------|---|------|---|------|---|------|
| 3. Prospect/Walnut | A | 0.35 | A | 0.42 | A | 0.425 | A | 0.43 | A | 0.44 | A | 0.41 | A | 0.42 |
| 4. Chapman/McPherson | A | 0.58 | B | 0.65 | B | 0.609 | B | 0.67 | B | 0.63 | B | 0.65 | B | 0.64 |
| 5. Chapman/Yorba | B | 0.68 | B | 0.68 | B | 0.688 | C | 0.71 | C | 0.72 | B | 0.69 | B | 0.70 |

1 LOS – Level of Service

2 V/C – Volume to Capacity Ratio

Source: Greer & Co., Engineers & Planners

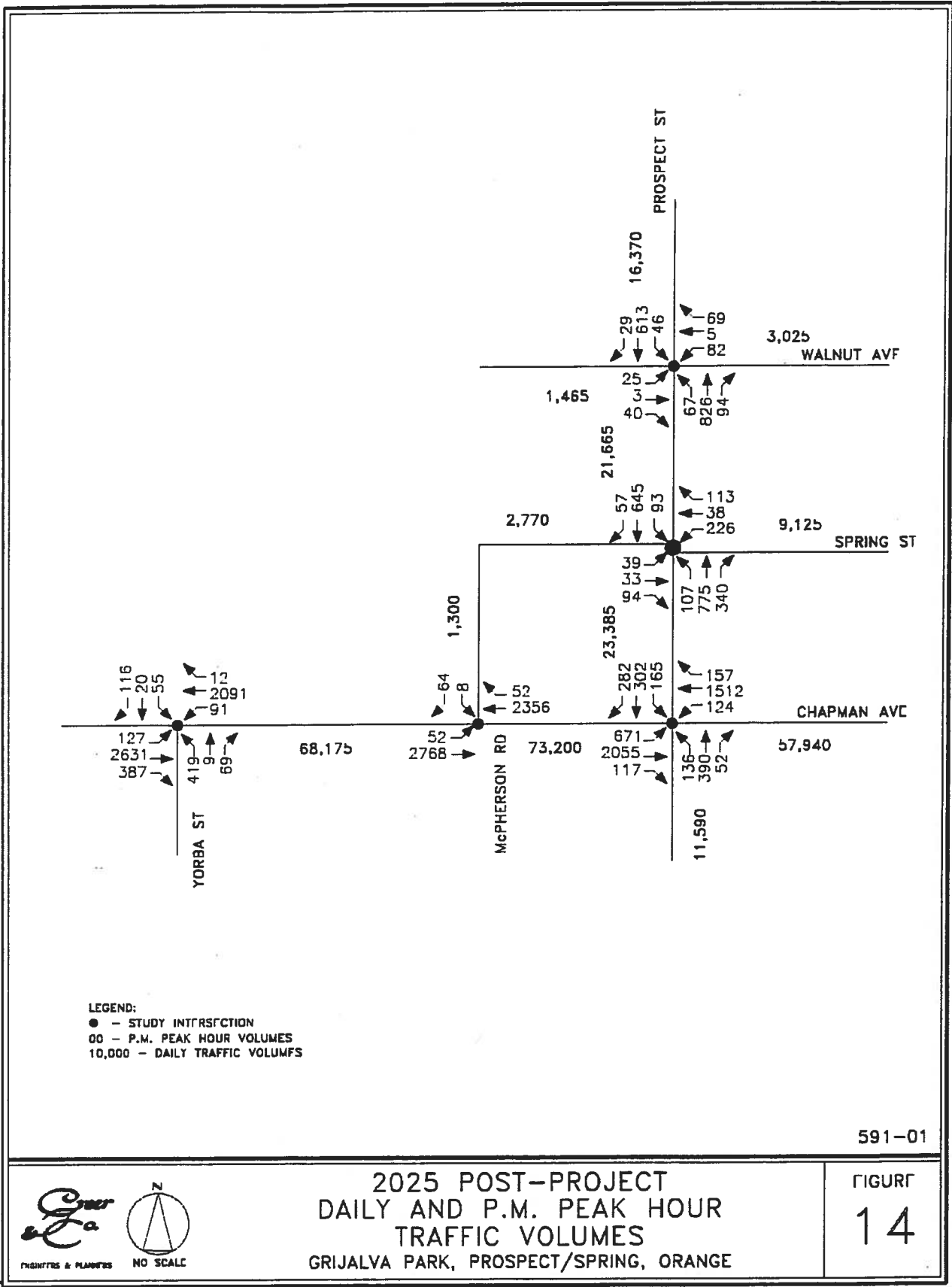


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2025 PRE-PROJECT
 DAILY AND P.M. PEAK HOUR
 TRAFFIC VOLUMES
 GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE
 13



591-01



2025 POST-PROJECT
 DAILY AND P.M. PEAK HOUR
 TRAFFIC VOLUMES
 GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE
 14

PROJECT PARKING ANALYSES

This chapter examines project parking demands and the proposed parking supply. Parking provisions for typical weekday activities as well as peak parking demands for event activities, such as soccer tournaments, basketball tournaments, and swim meets.

EXISTING PARKING PROVISIONS

The existing park improvements include three individual, surface parking areas. The major parking lot in the northwest section of the existing park provides 104 parking spaces, while the parking area adjacent to the park road along the existing northwesterly park boundary provides 37 parking spaces. The parking area along the northerly side of Spring Street/park road along the southerly park boundary currently provides 44 parallel parking spaces for a total of 185 parking spaces

PROPOSED PARKING PROVISIONS

The project proposes an additional 380 parking spaces in two primary parking lots—one lot of approximately 106 parking spaces near the Walnut Street entrance adjacent to the aquatics center (to be constructed with Phase II of the project), and a second lot of approximately 274 parking spaces near the gymnasium/sports center and community building (to be constructed with Phase I of the project). Also, the City proposes to convert the existing parallel parking, collector drive and the channelizing island on Spring Street and restripe 90°-parking. A total of approximately 114 perpendicular parking spaces would replace the existing 44 parallel parking spaces for a differential increase in parking spaces of 70 parking spaces (to be completed with Phase I of the project). Combined with the other two parking lots, 450 new parking spaces will be provided at project build out. Thus the total number of spaces available after completion of the proposed project will be 635 parking spaces.

EXISTING PARKING DEMANDS

Parking surveys were conducted for existing park activities during typical weekday periods as well as on Saturday, August 21, 2004 during a soccer tournament. Spot surveys on Tuesday, August 17 and Thursday, August 19, 2004 counted parked vehicles as well as an approximate count of persons using park facilities.

Weekday Parking Demand

On Tuesday, August 17 at approximately 6:00 p.m., a total of 54 parked vehicles were counted—19 vehicles in the north parking lot, 5 vehicles near the basketball courts and 30 vehicles along the park road serving soccer practice. Soccer practice was ending for three teams and about to start for three new teams. A total of 79 persons were around the soccer fields, 8 persons at the basketball courts, 10 persons on the running track, 6 persons in the picnic areas and 25 persons at the tot-lot for a total of 128 persons using park facilities. This gives an average of 2.37 persons per vehicle for this observation period.

On Thursday, August 19, at approximately 3:15 p.m., there were 7 parked vehicles and 12 to 14 people around the tot-lot and picnic shelters. Later in the afternoon at approximately 6:00 p.m., there were 51 parked vehicles. There were 7 soccer teams on the soccer fields with approximately 110 persons present, 8 persons on the running track, 15 to 18 persons at the tot-lot play area, and 14 persons on the basketball courts for a total of approximately 150 persons using park facilities. This gives an average of 2.94 persons per vehicle for this observation period.

Based upon these observations, typical weekday peak parking demands for the existing park facilities are estimated at 50 to 60 vehicles occurring during late afternoon/early evening around 6:00 p.m.

Weekend Parking Demand

A parking survey was also conducted on Saturday, August 21, 2004 during a two-day, weekend soccer tournament. The parking count was conducted at approximately 1:00 p.m. at the time six teams were ending their games and the next teams were waiting to play the next round of games. Parking during this exchange period provided a peak parking condition for an event condition. There were 174 parked vehicles in the 185 available parking spaces, a 94% occupancy rate. The existing available parking was essentially at capacity. However, there were no vehicles searching for parking or waiting in circulation aisles for a parking space to open up.

Based on these surveys, there is ample parking to provide for typical weekday park uses. The available parking for weekend park use with a peak soccer event is acceptable, but marginal.

PROJECTED PARKING DEMANDS

Parking demands for the proposed aquatics center and the skate park were established on the basis of parking surveys at existing similar uses. Parking demands for each of the other proposed uses were estimated based on estimated occupancy levels obtained from the City Community Services Department and vehicle occupancy rates. Vehicle occupancy rates used were conservative estimates based upon the likelihood of ride sharing, which in general, tends to follow the level of family-oriented events. As different events or uses draw different users, the estimated vehicle occupancy rates also vary. But in all cases, they are quite conservative and represent a "worst case" scenario.

Phase 1

Typical weekday peak parking demand for the gymnasium/sports center to be developed in Phase 1 was based on an estimated occupancy of 75 to 80 persons depending on scheduling of classes and late afternoon activities with 4 to 5 staff members present. Assuming an average vehicle occupancy rate of 1.2 persons per vehicle, up to approximately 67 parking spaces would be required, at a minimum, for normal weekday activities. It is recommended 80 parking spaces be provided to insure adequate parking for typical weekday use of the gymnasium/sports center.

Peak parking demand for the gymnasium/sports center would most likely occur for a basketball tournament. The City Community Services Department estimates that a capacity attendance for a tournament would be approximately 975 persons including participants, patrons and staff. With an estimated vehicle occupancy rate of 2.7 persons

per vehicle, a peak event at the gymnasium/sports center would require a minimum of 360 parking spaces.

Phase 2

To estimate the parking demand for the proposed aquatic center, parking surveys were performed of existing aquatics centers at The Plunge in City Hall Park in the City of Brea and the Janet Evans Swim Center at Independence Park in the City of Fullerton. These surveys yielded peak parking demands of 37 parking spaces at The Plunge and 48 parking spaces at the Evans Swim Center. Based on these surveys, a minimum of 60 parking spaces should be provided to accommodate typical weekday use by the proposed aquatics center.

Peak use of the aquatic center would occur with a swim meet on a weekend day. City staff estimates a maximum attendance for a swim meet, including swimmers and observers, would be approximately 250 persons. A swim meet would require a staff of approximately 15 persons resulting in a total of 265 persons. Assuming a vehicle occupancy of 2.2 persons per vehicle results in a minimum parking requirement of 120 parking spaces to accommodate peak parking demand for an swim meet event.

Parking surveys were also conducted at existing skate parks at Independence Park in the City of Fullerton and at Brookhurst Park in the City of Anaheim. Prior survey data for the skate park at the Laguna Niguel Soccer and Skate Park Complex in Laguna Niguel was also available. Peak parking rates were calculated for each facility based on 1,000 square feet of facility space. The rates ranged from 0.30 spaces to 0.64 spaces to 0.80 spaces per 1,000 square feet. The average peak parking rate was 0.58 space per 1,000 square feet. Applying this average rate to the proposed 10,000 square foot skate park results in a minimum requirement of 6 parking spaces is calculated. To insure adequate parking for the skate park, a minimum of 10 parking spaces is recommended. This will also allow for momentary drop-off parking being available for drop-off and pick-up of skate boarders.

Parking for the community building was based on estimated occupancy of the 4,000 square foot multi-purpose room as the primary generator for parking. Using 35 square foot per person typically allotted by building codes for normal or routine use of assembly areas, the multipurpose room would accommodate approximately 114 persons at capacity. With 5 to 6 staff members, the capacity occupancy of the multipurpose room would be approximately 120 persons. Based on information provided by the City Community Services Department, a typical weekday occupant load was estimated to be approximately 80 persons including staff. Based on an average vehicle occupancy rate of 1.5 persons per vehicle, a minimum of 53 parking spaces would be necessary. A total of 60 parking spaces is therefore recommended for typical weekday use of the community building.

Peak use of the community building for a special event would most likely be a weekday evening event or a weekend day or evening event. Based on information provided by the City Community Services Department, a maximum occupant load of 300 persons could be in attendance for an event at the community building. Based on an average vehicle occupancy rate of 1.8 persons, approximately 167 parking spaces would be required at a minimum to serve peak parking demands. Therefore a total of 180 parking spaces are recommended to insure adequate parking for a peak event at the community

building.

Additional parking would be required for the tot-lot, picnic areas, shelters and passive uses for the park. Based on the surveys of the existing park space, approximately 40 to 50 persons are anticipated to utilize the passive park facilities during the peak activity period on a typical weekday. With an estimated vehicle occupancy rate of 1.5 persons per vehicle, a minimum of 35 parking spaces would be required.

Peak use of the passive uses for the park would most likely occur on a weekend with such events as a birthday party, a family reunion picnic, group barbecue/picnic or company employee event. A peak attendance for such an event has been estimated at 250 persons. With an estimated vehicle occupancy rate of 3.0 persons per vehicle (a higher value is reasonable due to the group nature of the events), a minimum of 85 parking spaces would be required.

The proposed amphitheater would be scheduled for use as a special event only. Amphitheater events are typically scheduled for a weekday evening (after 6:00 p.m.) or on a weekend day or evening. The capacity attendance for the amphitheater is estimated at 1,200 persons based on activities at Hart Park in the City of Orange. With an estimated vehicle occupancy rate of 3.0 persons per vehicle, a minimum of 400 parking spaces would be required.

Summary Impact Analysis

TABLE 7
PROJECT PARKING DEMANDS – TYPICAL WEEKDAY AND SPECIAL EVENT PARKING
Grijalva Park, Orange – Traffic Impact Analysis

| | Attendance (Persons) | | Parking Demand (Spaces) | | Parking Spaces Added by Phase | Cumulative Parking Supply (Spaces) |
|---------------------------------|----------------------|------------|-------------------------|------------|-------------------------------|------------------------------------|
| | Typical Weekday | Peak Event | Typical Weekday | Peak Event | | |
| Existing Park Facilities | 150 | | 60 | 174 | 185 | 185 |
| Phase 1 | | | | | 344 | 529 |
| Gym/Sports Center | 80 | 975 | 80 | 360 | | |
| Phase 2 | | | | | 106 | 635 |
| Aquatic Park | - | 265 | 60 | 120 | | |
| Skate Park | - | - | 10 | 10 | | |
| Community Bldg. | 80 | 300 | 60 | 180 | | |
| Amphitheater | - | 1,200 | - | 400 | | |
| Tot Lot, picnic area | 50 | 250 | 35 | 85 | | |
| Cumulative Totals | | | 305 | 1,329 | 635 | 635 |

Source: Greer & Co., Engineers & Planners

The typical weekday and special event parking for each use is summarized in Table 7. As shown in Table 7 and summarized in Table 8, upon completion of phase 1, a total of 140 parking spaces would be required to provide adequate parking on a typical weekday based on estimated typical occupant loads for each use. The provision of 529 parking spaces at phase 1 will more than accommodate typical weekday parking needs for the proposed park uses.

At project completion a total of 305 parking spaces would be required to provide adequate parking on a typical weekday based on estimated typical occupant loads for each use. The 305 parking spaces would be required if all activities peaked at the same

time of the day. Typically, the aquatic center, skate park and some of the passive uses are daytime uses with little evening use. The community building and gymnasium/sports center would have both daytime and evening uses depending on scheduling for meetings, aerobics/dance classes, and athletic activities. The provision of approximately 635 parking spaces will more than accommodate typical weekday parking needs for the proposed park uses.

TABLE 8
TYPICAL WEEKDAY AND SPECIAL EVENT PARKING DEMAND VS. PARKING SUPPLY, BY PHASE
 Grijalva Park, Orange -- Traffic Impact Analysis

| | Parking Demand (Spaces) | Total Parking Supply (Spaces) | Adequate Parking? |
|--|--------------------------------|--------------------------------------|--------------------------|
| Phase 1 Weekday Existing + Phase 1 | 140 | 529 | Yes |
| Phase 1 Peak Event Existing + Phase 1 | 534 | 529 | No |
| Phase 2 Weekday Existing + Phase 1 + Phase 2 | 305 | 635 | Yes |
| Phase 2 Peak Event Existing + Phase 1 + Phase 2 | 1,329 | 635 | No |

Source: Greer & Co., Engineers & Planners

With regard to peak parking demands for event activities, review of Table 7 and Table 8 clearly shows that the project does not provide adequate parking supply for peak events if all uses are scheduled simultaneously. With approximately 635 parking spaces proposed for the project, the peak parking demand for each event could be accommodated individually and some selected events could be accommodated simultaneously. For example, the case of a basketball tournament in the gymnasium/sports center or a capacity amphitheater event, no other event activity could be scheduled simultaneously because of parking demands. However, for example, a swim meet at the aquatics center, a capacity event at the community building and a large company picnic could be accommodated simultaneously.

In summary, for Phase 1, peak events should not be scheduled simultaneously to exceed a parking demand of 529 spaces. For Phase 2, any combination of peak events should not be scheduled simultaneously to exceed a parking demand of 635 spaces.

The existing and proposed parking should be viewed as one parking pool to serve all uses throughout the park, not as segregated parking separately serving the existing and proposed park facilities. A total of 635 parking spaces will be provided throughout the entire park. The existing and proposed parking facilities are or will be "centrally" located to serve any of the existing or proposed uses without undue walking distances. Parking areas have been separated and spread throughout the central area of the park and adjacent to primary activity sites. All parking lots are accessible from the proposed "loop" road and have been properly distributed to provide efficient service to all uses.

Proposed Operational Plan and Scheduling Limitations

To address the deficiency in parking for peak events both upon completion of Phase 1 and Phase 2 of the project, the City proposes the following scheduling limitations to ensure that peak parking demand does not exceed supply:

- Phase 1- A peak event at the proposed Gymnasium will not be scheduled with a peak event at the existing soccer fields.
- Phase 2- During a peak event at the Gymnasium, no other peak events (except for picnic area events) will be scheduled.
- Phase 2- During an amphitheatre event, no other peak events will be scheduled. In addition, at least one of the three classrooms at the gymnasium will not be programmed.
- Phase 2- No more than three peak events from the following four amenities- soccer fields, Community Building, Aquatic Center, or picnic areas- may be scheduled simultaneously.

With the implementation of these scheduling limitations, parking demand will not exceed supply (as demonstrated by the data provided in the attached operational plan).

If it becomes necessary to deviate from these scheduling limitations, the City's Director of Community Services or designee will need to secure additional parking such that parking demand does not exceed the proposed supply. The City has identified two feasible options for securing overflow parking offsite- these options include but are not limited to Prospect Street Elementary School located one block east of Grijalva Park (54 parking stalls) and El Modena High School located two blocks east of Grijalva Park (377 parking stalls).

CIRCULATION ELEMENTS

CHANGES TO SPRING STREET (INCLUDING VACATION OR ABANDONMENT)

The existing and proposed park design has anticipated the closure of Spring Street between Prospect Street and McPherson Road as a public thoroughfare in favor of using the roadway as an internal park road. The existing improvements for Spring Street have been designed as a park roadway with curbside parking. In order to convert Spring Street to a park road, either the public street easement must be vacated or abandoned. The appropriate action will depend in part on the underlying fee title ownership. City staff may take the appropriate steps to initiate the street vacation or abandonment process as part of this project. Inherent in the conversion of Spring Street from a public street to a park road is the physical closure of McPherson Road at Spring Street, which is discussed below.

The potential traffic impacts resulting from the physical closure of Spring Street as a public street will be to divert the "short-cutting" through traffic on the Spring Street-McPherson Road linkage to Prospect Street and Chapman Avenue. Those potential traffic impacts have been assessed in this traffic impact analyses as part of the Phase 1 park proposal. No significant traffic impacts will result on any of the study intersections as a result of the proposed street closure and conversion of Spring Street to an internal park roadway.

As part of Phase 1 of the project, the existing parallel parking, collector lane and channelizing island will be converted to 90° parking along the north curb line. This will increase the amount of parking in that parking area from 44 parking spaces to 114 parking spaces, an increase of 70 parking spaces.

The proposed changes to Spring Street between Prospect Street and McPherson Road will have no significant negative traffic impacts on surrounding study area streets and intersections, and will provide a positive impact for internal park circulation and parking.

CLOSURE OF McPHERSON ROAD

Inherent in the conversion of Spring Street between Prospect Street and McPherson Road from a public street to an internal park road is the physical closure of McPherson Road at its northerly terminus and its intersection with Spring Street. In order to provide for appropriate circulation, the closure of McPherson will require the construction of a standard City cul-de-sac at the proposed northerly terminus of the street. The cul-de-sac is necessary to provide for a turnaround for vehicles using that street, particularly for trash trucks and emergency vehicles. Construction of the cul-de-sac has been proposed as part of the park improvements. Design of the cul-de-sac will include a driveway into the park and a Knox-box provision for emergency vehicle access through the periphery fence or wall.

As discussed above, the potential traffic impacts of the McPherson closure have been assessed in these traffic impact analyses. The closure will have no significant negative traffic impacts on surrounding study area streets and intersections, and will have a positive impact on the Chapman Avenue and McPherson Road intersection as a result of eliminating the "short-cutting" traffic from the stop sign controlled intersection.

WALNUT AVENUE PARK ACCESS

The proposed park improvements include park access from the westerly end of existing Walnut Avenue westerly of Prospect Street. The Walnut access would provide a second access to the park and would connect to the existing internal park road to provide a "loop" road through the park. With both ends of the loop road connected to Prospect Street, there will be no anticipation of "shortcutting" through traffic penetrating the park facility. The loop road configuration provides an access "spine" to all park facilities and parking lots. The access configuration will provide easy and clear access patterns to all park uses and for distribution of park traffic to the area street system. While the primary park access will be from Prospect and Spring, the Walnut access will provide a secondary access and the valuable "loop" road circulation system for internal park circulation.

The potential traffic impacts of the Walnut access have been assessed in these traffic impact analyses. The access will have no significant negative traffic impacts on surrounding study area streets and intersections, and will have a positive impact on park access and internal circulation.

YORBA STREET EXTENSION FOR PARK ACCESS

As a part of these analyses, consideration was given to the need for the extension of Yorba Street north of Chapman Avenue in some form to provide park access. A potential extension of Yorba Street north of Chapman Avenue to provide a secondary park access has positive impacts in that more direct access to the park would be provided for local residents residing west and southwest of the park, and reduce the amount of park traffic at the primary entrance at Spring Street and Prospect Street.

In reviewing the Yorba access in the context of the design of the park circulation system as well as the local street system, there are several negatives relative to the proposed park. A Yorba connection provides a "short-cut" route for traffic to pass through the park negatively impacting the internal park circulation system and safety. Consideration was given to providing the Yorba access to the park with no internal connection between the Yorba access and the park loop road. The only park facilities that would be directly served by such an access facility would be the skate park, which is a low traffic generator. The demand and utilization of a Yorba access without an internal connection to the park loop road would not provide a valuable access to the larger park uses and would not provide any traffic reductions at the primary park entrance. In fact, if park patrons entered the park from a Yorba access and found they could not get to other park uses, they would be compelled to leave the park via the Yorba access and proceed to the primary entrance at Spring and Prospect.

In the larger context of the area street system, the Yorba/Chapman intersection is designated by the City as a "Critical Intersection" since it is almost immediately adjacent to the SR-55 interchange with Chapman Avenue and carries a high volume of traffic.

The intersection of Yorba/Chapman presently functions nearly as a "tee" intersection of public streets with a commercial driveway functioning as a fourth leg to the north. With the introduction of additional traffic from a Yorba park access, the operation and level of service for the intersection will be negatively affected.

The potential traffic impacts for the proposed park facilities have been assessed in these traffic impact analyses without a Yorba access. The proposed park development will have no significant negative traffic impacts on surrounding study area streets and intersections without a Yorba access. The value of a Yorba access to the park development would be minimal at best, and with an internal connection to the park "loop" road would have a seriously detrimental impact on the park. As a result, the conclusion of these analyses is that any extension of Yorba Street to provide a third park access would be detrimental and would negatively impact both park access and the area street system. Therefore, an access point from Yorba Street is not recommended and was not included in the master plan.

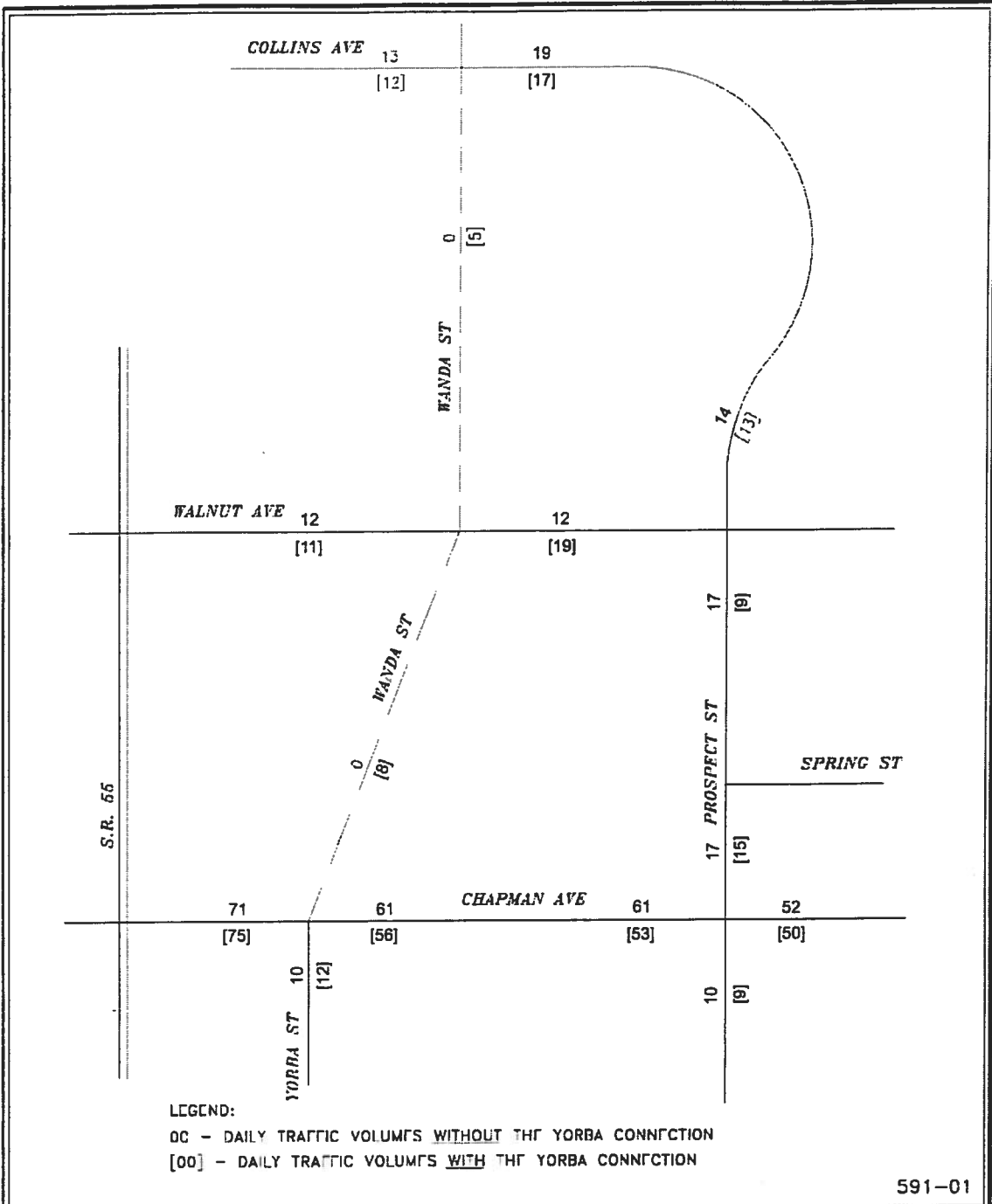
Yorba Street Extension between Chapman Avenue and Walnut Avenue

Consideration was also given to the need for a future connection of Yorba Street between Chapman Avenue and Walnut Avenue, designated as a Special Study Street on the City's Circulation Element of the General Plan. As part of the Grijalva Park Project, the City is proposing removal of this section of Yorba Street from the City's Circulation Element. An analysis of the potential impacts of removing this segment of Yorba Street from the Circulation Element was undertaken as a part of these analyses.

A Special Study Area involves those road segments that while shown on the City's Circulation Element, require further study to more accurately assess their need. Currently, this segment of Yorba Street is not shown on the Master Plan of Arterial Highways, maintained by the Orange County Transportation Authority, and thus has no regional status or significance.

To obtain 2025 traffic volumes with and without the extension of Yorba Street, 2025 volumes from the "East Orange Project Traffic Study" were obtained, and adjusted by a special run of the City's transportation model, with and without the Yorba extension between Chapman Avenue and Walnut Avenue. These transportation projections assume the presence of an expanded Grijalva Park.

The predicted daily traffic volumes for each scenario are shown on traffic flow maps attached to this report in the Appendix. Significant differences in daily traffic volumes were reflected on streets in the vicinity of the Yorba extension. Traffic volumes on selected streets in the immediate vicinity are shown in Figure 15. For a more complete comparison, refer to the model flow maps in the Appendix.



591-01



COMPARISON OF TRAFFIC MODEL
 DAILY TRAFFIC VOLUMES
 W/ AND W/O YORBA CONNECTION
 GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE
 15

In general, daily traffic volumes on Chapman east of Prospect, on Prospect north and south of Chapman, and on Tustin north of Chapman would be reduced with traffic diverted to the new Yorba Street extension. Daily traffic volumes on Chapman between Yorba and the freeway interchange will increase as freeway drivers are attracted to the interchange to access the Yorba extension as well as surface street drivers from west of the freeway. The Yorba connection as an extension of existing Yorba Street south of Chapman will also induce additional traffic on that section south of Chapman in the form of through traffic destined to and from north of Chapman.

The two major intersections along Chapman within this study area and the primary influence area of the affects of the Yorba extension, Yorba/Chapman and Prospect/Chapman, were analyzed for potential impacts during the p.m. peak hour. The projected p.m. peak hour traffic volumes for these two intersections with and without the Yorba extension are shown in Figure 16. The intersection lane configuration was also modified to reflect projected traffic movements. Dual right turn lanes were provided for the southbound Yorba approach, while the eastbound four through lanes and a separate left turn lane were converted to three through lanes and dual left turn lanes. Applying the referenced ICU intersection analysis methodology to these two study intersections for each scenario with and without project traffic generated by the proposed park development resulted in the LOS and V/C ratios presented in Table 8. The V/C analysis worksheets are contained in the Appendix to this report.

TABLE 8
LEVEL OF SERVICE-2025 WITH & WITHOUT THE YORBA CONNECTION
Grijalva Park, Orange – Traffic Impact Analysis

| Intersection | WITHOUT YORBA EXTENSION | | WITH YORBA EXTENSION | |
|---------------------|-------------------------|-------|----------------------|-------|
| | P.M. | Pk Hr | P.M. | Pk Hr |
| 1. Yorba/Chapman | B | 0.70 | F | 1.01 |
| 2. Prospect/Chapman | D | 0.82 | B | 0.69 |

Source: Greer & Co., Engineers & Planners

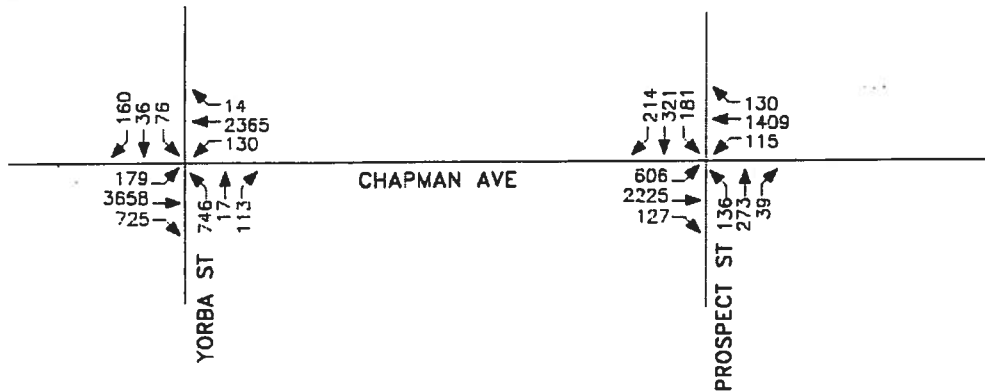
As can be seen in Table 8, the intersection of Prospect/Chapman would be positively affected by the presence of the Yorba extension with levels of service improving from LOS "D" to LOS "B". This reflects the reduction of traffic on both Chapman and Prospect resulting from the diversion of traffic to the Yorba connection north of Chapman and existing Yorba Street south of Chapman.

The intersection of Yorba/Chapman would be severely negatively impacted by the presence of the Yorba extension. Traffic volumes also increase on Chapman between the freeway interchange and Yorba from the freeway and from west of the freeway. Traffic on the intersection is also increased by adding the fourth leg to the intersection and by the induced additional through traffic on Yorba from south of Chapman. The levels of service without the Yorba extension will be LOS "B", and deteriorating to LOS "F" with the Yorba connection.¹⁰

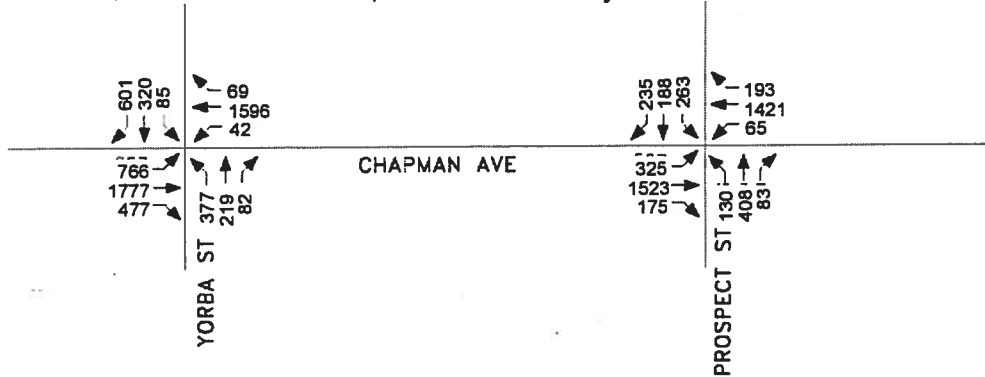
The negative impacts on the Yorba/Chapman intersection are not just the result of increased traffic volumes. The effect of changing the public street intersection from a

“tee” intersection with a private driveway as a minor fourth leg to a four-legged intersection with heavy eastbound left turn and southbound right turn movements also contributes to the deterioration of the intersection levels of service.

Without Yorba Connection, With Park Project



With Yorba Connection, Without Park Project



2025 PROJECT P.M. PEAK HOUR
TRAFFIC VOLUMES
W/ AND W/O YORBA CONNECTION
GRIJALVA PARK, PROSPECT/SPRING, ORANGE

FIGURE
16

A major difficulty with implementing the Yorba extension is the close proximity of the Yorba/ Chapman intersection to the freeway ramps of the S.R. 55/Chapman interchange. One of the major movements will be the northbound-to-eastbound freeway exit to Chapman to make an eastbound-to-northbound left turn from Chapman onto Yorba. The movement would require crossing four lanes of traffic from the end of the exit ramp into the left turn lanes on Chapman at Yorba within an extremely short distance. The present distance between the end of the exit ramp and the rear of the existing left turn lane is approximately 400 feet. If the Yorba extension is constructed, the existing eastbound-to-northbound left turn lane, presently to enter the medical center, will be converted to dual left turn lanes and the storage length increased by 200 feet or more, further reducing the already marginal merge distance to an impossible situation.

In summary, the construction of the Yorba extension would have a positive impact on the intersection of Prospect/Chapman, but it would have significant negative impacts on the level of service for the Yorba/Chapman intersection, resulting in LOS "F" during the p.m. peak hour. The Yorba extension will also have the undesirable affect of inducing additional freeway traffic to Chapman to access the Yorba extension, and of inducing additional through traffic on Yorba Street south of Chapman to connect to Yorba north of Chapman. Without regard to the projected level of service for the Yorba/Chapman intersection, it does not appear that there is sufficient distance between the freeway ramps and Yorba to provide for merging and turn lanes to accommodate the major movement from the freeway exit ramps to northbound Yorba.

This data strongly supports the removal of the Yorba extension between Chapman Avenue and Walnut Avenue from the Circulation Element of the General, which is proposed as part of the Grijalva Park Project¹⁰.

10 It should be noted that the differences in the results of the intersection analyses for these two intersections above as compared to the project traffic impact analyses is a result of two different modeling efforts. The modeling effort provided by City staff to be used for the project traffic impact analyses provided base data required for study years 2007, 2010 and 2025 without the Yorba connection, but not comparative data for with and without the Yorba connection. A separate traffic model run was performed, providing volumes without a Yorba connection, and the base model numbers adjusted accordingly.

APPENDIX

Level of Service Definitions
Traffic Count Data
Intersection Capacity Worksheets
Trip Generation Surveys
Parking Surveys
Traffic Model Flow Maps

APPENDIX

Level of Service Definitions

Traffic Count Data

Intersection Capacity Worksheets

Trip Generation Surveys

Parking Surveys

Traffic Model Flow Maps

INTERSECTION LEVEL OF SERVICE DEFINITIONS

| Level of Service | Corresponding Volume-to-Capacity Ratio | Interpretation |
|------------------|--|---|
| A | <0.60 | Uncongested operations; all queues clear in a single cycle. |
| B | 0.60 - 0.70 | Stable operation; an occasional approach phase is fully utilized. |
| C | 0.71 - 0.80 | Light congestion; occasional backups on critical approaches. |
| D | 0.81 - 0.90 | Significant congestion on critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. Not long standing queues formed. |
| E | 0.91 - 1.00 | Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). |
| F | >1.00 | Total breakdown, stop-and-go operation. |

Source: Highway Capacity Manual, Highway Research Board Special Report 87, 1965.

TRAFFIC COUNT SUMMARY

City of Orange
Count by Greer & Co.
Project No. 591-01

STREET: YORBA STREET
North/South

East/West CHAPMAN AVENUE

Day: TUESDAY Date: 08/31/04 Hours: 74:00-6:00 PM Weather: DRY, CLEAR

| | N/B | TIME | S/B | TIME | E/B | TIME | W/B | TIME | TOTAL |
|--------------|-----|---------|-----|---------|------|---------|------|---------|-------|
| AM PK 15 MIN | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | |
| PM PK 15 MIN | 140 | 5:00 pm | 64 | 5:00 pm | 738 | 4:30 pm | 436 | 4:15 pm | |
| AM PK HOUR | 0 | 6:00 am | 0 | | 0 | | 0 | | 0 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM PK HOUR | 417 | 5:00 pm | 166 | | 2773 | | 1568 | | 4924 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 355 | 8 | 54 | 48 | 17 | 101 | 113 | 2315 | 346 |
| | | | | | | | 62 | 1497 | 9 |

| NORTHBOUND Approach | | | | | SOUTHBOUND Approach | | | | | TOTAL |
|---------------------|------------|-----------|------------|------------|---------------------|-----------|-----------|------------|------------|-------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | N-S |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 285 | 14 | 68 | 367 | 4-5 | 40 | 17 | 85 | 142 | 509 |
| 5-6 | 355 | 8 | 54 | 417 | 5-6 | 48 | 17 | 101 | 166 | 583 |
| TOTAL | 640 | 22 | 122 | 784 | TOTAL | 88 | 34 | 186 | 308 | 1092 |

| EASTBOUND Approach | | | | | WESTBOUND Approach | | | | | TOTAL |
|--------------------|------------|-------------|------------|-------------|--------------------|------------|-------------|-----------|-------------|-------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | E-W |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 96 | 2001 | 273 | 2370 | 4-5 | 56 | 1473 | 18 | 1547 | 3917 |
| 5-6 | 113 | 2315 | 345 | 2773 | 5-6 | 62 | 1497 | 9 | 1568 | 4341 |
| TOTAL | 209 | 4316 | 618 | 5143 | TOTAL | 118 | 2970 | 27 | 3115 | 8258 |

RAW TRAFFIC DATA

| DIRECTION | NB | | | | SB | | | | EB | | | | WB | | | | | | |
|-----------|-----|------|----|-------|---------|------|----|-------|---------|---------|----|-------|---------|------|---------|-------|-----|---|-----|
| TIME/LAN | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | | | |
| 6:00 am | | | | 0 | 6:00 am | | | 0 | 6:00 am | | | 0 | 6:00 am | | | 0 | | | |
| 6:15 am | | | | 0 | 6:15 am | | | 0 | 6:15 am | | | 0 | 6:15 am | | | 0 | | | |
| 6:30 am | | | | 0 | 6:30 am | | | 0 | 6:30 am | | | 0 | 6:30 am | | | 0 | | | |
| 6:45 am | | | | 0 | 6:45 am | | | 0 | 6:45 am | | | 0 | 6:45 am | | | 0 | | | |
| 7:00 am | | | | 0 | 7:00 am | | | 0 | 7:00 am | | | 0 | 7:00 am | | | 0 | | | |
| 7:15 am | | | | 0 | 7:15 am | | | 0 | 7:15 am | | | 0 | 7:15 am | | | 0 | | | |
| 7:30 am | | | | 0 | 7:30 am | | | 0 | 7:30 am | | | 0 | 7:30 am | | | 0 | | | |
| 7:45 am | | | | 0 | 7:45 am | | | 0 | 7:45 am | | | 0 | 7:45 am | | | 0 | | | |
| 8:00 am | | | | 0 | 8:00 am | | | 0 | 8:00 am | | | 0 | 8:00 am | | | 0 | | | |
| 8:15 am | | | | 0 | 8:15 am | | | 0 | 8:15 am | | | 0 | 8:15 am | | | 0 | | | |
| 8:30 am | | | | 0 | 8:30 am | | | 0 | 8:30 am | | | 0 | 8:30 am | | | 0 | | | |
| 8:45 am | | | | 0 | 8:45 am | | | 0 | 8:45 am | | | 0 | 8:45 am | | | 0 | | | |
| 3:00 pm | | | | 0 | 3:00 pm | | | 0 | 3:00 pm | | | 0 | 3:00 pm | | | 0 | | | |
| 3:15 pm | | | | 0 | 3:15 pm | | | 0 | 3:15 pm | | | 0 | 3:15 pm | | | 0 | | | |
| 3:30 pm | | | | 0 | 3:30 pm | | | 0 | 3:30 pm | | | 0 | 3:30 pm | | | 0 | | | |
| 3:45 pm | | | | 0 | 3:45 pm | | | 0 | 3:45 pm | | | 0 | 3:45 pm | | | 0 | | | |
| 4:00 pm | 76 | 5 | 12 | 93 | 4:00 pm | 9 | 5 | 17 | 31 | 4:00 pm | 14 | 428 | 34 | 476 | 4:00 pm | 15 | 405 | 4 | 424 |
| 4:15 pm | 68 | 2 | 20 | 90 | 4:15 pm | 6 | 7 | 11 | 24 | 4:15 pm | 22 | 526 | 67 | 615 | 4:15 pm | 23 | 409 | 4 | 436 |
| 4:30 pm | 81 | 4 | 19 | 104 | 4:30 pm | 13 | 4 | 38 | 55 | 4:30 pm | 34 | 599 | 105 | 738 | 4:30 pm | 10 | 313 | 4 | 327 |
| 4:45 pm | 60 | 3 | 17 | 80 | 4:45 pm | 12 | 1 | 19 | 32 | 4:45 pm | 26 | 448 | 67 | 541 | 4:45 pm | 8 | 346 | 6 | 360 |
| 5:00 pm | 117 | 5 | 18 | 140 | 5:00 pm | 15 | 9 | 40 | 64 | 5:00 pm | 23 | 587 | 89 | 699 | 5:00 pm | 30 | 402 | 1 | 433 |
| 5:15 pm | 69 | 1 | 13 | 83 | 5:15 pm | 14 | 4 | 22 | 40 | 5:15 pm | 27 | 548 | 96 | 671 | 5:15 pm | 7 | 339 | 3 | 349 |
| 5:30 pm | 87 | 1 | 14 | 102 | 5:30 pm | 8 | 1 | 21 | 30 | 5:30 pm | 29 | 593 | 74 | 696 | 5:30 pm | 18 | 376 | 2 | 395 |
| 5:45 pm | 82 | 1 | 9 | 92 | 5:45 pm | 11 | 3 | 18 | 32 | 5:45 pm | 34 | 587 | 86 | 707 | 5:45 pm | 7 | 381 | 3 | 391 |

TRAFFIC COUNT SUMMARY

City of Orange
Count by Greer & Co.
Project No. 591-01

STREET:
North/South **PROSPECT STREET**

East/West **CHAPMAN AVENUE**

Day: **TUESDAY** Date: **08/31/04** Hours: **7:40-6:00 PM** Weather: **DRY, CLEAR**

| | N/B | TIME | S/B | TIME | E/B | TIME | W/B | TIME | TOTAL |
|--------------|-----|---------|-----|---------|------|---------|------|---------|-------|
| AM PK 15 MIN | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | |
| PM PK 15 MIN | 136 | 5:15 pm | 148 | 5:45 pm | 651 | 5:45 pm | 365 | 5:15 pm | |
| AM PK HOUR | 0 | 6:00 am | 0 | | 0 | | 0 | | 0 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM PK HOUR | 469 | 5:00 pm | 638 | | 2425 | | 1293 | | 4725 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 115 | 310 | 44 | 136 | 241 | 161 | 497 | 1824 | 104 |
| | | | | | | | 80 | 1101 | 102 |

| NORTHBOUND Approach | | | | | SOUTHBOUND Approach | | | | | TOTAL |
|---------------------|------------|------------|-----------|------------|---------------------|------------|------------|------------|-------------|-------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | N-S |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 97 | 281 | 47 | 425 | 4-5 | 126 | 174 | 169 | 469 | 894 |
| 5-6 | 115 | 310 | 44 | 469 | 5-6 | 136 | 241 | 161 | 538 | 1007 |
| TOTAL | 212 | 591 | 91 | 894 | TOTAL | 262 | 415 | 330 | 1007 | 1901 |

| EASTBOUND Approach | | | | | WESTBOUND Approach | | | | | TOTAL |
|--------------------|------------|-------------|------------|-------------|--------------------|------------|-------------|------------|-------------|-------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | E-W |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 489 | 1657 | 109 | 2255 | 4-5 | 76 | 1135 | 84 | 1294 | 3549 |
| 5-6 | 497 | 1824 | 104 | 2425 | 5-6 | 90 | 1101 | 102 | 1293 | 3718 |
| TOTAL | 986 | 3481 | 213 | 4680 | TOTAL | 166 | 2236 | 186 | 2587 | 7267 |

RAW TRAFFIC DATA

| DIRECTION | NB | | | | SB | | | | EB | | | | WB | | | | | | |
|-----------|----|------|----|-------|---------|------|----|-------|-----|---------|-----|-------|----|------|---------|-------|-----|----|-----|
| TIME/LAN | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | | | |
| 6:00 am | | | | 0 | 6:00 am | | | | 0 | 6:00 am | | | | 0 | 6:00 am | | | | 0 |
| 6:15 am | | | | 0 | 6:15 am | | | | 0 | 6:15 am | | | | 0 | 6:15 am | | | | 0 |
| 6:30 am | | | | 0 | 6:30 am | | | | 0 | 6:30 am | | | | 0 | 6:30 am | | | | 0 |
| 6:45 am | | | | 0 | 6:45 am | | | | 0 | 6:45 am | | | | 0 | 6:45 am | | | | 0 |
| 7:00 am | | | | 0 | 7:00 am | | | | 0 | 7:00 am | | | | 0 | 7:00 am | | | | 0 |
| 7:15 am | | | | 0 | 7:15 am | | | | 0 | 7:15 am | | | | 0 | 7:15 am | | | | 0 |
| 7:30 am | | | | 0 | 7:30 am | | | | 0 | 7:30 am | | | | 0 | 7:30 am | | | | 0 |
| 7:45 am | | | | 0 | 7:45 am | | | | 0 | 7:45 am | | | | 0 | 7:45 am | | | | 0 |
| 8:00 am | | | | 0 | 8:00 am | | | | 0 | 8:00 am | | | | 0 | 8:00 am | | | | 0 |
| 8:15 am | | | | 0 | 8:15 am | | | | 0 | 8:15 am | | | | 0 | 8:15 am | | | | 0 |
| 8:30 am | | | | 0 | 8:30 am | | | | 0 | 8:30 am | | | | 0 | 8:30 am | | | | 0 |
| 8:45 am | | | | 0 | 8:45 am | | | | 0 | 8:45 am | | | | 0 | 8:45 am | | | | 0 |
| 3:00 pm | | | | 0 | 3:00 pm | | | | 0 | 3:00 pm | | | | 0 | 3:00 pm | | | | 0 |
| 3:15 pm | | | | 0 | 3:15 pm | | | | 0 | 3:15 pm | | | | 0 | 3:15 pm | | | | 0 |
| 3:30 pm | | | | 0 | 3:30 pm | | | | 0 | 3:30 pm | | | | 0 | 3:30 pm | | | | 0 |
| 3:45 pm | | | | 0 | 3:45 pm | | | | 0 | 3:45 pm | | | | 0 | 3:45 pm | | | | 0 |
| 4:00 pm | 18 | 51 | 8 | 77 | 4:00 pm | 34 | 42 | 44 | 120 | 4:00 pm | 131 | 408 | 35 | 574 | 4:00 pm | 19 | 244 | 21 | 284 |
| 4:15 pm | 23 | 70 | 9 | 102 | 4:15 pm | 36 | 48 | 45 | 129 | 4:15 pm | 120 | 411 | 34 | 665 | 4:15 pm | 15 | 288 | 17 | 320 |
| 4:30 pm | 28 | 71 | 15 | 114 | 4:30 pm | 27 | 38 | 42 | 107 | 4:30 pm | 122 | 418 | 20 | 660 | 4:30 pm | 17 | 322 | 18 | 357 |
| 4:45 pm | 28 | 89 | 15 | 132 | 4:45 pm | 29 | 46 | 38 | 113 | 4:45 pm | 116 | 420 | 20 | 656 | 4:45 pm | 24 | 281 | 28 | 333 |
| 5:00 pm | 25 | 69 | 9 | 103 | 5:00 pm | 34 | 55 | 39 | 128 | 5:00 pm | 107 | 425 | 22 | 654 | 5:00 pm | 20 | 266 | 19 | 305 |
| 5:15 pm | 29 | 92 | 16 | 136 | 5:15 pm | 34 | 56 | 38 | 128 | 5:15 pm | 124 | 451 | 24 | 699 | 5:15 pm | 23 | 310 | 32 | 365 |
| 5:30 pm | 30 | 77 | 9 | 116 | 5:30 pm | 35 | 58 | 41 | 134 | 5:30 pm | 129 | 466 | 26 | 621 | 5:30 pm | 23 | 249 | 20 | 292 |
| 5:45 pm | 31 | 72 | 11 | 114 | 5:45 pm | 33 | 72 | 43 | 148 | 5:45 pm | 137 | 482 | 32 | 651 | 5:45 pm | 24 | 276 | 31 | 331 |

TRAFFIC COUNT SUMMARY

City of Orange
 Count by Greer & Co.
 Project No. 591-01

STREET:
 North/South **PROSPECT AVENUE**

East/West **SPRING STREET**

Day: THURSDAY **Date:** 08/19/04 **Hours:** 7:40-6:00 PM **Weather:** DRY, CLEAR

| | N/B | TIME | S/B | TIME | E/B | TIME | W/B | TIME | TOTAL |
|--------------|-----|---------|-----|---------|------|---------|-----|---------|-------|
| AM PK 15 MIN | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | |
| PM PK 15 MIN | 265 | 5:30 pm | 189 | 5:30 pm | 39 | 5:30 pm | 81 | 5:30 pm | |
| AM PK HOUR | 0 | 6:00 am | 0 | | 0 | | 0 | | 0 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM PK HOUR | 905 | 4:45 pm | 678 | | 130 | | 267 | | 1980 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 17 | 623 | 265 | 76 | 527 | 75 | 61 | 49 | 20 |
| | | | | | | | 160 | 35 | 82 |

| NORTHBOUND Approach | | | | | SOUTHBOUND Approach | | | | | TOTAL |
|---------------------|-----------|-------------|------------|-------------|---------------------|------------|------------|------------|-------------|-------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | N-S |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 19 | 532 | 198 | 749 | 4-5 | 59 | 432 | 50 | 541 | 1290 |
| 5-6 | 16 | 608 | 214 | 838 | 5-6 | 72 | 503 | 74 | 649 | 1487 |
| TOTAL | 35 | 1140 | 412 | 1587 | TOTAL | 131 | 935 | 124 | 1190 | 2777 |

| EASTBOUND Approach | | | | | WESTBOUND Approach | | | | | TOTAL |
|--------------------|------------|-----------|-----------|------------|--------------------|------------|-----------|------------|------------|------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | E-W |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 58 | 37 | 16 | 111 | 4-5 | 122 | 24 | 69 | 215 | 326 |
| 5-6 | 56 | 50 | 22 | 128 | 5-6 | 146 | 34 | 82 | 262 | 390 |
| TOTAL | 114 | 87 | 38 | 239 | TOTAL | 268 | 58 | 151 | 477 | 716 |

RAW TRAFFIC DATA

| DIRECTION | NB | | | | SB | | | | EB | | | | WB | | | |
|-----------|----|------|----|-------|----|------|----|-------|----|------|----|-------|----|------|----|-------|
| TIME/LAP | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL |
| 6:00 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 6:15 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 6:30 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 6:45 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 7:00 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 7:15 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 7:30 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 7:45 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 8:00 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 8:15 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 8:30 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 8:45 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 3:00 pm | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 3:15 pm | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 3:30 pm | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 3:45 pm | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 4:00 pm | 2 | 118 | 29 | 149 | 13 | 96 | 7 | 116 | 11 | 9 | 3 | 23 | 30 | 5 | 16 | 51 |
| 4:15 pm | 6 | 106 | 43 | 155 | 9 | 92 | 8 | 109 | 13 | 7 | 5 | 25 | 26 | 3 | 17 | 46 |
| 4:30 pm | 5 | 131 | 60 | 196 | 17 | 112 | 17 | 146 | 16 | 9 | 6 | 31 | 33 | 9 | 17 | 59 |
| 4:45 pm | 6 | 177 | 66 | 249 | 20 | 132 | 18 | 170 | 18 | 12 | 2 | 32 | 33 | 7 | 19 | 69 |
| 5:00 pm | 5 | 119 | 44 | 168 | 19 | 112 | 13 | 144 | 20 | 11 | 5 | 36 | 30 | 14 | 11 | 55 |
| 5:15 pm | 3 | 158 | 62 | 223 | 18 | 136 | 21 | 175 | 8 | 10 | 5 | 23 | 46 | 8 | 18 | 72 |
| 5:30 pm | 3 | 169 | 93 | 265 | 19 | 147 | 23 | 189 | 15 | 16 | 8 | 39 | 41 | 6 | 34 | 81 |
| 5:45 pm | 5 | 162 | 15 | 182 | 16 | 108 | 17 | 141 | 13 | 13 | 4 | 30 | 29 | 6 | 19 | 54 |

TRAFFIC COUNT SUMMARY

City of Orange
Count by Greer & Co.
Project No. 591-01

STREET: North/South **MCPHERSON AVENUE**

East/West **CHAPMAN AVENUE**

Day: **WEDNESDAY** Date: **08/25/04** Hours: **74:00-6:00 PM** Weather: **DRY, CLEAR**

| | N/B | TIME | S/B | TIME | E/B | TIME | W/B | TIME | TOTAL |
|--------------|-----|---------|-----|---------|------|---------|------|---------|-------|
| AM PK 15 MIN | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | |
| PM PK 15 MIN | 0 | 3:00 pm | 33 | 5:00 pm | 655 | 5:00 pm | 424 | 5:15 pm | |
| AM PK HOUR | 0 | 6:00 am | 0 | | 0 | | 0 | | 0 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM PK HOUR | 0 | 5:00 pm | 118 | | 2479 | | 1680 | | 4277 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 0 | 0 | 0 | 10 | 0 | 108 | 121 | 2358 | 0 |
| | | | | | | | 0 | 1642 | 38 |

| NORTHBOUND Approach | | | | | SOUTHBOUND Approach | | | | | TOTAL |
|---------------------|----------|----------|----------|----------|---------------------|-----------|----------|------------|------------|------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | N-S |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 0 | 0 | 0 | 0 | 4-5 | 12 | 0 | 83 | 95 | 95 |
| 5-6 | 0 | 0 | 0 | 0 | 5-6 | 10 | 0 | 108 | 118 | 118 |
| TOTAL | 0 | 0 | 0 | 0 | TOTAL | 22 | 0 | 191 | 213 | 213 |

| EASTBOUND Approach | | | | | WESTBOUND Approach | | | | | TOTAL |
|--------------------|------------|-------------|----------|-------------|--------------------|----------|-------------|-----------|-------------|-------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | E-W |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 106 | 1947 | 0 | 2053 | 4-5 | 0 | 1637 | 32 | 1669 | 3622 |
| 5-6 | 121 | 2358 | 0 | 2479 | 5-6 | 0 | 1642 | 38 | 1680 | 4169 |
| TOTAL | 227 | 4305 | 0 | 4532 | TOTAL | 0 | 3179 | 70 | 3249 | 7781 |

RAW TRAFFIC DATA

| DIRECTION | NB | | | | SB | | | | EB | | | | WB | | | | | |
|-----------|----|------|----|-------|---------|------|----|-------|----|---------|----|-------|----|------|---------|-------|----|-----|
| TIME/LAP | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | | |
| 6:00 am | | | | 0 | 6:00 am | | | | 0 | 6:00 am | | | | 0 | 6:00 am | | | 0 |
| 6:15 am | | | | 0 | 6:15 am | | | | 0 | 6:15 am | | | | 0 | 6:15 am | | | 0 |
| 6:30 am | | | | 0 | 6:30 am | | | | 0 | 6:30 am | | | | 0 | 6:30 am | | | 0 |
| 6:45 am | | | | 0 | 6:45 am | | | | 0 | 6:45 am | | | | 0 | 6:45 am | | | 0 |
| 7:00 am | | | | 0 | 7:00 am | | | | 0 | 7:00 am | | | | 0 | 7:00 am | | | 0 |
| 7:15 am | | | | 0 | 7:15 am | | | | 0 | 7:15 am | | | | 0 | 7:15 am | | | 0 |
| 7:30 am | | | | 0 | 7:30 am | | | | 0 | 7:30 am | | | | 0 | 7:30 am | | | 0 |
| 7:45 am | | | | 0 | 7:45 am | | | | 0 | 7:45 am | | | | 0 | 7:45 am | | | 0 |
| 8:00 am | | | | 0 | 8:00 am | | | | 0 | 8:00 am | | | | 0 | 8:00 am | | | 0 |
| 8:15 am | | | | 0 | 8:15 am | | | | 0 | 8:15 am | | | | 0 | 8:15 am | | | 0 |
| 8:30 am | | | | 0 | 8:30 am | | | | 0 | 8:30 am | | | | 0 | 8:30 am | | | 0 |
| 8:45 am | | | | 0 | 8:45 am | | | | 0 | 8:45 am | | | | 0 | 8:45 am | | | 0 |
| 3:00 pm | | | | 0 | 3:00 pm | | | | 0 | 3:00 pm | | | | 0 | 3:00 pm | | | 0 |
| 3:15 pm | | | | 0 | 3:15 pm | | | | 0 | 3:15 pm | | | | 0 | 3:15 pm | | | 0 |
| 3:30 pm | | | | 0 | 3:30 pm | | | | 0 | 3:30 pm | | | | 0 | 3:30 pm | | | 0 |
| 3:45 pm | | | | 0 | 3:45 pm | | | | 0 | 3:45 pm | | | | 0 | 3:45 pm | | | 0 |
| 4:00 pm | | | | 0 | 4:00 pm | 1 | | 29 | 30 | 4:00 pm | 18 | 459 | | 477 | 4:00 pm | 387 | 10 | 397 |
| 4:15 pm | | | | 0 | 4:15 pm | 6 | | 17 | 23 | 4:15 pm | 33 | 491 | | 524 | 4:15 pm | 405 | 7 | 412 |
| 4:30 pm | | | | 0 | 4:30 pm | 3 | | 20 | 23 | 4:30 pm | 23 | 474 | | 497 | 4:30 pm | 366 | 8 | 374 |
| 4:45 pm | | | | 0 | 4:45 pm | 2 | | 17 | 19 | 4:45 pm | 32 | 523 | | 555 | 4:45 pm | 379 | 7 | 386 |
| 5:00 pm | | | | 0 | 5:00 pm | 5 | | 28 | 33 | 5:00 pm | 43 | 612 | | 655 | 5:00 pm | 414 | 9 | 423 |
| 5:15 pm | | | | 0 | 5:15 pm | 2 | | 29 | 31 | 5:15 pm | 32 | 602 | | 634 | 5:15 pm | 412 | 12 | 424 |
| 5:30 pm | | | | 0 | 5:30 pm | 2 | | 28 | 30 | 5:30 pm | 14 | 581 | | 595 | 5:30 pm | 407 | 8 | 415 |
| 5:45 pm | | | | 0 | 5:45 pm | 1 | | 23 | 24 | 5:45 pm | 32 | 583 | | 595 | 5:45 pm | 409 | 9 | 418 |

TRAFFIC COUNT SUMMARY

City of Orange
Count by Greer & Co.
Project No 591-01

STREET:
North/South **PROSPECT AVENUE**

East/West **WALNUT STREET**

Day: WEDNESDAY **Date:** 08/18/04 **Hours:** 7:4:00-8:00 PM **Weather:** DRY, CLEAR

| | N/B | TIME | S/B | TIME | E/B | TIME | W/B | TIME | TOTAL |
|--------------|-----|---------|-----|---------|------|---------|-----|---------|-------|
| AM PK 15 MIN | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | 0 | 6:00 am | |
| PM PK 15 MIN | 211 | 5:00 pm | 177 | 5:00 pm | 8 | 4:15 pm | 32 | 5:15 pm | |
| AM PK HOUR | 0 | 6:00 am | 0 | | 0 | | 0 | | 0 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM PK HOUR | 828 | 5:00 pm | 573 | | 31 | | 109 | | 1541 |
| | LT | THRU | RT | LT | THRU | RT | LT | THRU | RT |
| | 57 | 695 | 76 | 40 | 528 | 5 | 0 | 1 | 30 |
| | | | | | | | 57 | 2 | 50 |

| NORTHBOUND Approach | | | | | SOUTHBOUND Approach | | | | | TOTAL |
|---------------------|-----------|-------------|------------|-------------|---------------------|-----------|------------|----------|------------|-------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | N-S |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 27 | 419 | 55 | 501 | 4-5 | 31 | 354 | 4 | 389 | 590 |
| 5-6 | 57 | 695 | 76 | 828 | 5-6 | 40 | 528 | 5 | 573 | 1401 |
| TOTAL | 84 | 1114 | 131 | 1329 | TOTAL | 71 | 882 | 9 | 962 | 2291 |

| EASTBOUND Approach | | | | | WESTBOUND Approach | | | | | TOTAL |
|--------------------|----------|----------|-----------|-----------|--------------------|-----------|----------|-----------|------------|------------|
| Hours | Lt | Th | Rt | Total | Hours | Lt | Th | Rt | Total | E-W |
| 6-7 am | 0 | 0 | 0 | 0 | 6-7 am | 0 | 0 | 0 | 0 | 0 |
| 7-8 | 0 | 0 | 0 | 0 | 7-8 | 0 | 0 | 0 | 0 | 0 |
| 8-9 | 0 | 0 | 0 | 0 | 8-9 | 0 | 0 | 0 | 0 | 0 |
| 3-4 pm | 0 | 0 | 0 | 0 | 3-4 pm | 0 | 0 | 0 | 0 | 0 |
| 4-5 | 1 | 0 | 13 | 14 | 4-5 | 33 | 1 | 27 | 61 | 76 |
| 5-6 | 0 | 1 | 30 | 31 | 5-6 | 57 | 2 | 50 | 109 | 140 |
| TOTAL | 1 | 1 | 43 | 45 | TOTAL | 90 | 3 | 77 | 170 | 215 |

| RAW TRAFFIC DATA | | | | | | | | | | | | | | | | |
|------------------|----|------|----|-------|----|------|----|-------|----|------|----|-------|----|------|----|-------|
| DIRECTION | NB | | | | SB | | | | EB | | | | WB | | | |
| TIME/LAN | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL | LT | THRU | RT | TOTAL |
| 6:00 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 6:15 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 6:30 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 6:45 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 7:00 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 7:15 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 7:30 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 7:45 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 8:00 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 8:15 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 8:30 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 8:45 am | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 3:00 pm | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 3:15 pm | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 3:30 pm | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 3:45 pm | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 4:00 pm | | | | 0 | | | | 0 | | | | 0 | | | | 0 |
| 4:15 pm | 6 | 123 | 12 | 141 | 10 | 91 | 1 | 102 | 1 | 0 | 7 | 8 | 16 | 1 | 9 | 26 |
| 4:30 pm | 11 | 151 | 22 | 184 | 12 | 124 | 0 | 136 | 0 | 0 | 3 | 3 | 9 | 0 | 9 | 18 |
| 4:45 pm | 10 | 145 | 21 | 176 | 9 | 139 | 3 | 151 | 0 | 0 | 3 | 3 | 8 | 0 | 9 | 17 |
| 5:00 pm | 9 | 181 | 21 | 211 | 7 | 170 | 0 | 177 | 0 | 0 | 7 | 7 | 14 | 0 | 9 | 23 |
| 5:15 pm | 18 | 178 | 15 | 211 | 8 | 120 | 2 | 130 | 0 | 0 | 8 | 8 | 11 | 0 | 21 | 32 |
| 5:30 pm | 17 | 175 | 19 | 211 | 10 | 116 | 1 | 127 | 0 | 1 | 7 | 8 | 17 | 1 | 14 | 32 |
| 5:45 pm | 13 | 161 | 21 | 195 | 15 | 122 | 2 | 139 | 0 | 0 | 8 | 8 | 15 | 1 | 6 | 22 |

LOCATION - CHAPMAN-W/O MCPHERSON

VOLUMES FOR - TUESDAY 08/31/04

| AM | | | | | PM | | | | | | | | |
|---------------|-----|-------|--------|---------------|-----|--------|---------------|--------|------|-----|------|-----|------|
| TIME | EB | WB | TOTAL | TIME | EB | WB | TOTAL | | | | | | |
| 12:00 - 12:15 | 82 | 49 | 131 | 12:00 - 12:15 | 383 | 367 | 750 | | | | | | |
| 12:15 - 12:30 | 77 | 54 | 131 | 12:15 - 12:30 | 428 | 352 | 780 | | | | | | |
| 12:30 - 12:45 | 64 | 50 | 114 | 12:30 - 12:45 | 389 | 478 | 867 | | | | | | |
| 12:45 - 1:00 | 53 | 276 | 33 | 186 | 86 | 462 | 12:45 - 1:00 | 394 | 1594 | 382 | 1579 | 776 | 3173 |
| 1:00 - 1:15 | 56 | 38 | 94 | 1:00 - 1:15 | 341 | 384 | 725 | | | | | | |
| 1:15 - 1:30 | 33 | 36 | 69 | 1:15 - 1:30 | 360 | 328 | 688 | | | | | | |
| 1:30 - 1:45 | 40 | 27 | 67 | 1:30 - 1:45 | 382 | 364 | 746 | | | | | | |
| 1:45 - 2:00 | 26 | 155 | 20 | 121 | 46 | 276 | 1:45 - 2:00 | 382 | 1465 | 352 | 1428 | 734 | 2893 |
| 2:00 - 2:15 | 24 | 24 | 48 | 2:00 - 2:15 | 353 | 391 | 744 | | | | | | |
| 2:15 - 2:30 | 36 | 12 | 48 | 2:15 - 2:30 | 366 | 355 | 721 | | | | | | |
| 2:30 - 2:45 | 13 | 16 | 29 | 2:30 - 2:45 | 387 | 386 | 773 | | | | | | |
| 2:45 - 3:00 | 15 | 88 | 20 | 72 | 35 | 160 | 2:45 - 3:00 | 432 | 1538 | 332 | 1464 | 764 | 3002 |
| 3:00 - 3:15 | 19 | 17 | 36 | 3:00 - 3:15 | 402 | 394 | 796 | | | | | | |
| 3:15 - 3:30 | 16 | 30 | 46 | 3:15 - 3:30 | 448 | 375 | 823 | | | | | | |
| 3:30 - 3:45 | 19 | 27 | 46 | 3:30 - 3:45 | 386 | 372 | 758 | | | | | | |
| 3:45 - 4:00 | 18 | 72 | 30 | 104 | 48 | 176 | 3:45 - 4:00 | 452 | 1688 | 397 | 1538 | 849 | 3226 |
| 4:00 - 4:15 | 18 | 34 | 52 | 4:00 - 4:15 | 507 | 394 | 901 | | | | | | |
| 4:15 - 4:30 | 33 | 56 | 89 | 4:15 - 4:30 | 516 | 409 | 925 | | | | | | |
| 4:30 - 4:45 | 28 | 85 | 113 | 4:30 - 4:45 | 526 | 376 | 902 | | | | | | |
| 4:45 - 5:00 | 38 | 117 | 90 | 265 | 128 | 382 | 4:45 - 5:00 | 542 | 2091 | 346 | 1525 | 888 | 3616 |
| 5:00 - 5:15 | 43 | 134 | 177 | 5:00 - 5:15 | 594 | 386 | 980 | | | | | | |
| 5:15 - 5:30 | 62 | 173 | 235 | 5:15 - 5:30 | 562 | 362 | 924 | | | | | | |
| 5:30 - 5:45 | 70 | 221 | 291 | 5:30 - 5:45 | 610 | 376 | 986 | | | | | | |
| 5:45 - 6:00 | 100 | 275 | 230 | 758 | 330 | 1033 | 5:45 - 6:00 | 593 | 2359 | 388 | 1512 | 981 | 3871 |
| 6:00 - 6:15 | 152 | 294 | 446 | 6:00 - 6:15 | 584 | 363 | 947 | | | | | | |
| 6:15 - 6:30 | 212 | 366 | 578 | 6:15 - 6:30 | 608 | 404 | 1012 | | | | | | |
| 6:30 - 6:45 | 242 | 418 | 660 | 6:30 - 6:45 | 639 | 436 | 1075 | | | | | | |
| 6:45 - 7:00 | 262 | 868 | 412 | 1490 | 674 | 2358 | 6:45 - 7:00 | 517 | 2348 | 429 | 1632 | 946 | 3980 |
| 7:00 - 7:15 | 277 | 389 | 666 | 7:00 - 7:15 | 464 | 406 | 870 | | | | | | |
| 7:15 - 7:30 | 310 | 516 | 826 | 7:15 - 7:30 | 450 | 369 | 819 | | | | | | |
| 7:30 - 7:45 | 325 | 534 | 859 | 7:30 - 7:45 | 434 | 342 | 776 | | | | | | |
| 7:45 - 8:00 | 346 | 1258 | 540 | 1979 | 886 | 3237 | 7:45 - 8:00 | 420 | 1768 | 368 | 1485 | 788 | 3253 |
| 8:00 - 8:15 | 310 | 514 | 824 | 8:00 - 8:15 | 390 | 316 | 706 | | | | | | |
| 8:15 - 8:30 | 314 | 420 | 734 | 8:15 - 8:30 | 421 | 314 | 735 | | | | | | |
| 8:30 - 8:45 | 294 | 441 | 735 | 8:30 - 8:45 | 368 | 290 | 658 | | | | | | |
| 8:45 - 9:00 | 363 | 1281 | 443 | 1818 | 806 | 3099 | 8:45 - 9:00 | 357 | 1536 | 246 | 1166 | 603 | 2702 |
| 9:00 - 9:15 | 330 | 380 | 710 | 9:00 - 9:15 | 309 | 266 | 575 | | | | | | |
| 9:15 - 9:30 | 266 | 394 | 660 | 9:15 - 9:30 | 340 | 284 | 624 | | | | | | |
| 9:30 - 9:45 | 298 | 406 | 704 | 9:30 - 9:45 | 298 | 362 | 660 | | | | | | |
| 9:45 - 10:00 | 274 | 1168 | 386 | 1566 | 660 | 2734 | 9:45 - 10:00 | 284 | 1231 | 265 | 1177 | 549 | 2408 |
| 10:00 - 10:15 | 286 | 360 | 646 | 10:00 - 10:15 | 255 | 278 | 533 | | | | | | |
| 10:15 - 10:30 | 313 | 342 | 655 | 10:15 - 10:30 | 226 | 184 | 410 | | | | | | |
| 10:30 - 10:45 | 378 | 372 | 750 | 10:30 - 10:45 | 198 | 150 | 348 | | | | | | |
| 10:45 - 11:00 | 310 | 1287 | 408 | 1482 | 718 | 2769 | 10:45 - 11:00 | 173 | 852 | 142 | 754 | 315 | 1606 |
| 11:00 - 11:15 | 322 | 418 | 740 | 11:00 - 11:15 | 132 | 122 | 254 | | | | | | |
| 11:15 - 11:30 | 330 | 378 | 708 | 11:15 - 11:30 | 160 | 103 | 263 | | | | | | |
| 11:30 - 11:45 | 344 | 402 | 746 | 11:30 - 11:45 | 105 | 86 | 191 | | | | | | |
| 11:45 - 12:00 | 395 | 1391 | 418 | 1616 | 813 | 3007 | 11:45 - 12:00 | 80 | 477 | 63 | 374 | 143 | 851 |
| TOTALS | | 8,236 | 11,457 | 19,693 | | 18,947 | 15,634 | 34,581 | | | | | |
| ADT'S | | | | | | 27,183 | 27,091 | 54,274 | | | | | |

LOCATION - PROSPECT-N/O SPRING

VOLUMES FOR - TUESDAY 08/31/04

| TIME | AM | | | | PM | | | | | | | | |
|---------------|-----|-------|-------|---------------|-----|------|---------------|-------|-----|-------|-----|--------|------|
| | NB | SB | TOTAL | TIME | NB | SB | TOTAL | | | | | | |
| 12:00 - 12:15 | 16 | 12 | 28 | 12:00 - 12:15 | 122 | 129 | 251 | | | | | | |
| 12:15 - 12:30 | 10 | 16 | 26 | 12:15 - 12:30 | 133 | 128 | 261 | | | | | | |
| 12:30 - 12:45 | 16 | 7 | 23 | 12:30 - 12:45 | 123 | 120 | 243 | | | | | | |
| 12:45 - 1:00 | 10 | 52 | 7 | 42 | 17 | 94 | 12:45 - 1:00 | 112 | 490 | 107 | 484 | 219 | 974 |
| 1:00 - 1:15 | 10 | 8 | 18 | 1:00 - 1:15 | 118 | 100 | 218 | | | | | | |
| 1:15 - 1:30 | 10 | 10 | 20 | 1:15 - 1:30 | 118 | 122 | 240 | | | | | | |
| 1:30 - 1:45 | 12 | 3 | 15 | 1:30 - 1:45 | 114 | 127 | 241 | | | | | | |
| 1:45 - 2:00 | 7 | 39 | 5 | 26 | 12 | 65 | 1:45 - 2:00 | 125 | 475 | 122 | 471 | 247 | 946 |
| 2:00 - 2:15 | 9 | 4 | 13 | 2:00 - 2:15 | 108 | 106 | 214 | | | | | | |
| 2:15 - 2:30 | 3 | 3 | 6 | 2:15 - 2:30 | 128 | 137 | 265 | | | | | | |
| 2:30 - 2:45 | 4 | 2 | 6 | 2:30 - 2:45 | 123 | 118 | 241 | | | | | | |
| 2:45 - 3:00 | 3 | 19 | 5 | 14 | 8 | 33 | 2:45 - 3:00 | 140 | 499 | 139 | 500 | 279 | 999 |
| 3:00 - 3:15 | 0 | 2 | 2 | 3:00 - 3:15 | 133 | 136 | 269 | | | | | | |
| 3:15 - 3:30 | 5 | 4 | 9 | 3:15 - 3:30 | 146 | 123 | 269 | | | | | | |
| 3:30 - 3:45 | 4 | 7 | 11 | 3:30 - 3:45 | 156 | 136 | 292 | | | | | | |
| 3:45 - 4:00 | 2 | 11 | 11 | 24 | 13 | 35 | 3:45 - 4:00 | 156 | 591 | 152 | 547 | 308 | 1138 |
| 4:00 - 4:15 | 1 | 7 | 8 | 4:00 - 4:15 | 161 | 144 | 305 | | | | | | |
| 4:15 - 4:30 | 4 | 11 | 15 | 4:15 - 4:30 | 174 | 136 | 310 | | | | | | |
| 4:30 - 4:45 | 2 | 19 | 21 | 4:30 - 4:45 | 204 | 162 | 366 | | | | | | |
| 4:45 - 5:00 | 2 | 9 | 20 | 57 | 22 | 66 | 4:45 - 5:00 | 226 | 765 | 184 | 626 | 410 | 1391 |
| 5:00 - 5:15 | 12 | 18 | 30 | 5:00 - 5:15 | 264 | 231 | 495 | | | | | | |
| 5:15 - 5:30 | 9 | 32 | 41 | 5:15 - 5:30 | 235 | 192 | 427 | | | | | | |
| 5:30 - 5:45 | 21 | 47 | 68 | 5:30 - 5:45 | 250 | 194 | 444 | | | | | | |
| 5:45 - 6:00 | 24 | 66 | 54 | 151 | 78 | 217 | 5:45 - 6:00 | 218 | 967 | 184 | 801 | 402 | 1768 |
| 6:00 - 6:15 | 21 | 66 | 87 | 6:00 - 6:15 | 254 | 206 | 460 | | | | | | |
| 6:15 - 6:30 | 35 | 86 | 121 | 6:15 - 6:30 | 201 | 171 | 372 | | | | | | |
| 6:30 - 6:45 | 34 | 138 | 172 | 6:30 - 6:45 | 214 | 193 | 407 | | | | | | |
| 6:45 - 7:00 | 57 | 147 | 114 | 404 | 171 | 551 | 6:45 - 7:00 | 192 | 861 | 174 | 744 | 366 | 1605 |
| 7:00 - 7:15 | 52 | 174 | 226 | 7:00 - 7:15 | 188 | 169 | 357 | | | | | | |
| 7:15 - 7:30 | 60 | 225 | 285 | 7:15 - 7:30 | 194 | 155 | 349 | | | | | | |
| 7:30 - 7:45 | 72 | 262 | 334 | 7:30 - 7:45 | 202 | 150 | 352 | | | | | | |
| 7:45 - 8:00 | 102 | 286 | 194 | 855 | 296 | 1141 | 7:45 - 8:00 | 204 | 788 | 152 | 626 | 356 | 1414 |
| 8:00 - 8:15 | 68 | 159 | 227 | 8:00 - 8:15 | 142 | 122 | 264 | | | | | | |
| 8:15 - 8:30 | 89 | 152 | 241 | 8:15 - 8:30 | 154 | 107 | 261 | | | | | | |
| 8:30 - 8:45 | 118 | 174 | 292 | 8:30 - 8:45 | 113 | 112 | 225 | | | | | | |
| 8:45 - 9:00 | 116 | 391 | 164 | 649 | 280 | 1040 | 8:45 - 9:00 | 126 | 535 | 91 | 432 | 217 | 967 |
| 9:00 - 9:15 | 118 | 161 | 279 | 9:00 - 9:15 | 104 | 84 | 188 | | | | | | |
| 9:15 - 9:30 | 104 | 142 | 246 | 9:15 - 9:30 | 92 | 60 | 152 | | | | | | |
| 9:30 - 9:45 | 110 | 138 | 248 | 9:30 - 9:45 | 94 | 56 | 150 | | | | | | |
| 9:45 - 10:00 | 98 | 430 | 127 | 568 | 225 | 998 | 9:45 - 10:00 | 76 | 366 | 54 | 254 | 130 | 620 |
| 10:00 - 10:15 | 97 | 124 | 221 | 10:00 - 10:15 | 90 | 47 | 137 | | | | | | |
| 10:15 - 10:30 | 99 | 125 | 224 | 10:15 - 10:30 | 64 | 33 | 97 | | | | | | |
| 10:30 - 10:45 | 93 | 109 | 202 | 10:30 - 10:45 | 42 | 34 | 76 | | | | | | |
| 10:45 - 11:00 | 111 | 400 | 142 | 500 | 253 | 900 | 10:45 - 11:00 | 40 | 236 | 27 | 141 | 67 | 377 |
| 11:00 - 11:15 | 112 | 114 | 226 | 11:00 - 11:15 | 38 | 21 | 59 | | | | | | |
| 11:15 - 11:30 | 120 | 118 | 238 | 11:15 - 11:30 | 22 | 16 | 38 | | | | | | |
| 11:30 - 11:45 | 116 | 164 | 280 | 11:30 - 11:45 | 26 | 26 | 52 | | | | | | |
| 11:45 - 12:00 | 116 | 464 | 120 | 516 | 236 | 980 | 11:45 - 12:00 | 14 | 100 | 17 | 80 | 31 | 180 |
| TOTALS | | 2,314 | 3,806 | 6,120 | | | | 6,673 | | 5,706 | | 12,379 | |
| ADT'S | | | | | | | | 8,987 | | 9,512 | | 18,499 | |

LOCATION - SPRING-E/O PROSPECT

VOLUMES FOR - TUESDAY 08/31/04

| AM | | | | | PM | | | | | | | | |
|---------------|----|-----|-------|---------------|-----|-------|---------------|-------|-----|----|-----|-----|-----|
| TIME | EB | WB | TOTAL | TIME | EB | WB | TOTAL | | | | | | |
| 12:00 - 12:15 | 5 | 2 | 7 | 12:00 - 12:15 | 46 | 52 | 98 | | | | | | |
| 12:15 - 12:30 | 5 | 2 | 7 | 12:15 - 12:30 | 35 | 43 | 78 | | | | | | |
| 12:30 - 12:45 | 9 | 10 | 19 | 12:30 - 12:45 | 52 | 38 | 90 | | | | | | |
| 12:45 - 1:00 | 4 | 23 | 3 | 17 | 7 | 40 | 12:45 - 1:00 | 39 | 172 | 32 | 165 | 71 | 337 |
| 1:00 - 1:15 | 9 | 3 | 12 | 1:00 - 1:15 | 43 | 39 | 82 | | | | | | |
| 1:15 - 1:30 | 5 | 2 | 7 | 1:15 - 1:30 | 33 | 36 | 69 | | | | | | |
| 1:30 - 1:45 | 2 | 5 | 7 | 1:30 - 1:45 | 46 | 38 | 84 | | | | | | |
| 1:45 - 2:00 | 4 | 20 | 3 | 13 | 7 | 33 | 1:45 - 2:00 | 68 | 190 | 45 | 158 | 113 | 348 |
| 2:00 - 2:15 | 2 | 4 | 6 | 2:00 - 2:15 | 46 | 48 | 94 | | | | | | |
| 2:15 - 2:30 | 2 | 1 | 3 | 2:15 - 2:30 | 35 | 43 | 78 | | | | | | |
| 2:30 - 2:45 | 0 | 2 | 2 | 2:30 - 2:45 | 34 | 42 | 76 | | | | | | |
| 2:45 - 3:00 | 2 | 6 | 2 | 9 | 4 | 15 | 2:45 - 3:00 | 55 | 170 | 39 | 172 | 94 | 342 |
| 3:00 - 3:15 | 1 | 2 | 3 | 3:00 - 3:15 | 52 | 41 | 93 | | | | | | |
| 3:15 - 3:30 | 4 | 2 | 6 | 3:15 - 3:30 | 66 | 48 | 114 | | | | | | |
| 3:30 - 3:45 | 2 | 3 | 5 | 3:30 - 3:45 | 48 | 50 | 98 | | | | | | |
| 3:45 - 4:00 | 2 | 9 | 3 | 10 | 5 | 19 | 3:45 - 4:00 | 49 | 215 | 39 | 178 | 88 | 393 |
| 4:00 - 4:15 | 1 | 3 | 4 | 4:00 - 4:15 | 56 | 38 | 94 | | | | | | |
| 4:15 - 4:30 | 1 | 4 | 5 | 4:15 - 4:30 | 67 | 41 | 108 | | | | | | |
| 4:30 - 4:45 | 0 | 14 | 14 | 4:30 - 4:45 | 80 | 46 | 126 | | | | | | |
| 4:45 - 5:00 | 2 | 4 | 13 | 34 | 15 | 38 | 4:45 - 5:00 | 76 | 279 | 58 | 183 | 134 | 462 |
| 5:00 - 5:15 | 2 | 14 | 16 | 5:00 - 5:15 | 104 | 58 | 162 | | | | | | |
| 5:15 - 5:30 | 4 | 17 | 21 | 5:15 - 5:30 | 123 | 63 | 186 | | | | | | |
| 5:30 - 5:45 | 7 | 27 | 34 | 5:30 - 5:45 | 84 | 82 | 166 | | | | | | |
| 5:45 - 6:00 | 6 | 19 | 34 | 92 | 40 | 111 | 5:45 - 6:00 | 84 | 395 | 89 | 292 | 173 | 687 |
| 6:00 - 6:15 | 15 | 50 | 65 | 6:00 - 6:15 | 85 | 74 | 159 | | | | | | |
| 6:15 - 6:30 | 26 | 37 | 63 | 6:15 - 6:30 | 88 | 54 | 142 | | | | | | |
| 6:30 - 6:45 | 38 | 54 | 92 | 6:30 - 6:45 | 86 | 68 | 154 | | | | | | |
| 6:45 - 7:00 | 30 | 109 | 67 | 208 | 97 | 317 | 6:45 - 7:00 | 99 | 358 | 59 | 255 | 158 | 613 |
| 7:00 - 7:15 | 36 | 56 | 92 | 7:00 - 7:15 | 70 | 70 | 140 | | | | | | |
| 7:15 - 7:30 | 52 | 77 | 129 | 7:15 - 7:30 | 71 | 65 | 136 | | | | | | |
| 7:30 - 7:45 | 59 | 77 | 136 | 7:30 - 7:45 | 65 | 83 | 148 | | | | | | |
| 7:45 - 8:00 | 78 | 225 | 76 | 286 | 154 | 511 | 7:45 - 8:00 | 81 | 287 | 80 | 298 | 161 | 585 |
| 8:00 - 8:15 | 46 | 70 | 116 | 8:00 - 8:15 | 68 | 55 | 123 | | | | | | |
| 8:15 - 8:30 | 35 | 49 | 84 | 8:15 - 8:30 | 64 | 40 | 104 | | | | | | |
| 8:30 - 8:45 | 44 | 62 | 106 | 8:30 - 8:45 | 61 | 27 | 88 | | | | | | |
| 8:45 - 9:00 | 30 | 155 | 65 | 246 | 95 | 401 | 8:45 - 9:00 | 44 | 237 | 40 | 162 | 84 | 399 |
| 9:00 - 9:15 | 36 | 52 | 88 | 9:00 - 9:15 | 45 | 45 | 90 | | | | | | |
| 9:15 - 9:30 | 31 | 49 | 80 | 9:15 - 9:30 | 42 | 28 | 70 | | | | | | |
| 9:30 - 9:45 | 30 | 52 | 82 | 9:30 - 9:45 | 45 | 21 | 66 | | | | | | |
| 9:45 - 10:00 | 30 | 127 | 48 | 201 | 78 | 328 | 9:45 - 10:00 | 35 | 167 | 24 | 118 | 59 | 285 |
| 10:00 - 10:15 | 44 | 33 | 77 | 10:00 - 10:15 | 32 | 22 | 54 | | | | | | |
| 10:15 - 10:30 | 27 | 49 | 76 | 10:15 - 10:30 | 30 | 14 | 44 | | | | | | |
| 10:30 - 10:45 | 38 | 36 | 74 | 10:30 - 10:45 | 21 | 16 | 37 | | | | | | |
| 10:45 - 11:00 | 28 | 137 | 34 | 152 | 62 | 289 | 10:45 - 11:00 | 15 | 98 | 12 | 64 | 27 | 162 |
| 11:00 - 11:15 | 31 | 39 | 70 | 11:00 - 11:15 | 10 | 11 | 21 | | | | | | |
| 11:15 - 11:30 | 33 | 37 | 70 | 11:15 - 11:30 | 12 | 6 | 18 | | | | | | |
| 11:30 - 11:45 | 35 | 60 | 95 | 11:30 - 11:45 | 10 | 2 | 12 | | | | | | |
| 11:45 - 12:00 | 38 | 137 | 40 | 176 | 78 | 313 | 11:45 - 12:00 | 7 | 39 | 3 | 22 | 10 | 61 |
| TOTALS | | 971 | 1,444 | 2,415 | | 2,607 | 2,067 | 4,674 | | | | | |
| ADT'S | | | | | | 3,578 | 3,511 | 7,089 | | | | | |

LOCATION - PROSPECT-BTN CHAPMAN/SPRING

VOLUMES FOR - TUESDAY 08/31/04

| | | | | | PM | | | | | | | | |
|---------------|-----|-------|-------|-------|---------------|------|---------------|-------|--------|-----|-----|-----|------|
| TIME | NB | AM | SB | TOTAL | TIME | NB | SB | TOTAL | | | | | |
| 12:00 - 12:15 | 21 | | 18 | 39 | 12:00 - 12:15 | 116 | 140 | 256 | | | | | |
| 12:15 - 12:30 | 21 | | 19 | 40 | 12:15 - 12:30 | 140 | 102 | 242 | | | | | |
| 12:30 - 12:45 | 24 | | 8 | 32 | 12:30 - 12:45 | 123 | 121 | 244 | | | | | |
| 12:45 - 1:00 | 12 | 78 | 8 | 53 | 20 | 131 | 12:45 - 1:00 | 119 | 498 | 99 | 462 | 218 | 960 |
| 1:00 - 1:15 | 17 | | 7 | 24 | 1:00 - 1:15 | 114 | 98 | 212 | | | | | |
| 1:15 - 1:30 | 11 | | 21 | 32 | 1:15 - 1:30 | 96 | 136 | 232 | | | | | |
| 1:30 - 1:45 | 11 | | 5 | 16 | 1:30 - 1:45 | 124 | 115 | 239 | | | | | |
| 1:45 - 2:00 | 10 | 49 | 6 | 39 | 16 | 88 | 1:45 - 2:00 | 153 | 487 | 127 | 476 | 280 | 963 |
| 2:00 - 2:15 | 12 | | 7 | 19 | 2:00 - 2:15 | 100 | 132 | 232 | | | | | |
| 2:15 - 2:30 | 7 | | 4 | 11 | 2:15 - 2:30 | 122 | 128 | 250 | | | | | |
| 2:30 - 2:45 | 2 | | 4 | 6 | 2:30 - 2:45 | 134 | 104 | 238 | | | | | |
| 2:45 - 3:00 | 2 | 23 | 9 | 24 | 11 | 47 | 2:45 - 3:00 | 130 | 486 | 129 | 493 | 259 | 979 |
| 3:00 - 3:15 | 4 | | 6 | 10 | 3:00 - 3:15 | 140 | 137 | 277 | | | | | |
| 3:15 - 3:30 | 4 | | 5 | 9 | 3:15 - 3:30 | 154 | 98 | 252 | | | | | |
| 3:30 - 3:45 | 7 | | 7 | 14 | 3:30 - 3:45 | 150 | 130 | 280 | | | | | |
| 3:45 - 4:00 | 4 | 19 | 14 | 32 | 18 | 51 | 3:45 - 4:00 | 146 | 590 | 136 | 501 | 282 | 1091 |
| 4:00 - 4:15 | 2 | | 14 | 16 | 4:00 - 4:15 | 172 | 136 | 308 | | | | | |
| 4:15 - 4:30 | 4 | | 15 | 19 | 4:15 - 4:30 | 188 | 116 | 304 | | | | | |
| 4:30 - 4:45 | 1 | | 32 | 33 | 4:30 - 4:45 | 200 | 134 | 334 | | | | | |
| 4:45 - 5:00 | 4 | 11 | 28 | 89 | 32 | 100 | 4:45 - 5:00 | 218 | 778 | 138 | 524 | 356 | 1302 |
| 5:00 - 5:15 | 15 | | 37 | 52 | 5:00 - 5:15 | 238 | 176 | 414 | | | | | |
| 5:15 - 5:30 | 9 | | 49 | 58 | 5:15 - 5:30 | 244 | 154 | 398 | | | | | |
| 5:30 - 5:45 | 20 | | 62 | 82 | 5:30 - 5:45 | 238 | 172 | 410 | | | | | |
| 5:45 - 6:00 | 18 | 62 | 84 | 232 | 102 | 294 | 5:45 - 6:00 | 214 | 934 | 148 | 650 | 362 | 1584 |
| 6:00 - 6:15 | 22 | | 116 | 138 | 6:00 - 6:15 | 239 | 184 | 423 | | | | | |
| 6:15 - 6:30 | 38 | | 104 | 142 | 6:15 - 6:30 | 210 | 154 | 364 | | | | | |
| 6:30 - 6:45 | 43 | | 168 | 211 | 6:30 - 6:45 | 205 | 169 | 374 | | | | | |
| 6:45 - 7:00 | 54 | 157 | 161 | 549 | 215 | 706 | 6:45 - 7:00 | 196 | 850 | 152 | 659 | 348 | 1509 |
| 7:00 - 7:15 | 53 | | 199 | 252 | 7:00 - 7:15 | 193 | 154 | 347 | | | | | |
| 7:15 - 7:30 | 77 | | 261 | 338 | 7:15 - 7:30 | 182 | 156 | 338 | | | | | |
| 7:30 - 7:45 | 93 | | 271 | 364 | 7:30 - 7:45 | 185 | 139 | 324 | | | | | |
| 7:45 - 8:00 | 128 | 351 | 226 | 957 | 354 | 1308 | 7:45 - 8:00 | 194 | 754 | 148 | 597 | 342 | 1351 |
| 8:00 - 8:15 | 74 | | 208 | 282 | 8:00 - 8:15 | 144 | 122 | 266 | | | | | |
| 8:15 - 8:30 | 76 | | 186 | 262 | 8:15 - 8:30 | 152 | 118 | 270 | | | | | |
| 8:30 - 8:45 | 78 | | 206 | 284 | 8:30 - 8:45 | 148 | 112 | 260 | | | | | |
| 8:45 - 9:00 | 68 | 296 | 188 | 788 | 256 | 1084 | 8:45 - 9:00 | 134 | 578 | 92 | 444 | 226 | 1022 |
| 9:00 - 9:15 | 97 | | 169 | 266 | 9:00 - 9:15 | 106 | 89 | 195 | | | | | |
| 9:15 - 9:30 | 82 | | 138 | 220 | 9:15 - 9:30 | 120 | 82 | 202 | | | | | |
| 9:30 - 9:45 | 96 | | 142 | 238 | 9:30 - 9:45 | 112 | 76 | 188 | | | | | |
| 9:45 - 10:00 | 80 | 355 | 148 | 597 | 228 | 952 | 9:45 - 10:00 | 114 | 452 | 66 | 313 | 180 | 765 |
| 10:00 - 10:15 | 104 | | 128 | 232 | 10:00 - 10:15 | 94 | 51 | 145 | | | | | |
| 10:15 - 10:30 | 83 | | 137 | 220 | 10:15 - 10:30 | 78 | 48 | 126 | | | | | |
| 10:30 - 10:45 | 98 | | 108 | 206 | 10:30 - 10:45 | 66 | 50 | 116 | | | | | |
| 10:45 - 11:00 | 79 | 364 | 131 | 504 | 210 | 868 | 10:45 - 11:00 | 50 | 288 | 42 | 191 | 92 | 479 |
| 11:00 - 11:15 | 98 | | 138 | 236 | 11:00 - 11:15 | 49 | 32 | 81 | | | | | |
| 11:15 - 11:30 | 100 | | 112 | 212 | 11:15 - 11:30 | 34 | 32 | 66 | | | | | |
| 11:30 - 11:45 | 100 | | 134 | 234 | 11:30 - 11:45 | 30 | 26 | 56 | | | | | |
| 11:45 - 12:00 | 113 | 411 | 133 | 517 | 246 | 928 | 11:45 - 12:00 | 26 | 139 | 24 | 114 | 50 | 253 |
| TOTALS | | 2,176 | 4,381 | 6,557 | | | 6,834 | 5,424 | 12,258 | | | | |
| ADT'S | | | | | | | 9,010 | 9,805 | 18,815 | | | | |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: YORBA STREET/CHAPMAN AVENUE

GREER & CO., Engineers and Planners

10/1/2004

Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES 2004 | V/C RATIO | PRE-PROJECT VOLUMES | V/C RATIO | POST-PROJECT VOLUMES | V/C RATIO | |
|----------------------------|-------|----------|-----------------------------|--------------|------------------------|--------------|-------------------------|--------------|-------|
| Northbound YORBA | Thru | 2 | 3400 | Thru | 8 | 0.018 | Thru | 0 | 0.000 |
| | Right | 0 | 0 | Right | 54 | 0.000 | Right | 0 | 0.000 |
| | Left | 2 | 3400 | Left | 355 | 0.104 | Left | 0 | 0.000 |
| Southbound HOSPITAL DWY | Thru | 2 | 3400 | Thru | 17 | 0.035 | Thru | 0 | 0.000 |
| | Right | 0 | 0 | Right | 101 | 0.000 | Right | 0 | 0.000 |
| | Left | 1 | 1700 | Left | 48 | 0.028 | Left | 0 | 0.000 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | Thru | 2315 | 0.454 | Thru | 0 | 0.000 |
| | Right | 1 | 1700 | Right | 345 | 0.203 | Right | 0 | 0.000 |
| | Left | 1 | 1700 | Left | 113 | 0.066 | Left | 0 | 0.000 |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru | 1497 | 0.294 | Thru | 0 | 0.000 |
| | Right | 1 | 1700 | Right | 9 | 0.005 | Right | 0 | 0.000 |
| | Left | 1 | 1700 | Left | 62 | 0.036 | Left | 0 | 0.000 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = LOS B | 0.680 | V/C = LOS A | 0.050 | V/C = LOS A | 0.050 | |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: YORBA STREET/CHAPMAN AVENUE
 PHASE 1

GREER & CO., Engineers and Planners
 Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES 2004 | V/C RATIO | PRE-PROJECT VOLUMES 2007 | V/C RATIO | POST-PROJECT VOLUMES 2007 | V/C RATIO |
|----------------------------|-------|----------|-----------------------|----------------|--------------------------|----------------|---------------------------|-----------|
| Northbound YORBA | Thru | 2 | 3400 | 0 | 0.000 | Thru | 10 | 0.022 |
| | Right | 0 | 0 | 0 | 0.000 | Right | 65 | 0.000 |
| | Left | 2 | 3400 | 0 | 0.000 | Left | 426 | 0.125 |
| Southbound HOSPITAL DWY | Thru | 2 | 3400 | 0 | 0.000 | Thru | 20 | 0.041 |
| | Right | 0 | 0 | 0 | 0.000 | Right | 121 | 0.000 |
| | Left | 1 | 1700 | 0 | 0.000 | Left | 58 | 0.034 |
| Eastbound CHAPMAN | Thru* | 4 | 6800 | 0 | 0.000 | Thru | 2452 | 0.361 |
| | Right | 1 | 1700 | 0 | 0.000 | Right | 365 | 0.215 |
| | Left | 1 | 1700 | 0 | 0.000 | Left | 120 | 0.071 |
| Westbound CHAPMAN | Thru | 3 | 5100 | 0 | 0.000 | Thru | 2004 | 0.393 |
| | Right | 1 | 1700 | 0 | 0.000 | Right | 12 | 0.007 |
| | Left | 1 | 1700 | 0 | 0.000 | Left | 83 | 0.049 |
| | | | | Yellow | 0.050 | Yellow | | 0.050 |
| * w/4th EB thru lane added | | | | V/C = LOS A | 0.050 | V/C = LOS B | | 0.680 |
| | | | | | | Yellow | | 0.050 |
| | | | | V/C = LOS A | 0.050 | V/C = LOS B | | 0.688 |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: YORBA STREET/CHAPMAN AVENUE
 PHASES 1 & 2

GREER & CO., Engineers and Planners

10/1/2004

Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2010 | V/C RATIO | POST-PROJECT VOLUMES 2010 | V/C RATIO | | | | |
|----------------------------|-------|----------|------------------|-----------|--------------------------|-----------|---------------------------|-----------|--------|-------|-------|-------|
| Northbound YORBA | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 10 | 0.023 | Thru | 10 | 0.024 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 68 | 0.000 | Right | 73 | 0.000 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 435 | 0.128 | Left | 435 | 0.128 |
| Southbound HOSPITAL DWY | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 21 | 0.044 | Thru | 21 | 0.044 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 127 | 0.000 | Right | 127 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 61 | 0.036 | Left | 61 | 0.036 |
| Eastbound CHAPMAN | Thru* | 4 | 6800 | Thru | 0 | 0.000 | Thru | 2514 | 0.370 | Thru | 2545 | 0.374 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 375 | 0.221 | Right | 375 | 0.221 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 123 | 0.072 | Left | 123 | 0.072 |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 2130 | 0.418 | Thru | 2161 | 0.424 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 13 | 0.008 | Right | 13 | 0.008 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 88 | 0.052 | Left | 94 | 0.055 |
| | | | | Yellow | 0.050 | Yellow | | 0.050 | Yellow | | 0.050 | |
| * w/4th EB thru lane added | | | | V/C = | 0.050 | V/C = | | 0.711 | V/C = | | 0.718 | |
| | | | | LOS | A | LOS | | C | LOS | | C | |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: YORBA STREET/CHAPMAN AVENUE
 PHASES 1 & 2

GREER & CO., Engineers and Planners
 Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2025 | V/C RATIO | POST-PROJECT VOLUMES 2025 | V/C RATIO | |
|----------------------------|-------|----------|------------------|----------------|--------------------------|----------------|---------------------------|----------------|-------|
| Northbound YORBA | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 9 | 0.021 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 64 | 0.000 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 419 | 0.123 |
| Southbound HOSPITAL DWY | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 20 | 0.040 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 116 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 55 | 0.032 |
| Eastbound CHAPMAN | Thru* | 4 | 6800 | Thru | 0 | 0.000 | Thru | 2600 | 0.382 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 387 | 0.228 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 127 | 0.075 |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 2060 | 0.404 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 12 | 0.007 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 85 | 0.050 |
| | | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 |
| * w/4th EB thru lane added | | | | V/C = LOS A | 0.050 | V/C = LOS B | 0.692 | V/C = LOS B | 0.698 |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: McPHERSON ROAD/CHAPMAN AVENUE

Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES 2004 | V/C RATIO | PRE-PROJECT VOLUMES | V/C RATIO | POST-PROJECT VOLUMES | V/C RATIO |
|-------------------------|-------|----------|-----------------------------|--------------|------------------------|--------------|-------------------------|--------------|
| Northbound | Thru | 0 | 0 | 0 | 0.000 | 0 | 0.000 | 0 |
| | Right | 0 | 0 | 0 | 0.000 | 0 | 0.000 | 0 |
| | Left | 0 | 0 | 0 | 0.000 | 0 | 0.000 | 0 |
| Southbound McPHERSON | Thru | 1 | 1700 | 0 | 0.069 | 0 | 0.000 | 0 |
| | Right | 0 | 0 | 108 | 0.000 | 0 | 0.000 | 0 |
| | Left | 0 | 0 | 10 | 0.000 | 0 | 0.000 | 0 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | 2358 | 0.462 | 0 | 0.000 | 0 |
| | Right | 1 | 1700 | 0 | 0.000 | 0 | 0.000 | 0 |
| | Left | 1 | 1700 | 121 | 0.071 | 0 | 0.000 | 0 |
| Westbound CHAPMAN | Thru | 3 | 5100 | 1642 | 0.322 | 0 | 0.000 | 0 |
| | Right | 1 | 1700 | 38 | 0.022 | 0 | 0.000 | 0 |
| | Left | 0 | 0 | 0 | 0.000 | 0 | 0.000 | 0 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 |
| | | | V/C = LOS A | 0.582 | V/C = LOS A | 0.050 | V/C = LOS A | 0.050 |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: McPHERSON ROAD/CHAPMAN AVENUE
 PHASE 1

Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | PRE-PROJECT VOLUMES 2007 | V/C RATIO | w/DIVERTED VOLUMES 2007 | V/C RATIO | POST-PROJECT VOLUMES 2007 | V/C RATIO |
|-------------------------|-------|----------|--------------------------------|--------------|-------------------------------|--------------|---------------------------------|--------------|
| Northbound | Thru | 0 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| | Right | 0 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| | Left | 0 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| Southbound McPHERSON | Thru | 1 | 1700 | 0 | 0.084 | 0 | 0 | 0.052 |
| | Right | 0 | 0 | 130 | 0.000 | 78 | 78 | 0.000 |
| | Left | 0 | 0 | 12 | 0.000 | 10 | 10 | 0.000 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | 2497 | 0.490 | 2581 | 2587 | 0.507 |
| | Right | 1 | 1700 | 0 | 0.000 | 0 | 0 | 0.000 |
| | Left | 1 | 1700 | 128 | 0.075 | 44 | 44 | 0.026 |
| Westbound CHAPMAN | Thru | 3 | 5100 | 2199 | 0.431 | 2259 | 2274 | 0.446 |
| | Right | 1 | 1700 | 51 | 0.030 | 48 | 48 | 0.028 |
| | Left | 0 | 0 | 0 | 0.000 | 0 | 0 | 0.000 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 |
| | | | V/C = LOS | B 0.640 | V/C = LOS | B 0.608 | V/C = LOS | B 0.609 |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: McPHERSON ROAD/CHAPMAN AVENUE
 PHASES 1 & 2

GREER & CO., Engineers and Planners
 Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | | EXISTING VOLUMES | | V/C RATIO | PRE-PROJECT VOLUMES 2010 | | V/C RATIO | POST-PROJECT VOLUMES 2010 | | V/C RATIO |
|-------------------------|-------|----------|------|------------------|---|-----------|--------------------------|------|-----------|---------------------------|------|-----------|
| Northbound | Thru | 0 | 0 | Thru | 0 | 0.000 | Thru | 0 | 0.000 | Thru | 0 | 0.000 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 0 | 0.000 | Right | 0 | 0.000 |
| | Left | 0 | 0 | Left | 0 | 0.000 | Left | 0 | 0.000 | Left | 0 | 0.000 |
| Southbound McPHERSON | Thru | 1 | 1700 | Thru | 0 | 0.000 | Thru | 0 | 0.088 | Thru | 0 | 0.051 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 136 | 0.000 | Right | 76 | 0.000 |
| | Left | 0 | 0 | Left | 0 | 0.000 | Left | 13 | 0.000 | Left | 10 | 0.000 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 2561 | 0.502 | Thru | 2681 | 0.526 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 0 | 0.000 | Right | 0 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 131 | 0.077 | Left | 47 | 0.028 |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 2337 | 0.458 | Thru | 2434 | 0.477 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 54 | 0.032 | Right | 51 | 0.030 |
| | Left | 0 | 0 | Left | 0 | 0.000 | Left | 0 | 0.000 | Left | 0 | 0.000 |
| | | | | Yellow | | 0.050 | Yellow | | 0.050 | Yellow | | 0.050 |
| | | | | V/C = | | 0.050 | V/C = | | 0.673 | V/C = | | 0.626 |
| | | | | LOS | A | | LOS | B | | LOS | B | |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE

Improvements: EXISTING

Intersection: McPHERSON ROAD/CHAPMAN AVENUE
PHASES 1 & 2

P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2025 | V/C RATIO | POST-PROJECT VOLUMES 2025 | V/C RATIO | |
|-------------------------|-------|----------|------------------|-----------|--------------------------|-----------|---------------------------|-----------|-------|
| Northbound | Thru | 0 | 0 | 0 | 0.000 | Thru 0 | 0.000 | Thru 0 | 0.000 |
| | Right | 0 | 0 | 0 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 0 | 0 | 0 | 0.000 | Left 0 | 0.000 | Left 0 | 0.000 |
| Southbound McPHERSON | Thru | 1 | 1700 | 0 | 0.000 | Thru 0 | 0.079 | Thru 0 | 0.042 |
| | Right | 0 | 0 | 0 | 0.000 | Right 124 | 0.000 | Right 64 | 0.000 |
| | Left | 0 | 0 | 0 | 0.000 | Left 11 | 0.000 | Left 8 | 0.000 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | 0 | 0.000 | Thru 2648 | 0.519 | Thru 2768 | 0.543 |
| | Right | 1 | 1700 | 0 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 1 | 1700 | 0 | 0.000 | Left 136 | 0.080 | Left 52 | 0.031 |
| Westbound CHAPMAN | Thru | 3 | 5100 | 0 | 0.000 | Thru 2259 | 0.443 | Thru 2356 | 0.462 |
| | Right | 1 | 1700 | 0 | 0.000 | Right 52 | 0.031 | Right 49 | 0.029 |
| | Left | 0 | 0 | 0 | 0.000 | Left 0 | 0.000 | Left 0 | 0.000 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = LOS A | 0.050 | V/C = LOS B | 0.652 | V/C = LOS B | 0.635 | |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/CHAPMAN AVENUE

GREER & CO., Engineers and Planners
 Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES 2004 | V/C RATIO | PRE-PROJECT VOLUMES | V/C RATIO | POST-PROJECT VOLUMES | V/C RATIO | |
|------------------------|-------|----------|--------------------------|-----------|---------------------|-----------|----------------------|-----------|-------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru 310 | 0.104 | Thru 0 | 0.000 | Thru 0 | 0.000 |
| | Right | 0 | 0 | Right 44 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 1 | 1700 | Left 115 | 0.068 | Left 0 | 0.000 | Left 0 | 0.000 |
| Southbound PROSPECT | Thru | 2 | 3400 | Thru 241 | 0.118 | Thru 0 | 0.000 | Thru 0 | 0.000 |
| | Right | 0 | 0 | Right 161 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 1 | 1700 | Left 136 | 0.080 | Left 0 | 0.000 | Left 0 | 0.000 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | Thru 1824 | 0.378 | Thru 0 | 0.000 | Thru 0 | 0.000 |
| | Right | 0 | 0 | Right 104 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 2 | 3400 | Left 497 | 0.146 | Left 0 | 0.000 | Left 0 | 0.000 |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru 1101 | 0.236 | Thru 0 | 0.000 | Thru 0 | 0.000 |
| | Right | 0 | 0 | Right 102 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 1 | 1700 | Left 90 | 0.053 | Left 0 | 0.000 | Left 0 | 0.000 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = | 0.667 | V/C = | 0.050 | V/C = | 0.050 | |
| | | | LOS B | | LOS A | | LOS A | | |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/CHAPMAN AVENUE
 PHASE 1

Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | PRE-PROJECT VOLUMES 2007 | V/C RATIO | w/DIVERTED VOLUMES 2007 | V/C RATIO | POST-PROJECT VOLUMES 2007 | V/C RATIO | |
|--|--------|----------|--------------------------------|--------------|-------------------------------|--------------|---------------------------------|--------------|---------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru 379 | 0.127 * | Thru 379 | 0.127 * | Thru 483 | 0.158 * |
| | Right | 0 | 0 | Right 54 | 0.000 | Right 54 | 0.000 | Right 54 | 0.000 |
| | Left | 1 | 1700 | Left 141 | 0.083 | Left 141 | 0.083 | Left 141 | 0.083 |
| Southbound PROSPECT | Thru | 1.5 | 2550 | Thru 308 | 0.121 * | Thru 308 | 0.121 * | Thru 318 | 0.125 * |
| | Right* | 1.5 | 2550 | Right 206 | 0.081 | Right 266 | 0.104 | Right 281 | 0.110 |
| | Left | 1 | 1700 | Left 174 | 0.102 | Left 177 | 0.104 | Left 180 | 0.106 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | Thru 1932 | 0.400 | Thru 1939 | 0.402 | Thru 1939 | 0.402 |
| | Right | 0 | 0 | Right 110 | 0.000 | Right 110 | 0.000 | Right 110 | 0.000 |
| | Left | 2 | 3400 | Left 526 | 0.155 * | Left 603 | 0.177 * | Left 609 | 0.179 * |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru 1474 | 0.316 * | Thru 1471 | 0.315 * | Thru 1471 | 0.316 * |
| | Right | 0 | 0 | Right 136 | 0.000 | Right 137 | 0.000 | Right 139 | 0.000 |
| | Left | 1 | 1700 | Left 121 | 0.071 | Left 124 | 0.073 | Left 124 | 0.073 |
| * w/ADDED SB RIGHT TURN LANE AND N/S SPLIT PHASE FOR SIGNAL | | | Yellow | 0.050 * | Yellow | 0.050 * | Yellow | 0.050 * | |
| | | | V/C = | 0.769 * | V/C = | 0.790 * | V/C = | 0.828 * | |
| | | | LOS C | | LOS C | | LOS D | | |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/CHAPMAN AVENUE
 PHASES 1 & 2

Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2010 | V/C RATIO | POST-PROJECT VOLUMES 2010 | V/C RATIO | |
|---|--------|----------|------------------|-------------|--------------------------|-------------|---------------------------|-------------|---------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 390 | 0.131 * |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 55 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 145 | 0.085 |
| Southbound PROSPECT | Thru | 1.5 | 2550 | Thru | 0 | 0.000 | Thru | 304 | 0.119 * |
| | Right* | 1.5 | 2550 | Right | 0 | 0.000 | Right | 172 | 0.067 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 203 | 0.119 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 1981 | 0.411 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 113 | 0.000 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 540 | 0.159 * |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 1567 | 0.336 * |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 145 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 128 | 0.075 |
| | | | | Yellow | 0.050 | Yellow | 0.050 * | Yellow | 0.050 * |
| * w/ADDED SB RIGHT TURN LANE AND N/S SPLIT PHASE FOR SIGNAL | | | | V/C = LOS A | 0.050 | V/C = LOS C | 0.795 * | V/C = LOS D | 0.847 * |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/CHAPMAN AVENUE
 PHASES 1 & 2

GREER & CO., Engineers and Planners
 Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2025 | V/C RATIO | POST-PROJECT VOLUMES 2025 | V/C RATIO | |
|---|--------|----------|------------------|-----------|--------------------------|-----------|---------------------------|-----------|---------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 390 | 0.130 * |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 52 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 136 | 0.080 |
| Southbound PROSPECT | Thru | 1.5 | 2550 | Thru | 0 | 0.000 | Thru | 302 | 0.118 * |
| | Right* | 1.5 | 2550 | Right | 0 | 0.000 | Right | 282 | 0.111 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 165 | 0.097 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 2055 | 0.426 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 117 | 0.000 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 671 | 0.197 * |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 1512 | 0.327 * |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 157 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 124 | 0.073 |
| | | | Yellow | 0.050 | Yellow | 0.050 * | Yellow | 0.050 * | |
| * w/ADDED SB RIGHT TURN LANE AND N/S SPLIT PHASE FOR SIGNAL | | | V/C = LOS A | 0.050 | V/C = LOS C | 0.780 * | V/C = LOS D | 0.822 * | |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/SPRING STREET

GREER & CO., Engineers and Planners

10/1/2004

Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES 2004 | V/C RATIO | PRE-PROJECT VOLUMES | V/C RATIO | POST-PROJECT VOLUMES | V/C RATIO | |
|------------------------|-------|----------|--------------------------|-----------|---------------------|-----------|----------------------|-----------|-------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru 623 | 0.261 | Thru 0 | 0.000 | Thru 0 | 0.000 |
| | Right | 0 | 0 | Right 265 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 1 | 1700 | Left 17 | 0.010 | Left 0 | 0.000 | Left 0 | 0.000 |
| Southbound PROSPECT | Thru | 2 | 3400 | Thru 527 | 0.177 | Thru 0 | 0.000 | Thru 0 | 0.000 |
| | Right | 0 | 0 | Right 75 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 1 | 1700 | Left 76 | 0.045 | Left 0 | 0.000 | Left 0 | 0.000 |
| Eastbound PARK DWY | Thru | 1 | 1700 | Thru 49 | 0.076 | Thru 0 | 0.000 | Thru 0 | 0.000 |
| | Right | 0 | 0 | Right 20 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 0 | 0 | Left 61 | 0.000 | Left 0 | 0.000 | Left 0 | 0.000 |
| Westbound SPRING | Thru | 1 | 1700 | Thru 35 | 0.069 | Thru 0 | 0.000 | Thru 0 | 0.000 |
| | Right | 0 | 0 | Right 82 | 0.000 | Right 0 | 0.000 | Right 0 | 0.000 |
| | Left | 2 | 3400 | Left 150 | 0.044 | Left 0 | 0.000 | Left 0 | 0.000 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = LOS A | 0.476 | V/C = LOS A | 0.050 | V/C = LOS A | 0.050 | |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/SPRING STREET
 PHASE 1

Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | PRE-PROJECT VOLUMES 2007 | V/C RATIO | w/DIVERTED VOLUMES 2007 | V/C RATIO | POST-PROJECT VOLUMES 2007 | V/C RATIO | |
|------------------------|-------|----------|--------------------------------|--------------|-------------------------------|--------------|---------------------------------|--------------|-------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru 763 | 0.320 | Thru 803 | 0.339 | Thru 803 | 0.339 |
| | Right | 0 | 0 | Right 324 | 0.000 | Right 351 | 0.000 | Right 351 | 0.000 |
| | Left | 1 | 1700 | Left 21 | 0.012 | Left 34 | 0.020 | Left 46 | 0.027 |
| Southbound PROSPECT | Thru | 2 | 3400 | Thru 674 | 0.226 | Thru 713 | 0.226 | Thru 713 | 0.227 |
| | Right | 0 | 0 | Right 96 | 0.000 | Right 57 | 0.000 | Right 59 | 0.000 |
| | Left | 1 | 1700 | Left 97 | 0.057 | Left 97 | 0.057 | Left 97 | 0.057 |
| Eastbound PARK DWY | Thru | 1 | 1700 | Thru 52 | 0.081 | Thru 18 | 0.044 | Thru 23 | 0.065 |
| | Right | 0 | 0 | Right 21 | 0.000 | Right 25 | 0.000 | Right 53 | 0.000 |
| | Left | 0 | 0 | Left 65 | 0.000 | Left 31 | 0.000 | Left 35 | 0.000 |
| Westbound SPRING | Thru | 1 | 1700 | Thru 47 | 0.092 | Thru 27 | 0.081 | Thru 29 | 0.082 |
| | Right | 0 | 0 | Right 110 | 0.000 | Right 110 | 0.000 | Right 110 | 0.000 |
| | Left | 2 | 3400 | Left 201 | 0.059 | Left 221 | 0.065 | Left 221 | 0.065 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = LOS A | 0.567 | V/C = LOS A | 0.555 | V/C = LOS A | 0.577 | |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/SPRING STREET
 PHASES 1 & 2

GREER & CO., Engineers and Planners
 Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2010 | V/C RATIO | POST-PROJECT VOLUMES 2010 | V/C RATIO | |
|---------------------|-------|----------|------------------|-----------|--------------------------|-----------|---------------------------|-----------|-------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 823 | 0.348 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 360 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 108 | 0.064 |
| Southbound PROSPECT | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 704 | 0.218 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 37 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 102 | 0.060 |
| Eastbound PARK DWY | Thru | 1 | 1700 | Thru | 0 | 0.000 | Thru | 31 | 0.095 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 94 | 0.000 |
| | Left | 0 | 0 | Left | 0 | 0.000 | Left | 36 | 0.000 |
| Westbound SPRING | Thru | 1 | 1700 | Thru | 0 | 0.000 | Thru | 40 | 0.092 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 117 | 0.000 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 233 | 0.069 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = LOS A | 0.050 | V/C = LOS A | 0.580 | V/C = LOS B | 0.621 | |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/SPRING STREET
 PHASES 1 & 2

Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2025 | V/C RATIO | POST-PROJECT VOLUMES 2025 | V/C RATIO | |
|------------------------|-------|----------|---------------------|--------------|--------------------------------|--------------|---------------------------------|--------------|-------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 735 | 0.308 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 313 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 20 | 0.012 |
| Southbound PROSPECT | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 606 | 0.204 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 86 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 87 | 0.051 |
| Eastbound PARK DWY | Thru | 1 | 1700 | Thru | 0 | 0.000 | Thru | 55 | 0.086 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 22 | 0.000 |
| | Left | 0 | 0 | Left | 0 | 0.000 | Left | 69 | 0.000 |
| Westbound SPRING | Thru | 1 | 1700 | Thru | 0 | 0.000 | Thru | 48 | 0.095 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 113 | 0.000 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 206 | 0.061 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = LOS A | 0.050 | V/C = LOS A | 0.556 | V/C = LOS A | 0.597 | |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/WALNUT AVENUE
 PHASE 1

Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES 2004 | V/C RATIO | PRE-PROJECT VOLUMES 2007 | V/C RATIO | POST-PROJECT VOLUMES 2007 | V/C RATIO | |
|------------------------|-------|----------|-----------------------------|--------------|--------------------------------|--------------|---------------------------------|--------------|-------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru | 695 | 0.227 | Thru | 851 | 0.278 |
| | Right | 0 | 0 | Right | 76 | 0.000 | Right | 93 | 0.000 |
| | Left | 1 | 1700 | Left | 57 | 0.034 | Left | 70 | 0.041 |
| Southbound PROSPECT | Thru | 2 | 3400 | Thru | 528 | 0.157 | Thru | 675 | 0.200 |
| | Right | 0 | 0 | Right | 5 | 0.000 | Right | 6 | 0.000 |
| | Left | 1 | 1700 | Left | 40 | 0.024 | Left | 51 | 0.030 |
| Eastbound WALNUT | Thru | 1 | 1700 | Thru | 1 | 0.018 | Thru | 1 | 0.019 |
| | Right | 0 | 0 | Right | 30 | 0.000 | Right | 32 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 0 | 0.000 |
| Westbound WALNUT | Thru | 1 | 1700 | Thru | 2 | 0.031 | Thru | 3 | 0.041 |
| | Right | 0 | 0 | Right | 50 | 0.000 | Right | 67 | 0.000 |
| | Left | 1 | 1700 | Left | 57 | 0.034 | Left | 76 | 0.045 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = LOS | A 0.352 | V/C = LOS | A 0.422 | V/C = LOS | A 0.425 | |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/WALNUT AVENUE
 PHASES 1 & 2

GREER & CO., Engineers and Planners
 Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2010 | V/C RATIO | POST-PROJECT VOLUMES 2010 | V/C RATIO | |
|---------------------|-------|----------|------------------|-----------|--------------------------|-----------|---------------------------|-----------|-------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 874 | 0.285 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 96 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 72 | 0.042 |
| Southbound PROSPECT | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 665 | 0.197 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 6 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 50 | 0.029 |
| Eastbound WALNUT | Thru | 1 | 1700 | Thru | 0 | 0.000 | Thru | 1 | 0.020 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 33 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 0 | 0.000 |
| Westbound WALNUT | Thru | 1 | 1700 | Thru | 0 | 0.000 | Thru | 3 | 0.044 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 71 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 81 | 0.048 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = LOS A | 0.050 | V/C = LOS A | 0.432 | V/C = LOS A | 0.442 | |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/WALNUT AVENUE
 PHASES 1 & 2

GREER & CO., Engineers and Planners
 Improvements: EXISTING
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2025 | V/C RATIO | POST-PROJECT VOLUMES 2025 | V/C RATIO | |
|---------------------|-------|----------|------------------|-----------|--------------------------|-----------|---------------------------|-----------|-------|
| Northbound PROSPECT | Thru | 2 | 3400 | 0 | 0.000 | Thru 820 | 0.268 | Thru 826 | 0.271 |
| | Right | 0 | 0 | 0 | 0.000 | Right 90 | 0.000 | Right 94 | 0.000 |
| | Left | 1 | 1700 | 0 | 0.000 | Left 67 | 0.039 | Left 67 | 0.039 |
| Southbound PROSPECT | Thru | 2 | 3400 | 0 | 0.000 | Thru 607 | 0.180 | Thru 613 | 0.189 |
| | Right | 0 | 0 | 0 | 0.000 | Right 6 | 0.000 | Right 29 | 0.000 |
| | Left | 1 | 1700 | 0 | 0.000 | Left 46 | 0.027 | Left 46 | 0.027 |
| Eastbound WALNUT | Thru | 1 | 1700 | 0 | 0.000 | Thru 1 | 0.021 | Thru 3 | 0.025 |
| | Right | 0 | 0 | 0 | 0.000 | Right 34 | 0.000 | Right 40 | 0.000 |
| | Left | 1 | 1700 | 0 | 0.000 | Left 0 | 0.000 | Left 25 | 0.015 |
| Westbound WALNUT | Thru | 1 | 1700 | 0 | 0.000 | Thru 3 | 0.042 | Thru 5 | 0.044 |
| | Right | 0 | 0 | 0 | 0.000 | Right 69 | 0.000 | Right 69 | 0.000 |
| | Left | 1 | 1700 | 0 | 0.000 | Left 78 | 0.046 | Left 82 | 0.048 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| | | | V/C = LOS | A 0.050 | V/C = LOS | A 0.411 | V/C = LOS | A 0.421 | |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: YORBA STREET/CHAPMAN AVENUE
 WITHOUT YORBA STREET

GREER & CO., Engineers and Planners
 Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2025 | V/C RATIO | POST-PROJECT VOLUMES 2025 | V/C RATIO | |
|----------------------------|-------|----------|------------------|----------------|--------------------------|----------------|---------------------------|----------------|-------|
| Northbound YORBA | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 17 | 0.038 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 113 | 0.000 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 746 | 0.219 |
| Southbound HOSPITAL DWY | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 36 | 0.058 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 160 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 76 | 0.045 |
| Eastbound CHAPMAN | Thru* | 4 | 6800 | Thru | 0 | 0.000 | Thru | 3658 | 0.538 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 725 | 0.426 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 179 | 0.105 |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 2365 | 0.464 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 14 | 0.008 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 130 | 0.076 |
| | | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 |
| * w/4th EB thru lane added | | | | V/C = LOS A | 0.050 | V/C = LOS E | 0.941 | V/C = LOS E | 0.950 |

INTERSECTION CAPACITY UTILIZATION (ICU)
 Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: YORBA STREET/CHAPMAN AVENUE
 WITH YORBA STREET

GREER & CO., Engineers and Planners
 Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

10/1/2004

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2025 | V/C RATIO | POST-PROJECT VOLUMES 2025 | V/C RATIO | |
|----------------------------|-------|----------|------------------|-----------|--------------------------|-----------|---------------------------|-----------|-------|
| Northbound YORBA | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 873 | 0.284 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 91 | 0.000 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 637 | 0.187 |
| Southbound YORBA | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 278 | 0.082 |
| | Right | 2 | 3400 | Right | 0 | 0.000 | Right | 667 | 0.196 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 55 | 0.032 |
| Eastbound CHAPMAN | Thru* | 3 | 5100 | Thru | 0 | 0.000 | Thru | 3091 | 0.606 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 679 | 0.399 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 603 | 0.177 |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 2252 | 0.442 |
| | Right | 1 | 1700 | Right | 0 | 0.000 | Right | 32 | 0.019 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 64 | 0.038 |
| | | | Yellow | 0.050 | Yellow | 0.050 | Yellow | 0.050 | |
| * w/4th EB thru lane added | | | V/C = | 0.050 | V/C = | 1.010 | V/C = | 1.021 | |
| | | | LOS | A | LOS | F | LOS | F | |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/CHAPMAN AVENUE
 WITHOUT YORBA CONNECTION

Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2025 | V/C RATIO | POST-PROJECT VOLUMES 2025 | V/C RATIO | |
|---|--------|----------|------------------|-----------|--------------------------|-----------|---------------------------|-----------|---------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru 0 | 0.000 | Thru 273 | 0.092 * | Thru 297 | 0.099 * |
| | Right | 0 | 0 | Right 0 | 0.000 | Right 39 | 0.000 | Right 39 | 0.000 |
| | Left | 1 | 1700 | Left 0 | 0.000 | Left 101 | 0.059 | Left 101 | 0.059 |
| Southbound PROSPECT | Thru | 1.5 | 2550 | Thru 0 | 0.000 | Thru 321 | 0.126 * | Thru 346 | 0.136 * |
| | Right* | 1.5 | 2550 | Right 0 | 0.000 | Right 214 | 0.084 | Right 311 | 0.122 |
| | Left | 1 | 1700 | Left 0 | 0.000 | Left 181 | 0.106 | Left 190 | 0.112 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | Thru 0 | 0.000 | Thru 2225 | 0.461 * | Thru 2232 | 0.463 * |
| | Right | 0 | 0 | Right 0 | 0.000 | Right 127 | 0.000 | Right 127 | 0.000 |
| | Left | 2 | 3400 | Left 0 | 0.000 | Left 606 | 0.178 | Left 719 | 0.211 |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru 0 | 0.000 | Thru 1409 | 0.302 | Thru 1406 | 0.305 |
| | Right | 0 | 0 | Right 0 | 0.000 | Right 130 | 0.000 | Right 147 | 0.000 |
| | Left | 1 | 1700 | Left 0 | 0.000 | Left 115 | 0.068 * | Left 115 | 0.068 * |
| | | | Yellow | 0.050 | Yellow | 0.050 * | Yellow | 0.050 * | |
| * w/ADDED SB RIGHT TURN LANE AND N/S SPLIT PHASE FOR SIGNAL | | | V/C = LOS A | 0.050 | V/C = LOS C | 0.797 * | V/C = LOS D | 0.816 * | |

INTERSECTION CAPACITY UTILIZATION (ICU)

GREER & CO., Engineers and Planners

10/1/2004

Project: GRIJALVA PARK, CITY OF ORANGE
 Intersection: PROSPECT STREET/CHAPMAN AVENUE
 WITH YORBA CONNECTION

Improvements: w/CITY IMPROVEMENTS
 P.M. PEAK HOUR City: ORANGE, CA

| DIRECTION | LANES | CAPACITY | EXISTING VOLUMES | V/C RATIO | PRE-PROJECT VOLUMES 2025 | V/C RATIO | POST-PROJECT VOLUMES 2025 | V/C RATIO | | | | |
|---|--------|----------|------------------|-------------|--------------------------|-------------|---------------------------|-------------|---------|-------|------|---------|
| Northbound PROSPECT | Thru | 2 | 3400 | Thru | 0 | 0.000 | Thru | 205 | 0.069 * | Thru | 229 | 0.076 * |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 29 | 0.000 | Right | 29 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 76 | 0.045 | Left | 76 | 0.045 |
| Southbound PROSPECT | Thru | 1.5 | 2550 | Thru | 0 | 0.000 | Thru | 205 | 0.080 * | Thru | 230 | 0.090 * |
| | Right* | 1.5 | 2550 | Right | 0 | 0.000 | Right | 137 | 0.054 | Right | 234 | 0.092 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 116 | 0.068 | Left | 125 | 0.074 |
| Eastbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 1933 | 0.401 * | Thru | 1940 | 0.402 |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 110 | 0.000 | Right | 110 | 0.000 |
| | Left | 2 | 3400 | Left | 0 | 0.000 | Left | 527 | 0.155 | Left | 640 | 0.188 * |
| Westbound CHAPMAN | Thru | 3 | 5100 | Thru | 0 | 0.000 | Thru | 1354 | 0.290 | Thru | 1351 | 0.293 * |
| | Right | 0 | 0 | Right | 0 | 0.000 | Right | 125 | 0.000 | Right | 142 | 0.000 |
| | Left | 1 | 1700 | Left | 0 | 0.000 | Left | 111 | 0.065 * | Left | 111 | 0.065 |
| | | | | Yellow | 0.050 | Yellow | 0.050 * | Yellow | 0.050 * | | | |
| * w/ADDED SB RIGHT TURN LANE AND N/S SPLIT PHASE FOR SIGNAL | | | | V/C = LOS A | 0.050 | V/C = LOS B | 0.665 * | V/C = LOS B | 0.697 * | | | |

PARKING GENERATION

JANET EVANS SWIM CENTER
INDEPENDENCE PARK, FULLERTON, CA.

GREER & CO.
Project No. 591-01
Grijalva Park
City of Orange

2 pools-- 1 olympic, 1 smaller
community room
gym--basketball courts
2 pool tables
3 outside handball courts

4 inside racquetball courts
skateboard park
tot lot
picnic area--4 tables

Survey: Saturday, August 28, 2004

Survey: Monday, August 30, 2004

| Time of Day | Saturday, August 28, 2004 | | | | | Monday, August 30, 2004 | | | | |
|-------------|----------------------------|----------------------------|---------------------------|---------------------------|-----------------------------|----------------------------|----------------------------|---------------------------|---------------------------|-----------------------------|
| | west parking 102 spaces | front parking 76 spaces | east parking 68 spaces | rear parking 64 spaces | total parking 310 spaces | west parking 102 spaces | front parking 76 spaces | east parking 68 spaces | rear parking 64 spaces | total parking 310 spaces |
| | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | Total Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | Total Parked Vehicles |
| 11:00 am | | | | | | | | | | |
| 11:15 am | | | | | | | | | | |
| 11:30 am | | | | | | | | | | |
| 11:45 am | | | | | | | | | | |
| noon | | | | | | | | | | |
| 12:15 pm | | | | | | | | | | |
| 12:30 pm | | | | | | | | | | |
| 12:45 pm | | | | | | | | | | |
| 1:00 pm | | | | | | | | | | |
| 1:15 pm | | | | | | | | | | |
| 1:30 pm | | | | | | | | | | |
| 1:45 pm | | | | | | | | | | |
| 2:00 pm | 31 | 1 | 2 | 9 | 43 | 24 | 0 | 0 | 9 | 33 |
| 2:15 pm | 33 | 0 | 1 | 9 | 43 | 25 | 0 | 1 | 10 | 36 |
| 2:30 pm | 29 | 2 | 2 | 8 | 41 | 23 | 1 | 1 | 10 | 35 |
| 2:45 pm | 28 | 2 | 1 | 10 | 41 | 22 | 0 | 0 | 9 | 31 |
| 3:00 pm | 30 | 5 | 3 | 11 | 49 | 26 | 0 | 0 | 10 | 36 |
| 3:15 pm | 32 | 4 | 3 | 11 | 50 | 28 | 3 | 0 | 4 | 35 |
| 3:30 pm | 31 | 5 | 4 | 12 | 52 | 29 | 3 | 0 | 5 | 37 |
| 3:45 pm | 33 | 4 | 4 | 12 | 53 | 24 | 5 | 0 | 5 | 34 |
| 4:00 pm | 33 | 4 | 4 | 10 | 51 | 26 | 5 | 1 | 4 | 36 |
| 4:15 pm | 31 | 6 | 3 | 11 | 49 | 33 | 4 | 1 | 4 | 42 |
| 4:30 pm | 30 | 5 | 4 | 10 | 49 | 30 | 4 | 0 | 5 | 39 |
| 4:45 pm | 28 | 5 | 3 | 8 | 44 | 24 | 5 | 0 | 4 | 33 |
| 5:00 pm | 29 | 6 | 3 | 8 | 46 | 21 | 6 | 0 | 4 | 31 |
| 5:15 pm | 24 | 4 | 5 | 10 | 43 | 19 | 5 | 1 | 4 | 29 |
| 5:30 pm | 22 | 3 | 5 | 6 | 36 | 23 | 7 | 1 | 5 | 36 |
| 5:45 pm | 22 | 4 | 4 | 6 | 36 | 28 | 7 | 2 | 7 | 44 |
| 6:00 pm | | | | | | 27 | 8 | 3 | 7 | 45 |
| 6:15 pm | | | | | | | | | | |
| 6:30 pm | | | | | | | | | | |
| 6:45 pm | | | | | | | | | | |
| 7:00 pm | | | | | | | | | | |

X - Peak Parking

PARKING GENERATION

THE PLUNGE
CITY HALL PARK, BREA, CA

2 pools-- 1 olympic, 1 smaller
1 basketball court
gazebo/shelter
tot lot

3 picnic areas--6 tables
passive/play areas
[museum-closed]
[scout hall-closed]

GREER & CO.
Project No. 591-01
Grijaiva Park
City of Orange

Survey: Friday, August 27, 2004

Survey: Saturday, August 28, 2004

| Time of Day | south parking 21 spaces | | north parking 37 spaces | | curbside 60 spaces | | total parking 118 spaces | | south parking 21 spaces | | north parking 37 spaces | | curbside 60 spaces | | total parking 118 spaces | |
|-------------|-------------------------|------------------------|-------------------------|------------------------|------------------------|------------------------|--------------------------|------------------------|-------------------------|------------------------|-------------------------|------------------------|------------------------|------------------------|--------------------------|-----------------------|
| | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | Total Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | Total Parked Vehicles | Total Parked Vehicles |
| 11:00 am | 7 | 13 | 26 | 46 | 0 | 1 | 10 | 11 | 0 | 1 | 10 | 11 | | | | |
| 11:15 am | 8 | 12 | 25 | 45 | 0 | 3 | 1 | 4 | 0 | 3 | 1 | 4 | | | | |
| 11:30 am | 11 | 15 | 22 | 48 | 0 | 4 | 16 | 20 | 0 | 4 | 16 | 20 | | | | |
| 11:45 am | 8 | 15 | 20 | 43 | 1 | 5 | 20 | 26 | 1 | 5 | 20 | 26 | | | | |
| noon | 6 | 17 | 21 | 44 | 2 | 3 | 21 | 26 | 2 | 3 | 21 | 26 | | | | |
| 12:15 pm | 5 | 6 | 14 | 25 | 1 | 3 | 18 | 22 | 1 | 3 | 18 | 22 | | | | |
| 12:30 pm | 8 | 1 | 17 | 26 | 1 | 3 | 19 | 23 | 1 | 3 | 19 | 23 | | | | |
| 12:45 pm | 7 | 8 | 18 | 33 | 1 | 1 | 17 | 18 | 1 | 1 | 17 | 18 | | | | |
| 1:00 pm | 6 | 6 | 15 | 27 | 1 | 2 | 17 | 20 | 1 | 2 | 17 | 20 | | | | |
| 1:15 pm | 4 | 5 | 13 | 22 | 2 | 4 | 17 | 23 | 2 | 4 | 17 | 23 | | | | |
| 1:30 pm | 2 | 4 | 15 | 21 | 3 | 6 | 16 | 25 | 3 | 6 | 16 | 25 | | | | |
| 1:45 pm | | | | | | | | | | | | | | | | |
| 2:00 pm | | | | | | | | | | | | | | | | |
| 2:15 pm | | | | | | | | | | | | | | | | |
| 2:30 pm | | | | | | | | | | | | | | | | |
| 2:45 pm | | | | | | | | | | | | | | | | |
| 3:00 pm | | | | | | | | | | | | | | | | |
| 3:15 pm | | | | | | | | | | | | | | | | |
| 3:30 pm | | | | | | | | | | | | | | | | |
| 3:45 pm | | | | | | | | | | | | | | | | |
| 4:00 pm | | | | | | | | | | | | | | | | |
| 4:15 pm | | | | | | | | | | | | | | | | |
| 4:30 pm | | | | | | | | | | | | | | | | |
| 4:45 pm | | | | | | | | | | | | | | | | |
| 5:00 pm | | | | | | | | | | | | | | | | |
| 5:15 pm | | | | | | | | | | | | | | | | |
| 5:30 pm | | | | | | | | | | | | | | | | |
| 5:45 pm | | | | | | | | | | | | | | | | |
| 6:00 pm | | | | | | | | | | | | | | | | |
| 6:15 pm | | | | | | | | | | | | | | | | |
| 6:30 pm | | | | | | | | | | | | | | | | |
| 6:45 pm | | | | | | | | | | | | | | | | |
| 7:00 pm | | | | | | | | | | | | | | | | |

*X - Peak Parking

PARKING GENERATION

GREER & CO.
Project No. 591-01
Grijalva Park
City of Orange

SKATE PARK
BROOKHURST PARK, ANAHEIM, CA

10,000 sf skate park

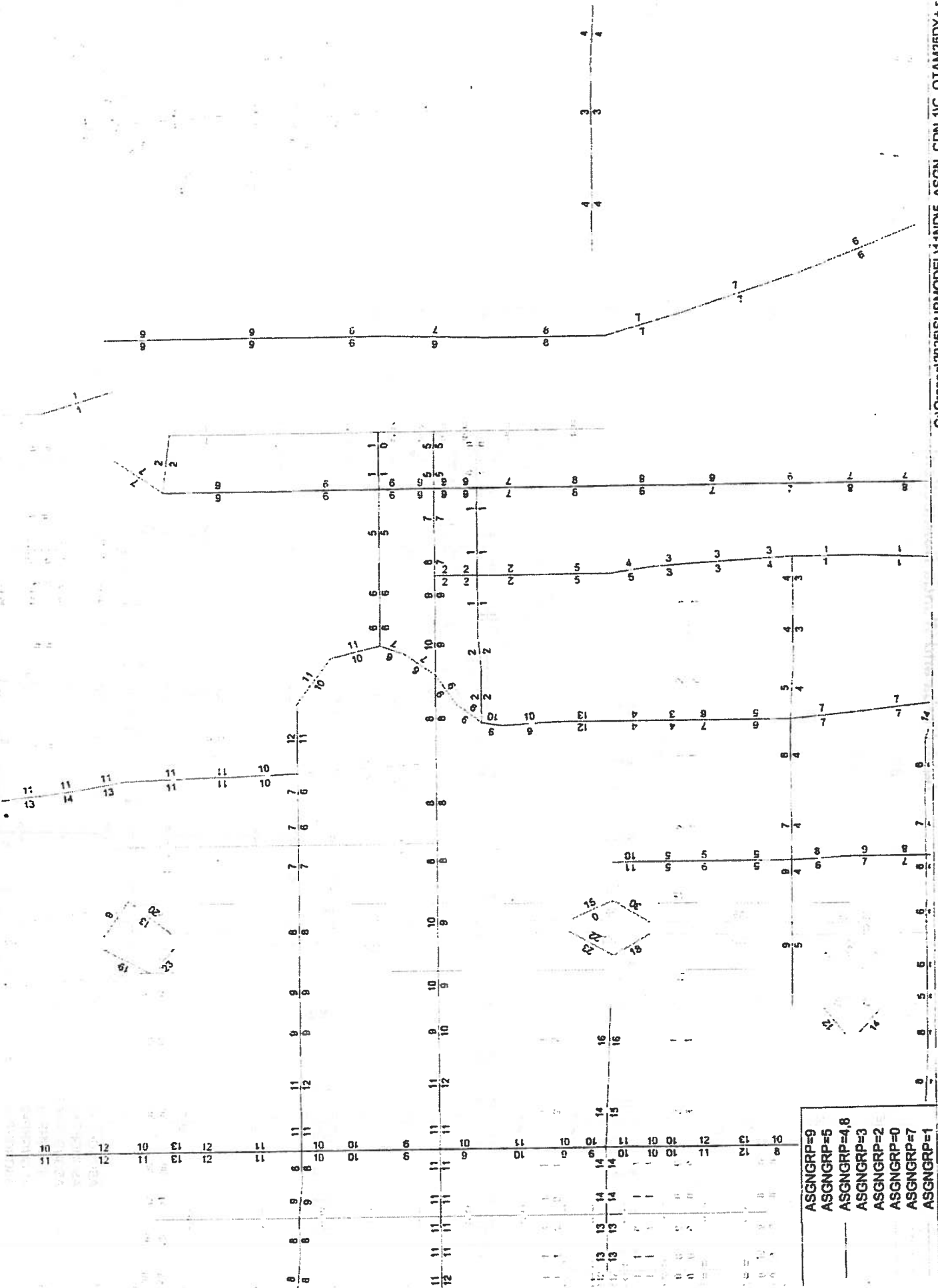
Survey: Tuesday, August 17, 2004

Survey:

| Time of Day | adjacent parking | | | | total parking | | | | total parking 0 spaces |
|-------------|------------------------|------------------------|------------------------|------------------------|-----------------------|------------------------|------------------------|------------------------|---------------------------|
| | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | Total Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | No. of Parked Vehicles | |
| 11:00 am | 0 | | | | 0 | | | | 0 |
| 11:15 am | 0 | | | | 0 | | | | 0 |
| 11:30 am | 0 | | | | 0 | | | | 0 |
| 11:45 am | 2 | | | | 2 | | | | 0 |
| noon | 3 | | | | 3 | X | | | 0 |
| 12:15 pm | 3 | | | | 3 | X | | | 0 |
| 12:30 pm | 2 | | | | 2 | | | | 0 |
| 12:45 pm | 0 | | | | 0 | | | | 0 |
| 1:00 pm | 0 | | | | 0 | | | | 0 |
| 1:15 pm | 0 | | | | 0 | | | | 0 |
| 1:30 pm | 1 | | | | 1 | | | | 0 |
| 1:45 pm | 1 | | | | 1 | | | | 0 |
| 2:00 pm | 0 | | | | 0 | | | | 0 |
| 2:15 pm | 1 | | | | 1 | | | | 0 |
| 2:30 pm | 0 | | | | 0 | | | | 0 |
| 2:45 pm | 0 | | | | 0 | | | | 0 |
| 3:00 pm | 0 | | | | 0 | | | | 0 |
| 3:15 pm | 0 | | | | 0 | | | | 0 |
| 3:30 pm | 0 | | | | 0 | | | | 0 |
| 3:45 pm | 1 | | | | 1 | | | | 0 |
| 4:00 pm | 2 | | | | 2 | | | | 0 |
| 4:15 pm | 2 | | | | 2 | | | | 0 |
| 4:30 pm | 2 | | | | 2 | | | | 0 |
| 4:45 pm | 3 | | | | 3 | X | | | 0 |
| 5:00 pm | 1 | | | | 1 | | | | 0 |
| 5:15 pm | 1 | | | | 1 | | | | 0 |
| 5:30 pm | 1 | | | | 1 | | | | 0 |
| 5:45 pm | 1 | | | | 1 | | | | 0 |
| 6:00 pm | 0 | | | | 0 | | | | 0 |
| 6:15 pm | 0 | | | | 0 | | | | 0 |
| 6:30 pm | 0 | | | | 0 | | | | 0 |
| 6:45 pm | 1 | | | | 1 | | | | 0 |
| 7:00 pm | | | | | | | | | |

X - Peak Parking

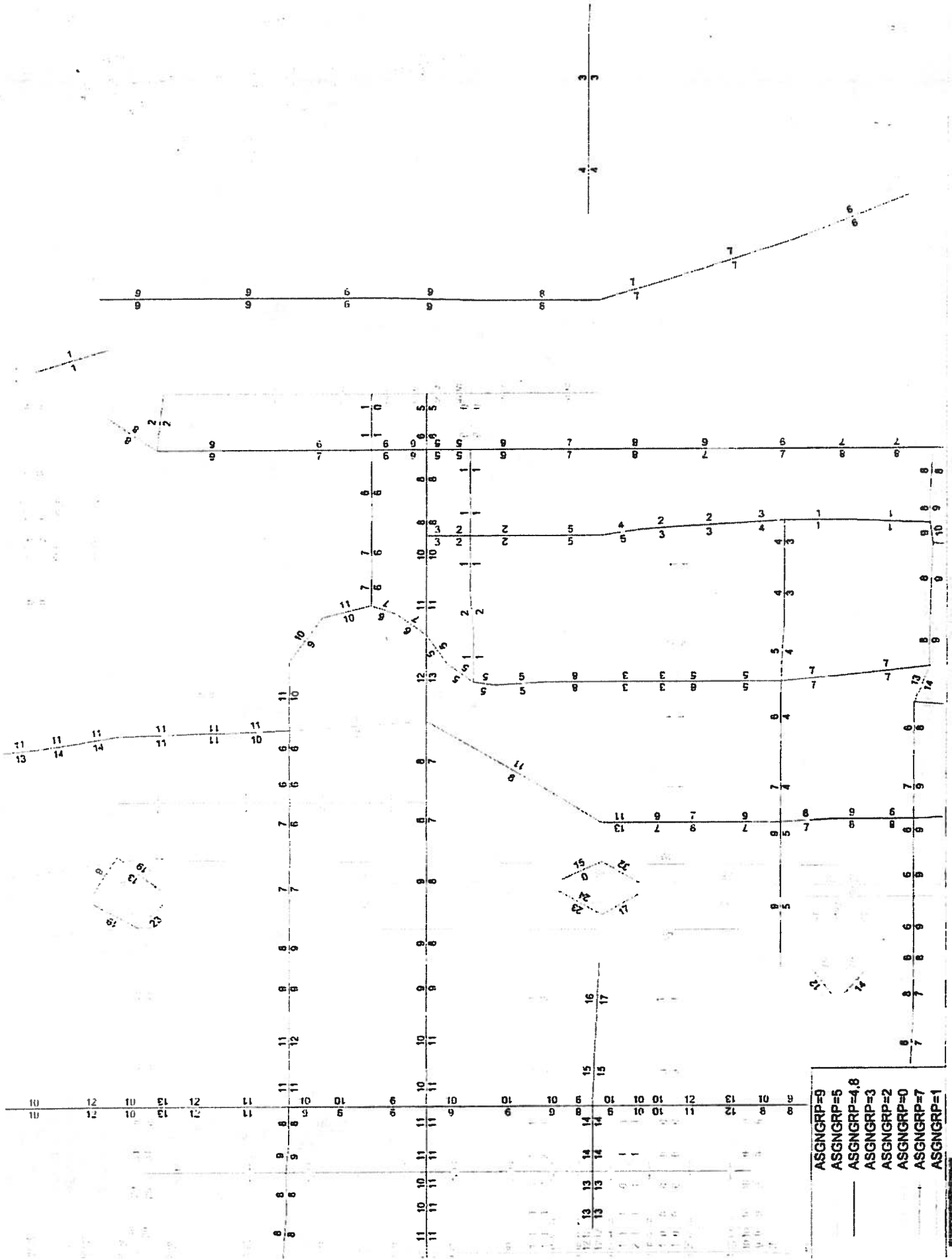
2025 General Final Diagram - 2025 11 1000
 (without Yorba and Wanda Connection)



- ASGNGRP=9
- ASGNGRP=5
- ASGNGRP=4,8
- ASGNGRP=3
- ASGNGRP=2
- ASGNGRP=0
- ASGNGRP=7
- ASGNGRP=1



2025 General Plan Buildout - ADT in 1000 (with Yorba and Wanda Connection)



- ASNGRP=9
- ASNGRP=5
- ASNGRP=4,8
- ASNGRP=3
- ASNGRP=2
- ASNGRP=0
- ASNGRP=7
- ASNGRP=1