TRAFFIC IMPACT STUDY

For

GLC SANTA FE SPRINGS PROJECT

Located at

WEST OF BLOOMFIELD AVENUE BETWEEN FLORENCE AVENUE & LAKELAND ROAD

Prepared for:

City of Santa Fe Springs
Public Works Department
11710 Telegraph Road
Santa Fe Springs, CA 90670

Prepared by:

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21 Years of Excellence

April 24, 2014

Traffic Impact Study

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EXECUTIVE SUMMARY

The project applicant, Goodman Birtcher North America, is planning to renovate an existing 54.7-acre vacant industrial site in the City of Santa Fe Springs and develop 1,203,965 square feet of warehousing and associated office use, and a 19,786 square-foot building for occupation by RDX Technologies Corporation to operate an industrial wastewater treatment facility. The "GLC Santa Fe Springs" project site is located at the southwest corner of Florence Avenue and Bloomfield Avenue. The site is bounded by Florence Avenue to the north, Bloomfield Avenue to the east, Lakeland Road to the south, and existing industrial uses to the west. Surrounding and adjacent uses include primarily heavy manufacturing (M-2), with some M-2 planned development areas commercial and residential uses to the west of the project site.

The GLC Santa Fe Springs project will generate passenger car and truck trips during the weekday morning and afternoon peak hours, including 379 vehicle trips in the AM peak hour and 483 vehicle trips in the PM peak hour. Two out of the nine study intersections surrounding the project site are currently operating at satisfactory Levels of Service (i.e., LOS "D" or better during both peak hours), under Existing Year 2014 conditions. The remaining seven intersections are operating at deficient LOS "E" or "F" during either one or both of the weekday AM and PM peak hours.

Year 2015 baseline traffic conditions were estimated by adjusting the Existing Year 2014 traffic volumes upwards by a conservative one percent (1%) annual growth factor to account for potential growth in the ambient traffic base. With this assumed traffic growth, the analysis shows that all nine study area intersections will continue to operate at their Existing Year 2014 Levels of Service.

Project Completion conditions (Year 2015 Plus Project) incorporate the addition of generated AM and PM peak hour trips from the proposed project site during the project opening year of 2015. An analysis of this scenario reveals that the project would generate significant traffic impacts during one or more weekday AM/PM peak hours at seven of the nine study intersections, including:

- Bloomfield Avenue at Lakeland Road
- Bloomfield Avenue at Florence Avenue
- Bloomfield Avenue at Telegraph Road
- Norwalk Boulevard at Florence Avenue
- Pioneer Boulevard at Florence Avenue
- Pioneer Boulevard at Telegraph Road
- Orr And Day Road at Florence Avenue

Mitigation measures for significantly impacted intersections were developed in order to preemptively reduce project-related traffic impacts to levels of insignificance. Proposed mitigation measures include traffic and street improvements such as signal modification, raised

center median modifications, installation of additional left-turn lanes, traffic signing and re-striping, intersection lane geometry reconfiguration and some related relocation of median trees and street lighting to accommodate the reconstruction of raised center dividers.

Based on the findings of the traffic impact study, the application of the proposed mitigation measures, as discussed comprehensively in the *Conclusions and Recommendations* section, would reduce project traffic impacts to less-than-significant levels and allow the GLC Santa Fe Springs Development, as proposed, to comply with the Transportation and Circulation Elements of the City of Santa Fe Springs' General Plan, as well as the transportation and traffic requirements of the California Environmental Quality Act (CEQA).

Supporting technical documents and worksheets for the traffic impact analyses are provided in the attached appendices.

INTRODUCTION

Minagar & Associates, Inc. (MAI) has prepared the following analysis to identify potential short-term and long-range traffic impacts of the proposed GLC Santa Fe Springs (herein after, the "Project"). The proposed project is located west of Bloomfield Avenue between Florence Avenue and Lakeland Road, on approximately 55 acres of an existing manufacturing site currently not in use. The proposed project includes the development of four (4) detached buildings on the site, cumulatively including 1,223,750 square feet of warehousing and associated office space, and 19,786 square feet of industrial wastewater treatment facility. ***Table 1*** summarizes the significant features of the project.

TABLE 1
Project Information Summary

Location: West of Bloomfield Avenue between Florence Avenue and Lakeland Road City of Santa Fe Springs, CA 90670		
Total Project Building Area	**Proposed Building Land Use**	**Proposed Site Access****
1,223,751 SF	Warehouse: 1,173,965 SF Light Industrial: 19,786 SF Office/Mezzanine: 15,000 SF Office: 15,000 SF	Florence Avenue—5 Driveways 2x 26' driveways (RIRO) 1x 40' driveway (RIRO) 1x 50' driveway (RIRO) 1x 55' driveway (RIRO) Lakeland Road—6 Driveways 2x 26' driveways 4x 40' driveways

* For traffic impact analysis purposes, office and mezzanine uses are counted as ancillary to the proposed primary warehousing and light industrial building areas.
** RIRO: Right-in/right-out access only

Figure 1 shows the vicinity of the project site in relation to the regional transportation system and adjacent land uses.

Figure 2 depicts the proposed Project Site Plan.

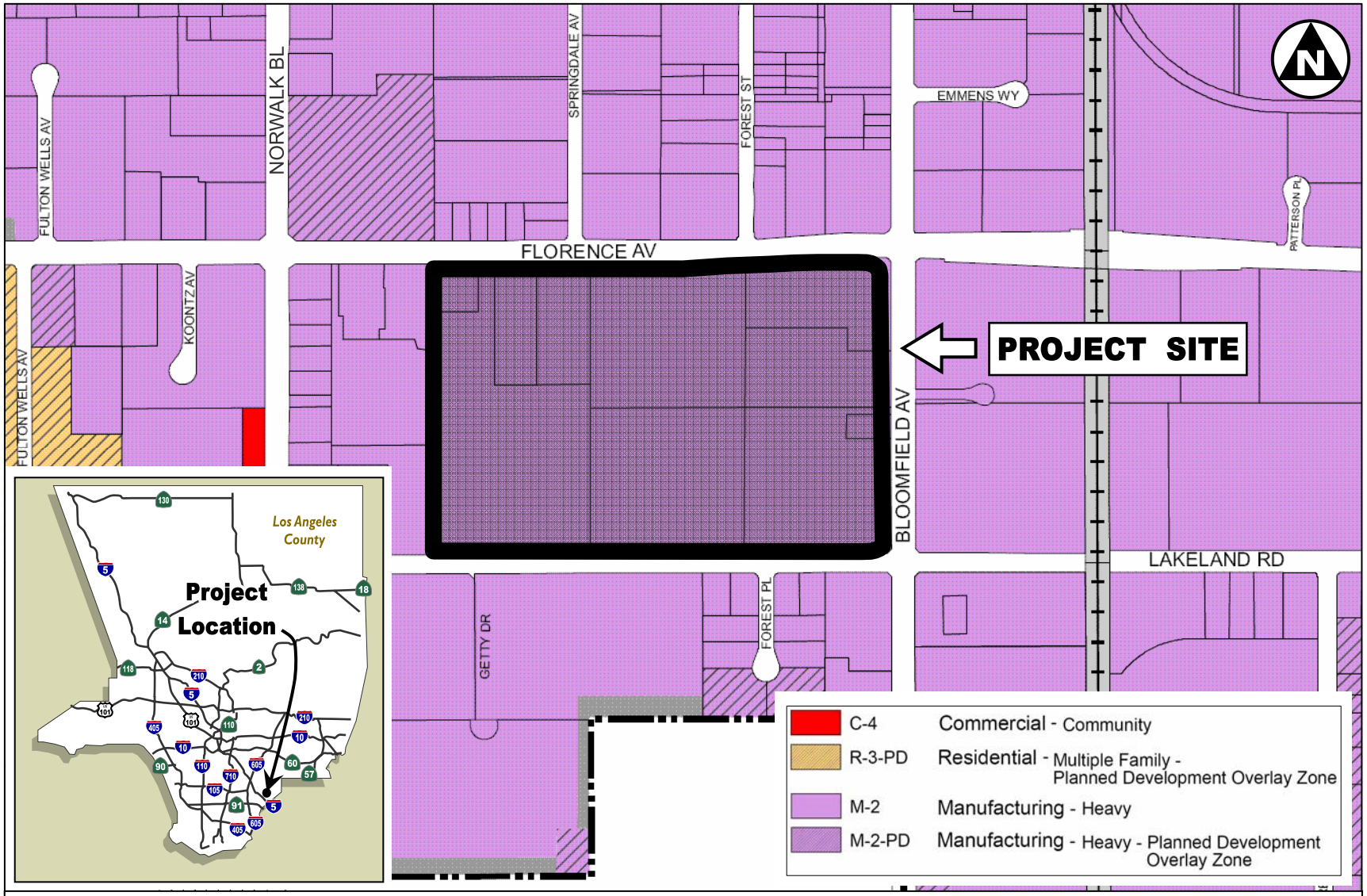

FIGURE 1
Regional Location, Project Vicinity & Surrounding Zoning

[Insert FIGURE 2]- Site Plan

Project traffic impacts were analyzed for the following scenarios:

- Existing Year 2014 Conditions. Recent AM and PM peak period traffic counts collected in 2013 and adjusted for Year 2014 Existing Conditions.

- Year 2015 Without Project. Comprised of the Existing Year 2014 traffic base projected upward by a compound annual ambient growth rate of 1% to the anticipated project opening year 2015, excluding the addition of proposed project traffic.

Project Completion (Year 2015 Plus Project). Comprised of the Opening Year 2015 base traffic conditions, plus the addition of AM and PM peak hour trips generated by the proposed project.

LEVEL OF SERVICE METHODOLOGY

The scope of the study area boundaries, analysis scenarios and traffic growth assumptions were developed under the general direction of City of Santa Fe Springs staff, with due consideration for the City's existing and future transportation and circulation setting. Level of Service (LOS) performance measures were evaluated under the latest County of Los Angeles Department of Public Works Traffic Impact Analysis Guidelines, and the most current version of the Los Angeles County Congestion Management Program (CMP, 2010). The City of Santa Fe Springs targets a minimum LOS "D" (i.e., volume-to-capacity, or V/C ratio, not exceeding 0.90) as the minimum performance standard for city intersections.

To determine peak-hour intersection LOS conditions for signalized intersections, the intersection capacity utilization (ICU) methodology was used. In general terms, the ICU methodology calculates the efficiency of an intersection to handle traffic volumes and movements given certain geometric configuration, lane capacity and signal operation conditions. The ICU method compares V/C ratios of critical conflicting movement for traffic entering the intersection with the approach lane configurations and roadway capacities serving this traffic, resulting in a decimal value expressed in terms of the intersection's overall volume-to-capacity.

The resulting numeric ICU values correspond to a range of level of service (LOS) grades, where, for example, LOS "A" (ICU <0.61) represents free-flow conditions and LOS "F" (ICU >1.00) represents overcapacity conditions. Intersection ICU calculation summaries for each study intersection and analysis scenario are included in the sections below, along with the evaluation parameters adopted by the City of Santa Fe Springs. In accordance with the TIA guidelines, a +0.100 clearance (lost time) factor was also applied, along with a standard flow rate of 1,600 vehicles per hour per lane (2,880 for dual left-turn lanes) for all scenarios.

Supporting data on the intersection LOS determined in the traffic analysis are included under ***Appendix B*** (ICU worksheets) and ***Appendix C*** (HCM worksheets).

Significance Criteria

In accordance with the County of Los Angeles Guidelines for the Preparation of Traffic Impact Analyses (TIA), a "before" and "after" Level of Service (LOS) analysis was prepared to determine the significance of traffic impacts generated by the project on the surrounding transportation system. A "significant impact" is defined as either degrading an intersection's Level of Service from an acceptable LOS ("D" or better) to an unacceptable LOS ("E" or "F"), and/or meeting the significance criteria summarized below.

TABLE 2
ICU Level of Service Criteria for Signalized Intersections

Service	ICU	Description
A	< 0.61	At LOS A, there are no cycles that are fully loaded, and few are even close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
B	0.61 – 0.70	LOS B represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted with platoons of vehicles.
C	0.71 – 0.80	In LOS C stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait though more than one red signal indication, and back-ups may develop behind turning vehicles.
D	0.81 – 0.90	LOS D encompasses a zone of increasing restriction, approaching instability. Delays to approaching vehicles may be substantial during short peaks within the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive back-ups.
E	0.91 – 1.00	LOS E represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00) there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).
F	> 1.00	LOS F represents jammed conditions. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable, V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.

Source: "LOS for Arterial Intersections," L.A. County Congestion Management Program, 2010.

TABLE 3
Signalized Intersections
Traffic Impact Significance Thresholds

Pre-Project V/C (Level of Service)		Project-Related increase in V/C
>0.70 to 0.80	(C)	0.04 or more
>0.80 to 0.90	(D)	0.02 or more
> 0.90	(E to F)	0.01 or more

TABLE 4
Unsignalized Intersections
Traffic Impact Significance Thresholds

Pre-Project Level of Service (LOS)	Project-Related increase in Average Total Delay
C or better	5 seconds/vehicle or more
D	4 seconds/vehicle or more
E or F	3 seconds/vehicle or more

Based on the above established criteria, if a project is found to cause a significant traffic impact on a subject study intersection or unsignalized driveway, then feasible mitigation measures must be provided in order to reduce the expected traffic impacts to levels of insignificance.

NO PROJECT CONDITIONS

Existing Setting

The following discussion provides an overview of the regional and local transportation and circulation system in the vicinity of the project site.

Interstate 5 (I-5) is located approximately 1.5 miles to the west of the project site, and provides regional access to the area by connecting the City of Santa Fe Springs to adjacent cities, northerly to the greater Los Angeles area and southerly to Orange County. Within the project study area, I-5 is oriented in a northwest-southeast direction and provides access to the project site via interchanges at Telegraph Road and Bloomfield Avenue. Other nearby interchanges include Orr And Day Road/Florence Avenue, Norwalk Boulevard, Pioneer Boulevard and the I-5/I-605 confluence. The freeway currently provides three northbound and four southbound mixed-use lanes in the vicinity of the project.

Interstate 605 (I-605) provides regional access to the area from Long Beach to its northerly terminus in the San Gabriel Valley. I-605 is oriented northeast-southwest through the City of Santa Fe Springs, and provides access to the site via interchanges at Telegraph Road and Florence Avenue. The freeway currently provides three (3) mixed-use lanes and one (1) HOV lane in each direction in the vicinity of the I-5/I-605 confluence near the project site.

Florence Avenue is a four-lane divided roadway with a raised center median, and a curb-to-curb pavement width of 80 feet. Florence Avenue is classified as a Major Arterial in the City of Santa Fe Springs' General Plan, serving east-west between the City of Downey (to the west) and unincorporated L.A. County (to the east). Florence Avenue has freeway interchanges at both I-5 and I-605, and will provide direct ingress and egress to the project on the north side of the site in the eastbound direction only.

Telegraph Road is a six-lane divided roadway with a raised center median, and a curb-to-curb pavement width of 80 feet. Telegraph Road is classified as a Major Arterial in the City of Santa Fe Springs' General Plan, and serves northwest/southeast traffic from unincorporated L.A. County to the east, and runs adjacent to the I-5 between the Cities of Pico Rivera and Downey to the west. Telegraph Road provides sub-regional access from the San Gabriel Valley area to the project site via the freeway interchange at I-605.

Bloomfield Avenue is a four-lane divided roadway with a raised center median, and a curb-to-curb pavement width of 80 feet. Bloomfield Avenue is classified as a Major Arterial in the City of Santa Fe Springs' General Plan, serving north/south traffic between the Cities of Norwalk (to the south) and Whittier (to the north), where Bloomfield Avenue becomes Santa Fe Springs Road. Between the central and southerly meandered city boundary lines, Bloomfield Avenue provides regional access from Orange County via the I-5 Freeway near Firestone Boulevard. The proposed project abuts Bloomfield Avenue along the easterly boundary of the project; however, no direct access to the site will be provided from Bloomfield Avenue.

Lakeland Road is a two-lane undivided roadway with some on-street parking along its length, and a curb-to-curb width of 64 feet. Lakeland Road is classified as a Secondary Arterial in the City of Santa Fe Springs' General Plan, serving primarily local traffic between Pioneer Boulevard to the west, and Carmenita Road to the east. Lakeland Road will provide direct access to the project on the south side of the site.

Study Area Intersections

Based on the anticipated land use, project trip distributions and size of the project, along with the prior consultation with the City of Santa Fe Springs, the following locations have been included in the project study area. All nine intersections are currently signalized.

- 1.) Bloomfield Avenue at Lakeland Road
- 2.) Bloomfield Avenue at Florence Avenue
- 3.) Bloomfield Avenue at Telegraph Road
- 4.) Norwalk Boulevard at Lakeland Road
- 5.) Norwalk Boulevard at Florence Avenue
- 6.) Norwalk Boulevard at Telegraph Road
- 7.) Pioneer Boulevard at Florence Avenue
- 8.) Pioneer Boulevard at Telegraph Road
- 9.) Orr And Day Road at Florence Avenue

Figure 3 shows the locations of the above intersections with respect to the project study area, including the existing traffic controls and lane geometrics at each intersection approach.

[Insert FIGURE 3] – Lane Geometrics

Existing Levels of Service

Existing Year 2014 intersection levels of service were determined by analyzing weekday morning (AM) and afternoon (PM) peak period traffic counts collected by Minagar & Associates, Inc. at each of the nine study area intersections in February 2013. Year 2013 traffic volumes were conservatively increased by a factor of 1% to represent the Existing Year 2014 condition. The measured peak traffic hour periods at each intersection are summarized in ***Table 5.*** Intersection turning movement traffic count data sheets, along with peak-hour traffic calculations, are provided under ***Appendix A***.

TABLE 5
AM/PM Peak Hours at 9 Study Area Intersections

Intersection	AM	PM
1. Bloomfield Avenue at Lakeland Road	7:30 to 8:30	4:45 to 5:45
2. Bloomfield Avenue at Florence Avenue	7:15 to 8:15	4:45 to 5:45
3. Bloomfield Avenue at Telegraph Road	7:45 to 8:45	4:15 to 5:15
4. Norwalk Boulevard at Lakeland Road	7:30 to 8:30	4:30 to 5:30
5. Norwalk Boulevard at Florence Avenue	7:15 to 8:15	4:45 to 5:45
6. Norwalk Boulevard at Telegraph Road	7:30 to 8:30	4:00 to 5:00
7. Pioneer Boulevard at Florence Avenue	7:30 to 8:30	4:00 to 5:00
8. Pioneer Boulevard at Telegraph Road	7:30 to 8:30	4:45 to 5:45
9. Orr And Day Road at Florence Avenue	7:15 to 8:15	4:30 to 5:30
Average Peak Hour	**7:30 to 8:30**	**4:30 to 5:30**

The existing peak-hour traffic conditions throughout the study area are illustrated in ***Figures 4A and 4B***. Existing intersection LOS are shown in Table 6. As shown in the table, two of the nine study area intersections are operating at satisfactory LOS "D" or better during both of the weekday AM and PM peak hours, under Existing Year 2014 conditions. The remaining seven study area intersections operate at LOS "E" or "F" during one or both peak hours of the day.

TABLE 6
Existing (Year 2014) Intersection Level of Service

Location			LOS Analysis		
No.	Intersection	Control	Peak Hour	Existing Year 2014	
				V/C	LOS
1	Bloomfield Avenue at Lakeland Road	Signal	AM	0.759	C
			PM	0.839	D
2	Bloomfield Avenue at Florence Avenue	Signal	AM	1.257	F
			PM	1.233	F
3	Bloomfield Avenue at Telegraph Road	Signal	AM	0.916	E
			PM	0.824	D
4	Norwalk Boulevard at Lakeland Road	Signal	AM	0.405	A
			PM	0.410	A
5	Norwalk Boulevard at Florence Avenue	Signal	AM	1.015	F
			PM	1.259	F
6	Norwalk Boulevard at Telegraph Road	Signal	AM	1.112	F
			PM	0.941	E
7	Pioneer Boulevard at Florence Avenue	Signal	AM	1.119	F
			PM	1.062	F
8	Pioneer Boulevard at Telegraph Road	Signal	AM	0.920	E
			PM	1.024	F
9	Orr And Day Road at Florence Avenue	Signal	AM	1.342	F
			PM	1.327	F

[Insert FIGURE 4A] Existing 2014 Volumes - AM

[Insert FIGURE 4B] Existing 2014 Volumes – PM

Year 2015 Without Project Level of Service

The Year 2015 condition provides an analysis of traffic conditions associated with growth in the study area over the next year into 2015. A comparison of traffic volumes collected by Minagar & Associates, Inc. in the City of Santa Fe Springs in 2008, 2012 and 2013 shows that the many of the City's major arterial intersections have experienced a cumulatively gradual decline in peak hour traffic over the last few years. In order to provide a conservative analysis for the project, however, a growth rate of one percent (1%) per year was applied to the existing traffic volumes to develop the Year 2015 forecast condition. Year 2015 peak-hour traffic conditions throughout the study are illustrated in ***Figures 5A and 5B***. Year 2015 intersection LOS is shown in ***Table 7***.

As shown in Table 7, all study area intersections will continue to operate at their current Levels of Service under this condition.

TABLE 7
Year 2015 (Without Project) Intersection Level of Service

Location			LOS Analysis		
No.	Intersection	Control	Peak Hour	Year 2015* Without Project	
				V/C	LOS
1	Bloomfield Avenue at Lakeland Road	Signal	AM	0.766	C
			PM	0.847	D
2	Bloomfield Avenue at Florence Avenue	Signal	AM	1.268	F
			PM	1.244	F
3	Bloomfield Avenue at Telegraph Road	Signal	AM	0.924	E
			PM	0.831	D
4	Norwalk Boulevard at Lakeland Road	Signal	AM	0.407	A
			PM	0.413	A
5	Norwalk Boulevard at Florence Avenue	Signal	AM	1.024	F
			PM	1.271	F
6	Norwalk Boulevard at Telegraph Road	Signal	AM	1.123	F
			PM	0.948	E
7	Pioneer Boulevard at Florence Avenue	Signal	AM	1.130	F
			PM	1.072	F
8	Pioneer Boulevard at Telegraph Road	Signal	AM	0.927	E
			PM	1.034	F
9	Orr And Day Road at Florence Avenue	Signal	AM	1.355	F
			PM	1.340	F

* Estimated ambient annual growth of 1% per City direction

[Insert FIGURE 5A] 2015 Volumes - AM

[Insert FIGURE 5B] 2015 Volumes - PM

PROJECT IMPACT ANALYSIS

Project Trip Generation

The project trip generation was determined using standardized trip rates from the Institute of Transportation Engineer (ITE), Trip Generation, 9th Edition. ITE Codes 150 (Warehousing) and 110 (Light Industrial) were applied in the analysis to estimate the inbound and outbound traffic generated by the project. The project trip generation is shown in ***Table 8***.

TABLE 8
Project Trip Generation

Proposed Building and ITE Land Use [2]	**Vehicular Trip Rates [1]** (Trips/KSFGFA)					
	AM Peak Hour			**PM Peak Hour**		
	Total	In	Out	Total	In	Out
Buildings1#, #2 and #3 — Warehousing (#150)	0.30	79%	21%	0.32	25%	75%
RDX Building — Light Industrial Use (#110)	0.92	88%	12%	0.97	12%	88%

Land Use	**PCE and Modal Split Adjustment [3]**	**Peak Hour Trip Generation**					
		AM Peak Hour			**PM Peak Hour**		
		Total	In	Out	Total	In	Out
Warehousing (1,203,965 SF)	Warehousing base	361	285	76	385	96	289
	PV Split = 80%	289	228	61	308	77	231
	PCE=1.0	**289**	**228**	**61**	**308**	**77**	**231**
	Truck Split = 20%	72	57	15	77	19	58
	PCE=2.0	**144**	**114**	**30**	**154**	**38**	**116**
Light Industrial (19,786 SF)	Light Industrial base	18	16	2	19	2	17
	PV Split = 80%	16	14	2	17	2	15
	PCE=1.0	**16**	**14**	**2**	**17**	**2**	**15**
	Truck Split = 20%	2	2	0	2	0	2
	PCE=2.0	**4**	**4**	**0**	**4**	**0**	**4**
Total Project Base Trips:		379	301	78	404	98	306
Total PCE Trips:		**453**	**360**	**93**	**483**	**117**	**366**

KSFGFA: 1,000 square feet of the gross/effective building area, per land use type
PV: Passenger Vehicles
[1] *Trip Generation*, ITE 9th Ed. (2008) V.II Trip Generator Rates #110 and #150
[2] Listed land uses include ancillary office space within the primary building area
[3] Passenger Car Equivalent (PCE) factor of 2.0 used for 20% of warehouse trips, per HCM intersection capacity analysis methods and ITE's land trip generation guidelines for "Warehousing" land use.

The proposed project is forecast to generate a total of 379 AM peak hour trips, and 404 PM peak hour trips. The ITE's data was used to calculate the anticipated truck mix for the proposed warehouse use. The percent of trucks anticipated during the AM and PM peak hours was then adjusted upwardly by a Passenger Car Equivalence (PCE) ratio of 2.0 passenger cars per truck, to account for the operational impacts of trucks on the intersection ICU ratings. Project peak hour trips were therefore converted to passenger car equivalents for the intersection LOS analysis, resulting in an increase in project trips to 453 AM peak hour PCE trips and 483 PM peak hour PCE trips.

Project Trip Distribution and Assignment

Project trips were distributed to the study area roadway network using existing traffic distribution characteristics, the projected project site accessibility for trucks and passenger cars, and an analysis of the logical routes from surrounding origin and destination zones for trucks passenger car trips for each proposed project land use. Based on this method, it was determined that 40 percent of trucks (50% of PCs) will access the site on the north side via Florence Avenue, and 60 percent of trucks (50% of PCs) will access the site on the south via Lakeland Drive. The project's AM and PM generated trips were then assigned to the surrounding transportation system using these distribution patterns for each of the study area intersections, as shown in the ***Figures 6 and 7***.

[Insert FIGURE 6] – TD/TG, AM

[Insert FIGURE 7] – TD, TG - PM

Project Completion (Year 2015 With Project) Conditions

The Project Completion (Year 2015 With Project) condition was developed by combining the project's AM and PM peak hour trips with the Year 2015 traffic volume base, representing the resulting intersection traffic volumes and LOS expected once the project is complete and in full operation. Project Completion Year 2015 intersection LOS is shown in ***Table 9***. As shown in Table 9, all study area intersections will operate at their pre-project Year 2015 Levels of Service with the addition of the proposed project's AM and PM peak hour trips.

TABLE 9
Year 2015 (With Project) Intersection Level of Service

Location			LOS Analysis		
No.	Intersection	Control	Peak Hour	Year 2015 + Project	
				V/C	LOS
1	Bloomfield Avenue at Lakeland Road	Signal	AM PM	0.795 0.895	C D
2	Bloomfield Avenue at Florence Avenue	Signal	AM PM	1.277 1.270	F F
3	Bloomfield Avenue at Telegraph Road	Signal	AM PM	0.935 0.841	E D
4	Norwalk Boulevard at Lakeland Road	Signal	AM PM	0.414 0.458	A A
5	Norwalk Boulevard at Florence Avenue	Signal	AM PM	1.048 1.342	F F
6	Norwalk Boulevard at Telegraph Road	Signal	AM PM	1.131 0.950	F E
7	Pioneer Boulevard at Florence Avenue	Signal	AM PM	1.172 1.098	F F
8	Pioneer Boulevard at Telegraph Road	Signal	AM PM	0.929 1.065	E F
9	Orr And Day Road at Florence Avenue	Signal	AM PM	1.362 1.366	F F

Impact Significance

A comparison of "Pre-Project" and "With Project" traffic conditions was performed in order to determine the significance of potential traffic impacts due to project on the surrounding study area intersections. Using the City's adopted significance thresholds, intersection volume-to-capacity ratios, delays, and LOS results which reflect the Year 2015 traffic conditions without the proposed GLC Santa Fe Springs project were compared with Year 2015 conditions with project traffic.

Table 10 summarizes this comparison to illustrate the changes in ICU, delays, and LOS at each study area intersection, and to indicate potential significant traffic impacts caused by the project's peak hour traffic during the opening year, 2015. The results summarized in Table 10 reveal that the following seven (7) study intersections would be significantly impacted during one or both of the weekday AM/PM peak hours due to the addition of the project traffic:

- Bloomfield Avenue at Lakeland Road (PM peak hour)
- Bloomfield Avenue at Florence Avenue (PM peak hour)
- Bloomfield Avenue at Telegraph Road (AM peak hour)
- Norwalk Boulevard at Florence Avenue (AM and PM peak hours)
- Pioneer Boulevard at Florence Avenue (AM and PM peak hours)
- Pioneer Boulevard at Telegraph Road (PM peak hour)
- Orr And Day Road at Florence Avenue (PM peak hour)

Based upon the findings of the impact analysis, the proposed project would not significantly impact traffic operations at the intersections of Norwalk Boulevard at Lakeland Road (Intersection #4) and Norwalk Boulevard at Telegraph Road (Intersection #6) in the Year 2015. Proposed project mitigation measures for the remaining intersection are summarized in the *Conclusions and Recommendations* section, below.

Congestion Management Compliance

The Los Angeles County Congestion Management Program (CMP) Report is a composite of traffic counts and improvement projects developed and implemented by the Los Angeles County Metropolitan Transportation Authority (L.A. County MTA) and local governments. The CMP serves to consistently track trends during peak traffic hours at major intersections in the country and identify areas in great need of improvements where congestion is worsening. The CMP requires that intersections which are designated as being officially monitored by the Program be analyzed by CMP criteria should a project generate 50 or more peak hour trips to the subject intersection. The nearest CMP-monitored roadways near the project are Imperial Highway and Artesia Boulevard, both located to the south of the project area. Both CMP arterials are located outside of the study area; therefore, a CMP analysis is not required for this traffic impact study.

[Insert TABLE 10] LOS COMPARISON Table

CONCLUSIONS AND RECOMMENDATIONS

- The proposed project consists of 1,223,751 SF of warehousing and 19,786 SF of light industrial uses. The project site is bounded by Bloomfield Avenue Drive on the east, Florence Avenue on the north, Lakeland Drive on the south, and existing manufacturing uses on the west.

- The proposed project will generate a weekday average of 379 AM peak hour trips and 483 PM peak hour trips. Since a portion of the warehouse trips will consist of heavy vehicle traffic, a Passenger Car Equivalent (PCE) ratio was applied to the truck mix from the total project trip generation, resulting in an adjusted generation of 453 PCE project trips in the AM peak hour, and 483 PCE project trips in the PM peak hour.

- A total of nine signalized intersections were analyzed within the vicinity of the project site. Two of the nine intersections were determined to be operating at satisfactory Levels of Service (LOS) under existing (Year 2014) conditions, while the remaining seven intersections are currently operating under deficient LOS "E" or "F" conditions during one or both of the AM and PM peak hours of the day.

- Based on the estimated trip generation, project distribution patterns, and trip assignment on the surrounding street system, weekday peak hour traffic generated by the proposed GLC Santa Fe Springs project would result in significant traffic impacts at seven (7) of the nine analyzed intersections during one or both of the AM and PM peak hours.

Several proposed measures were developed to preemptively mitigate project peak hour traffic impacts during the opening year 2015. A list of the recommended improvements is provided below in ***Table 11***.

Table 12 summarizes the improved intersection operations resulting from the implementation of the above mitigation measures. Based on the findings listed in Table 12, implementation of the proposed mitigation measures would reduce the anticipated project traffic impacts to less-than-significant levels, and would allow the GLC Santa Fe Springs Development, as proposed, to comply with the Transportation and Circulation Elements of the City of Santa Fe Springs' General Plan, as well as transportation and traffic requirements of the California Environmental Quality Act (CEQA).

TABLE 11
Recommended Intersection Mitigation Measures

Intersection		Description
#1	Lakeland Road at Bloomfield Avenue	- Widen southbound approach per Site Plan; - Construct exclusive southbound right-turn lane; - Restripe SB approach with three (3) through lanes - Restripe SB receiving lanes to provide three (3) travel lanes with downstream taper into two (2) lanes
#2	Florence Avenue at Bloomfield Avenue	- Install dual left-turn lanes on the eastbound and westbound approaches.
#3	Telegraph Road at Bloomfield Avenue	- Modify/cut raised median on the south leg by ±1' - Reconfigure southbound approach lanes from one (1) exclusive left, two (2) through lanes and one (1) de-facto right turn curb lane, to one (1) exclusive left, two (2) through lanes, and one (1) shared through/right turn lane - Restripe southbound receiving lanes as three (3) travel lanes and on (1) 4' bike lane, with downstream taper into two (2) through lanes at Heritage Springs Drive
#5	Florence Avenue at Norwalk Boulevard	- Install dual left-turn lanes on the eastbound and westbound approaches.
#7	Florence Avenue at Pioneer Boulevard	- Install dual left-turn lane on eastbound approach.
#8	Telegraph Road at Pioneer Boulevard	- Convert westbound #1 lane (inside through) to an exclusive left-turn lane.
#9	Florence Avenue at Orr and Day Road	- Reconfigure all lane approaches per the I-605 Congestion Hot Spots Arterial Conceptual Plan: - Widen eastbound and westbound shoulders; - Provide additional EB through lane on Florence Avenue - Provide additional WB through lane on Florence Avenue - Provide SB right-turn overlap phase; - Modify SB shared through/left lane as through-only lane; - Modify NB shared through/left lane as through-only lane; - Construct eastbound/westbound downstream merge lanes;

TABLE 12
Project Completion (Year 2015 Plus Project) Conditions
Intersection Impact Summary

Intersection	AM Peak Hour				PM Peak Hour			
	Without Improvement		With Improvement		Without Improvement		With Improvement	
	LOS Δv/c*	Project Impact?	LOS Δv/c*	Project Impact?	LOS Δv/c*	Project Impact?	LOS Δv/c*	Project Impact?
#1 Lakeland Road at Florence Avenue	C +0.029	No	*No mitigation required*		D +0.048	Yes	+0.014	**No**
#2 Florence Avenue at Bloomfield Avenue	F +0.009	No	*No mitigation required*		F +0.026	Yes	+0.000	No
#3 Telegraph Road at Bloomfield Avenue	E +0.011	Yes	E -0.013	**No**	D +0.010	No	*No mitigation required*	
#5 Florence Avenue at Norwalk Boulevard	F +0.024	Yes	E -0.044	**No**	F +0.071	Yes	F +0.005	**No**
#7 Florence Avenue at Pioneer Boulevard	F +0.042	Yes	F -0.007	**No**	F +0.026	Yes	F -0.009	**No**
#8 Telegraph Road at Pioneer Boulevard	E +0.002	No	*No mitigation required*		F +0.031	Yes	F +0.000	**No**
#9 Florence Avenue at Orr and Day Road	F +0.007	No	*No mitigation required*		F +0.026	Yes	F -0.075	**No**

* Relative change in the intersection volume-to-capacity (V/C) due to project traffic during the Project Opening Year 2015