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VIA HAND DELIVERY AND EMAIL

August 12, 2013

Hon. Jose Huizar, Chair
Hon. Gilbert Cedillo
Hon. Mitchell Englander
Planning Land Use and Management Committee,
Los Angeles City Council
c/o City Clerk
200 N. Spring Street, Room 395
Los Angeles CA 90012-4801

Re: Further Objections to and Appeal of VTTM 61216, CPC-2010-3152 and ENV-
2004-6000-EIR, SCH No. 2004111068 (Il Villagio Tosacano)

Dear Councilmembers Huizar, Cedillo, and Englander:

I. INTRODUCTION.

This office represents Sherman Oaks Residents for a Safe Environment ("SORSE"), whose members live in Sherman Oaks and who will be adversely impacted by development of the proposed Il Villagio Toscano project ("Project"). This correspondence constitutes additional written comments on and objections to the proposed EIR and entitlements for the Project that supplement comments previously provided on February 14, 2013 and April 23, 2013.

Please ensure that notice of all hearings, actions, events and decisions related to the Project are timely provided to this office. All objections, including those regarding proper notice and due process, are expressly reserved.

II. THE CITY CANNOT MAKE THE FINDINGS REQUIRED FOR EXCEPTIONS TO THE SPECIFIC PLAN.

A. The Applicant Has Not Provided Sufficient Evidence To Show That The Strict Application Of The Regulation Of The Specific Plan To The Subject Property Would Result In Practical Difficulties Or Unnecessary Hardships Inconsistent With The General Purpose And Intent Of The Specific Plan.

Four general reasons are given for the exceptions as a whole before the specific exceptions sought are addressed. None of the general reasons, however, apply to this finding.

The findings applicable to the exceptions sought for FAR and height are equally lacking in substantial evidence

1. General

- Sound wall

The findings claim that “while the infill development site gains an advantage by its relative isolation from single family development, having an almost 3-story sound wall running along one property line creates practical difficulties and unnecessary hardship.” This will be addressed in the discussion of the exception findings as they relate to height and FAR.

- Split Zoning

The findings themselves note that the current split zoning, which represents an alleged existing hardship to development, will be remedied by the zone change. The hardship will no longer exist and no exception is thus necessary to develop the property. A past hardship that no longer exists is not a hardship applicable to this finding.

- Location, Generally

The findings claim that “the proposed Project is appropriately locating housing density in a location which addressed Specific Plan Traffic considerations.” This is a benefit of the Project advocated by the applicant. A purported benefit is not a practical difficulty or unnecessary hardship.

- Proximity to employment and transit

The findings claim that “the site’s proximity to a large employment node and quality transit creates an opportunity to further the goal of ... equilibrium [between transportation infrastructure and land use development].” Again, something that is touted by the applicant as a purported benefit of the Project cannot be, by definition and common sense, a practical difficulty or unnecessary hardship.

With respect to the justifications for location and proximity, the City Council would be wise to review the memorandum provided by the City Attorney to the Council regarding *Chazanov v. City of Los Angeles*, L.A.S.C. Case No. BS135382, a variance case decided on January 17, 2013. A copy of that memorandum, dated March 29, 2013, is attached as **Exhibit 1**. In *Chazanov*, the Court ordered the City to set aside the approval of certain variances. In doing so, according to the City Attorney, “the Court noted that some City Council ‘members made eloquent and compelling statements about the need for the City to preserve and increase its housing stock. These laudable public policy goals, however, may not be used by the City Council to dismantle the City’s zoning scheme in a piecemeal fashion.’” So it is here. In

response to any claim that “variances” are not being sought here, an exception is a variance in everything but name. “[I]f it looks like a duck, walks like a duck, and sounds like a duck, it is a duck.” *People ex rel. Lockyer v. Pacific Gaming Technologies* (2000) 82 Cal.App.4th 699, 701, fn. 1. However laudable the goals the Project purports to meet, those justifications may not be used to grant exemptions and dismantle the Specific Plan.

2. Floor Area

The findings claim that strict enforcement of the FAR “makes impractical the construction of a mixed-use development that maximizes the Specific Plan’s equilibrium desires” and the City’s desire to locate housing near jobs. Yet, the FAR specified for the site is the maximum that represents the competing interests in the Specific Plan – 1.5. The Specific Plan does not suggest otherwise and this finding has no substantial evidence to support it. Rather than seek parity with other properties in the Specific Plan area, the applicant is instead seeking a privilege beyond that granted to other similarly situated properties.

We also note that that this Project is not a mixed-use development as defined by the Specific Plan. This makes the claim inapplicable to this Project.

The findings also claim that the Specific Plan FAR limitation of 1.5:1 is inconsistent with the General Plan Regional Center and Community Plan Regional Commercial FAR. This statement is factually incorrect. According to the of the General Plan Framework Element, Chapter 3, “[g]enerally, regional centers will range from FAR 1.5:1 to 6:1 and are characterized by six- to twenty-story (or higher) buildings as determined in the community plan.” The Community Plan does not provide a separate FAR. Therefore the Specific Plan FAR is consistent with the General Plan and Community Plan, simply at the low end of the scale – appropriate for that portion of the Regional Center furthest from Ventura Boulevard.

The findings also claim the need to build a podium requires the exception. This finding was made for a Project seeking an exception for 100’ in height. Yet the applicant has accepted a reduction from 100’ to 82’. This renders suspect any claim that he cannot build to 75’. He would still be allowed to build 49’ above the top of the sound wall, approximately six stories. Indeed, the CPC findings related to height (F-17) explicitly note that six stories can be provided on top of the residential podium within the 75’ height limit. That the developer’s proposal only has four stories fronting Sepulveda is not a hardship or difficulty for purposes of an exception. Even assuming it were a hardship or difficulty, it is a hardship or difficulty of his own making. It is not of a type or one sufficient to grant an exception.

3. Height

The findings claim that the exception is needed to create a “physically viable project.” This finding was made for a Project seeking an exception for 100’ in height; however, the applicant has accepted a reduction from 100’ to 82’. This renders suspect any claim that he

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cannot build to 75'. There is no evidence to support the claim that limiting height to 75' and providing a stair stepping design compatible to the area would not result in a physically viable project. It simply means there would be fewer units and/or less commercial space.

The findings also claim that the exception doesn't violate the "spirit of the Specific Plan." Whether the exception for a height increase does or does not violate the "spirit" of the Specific Plan is irrelevant to this finding. The standard involves practical difficulties or unnecessary hardships, not an assertion of consistency with the Specific Plan. Asserting consistency is no different than the assertion of "laudable public policy goals" in support of a variance rejected by the Superior Court in *Chazanov*.

The findings also claim that the Project is consistent with existing building heights in the area. Consistency with area building heights is irrelevant to this finding. The standard involves practical difficulties or unnecessary hardships. While *inconsistency* might arguably show a practical difficulty or unnecessary hardship, consistency does not. Moreover, the Project's height would be consistent even at 75'.

B. The Applicant Has Not Provided Sufficient Evidence To Show That There Are Exceptional Circumstances Or Conditions Applicable To The Subject Property Involved Or To The Intended Use Or Development Of The Subject Property That Does Not Apply Generally To The Other Properties In The Plan Area.

The findings claim that site configuration and location provide evidence of the finding. The arc boundary, however, is not an exceptional circumstance. This finding was made for a Project seeking an exception for 100' in height. Yet the applicant has accepted a reduction from 100' to 82'. This renders suspect any claim that he cannot build to a limitation of 75'. Even with the arc boundary and sound wall, he can still build six stories above the podium adjacent to the freeway and within the 75' height restriction.

The findings claim the split zoning to be an exceptional circumstance. The findings note, though, that the current split zoning will be remedied by the zone change. This alleged exceptional circumstance will no longer exist and no exception is thus necessary to develop the property. An exceptional circumstance that no longer exists is not an exceptional circumstance applicable to this finding.

Distance from Ventura Boulevard also does not warrant an exception. If anything, the increased distance from Ventura Boulevard is evidence supporting denial of the exceptions; the site is farther from mass transit than properties closer to Ventura Boulevard.

The findings also claim the surrounding built environment – adjacency to commercial uses, employment centers, retail centers and mass transit option is an "exceptional circumstance." Quite the contrary; the surrounding built environment as described is pretty

much the same surrounding built environment for the entire Specific Plan area and thus applies to most properties within the Specific Plan area.

C. The Applicant Has Not Provided Sufficient Evidence To Show That An Exception From The Specific Plan Is Necessary For The Preservation And Enjoyment Of A Substantial Property Right Or Use Generally Possessed By Other Property Within The Specific Plan And Are In The Same Zone And Vicinity But, Which, Because Of Special Circumstances And Practical Difficulties Or Unnecessary Hardships, Is Denied To The Property In Question.

As a prologue here, it bears noting that this Project is not a mixed-use project as defined by the Specific Plan, even though the finding calls it mixed-use.

1. Floor Area

The findings claim that the practical difficulty of building a podium in order to bring the development above the level of the sound wall creates a hardship by limiting the most viable use to a density that creates a financially infeasible project. This assertion lacks evidence to support it on two fronts. First, the applicant has not provided a pro forma or financial information to support the claim and even if he did, the information would be irrelevant to this finding. "If the property can be put to effective use, consistent with its existing zoning, without the deviation sought, it is not significant that the [exceptions] sought would make the applicant's property more valuable, or that they would enable him to recover a greater income, nor that they would relieve him from undesired costs in compliance with the existing restrictions." *Hamilton v. Board of Supervisors* (1969) 269 Cal.App.2d 64, 67. We note the current zoning would not allow construction of a residential condominium project with a relatively small commercial component. That, however, will be remedied with the zoning change.

Second, this finding was made for a Project seeking an exception for an FAR of 2.75. The applicant has accepted a reduction to 2.25. This renders suspect any claim that he cannot feasibly build to a lower FAR consistent with the Specific Plan.

2. Height

The same claim for height is made here as for FAR. This finding, however, was made for a Project seeking an exception for 100' in height, yet the applicant has accepted a reduction from 100' to 82'. This renders suspect any claim that he cannot build to 75'. He can still build six stories above the podium adjacent to the freeway and within the 75' height restriction.

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D. The Applicant Has Not Provided Sufficient Evidence To Show That The Granting Of An Exception Will Not Be Detrimental To The Public Welfare Or Injurious To The Property Or Improvements Adjacent To Or In The Vicinity Of The Subject Property.

Quite the contrary, there is substantial evidence that the granting of an exception will be detrimental to the public welfare or injurious to the property or improvements adjacent to or in the vicinity of the subject property.

1. Floor Area

The purpose of the exception is to increase density within *thirty-five feet* of one of the busiest freeways – and freeway interchanges – in the nation. Granting the exception to allow this would run counter to recent precedential action taken by the City Planning Commission and City Council.

Recently, your Planning Commission imposed a project condition on the Casden West Project in Council District 5 requiring the applicant *to move all residential units outside of 500 feet from the 405 Freeway. (Exhibit 2 [p. Q-6].)*¹ The Commission's findings noted health risk impacts, and specifically identified outdoor air quality as a concern and a basis for the condition. During the course of its February 28, 2013 hearing on Casden West the Commission expressed numerous health risk concerns, including the general health concerns of putting residential units within 500 feet of a freeway, and the difficulty in relying on a HEPA filter of Merv-13 to achieve 0.1 micron diameter filtration, the particulate matter that poses the greatest health risk, according to an air quality consultant who testified at the hearing. The PLUM Committee accepted the CPC recommendations and findings without change. The Council also accepted the findings and ultimately approved a project even smaller than the one recommended by the CPC.

We understand that in some circumstances it may not be possible to preclude all new residential use within 500 feet of a freeway; here, a portion of the Project site is already zoned residential. The Council, though, should not be granting exceptions to increase the FAR, height, and density of residential units within 500 feet of not just one, but two freeways, the 101 and the 405. The subject area at the intersection of the 101 and 405 is one of the most congested freeway and air quality "hot spots" in all of Southern California. Granting exceptions to increase the height, FAR and density of residential units within 500 feet of those freeways is nothing more than a grant of privilege to expose more members of the public to some of the most toxic concentrations of air pollution in the region and create more detriment to the public welfare.

Zoning Information Advisory No. 2427 (**Exhibit 3**) recommends no operable windows on the freeway frontage as a design element for multi-family projects within 500 feet of a

¹ The units in the Casden West project that the Commission sought to be moved were within 300' of the freeway. Units in this Project will be as close as 35' feet of the freeway.

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freeway. We have yet to see if that design recommendation has been incorporated into the Project. Even if it has, however, the significant public health impacts still exist with respect to any unit facing Sepulveda or Camarillo. As the attached analysis from Mr. Hans Giroux notes, a project design that eliminates operable windows only facing the freeway façade will not minimize residential indoor air pollution. Pollution swirls around. (**Exhibit 4**. See, also, Section III, infra.)

The City should not be granting exceptions that increase the residential density above that which would be allowed absent the exception. To put it more bluntly, granting an exception to increase density next to the freeway will put more people in harm's way, and is thus detrimental to public welfare.

The EIR acknowledges that there will be a significant and unmitigable impact to traffic at every intersection along Sepulveda Boulevard between Ventura Boulevard and the freeway, as well as one freeway onramp. Substantial evidence was provided of the adverse effect of Project traffic on the residential neighborhood to the east. This additional traffic is clearly detrimental to the public welfare and injurious to property and property owners in the vicinity.

It is irrelevant that a different project would also result in these significant and unmitigable impacts. While comparison to another hypothetical project's traffic impact is appropriate for an alternatives analysis in an EIR, it is not material here. The question here is simply whether the granting of the exception *for this project* will be detrimental to the public welfare.

The FAR exception, along with the lot coverage exception, also injures the public welfare in contributing to a safety hazard where Camarillo intersects with the fire lane leading to the residents' garage entry. In order for trucks to get to the commercial loading dock they have to make a right turn from Camarillo onto the fire lane, head north on the fire lane and then back into the loading dock. They cannot make that right turn, though, without swinging into southbound traffic. The fire lane is the only access residents would have to Camarillo and northbound Sepulveda. On one side of this fire lane is a 26' sound wall and on the other side a 6-8 story building with a minimal (if any) setback. This presents a potential public safety hazard and injury to the public welfare for which exceptions should not be granted.

2. Height

Here, as well, the purpose of the exception is to increase density within 35' of one of the busiest freeways – and freeway interchanges – in the nation. The detriment to public welfare and injury to the nearby residential community identified for the FAR exception, above, are equally applicable here.

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E. The Granting Of Exceptions Will Not Be Consistent With The Principles, Intent And Goals Of The Specific Plan And Any Applicable Element Of The General Plan.

1. Lack of Consistency with the Specific Plan

Given the number of exceptions from the Specific Plan still necessary for the Project to move forward, no one could argue anything other than the inconsistency of the Project with the Specific Plan. The Specific Plan does create a mechanism for granting exceptions, but granting the specific exceptions sought by the applicant will not eliminate inconsistency with the Specific Plan.

In granting any exception from a standard in the Specific Plan, consistency must still be demonstrated with the relevant purposes outlined in Section 2 of the Specific Plan. The Project, however, is not consistent with those purposes and remains inconsistent with the intent of the Specific Plan even if, or especially if, the exceptions sought are granted.

Purpose A of the Specific Plan is “to assure that an equilibrium is maintained between the transportation infrastructure and land use development in the Corridor and within each separate community of the Ventura-Cahuenga Boulevard Corridor Specific Plan area.” As noted in SORSE’s February 14, 2013 and April 23, 2013 comment letters, the disequilibrium caused by the Project is a function of substantial and significant traffic and circulation impacts that remain even after alleged mitigation.

The response ignores this, instead setting up a straw man to deflect the criticism – discussing other potential projects that might be permitted under the Specific Plan that would create even more traffic. The consistency determination, however, must be to *this Project* measured against Purpose A, not a comparison to some other fantasy project. Moreover, there are potential projects, such as the alternative suggested by the Sherman Oaks Homeowners Association or a residential project that requires no exceptions, which may create less impact than both the Project and the straw men set up in the response.

We recognize that projects can move forward with significant adverse traffic impacts for purposes of CEQA if a statement of overriding considerations is adopted. The inconsistencies here, though, are far more than a CEQA issue. The disequilibrium is created by gridlock at every intersection along Sepulveda between Ventura Blvd. and the freeway. The resulting inconsistency violates City Charter section 556 and cannot be overridden with a recitation of purported Project benefits.

Purpose B of the Specific Plan is “to provide for an effective local circulation system of streets and alleys which is minimally impacted by the regional circulation system and reduces conflicts among motorists, pedestrians, and transit riders.” This Project, with the exceptions it seeks, creates significant traffic impacts at every intersection along Sepulveda from Ventura

Blvd. to the freeway that cannot be mitigated to a level of less than significant, and severely impacts access to parking for the motel and Grand Apartments, as well as on the residential neighborhoods and streets east of Sepulveda. This is far more than a minimal impact.

The response here also suffers the same failure as the response to comment detailing inconsistency with Purpose A. Again, the response sets up a straw man – other development locations in the community further away from the 101/405. The consistency determination, however, is whether this Project is consistent with Purpose B, not whether a project elsewhere would be less consistent.

Purpose L of the Specific Plan is “to provide community development limitations based on the community infrastructure’s transportation capacity.” That is exactly what the standards in the Specific Plan are intended to do. If a project results in significant and unmitigable impacts to circulation, those impacts are substantial evidence that the transportation capacity is being exceeded. This Project does have those impacts, creating further evidence of inconsistency with this purpose of the Specific Plan.

None of the foregoing should be used to respond that *any* exceptions would violate the stated purposes of the Specific Plan. We recognize that if that were the case, the process for seeking exceptions for a project would be superfluous. It is the exceptions being explicitly sought for *this* Project that result in inconsistency with the stated purposes of the Specific Plan.

2. Lack of Consistency with the Community Plan

The EIR claims that the Project is consistent with Community Plan Objective 1.1, “to provide for the preservation of existing housing and for the development of new housing to meet the diverse economic and physical needs of the existing residents and projected population of the Plan area to the year 2010,” because it provides new housing. One cannot make that determination, however, without actually reviewing the policies adopted by the City to implement the Objective. In actually reviewing the policies that implement this Objective the inconsistency of the Project with this Objective 1.1 becomes readily apparent. In particular, the Project is inconsistent with the following policies:

“1-1.2: Protect existing single family residential neighborhoods from new, out-of-scale development.

“1-1.3: Protect existing stable single-family and low density residential neighborhoods from encroachment by higher density residential and other incompatible uses.

“1-1.4: Protect the quality of the residential environment through attention to the appearance of communities, including attention to building and site design.

“1-1.6: The City should promote neighborhood preservation, particularly in existing single family neighborhoods, as well as in areas with existing multi-family residences.”

As amply demonstrated throughout this and prior correspondence, a Project of the height, size, and scale sought by the applicant does not protect nearby residential neighborhoods from out-of-scale, incompatible uses. No matter how nice a building may look in a vacuum, a Project out-of-scale and incompatible with the surrounding neighborhood degrades the quality of that neighborhood. A Project that creates significant unmitigable traffic impacts to virtually the entire ingress/egress system of a residential neighborhood, as this Project does to the neighborhood bordered by Kester, Sepulveda, the Ventura Freeway and Ventura Boulevard, does not promote preservation of that neighborhood. Rather, it promotes deterioration and destruction of that neighborhood.

The response to comments attempts to justify its failure to analyze Policies 1-1.2 and 1-1.3 by asserting they do not apply to projects adjacent to a single-family or low density neighborhood. There is, however, no such language of limitation in the policies of the plan; they are written broadly to encompass new development both within and adjacent to low density neighborhoods. Moreover, the word “encroachment” implies advancing beyond some set of limits. By definition, encroachment upon a neighborhood starts from outside the neighborhood boundaries. This same analysis also applies to Policy 1-1.6.

The response to comments also goes on to say that the policies are not relevant because the implementation programs do not apply to the Project. Direct implementation of a policy, however, is different than whether a Project is consistent with a policy. The policies are not so narrow in language, nor is there any language of limitation in the policies that indicates that implementation of a single program is the only measure of consistency. Loan programs, as an example, are not the only means to promote neighborhood preservation.

This approach taken with respect to Policies 1-1.2, 1-1.3, and 1-1.6 is also inconsistent with the approach taken elsewhere in the responses to comments, for example Policy 2-3.5. That response notes that the policy is only applicable to sites in designated pedestrian oriented districts, but then asserts consistency with the policy even though the response acknowledges the Project is not in a designated pedestrian oriented district. In addition to all of the other flaws noted above, those responding to comments cannot assert some policies are narrowly drawn to preclude their application to the Project, but not others.

3. Lack of Consistency with the General Plan

The Project is inconsistent with General Plan Air Quality Element Policy 4.3.1, “revise the City’s General Plan/Community Plans to ensure that new or related sensitive receptors are located to minimize significant health risks posed by air pollution sources.” Granting significant exceptions to the Specific Plan in order substantially increase the density and number of units in

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the Project does the exact opposite of minimizing significant health risks posed by air pollution sources.

We also note the findings of the Casden West project include the following significant Land Use Planning impact, "Land Use Planning (Conflict with Land Use Plan, Policy, or Regulation). It is located in close proximity to the San Diego Freeway, which may result in health risk impacts. Specifically outdoor air quality impacts..." (**Exhibit 2** [p. F-114].) These impacts result in additional inconsistencies with relevant land use plans and policies. (*Id.* ["...impacts related to the inconsistencies with General Plan policies, including the health risk impacts discussed above will remain significant and unavoidable".]) Such impacts are literally multiplied and magnified in this case over and above the Casden conditions, where the proposed project here would be even closer to the freeway, and in fact to the intersection of two of the busiest freeways in the nation.

III. THE SIGNIFICANT ADVERSE AIR QUALITY IMPACTS RELATED TO THE PROJECT REQUIRE REJECTION IN ITS CURRENT FORM.

The significant and adverse impacts to public health that will result from placing a high concentration of multi-family units within 500' of a freeway are well-documented and need not be recounted here. What must be recounted here, however, is how the City has addressed these well-documented impacts, most recently with the Casden West project near the San Diego Freeway.

The CPC recommended approval of Casden West, but only after imposing a project condition requiring the applicant to move all residential units outside of 500' from the freeway. (*Id.* [pp. Q-6, F-44].) Contrast that with the situation here, where the closest units are as close as 35' from the freeway.

The Casden West findings noted health risk impacts, and specifically identified outdoor air quality as a concern as a basis for the condition. (*Id.* [pp. F-114-116].) During the course of the February 28 hearing the CPC expressed numerous health risk concerns. These included:

- The general health concerns of putting residential units within 500 feet of a freeway;
- The difficulty in relying on a HEPA filter of Merv-13 to achieve 0.1 micron diameter filtration, the particulate matter that poses the greatest health risk, according to the air quality consultant who testified at the hearing; and
- The reduction in the effectiveness of any filter with windows (and, as here, balcony doors) that open.

Project opponents appealed and PLUM recommended denial of the appeal. In doing so, PLUM made no changes to the CPC action. The project as approved by the Council upheld the CPC findings and approved a project even smaller than that approved by the CPC.

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Some times housing policies and policies related to public health may be at odds. Through ZI No. 2427 and the action on Casden West, however, the Council has made it clear that in the case of conflict, public health must prevail.

PLUM and the City Council should demand no less of this Project than has been demanded of Casden West. We understand that in some circumstances it may not be possible to preclude all new residential use within 500 feet of a freeway; however, at the very least, the City should not be granting exceptions to increase the FAR, height, and density of residential units within 500 feet of not just one, but two freeways. The subject area at the intersection of the 101 and 405 is one of the most congested freeway and air quality "hot spots" in all of Southern California, if not the country. Granting exceptions to increase the height, FAR and density of residential units within 500 feet of those freeways is contrary to established policy, contrary to recent precedent, and is in disregard of significant health and safety issues which the CPC extensively addressed in its consideration of the Casden West project and its rejection of new multi-family dwelling units within 500 feet of a freeway. It is also contrary to law.

Assertions were made by applicant's counsel at the CPC hearing in this matter to the effect that prevailing winds in the area of the Project are such as to lessen the impact of freeway pollution. As demonstrated by the comments of Mr. Giroux, attached as **Exhibit 4**, such claims are fiction.²

Equally as fiction are the assertions by applicant's counsel that several of the exhibits to SORSE's earlier letters are "general topic articles" that are not specific to the Project and thus not substantial evidence. Such a claim finds no basis in law. Several of the exhibits include a study of the effects of air pollution in Southern California on childhood lung development, a USC School of Medicine Study of freeway traffic exposure to increased likelihood of asthma and other respiratory diseases. Studies addressing the health impacts of living next to a freeway are clearly relevant to a large-scale residential project next to a freeway.³

The relevancy of these studies to Project and public health impacts from development next to freeways has been highlighted even further by additional studies. Another study has linked air pollution and autism, with one article characterizing the study as discovering "a link between cases of autism in Los Angeles County and air pollution caused mostly by freeway traffic in the area, including that of the 101 and 405 freeways near Sherman Oaks." (**Exhibit 6.**)

² Mr. Giroux has also commented on the Project's over-reliance on MERV rated air filters as Project mitigation (**Exhibit 5**), the same concern raised by members of the CPC with respect to the Casden West project.

³ So it with other SORSE exhibits which the applicant's counsel attempts to dismiss. Each is relevant to the claim of a less than significant impact made in the EIR. We also find it curious that applicant's counsel suggests that an exhibit providing a portion of the Framework Element of the General Plan is not substantial evidence, given the claim that the Framework Element is applicable to the Project.

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Additional study has also shown freeway pollutants travel farther in the morning than had previously been believed. (**Exhibits 7 and 8.**)

IV. THE PROJECT CREATES DANGEROUS TRAFFIC SAFETY CONDITIONS AT THE CAMARILLO/SEPULVEDA INTERSECTION.

The one block of Camarillo serving the Project is approximately 580' long. The site plans show they alley on the south side, serving the motel and the Grand Apartments about 200' from Sepulveda. Essentially, the only way to access this alley is to make a left turn from west-bound Camarillo. As we pointed out previously, this alley will likely be temporarily blocked during the p.m. peak hour by vehicles going eastbound on Camarillo, especially when those vehicles are stopped by a red light at Sepulveda.⁴ This has the real possibility of creating a significant safety hazard. Vehicles attempting to make that left turn into the alley will be impeded, potentially backing up traffic into the Camarillo/Sepulveda intersection.

The response to comments avoids the point of the discussion, simply asserting that the conclusions are speculative and allegedly beyond the City's standard methodologies. What this really says is that because the City's methodologies allegedly don't require it to be studied, it cannot possibly be a safety hazard or a significant impact to traffic. "Common sense is an important consideration at all levels of CEQA review." *Save the Plastic Bag Coalition v. City of Manhattan Beach* (2010) 25 Cal.4th 155, 175. This response from the applicant, accepted into the EIR response to comments, lacks common sense.

Common sense and collective experience dictate that "do not block" markings on the pavement in front of the alley – which the response suggests – are likely to be honored only in the breach, contrary to the suggestion in the response to SORSE's comments. The absurdity of the response is compounded by the response's suggestion that "motorists experiencing delay while attempting to make left turns into access points on the south side of Camarillo Street can continue westerly to the terminus of Camarillo Street...make a U-turn...and make a right turn" into the alley or driveway. What this response tells us is that when confronted by an alley blocked by a traffic queue, a motorist will go to the end of the street, make a U-turn (or even a three point U-turn) at a point where motorists may also be trying to exit the fire lane serving the Project or the Galleria parking structure, and get into the very queue that was blocking him or her in the first place. This is highly unlikely, verging on ridiculous. Again, common sense and collective experience tell us that a motorist will wait for a break in the traffic (as we all probably have) in order to make that left turn.

⁴ A queue of 8 or 9 cars may be enough to block the alley.

V. THE EIR ANALYSIS OF IMPACTS ON FIRE DEPARTMENT RESPONSE TIMES IS INADEQUATE AND NOT SUPPORTED BY SUBSTANTIAL EVIDENCE.

The EIR purports to analyze the impact of the Project on the demand for fire services and concluded there is no significant impact; however, the EIR fails to adequately analyze the time to respond to emergencies at the site, and relies on data regarding response times by the Los Angeles Fire Department (Table IV.J.4) that the department itself has declared unreliable. Accordingly, it is entitled to no deference, as it mars the EIR's entire disclosure and analysis in this critical subject matter area.

According to the EIR, "the 2008 response time for Fire Station No. 88 to the project site was approximately 3.2 minutes (which includes call processing, dispatching and travel time). This time is well below the five minute threshold that is generally acknowledged as an acceptable response time. Thus, project-related traffic is not anticipated to impair the LAFD from responding to service requests at the project site." (p. IV.J-26.) There is, however, no substantial evidence to support this conclusion.

We know now the response time data to be unreliable. Instead of compliance with the five-minute threshold, records show that LAFD responds on average at seven minutes and twenty-four seconds, 90% of the time (**Exhibit 9** ["LAFD Deployment Plan Under Fire," NBCLA, March 24, 2012].) LAFD acknowledged in March 2012 that for years it had provided decision makers with misleading statistics. (**Exhibit 10** ["L.A. Council Members Call For Accurate Fire Department Figures," L.A. Times, March 13, 2012].)

On November 2, 2012, the Los Angeles Fire Chief released a Preliminary Report from the Task Force on Information and Data Analysis, which stated "***all prior reporting data should not be relied upon until they are properly recalculated and validated with the new recommended changes.***" (**Exhibit 11**, p. 3 [emphasis added].) In other words, because of concerns with the reliability of emergency and fire response time reporting, all data prior to November 2, 2012 are not to be relied upon.

The cumulative impact analysis is also flawed. It addresses only the number of responses within the service district. It ignores entirely transboundary responses and, more importantly, ignores response times entirely. All parties involved in this matter have acknowledged the coming worsening gridlock on Sepulveda Blvd. from Ventura Blvd. to the freeway during peak hours. The gridlock that will only get cumulatively worse, and will have an impact on response times that is neither analyzed nor disclosed.

Emergency response times are a matter of life and death and must be based upon accurate data. That data does not now exist. The EIR has no substantial evidence to establish that the Project will not have significant impacts on fire and safety protection for the City or the occupants/users of the Project site.

PLUM Committee
August 12, 2013
Page 15 of 19

The design of the Project may also have an impact on response times that the EIR fails to analyze. In our correspondence of April 23, 2013 we noted that commercial truck traffic turning right from Camarillo northbound onto the fire lane could only do so by swinging into southbound traffic, crossing a transportation threshold of significance because the Project would substantially increase hazards due to a design feature. That equally applies to fire engines, crossing not only a transportation threshold of significance, but also impacting response times. A copy of the report attached to that correspondence is attached hereto as **Exhibit 12**.

Because the EIR failed to adequately analyze the impact of emergency response times, relying on LAFD response time data that even the department has declared unreliable, there simply has been a failure of proper disclosure and analysis. The EIR must be recirculated with proper disclosure and analysis of impacts related to fire, emergency response times, and fire and paramedic facilities and resources, both Project-specific and on a cumulative impacts basis.

VI. THE ANALYSIS OF IMPACTS TO US-101 AND I-405 ARE LEGALLY INADEQUATE AND MUST BE REVISED.

In its comments to the Draft EIR, Caltrans noted that it does not consider the Los Angeles County CMP analysis alone to be adequate for the analysis of transportation acts pursuant to CEQA. The response in the Final EIR was essentially to dismiss Caltrans and respond that the department did not “identify what other method should be used or provide any evidence showing that if the unspecified method were used that the cumulative impacts would be significant.”

It strains credibility for those preparing environmental documentation and the transportation engineers on which they rely to claim that they do not know what methodology Caltrans believes necessary for analysis of state highways over which Caltrans has jurisdiction.

Moreover, Caltrans has been quite clear in comments to other projects in Los Angeles regarding the appropriate analytical tools and the deficiencies in CMP analysis, and therefore the City Planning Dept. and DOT clearly know the information which they incredulously deny knowing in this matter. Recently, in February 19, 2013 comments on the Millennium Hollywood project, the department noted that it “informed the City that the TIS needs to comply with the *“Caltrans Guide for the Preparation of the Traffic Impact Studies.”* Unfortunately, the City did not work with Caltrans and instead relied on its own Congestion Management Program (CMP), which **DOES NOT** adequately study the impact to the [State Highway System]...The City’s analysis incorrectly focuses its attention on *impacts to the CMP from the Project*. CEQA does not call for an evaluation of the impacts of a proposed project on an existing plan; it is concerned with the impacts from the project upon the environment, which is defined as the existing conditions in the affected area.” (**Exhibit 13**, emphasis in original.)

So it is here. The traffic study must be redone using the new information from the traffic impact study in the Millennium Project EIR, must use the protocol directed and established by

Caltrans which analyzes the impacts to the state highway system, with an adequate cumulative traffic analysis for US-101 and I-405. This is all the more critical because, as identified below, the cumulative impacts analysis has omitted related projects with a significant impact to US-101 and I-405.

VII. THE CUMULATIVE IMPACTS ANALYSIS IS INADEQUATE AND OUTDATED.

Cumulative impacts are defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” CEQA Guidelines § 15355. “The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.” CEQA Guidelines § 15355(b). Without proper consideration of cumulative impacts, critical issues such as transportation impacts may be “submerged,” with potentially “disastrous consequences” to the environment. *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 283-284.

We previously noted that the cumulative impacts analysis for transportation fails to take into account the I-405 Sepulveda Pass Improvements Project, which will widen the freeway and make other improvements north to US-101. See <http://www.metro.net/projects/I-405>, click “overview” and “interactive maps” (incorporated herein by this reference). Construction will occur through at least mid-2014, likely having impacts to Sepulveda Blvd. and circulation on other area streets that will have overlapping and cumulative impacts with Project construction. None of that was disclosed, analyzed or mitigated, thus further rendering the EIR defective under CEQA.

The applicant’s counsel attacked this comment merely by saying that the I-405 project only has short-term construction impacts, but will ultimately improve capacity along the corridor. This response misses the point. CEQA requires discussion of both short-term and long-term effects. CEQA Guidelines § 15126.2(a). If the construction periods of the projects overlap there are cumulative impacts, maybe short-term or maybe longer, but in any event that have not been disclosed.

The list of related projects is some five years old and should be updated and the cumulative impact analysis revised. The Project cannot hide behind a 2004 Notice of Preparation as a basis for failing or refusing to include the I-405 improvements or other more recent projects in the cumulative impacts list. Administrative agencies not only can, but should, make appropriate adjustments, including to the baseline, as the environmental review process unfolds. No purpose would be served, for example, if an agency was required to remain wedded to an erroneous course and could only make a correction on remand after reversal on appeal. *Citizens for East Shore Parks v. State Lands Commission* (2011) 202 Cal. App. 4th 549. *Citizens* does not require that the City update its baseline, but it does stand for the proposition that a

PLUM Committee
August 12, 2013
Page 17 of 19

baseline must be supported by substantial evidence. The failure to include the I-405 Sepulveda Pass Improvements Project means the cumulative impacts analysis with respect to transportation impacts is not supported by substantial evidence.

The I-405 Sepulveda Pass Improvements Project is not the only project improperly omitted from the related projects list. The list also excludes the NBC Universal City Vision Plan (1.56 million square feet of commercial space plus hotel and multi-family units) and the Fashion Square Expansion (172,000 square feet of new commercial space), even though Il Villagio Toscano is included in both of those project's respective related projects list. (**Exhibit 14.**) The Fashion Square Expansion related projects list itself also lists other projects in relatively close proximity to Il Villagio Toscano that do not, but must, appear in the Il Villagio Toscano related projects list.

Moreover, the preparers of the Draft EIR knew or should have known of these other significant projects at the time the related projects list was generated in order to determine cumulative impacts. The related projects list was not generated until October 2008. (Table III-1). The Draft EIR for the I-405 project was released in May 2007. The Notices of Preparation for the Universal City project and the Fashion Square project were released in July 2007. (**Exhibit 15.**)

VIII. POPULATION ESTIMATES IN THE EIR MUST BE RECONCILED WITH MORE RECENT CENSUS DATA.

The EIR uses, as its population baseline, a projection based on what appears to be the SCAG 2004 Regional Transportation Plan. The figure is suspect, however, and must be reconciled with more recent U.S. Census data. The reconciliation is required both by the City's CEQA Thresholds Guidelines and to "ground truth" claims related to housing need.

The EIR uses a 2008 population estimate of 86,509 for the Community Plan Area and 4,016,648 for the City of Los Angeles as a whole. These numbers are based on a 2005 SCAG projection, which is presumably taken from the SCAG 2004 Regional Transportation Plan. These figures, however, are suspect. The 2010 Census shows Los Angeles with only 3,792,621 residents – a difference of over 200,000 from the 2004 RTP.⁵

Community Plan figures may show a similar discrepancy. On a macro level, SCAG itself acknowledges that its previous population projections for the region are higher than actual census data, with most of the differences attributable to Los Angeles County.⁶ Indeed, in February 2011 SCAG admitted that the then forthcoming 2010 Census data would show a "1.3

⁵ <http://quickfacts.census.us.gov/qtd/states/06/0644000.html>.

⁶ www.scag.ca.gov/census/.

PLUM Committee
August 12, 2013
Page 18 of 19

million population gap between the 2010 Census estimate, potential magnitude of discrepancy at the local levels, and likely impacts in 2012 RTP/SCS and RHNA development.” (Exhibit 16.)

Not only has population growth been slower than expected, recent academic research indicates that much slower population growth is foreseen going forward than had been expected in the early 2000s. (Exhibit 17.) This slower population growth belies the assertion of an “unprecedented housing crisis” in the Project findings for which the Project claims it is needed. Moreover, an inaccurate baseline can lead to inaccurate impacts and alternatives analysis, as has occurred here.

Independently, the City’s CEQA Thresholds Guidelines require reconciliation with the more recent – and more accurate – census data. According to the City’s initial study screening process:

The City of Los Angeles uses two different estimates of its population. The first is prepared by the California Department of Finance (DOF) and provided to SCAG. For purposes of conformity with the requirements of these other agencies, the City uses this estimate when and where appropriate. The City Planning Department prepares an estimate of its population based on a number of locally derived factors including: building and demolition permits issued, school enrollments, and the percentage of active electric meters. The City Planning Department estimates are used for planning purposes in the City of Los Angeles. *It should be noted that both sets of numbers are estimates and, therefore, only close approximations of the actual population. Every 10 years these estimates are reconciled by the U.S. Census.*” (Exhibit 18, emphasis added.)

The source of the population estimate which forms the baseline is almost a decade old. Reconciliation with the census data is required, both to provide accurate information on which to make an informed decision and as matter of the City’s own procedure.

IX. THE EIR MUST BE RECIRCULATED.

The inadequacies of the cumulative impact analysis and traffic analysis of the impacts of the Project on US-101 and I-405 render the EIR so fundamentally and basically inadequate that meaningful review and comment on those subjects has been precluded. Information from LAFD also suggests a substantial increase in the severity of public safety impacts from the Project – impacts not yet properly analyzed.

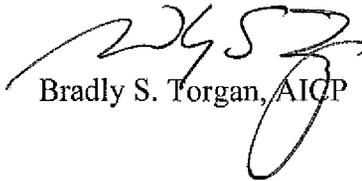
PLUM Committee
August 12, 2013
Page 19 of 19

For these reasons the EIR must be recirculated. At the very least, the correct analysis should be undertaken and the Project remanded to the CPC for consideration in light of the new information.

X. CONCLUSION.

There is a project appropriate for this site – just not this one. It is simply too large and its impacts have not been correctly disclosed, analyzed and mitigated. We urge PLUM and the Council to reject the project and its EIR in their current form.

Sincerely,



Bradly S. Torgan, AICP

cc: Sharon Gin
Attachments

City Hall East
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Room 701
Los Angeles, CA 90012

(213) 978-8069 Tel
(213) 978-8214 Fax
amy.brothers@lacity.org
www.lacity.org/atty



CARMEN A. TRUTANICH
City Attorney

REPORT NO. R 13 - 0090
MAR 29 2013

REPORT RE:

**COURT-ISSUED WRIT COMMANDING THE CITY COUNCIL TO SET ASIDE AND
RECONSIDER ITS OCTOBER 4, 2011 DETERMINATION GRANTING VARIANCES
AND AN ADJUSTMENT FOR 1100-1102 STEARNS DRIVE**

CHAZANOV v. CITY OF LOS ANGELES, et al.
LASC CASE NO. BS 135382 (COUNCIL DISTRICT 5)

The Honorable City Council
of the City of Los Angeles
Room 395, City Hall
200 North Spring Street
Los Angeles, California 90012

Council File No. 11-1556

Honorable Members:

We are presenting to you for your action, consistent with its terms, a court-issued writ in *Chazanov v. City of Los Angeles, et al.*, LASC Case No. BS135382. A copy of the writ is attached. The writ of mandate commands the City Council of the City of Los Angeles to set aside and reconsider its October 4, 2011, determination granting three variances and an adjustment for 1100-1102 Stearns Drive, in light of the Court's January 17, 2013, order in this case.

Background

Eric Hammerlund and Terrence Villines, Real Parties In Interest in the lawsuit, purchased the property at 1100-1102 Stearns Drive on December 27, 2005. The property was improved with a duplex, a garage and a separate recreation room in a single-family residential neighborhood, zoned R1. The Los Angeles Housing Department issued an Order to Comply to the Real Parties for illegal use of the

recreation room as a third dwelling unit. On June 29, 2009, Real Parties sought three variances and an adjustment in order to legalize the recreation room as a dwelling unit. Specifically, the application sought a variance to allow use of the recreation room as a dwelling unit; a variance to forgo the required parking space for the third unit; a variance to allow automobiles to back out of the garage onto the street; and an adjustment to allow a smaller rear yard than the required 15 feet. The Zoning Administrator denied the requests for the variances and adjustment. The Real Parties appealed the Zoning Administrator's determination to the Central Area Planning Commission (APC). The APC denied the appeal and sustained the Zoning Administrator's determination. The APC determination was mailed August 30, 2011.

On September 13, 2011, the City Council asserted jurisdiction over the matter pursuant to Charter provision 245. On October 4, 2011, the City Council voted to grant the variances and the adjustment.

On January 9, 2012, the Chazanovs initiated a writ petition against the City of Los Angeles and Real Parties in Interest Hammerlund and Villines in the matter entitled *Chazanov v. City of Los Angeles*, LASC Case No. BS135382. After holding a hearing and considering the briefing of the parties, the Court issued a decision and order finding that the City Council abused its discretion in granting the three variances and adjustment, and granted the Chazanovs' request for a writ. [The Court held that substantial evidence did not support the first and third elements for granting a variance to use the recreation room as a dwelling unit.

The first element requires a finding that a variance is necessary because strict application of the zoning ordinances would result in practical difficulties or unnecessary hardships inconsistent with the purpose of the zoning ordinance. The Court explained that there was insufficient evidence that the Real Parties would suffer unnecessary financial hardship unless the variances were granted. No evidence was presented that Real Parties would not be able to pay their mortgage, taxes or insurance unless they continued to receive rental income from the illegal third dwelling. The Court also held that the City Council's finding that the Real Parties' tenant and the City would suffer a hardship due to a decrease in rental housing stock unless the variances were granted was neither relevant as a matter of law nor supportable as a matter of fact. The Court emphasized that the first element looks only to burdens placed upon the variance applicant, not the applicant's tenant or other third parties.

The third element requires a finding that the variance is necessary for enjoyment of substantial property right which, because of special circumstances and practical difficulties, is denied to the property in question. The Court held that the City Council's acknowledgement that, "No other similarly situated zoned properties in the same vicinity have been granted any variances to allow for conversion of more units beyond those which are currently permitted by the zoning or those which were permitted by prior

zoning," was fatal to the Real Parties' application, as it demonstrated there were no special circumstances for 1100-1102 Stearns Drive.

In conclusion, the Court noted that some City Council "members made eloquent and compelling statements about the need for the City to preserve and increase its housing stock. These laudable public policy goals, however, may not be used by the City Council to dismantle the City's zoning scheme in a piecemeal fashion."

The writ issued on February 15, 2013. The writ commands the City Council to set aside and reconsider its October 4, 2011, determination granting the three variances and an adjustment, in light of the Court's January 17, 2013, decision and order, within 90 days of the date of the writ's issuance. The writ is transmitted with this Report.

Recommendation

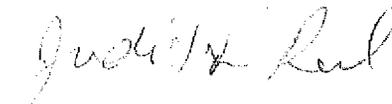
We request your action consistent with the enclosed court-issued writ, to set aside and reconsider the City Council's October 4, 2011, determination in light of the Court's decision and order.

If you have any questions regarding this matter, please contact Deputy City Attorney Amy Brothers at (213) 978-8069. She or another member of this Office will be present when you consider this matter to answer any questions you may have.

Very truly yours,

CARMEN A. TRUTANICH, City Attorney

By



PEDRO B. ECHEVERRIA
Chief Assistant City Attorney

PBE:AB:gl
Attachment

RECEIVED
City Attorney
Land Use/Real Property

MAR 05 2013

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CITY CLERK'S OFFICE

2013 MAR - 4 PM 4:13

CITY CLERK

BY EGG

PLS 157407

REFERRED TO CITY ATTORNEY
FOR DISPOSITION
MAR - 5 2013 @ 7:30am

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SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

DONNA CHAZANOV, an individual;)
MATHIS CHAZANOV, an individual)
Petitioners)

vs)

CASE NO. BS135382

CITY OF LOS ANGELES, etc, CITY)
COUNSEL OF THE CITY OF LOS)
ANGELES, et al)
Respondents)

WRIT OF MANDATE

ERIC HAMMERLUND, an individual,)
TERRENCE VILLINES, an individual)

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TO THE CITY OF LOS ANGELES AND THE CITY COUNCIL OF THE CITY OF LOS ANGELES, Respondents:

WHEREAS a judgment on petition for writ of mandate having been entered in this action, ordering that a writ of mandate be issued from this Court,

YOU ARE HEREBY COMMANDED immediately upon receipt of this writ to set aside the determination of the City Council of October 4, 2011, to grant Real Parties In Interest's application for three variances and an adjustment and to reconsider your actions in light of the Court's decision and order in this case. Nothing in this writ shall control the discretion legally vested in the Respondent in accordance with Code of Civil Procedure Section 1094.5(f).

YOU ARE FURTHER COMMANDED to file a return to this writ not later than ninety days after the date of issuance.

LET THE FOREGOING WRIT ISSUE.

John A. Clarké

Kelly Encinas

DATED: FEB 15 2013



[Handwritten signature]

CLERK OF THE SUPERIOR COURT



CITY PLANNING COMMISSION

200 N. Spring Street, Room 272, Los Angeles, California, 90012, (213) 978-1300
www.lacity.org/PLN/index.htm

Determination Mailing Date: APR 04 2013

CPC-2008-4604-GPA-ZC-HD-CUB-DB-SPR
CEQA: ENV-2011-0585-EIR, SCH No. 2011031049

Location: 11122 W. Pico Boulevard; 2431-2441
S. Sepulveda Boulevard; ADD Area: 11240,
11250, 11120, 11160, 11110 W. Pico Boulevard
Council Districts: 5 – Koretz, 11 – Rosendahl
Plan Area: West Los Angeles
Requests: General Plan Amendment, Zone
Change, Height District Change, Conditional
Use, Density Bonus, Site Plan Review

Applicant: Casden West LA, LLC and Los Angeles County Metropolitan Transportation Authority (MTA)
Representative: Howard Katz, Casden West LA, LLC

At its meeting on February 28, 2013, the following action was taken by the City Planning Commission:

1. **Approved a General Plan Amendment** to Change the Light Manufacturing and Public Facilities land use designation to **Community Commercial**.
2. **Disapproved** a General Plan Amendment for the **Add Area** located at 11110, 11200, 11240, 11250 and 11160 W. Pico Boulevard.
3. **Approved a Zone Change** from M2 and PF to **(T)(Q)C2-1-O**.
4. **Approved a Height District Change** for the PF zoned portion of the site from Height District 1XL to **Height District 1**.
5. **Approved a Conditional Use** to permit the sale and dispensing of a full-line of alcohol for off-site consumption for one grocery tenant.
6. **Approved a Conditional Use** to permit the sale and dispensing of a full-line of alcohol for off-site consumption for one retail tenant.
7. **Approved a Density Bonus** to allow 71 Very Low Income Senior Household units with 36 parking spaces, utilizing Parking Option, with one on-menu incentive to permit a floor area ratio of 3:1.
8. **Approved the Site Plan Review**.
9. **Adopted the attached Conditions of Approval**.
10. **Adopted the attached Findings**.
11. **Certified** that it has reviewed and considered the Environmental Impact Report, **ENV-2008-3989-EIR** (SCH No. 2009061041), including the accompanying mitigation measures, the Mitigation Monitoring and Reporting program, and **Adopt** the related environmental Findings, and Statement of Overriding Considerations as the environmental clearance for the project and Find:
 - a. The Environmental Impact Report (EIR) for the Casden Sepulveda Project, which includes the Draft EIR and the Final EIR, has been completed in compliance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State and City of Los Angeles CEQA Guidelines.
 - b. The Project's EIR was presented to the City Planning Commission (CPC) as a recommending body of the lead agency, and the CPC reviewed and considered the information contained in the EIR prior to recommending the project for approval, as well as all other information in the record of proceedings on this matter.
 - c. The Project's EIR represents the independent judgment and analysis of the lead agency.

Recommendation to the City Council:

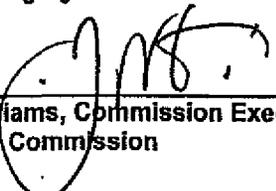
1. **Recommend** that the City Council **Approve** a **General Plan Amendment** to Change the Light Manufacturing and Public Facilities land use designation to **Community Commercial**.
2. **Recommend** that the City Council **Disapprove** a General Plan Amendment for the **Add Area** located at 11110, 11200, 11240, 11250 and 11160 W. Pico Boulevard.
3. **Recommend** that the City Council **Approve** a **Zone Change** from M2 and PF to **(T)(Q)C2-1-O**.
4. **Recommend** that the City Council **Approve** a **Height District Change** for the PF zoned portion of the site from Height District 1XL to **Height District 1**.
5. **Recommend** that the City Council **Adopt** the attached **Conditions of Approval**.
6. **Recommend** that the City Council **Adopt** the attached **Findings**.
7. **Recommend** that the City Council **Certify** it has reviewed and considered the Environmental Impact Report, **ENV-2008-3989-EIR** (SCH No. 2009061041), including the accompanying mitigation measures, the Mitigation Monitoring and Reporting program, and **Adopt** the related environmental Findings, and Statement of Overriding Considerations as the environmental clearance for the project and Find:
 - a. The Environmental Impact Report (EIR) for the Casden Sepulveda Project, which includes the Draft EIR and the Final EIR, has been completed in compliance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State and City of Los Angeles CEQA Guidelines.
 - b. The Project's EIR was presented to the City Planning Commission (CPC) as a recommending body of the lead agency, and the CPC reviewed and considered the information contained in the EIR prior to recommending the project for approval, as well as all other information in the record of proceedings on this matter.
 - c. The Project's EIR represents the independent judgment and analysis of the lead agency.

Fiscal Impact Statement: There is no General Fund impact as administrative costs are recovered through fees.

This action was taken by the following vote:

Moved: Roschen
Seconded: Lessin
Ayes: Burton, Eng, Hovaguimian
Absent: Freer, Cardoso, Periman, Romero

Vote: 5 - 0



James K. Williams, Commission Executive Assistant II
City Planning Commission

Appeals: If the Commission has disapproved the Zone Change request, in whole or in part, the applicant may appeal that disapproval to the Council within 20 days after the mailing date of this determination. Any appeal not filed within the 20-day period shall not be considered by the Council. All appeals shall be filed on forms provided at the Planning Department's Public Counters at 201 N. Figueroa Street, Fourth Floor, Los Angeles, or at 6262 Van Nuys Boulevard, Suite 251, Van Nuys.

Final Appeal Date: APR 24 2013

If you seek judicial review of any decision of the City pursuant to California Code of Civil Procedure Section 1094.5, the petition for writ of mandate pursuant to that section must be filed no later than the 90th day following the date on which the City's decision became final pursuant to California Code of Civil Procedure Section 1094.6. There may be other time limits which also affect your ability to seek judicial review.

Attachments: Conditions, Maps, Ordinance, Findings, Resolution
 City Planner: Henry Chu

- 35. Driveway Plan.** Prior to the issuance of a demolition permit, the Applicant shall submit a driveway plan, to the satisfaction of DOT, which addresses:
- Pedestrian safety and technology and equipment installed within the driveways proposed along Pico Boulevard and Sepulveda Boulevard.
 - All delivery truck loading and unloading shall take place on site with no vehicles backing into or out of the Project site from any adjacent street.

The driveway and circulation plan shall be submitted to DOT's Citywide Planning Coordination Section (201 N. Figueroa Street, 4th Floor, Station 3, at 213-482-7024) to avoid delays in the building permit approval process. In order to minimize and prevent last minute building design changes, it is imperative that the Applicant, prior to the commencement of building or parking layout design efforts, contact DOT for driveway width and internal circulation requirements so that such traffic flow considerations are designed and incorporated early into the building and parking layout plans to avoid any unnecessary time delays and potential costs associated with late design changes.

- 36. Wayfinding Signage.** Prior to the issuance of any Certificate of Occupancy or Temporary Certificate of Occupancy, the Applicant shall submit plans for wayfinding signage along the perimeter of the Project property, at the above-ground podium level for residents, and throughout the site to increase awareness of non-car amenities, to the satisfaction of the Planning Department.
- 37. Bus/Shuttle Layover Areas.** When reasonably appropriate prior notice has been given, the Applicant shall participate in all meetings conducted by staff of the applicable transit agencies pertaining to the development of bus/shuttle layover areas within or near the project site.
- **38. Residential Dwelling Units.** No residential dwelling units shall be within 500 feet of the Freeway.
- 39. Big Box Retail and Grocery Market Entrance/Exit.** The Applicant shall design the Project to include an Entry/Exit access point at the southeast portion for the big box retail store and grocery market. The entry/exit access point shall not be limited to an emergency exit but shall serve as an additional entry/exit for the patrons.
- 40. Public Restrooms.** The Applicant shall submit final plans detailing the incorporation of public restrooms located at the southeast portion of the project site to the satisfaction of the Director of Planning. The final design shall specify the location of the facilities and identify how access to and from the facility will be achieved.
- 41. Affordable Senior Housing Building.** The Applicant shall maintain the restricted Affordable Senior units in a separate building from the unrestricted units, and shall design the restricted building to meet the physical and social needs of senior citizens so as to comply with California Civil Code Section 51.2.

- Lowered Podium Level
The Revised Project eliminates one level of above grade commercial space, which sets the podium level approximately 22 feet lower than the Original Project.
- Peak Building Heights Reduced
The removal of a 22-foot commercial story and the redistribution of units reduces the top building height of the rear structure by five feet (from 201 feet to 196 feet). Further, the heights to the tops of the other structures were lowered by 6 to 12 feet.
- Increase in Distance between Structures
Under the Revised Project, there is a distance of 84 feet between the two Sepulveda Boulevard structures and 118 feet between the Exposition Boulevard fronting structures.
- Increased Number of Residential Units
The Revised Project increases the number of residential units from 538 to 638, which includes an increase of 12 in senior affordable units from 59 to 71 units.
- Direct Multi-Level Commercial Garage Access
The Revised Project will provide direct access to the various levels to the new garage. All commercial parking levels will be linked internally.
- Commercial/Resident Parking Levels
Parking Level P4 of the Revised Project is designed to accommodate both commercial and resident parking. The allocation of spaces between these two uses will be able to be changed should parking demand shift and more spaces need to be allocated to one use or the other.
- No Building Construction on Public Storage Land
The design of the Revised Project no longer includes the construction of any garage space below or residential space above land owned by Public Storage. The Revised Project only will utilize a surface easement to improve the pedestrian access to the residential and retail lobbies on Pico Boulevard.
- Parking
The number of residential parking spaces increased as the number of residential units increased. However, the total number of parking spaces in the project decreased by 234. Parking will still exceed LAMC requirements.

→ [While the City Planning Commission recommended different conditions of approval at its hearing on February 28, 2013, those conditions do not affect the development envelope of the Project. Most notably, the heights of the Project buildings would remain within the heights previously analyzed in the Final EIR even accounting for the Commission's condition that no residential dwelling unit be within 500 feet of the Freeway. Accordingly, the findings made below concerning the Revised Project are equally applicable to the Project as conditioned by the Commission.

would eliminate the CO significant impact that would have occurred under the Original Project.

2. Mitigation Measures.

- a. See Mitigation Measure (b) in Section F.2. below.

3. Findings.

Changes or alterations have been required in, or incorporated into, the Original Project, which avoid or substantially lessen the significant environmental effects of operational emissions generated by the Original Project. Yet, the potential for a significant project-specific and cumulative impact remains, as is the case for the Revised Project. There are no feasible mitigation measures that would avoid or substantially lessen these significant environmental impacts. However, for the reasons described above, the Revised Project would not result in any new significant impacts or increase the severity of any previously identified significant impact with respect to this environmental impact, and the same mitigation measures will be incorporated into the Revised Project. Specific economic, legal, social, technological, or other considerations, including considerations identified in Section XI of this document (Statement of Overriding Considerations) justify the decision to proceed with the Revised Project despite this significant impact.

4. Rationale for Findings.

The following rationale was applicable to the Original Project and remains applicable to the Revised Project: Operational emissions will be primarily generated by motor vehicles. The Project will prepare and implement a TDM program to the satisfaction of LADOT that will reduce traffic impacts of the Project and encourage Project residents, employees, and patrons to reduce vehicular traffic on the street and freeway system during the most congested periods of the day. Moreover, the Project is a transit oriented development that will increase density in proximity to, and encourage the use of public transit in an established urban environment. However, even with implementation of this mitigation, impacts related to ROG, NOx and CO will remain significant and unavoidable. There is no feasible mitigation that would further reduce this impact.

5. Reference.

For a complete discussion of Air Quality (operations) impacts, see Section IV.C of the DEIR, MMRP (Mitigation Measure N-2), and Errata #3.

C. Land Use Planning (Conflict with Land Use Plan, Policy or Regulation)

1. Description of Significant Effects.

The Original Project would require the demolition of existing buildings at the Project Site and the development of the site with mixed-use commercial and residential uses. The applicant is requesting multiple discretionary approvals in connection with the same. While the Original Project would result in new mixed-use residential and retail development, it is located in close proximity to the San Diego Freeway, which may result in health risk impacts, specifically outdoor air quality impacts, and is inconsistent with certain policies and objectives set forth in the City's General Plan concerning preservation of industrial uses.

For the same reasons, the Revised Project will be inconsistent with those policies since the Revised Project would provide the same uses (residential and commercial) and generate substantially the same aggregate number of employees and resident.

The Add Area Project is the re-designation of three properties from Light Manufacturing and Public Facilities to Community Commercial in order to provide for logical, consistent area-wide planning and uniform land use designations in the future. No zone change is proposed in connection with the re-designation. Accordingly, there will be inconsistencies between the zoning of the Add Area Project properties and the new General Plan designation if the Add Area Project is approved. Said inconsistencies will also mean that the existing self-storage facility on the Add Area Project site will become a non-conforming use if the Add Area Project is approved.

2. Mitigation Measures.

- a. For the residential portion of the Development Project, an air filtration system shall be installed and maintained with filters meeting or exceeding the ASHRAE standard 52.2 Minimum Efficiency Reporting Value (MERV) of 13, to the satisfaction of the Department of Building and Safety.

3. Findings.

Changes or alterations had been required in, or incorporated into, the Original Project, which avoid or substantially lessen the significant environmental effects related to land use and planning, and generated by the Original Project. However, the potential for significant project-specific and cumulative impacts remain. The same level and impacts apply equally to the Revised Project, although for the reasons described above, the Revised Project would not result in any new significant impacts or increase the severity of any previously identified significant impact with respect to this environmental impact, and the same mitigation measures will be incorporated into the Revised Project. There are no feasible mitigation measures that would avoid or substantially lessen these significant environmental effects. However, specific economic, legal, social, technological, or other considerations, including considerations identified in Section XI of this document (Statement of Overriding Considerations) justify the decision to proceed with the Revised and Add Area Projects despite this significant impact.

4. Rationale for Findings.

The following rationale was applicable to the Original Project and remains applicable to the Revised Project. The inconsistency of the Project with certain policies and objectives in the General Plan relate to the siting of residential uses near sources of air pollution and the preservation of existing industrial uses. Inconsistency in these respects does not necessarily dictate that the Project is inconsistent with the General Plan as a whole. State law does not require a perfect match between a proposed project and the applicable land use plan. Thus, state law does not impose a requirement that a proposed project comply with every policy in a land use plan since such policies often try to accommodate a wide range of competing interests. Thus, to be "consistent" with a land use plan itself, the proposed project must only be "in harmony" with the applicable land use plan. As found in the Findings Regarding General Plan Amendment and Zone Change for Casden West LA, LLC's Proposed Project at Pico Boulevard and Sepulveda Boulevard, the Revised Project is consistent with numerous policies in the General Plan and Community Plan, including policies encouraging transit oriented development and increasing density near rail lines. The Project Site is consistent with

→ those policies, which existing uses at the Project Site do nothing to advance. However, the inconsistency with objectives related to the siting of residential uses near air pollution sources and preserving existing industrial uses may cause a land use impact that is significant within the meaning of CEQA, given the City's particular CEQA significance threshold for land use impacts for this project.

The Project will exceed relevant health risk thresholds as indicated in the Final EIR. No feasible and quantifiable mitigation is available to reduce outdoor PM10 and PM2.5 emissions and indoor NO2 1-hour concentrations to levels below relevant health risk thresholds. While there is no quantifiable mitigation available to reduce the potential impacts set forth above, there are several available mitigation strategies that could improve outdoor and indoor air quality at the Project Site. These include: (1) locate opens space areas (courtyards, patios, balconies, etc.) as far from the freeway sources as possible; (2) plant vegetation between receptors and freeway sources; (3) consider site plan design minimizing operable windows and building frontages to the freeway; (4) consider options for mechanical and ventilation systems (i.e., supply or exhaust based systems); (5) if a supply-based system is proposed (i.e., actively brining outside air through intake ducts), consider locating intakes as far from the freeway sources as possible. To the extent feasible, these strategies will be implemented, and they may serve to reduce the aforementioned impacts to a less than significant level. However, because these strategies are not quantifiable, impacts related to inconsistencies with General Plan policies, including the health risk impacts discussed above' will remain significant and unavoidable.

The Add Area Project is the re-designation of three properties from Light Manufacturing and Public Facilities to Community Commercial. The re-designation is intended to provide for logical, consistent area-wide planning and uniform land use designations within the Development Project area, and in the neighborhood as a whole. Notwithstanding this intent, the re-designation will create zoning inconsistencies in the short term because the Add Area Project parcels are not currently zoned consistent with the proposed General Plan designation. For these reasons, impacts related to land use consistency would also be significant and unavoidable for the Add Area Project. There is no mitigation that would avoid these conflicts.

The Project will result in the loss of an existing industrial site in the City. It will replace existing industrial uses with a job-rich, mixed-use housing development, however, and will result in a net increase of jobs at the Project Site. Nonetheless, and because of General Plan policies that express a preference for preserving industrial uses within the City, this impact will remain significant and unavoidable.

5. Reference.

For a complete discussion of Land Use Planning impacts, see Section IV.I of the DEIR, (Mitigation Measure I-3), Errata #3, and the Findings Regarding General Plan Amendment and Zone Change for Casden West LA, LLC's Proposed Project at Pico Boulevard and Sepulveda Boulevard.

D. Original and Revised Project – Noise (Cumulative Construction and Operation)

1. Description of Significant Effects.

As discussed above, project-specific construction noise impacts would not rise to a level of significance. Nonetheless, the Original Project, together with associated related projects could result in a cumulatively significant impact with respect to construction

ZONING INFORMATION (Z.I.) NO. 2427
FREEWAY ADJACENT ADVISORY NOTICE FOR SENSITIVE USES

Effective: November 8, 2012

Council District: Citywide, within 1,000 feet of freeways

Instructions:

All applicants filing a discretionary application for which the City Planning Commission is the initial decision-maker or the decision-maker on appeal, shall receive a copy of the attached Advisory Notice. The Advisory Notice applies to the following types of discretionary applications:

Discretionary Permit	LAMC Section
Conditional Use Permits granted by the CPC	12.24 U
Density Bonus	12.21.A.25
Public, Quasi-Public Open Space Land Use Categories	12.24.1
Zone Change	12.32
General Plan Amendment	11.5.6
Major Project Review/CUP	12.24.U.14
Tentative Tract Map	17.06
Preliminary Parcel Map	17.50

Please review the "Frequently Asked Questions" attachment and refer any other pre-filing questions regarding the notice or its applicability to the Development Services Center (213) 482-7077 or planning@lacity.org. Inquiries regarding the applicability of the Advisory Notice to a specific project or case may be directed to the Project Planner assigned to the application.

FREEWAY ADJACENT ADVISORY NOTICE FOR SENSITIVE USES FREQUENTLY ASKED QUESTIONS

1. Why am I receiving a copy of the Freeway Adjacent Advisory Notice?

In recent years, the City Planning Commission (CPC) has taken an increased interest in projects classified as sensitive receptor sites, particularly schools and residential uses, in close proximity to freeways.

In order to inform applicants of the CPC's concerns on the matter and provide guidance for addressing this issue from the early inception of a project, the Freeway Adjacent Advisory Notice is being distributed to all applicants for new projects and expansions of existing development involving sensitive uses within 1,000 feet of freeways.

2. Why was 1,000 feet chosen as the boundary for the Advisory Notice?

Freeways are a major stationary source of air pollution and their impact on the air we breathe and public health in cities has been and continues to be a subject of public health research. Scientific literature previously focused on impacts to immediately surrounding communities within 500 feet of freeways; however, recent studies have established strong links to negative health outcomes affecting sensitive populations as far out as 1,000 feet from freeways, in some instances up to one mile. The Commission felt that 1,000 feet would be a conservative distance that would include potential properties that could house populations considered to be more at-risk of the negative effects of air pollution caused by freeway proximity.

3. Are the recommendations in the Advisory Notice mandatory?

The Advisory Notice is informational in nature and does not impose any additional land use or zoning regulations. It is intended to inform applicants of the significance of this issue for the City Planning Commission. Several recommended approaches are highlighted to assist in navigating through this complex issue; however, applicants need not adhere to any one particular method for addressing air quality impacts on a particular project. Project design features or conditions may be tailored to individual projects as deemed appropriate.

4. Is this a prohibition or a moratorium?

The Freeway Adjacent Advisory Notice is not a prohibition or moratorium on new development near freeways. It is advisory only and serves as an early notification to applicants of discretionary projects who may not otherwise be aware of the potential impacts on future building occupants of siting a building near a freeway. The notice provides background on the issue and guidance that will assist the City Planning Commission in making required findings for discretionary approvals after considering the unique circumstances of each individual case.

ADVISORY NOTICE REGARDING SENSITIVE USES NEAR FREEWAYS

TO: APPLICANTS FOR NEW PROJECTS AND EXPANSIONS OF EXISTING DEVELOPMENTS INVOLVING SENSITIVE USES WITHIN 1,000 FEET OF FREEWAYS

FROM: THE CITY PLANNING COMMISSION

EFFECTIVE DATE: NOVEMBER 8, 2012

CITY PLANNING COMMISSION'S STATEMENT OF CONCERN:

The purpose of this notice is to alert applicants to the City Planning Commission's recent concerns relative to the placement of sensitive uses near freeways. In recent years, the City Planning Commission (CPC) has taken an increased interest in projects classified as sensitive receptor sites, particularly schools and residential uses, in close proximity to freeways.

APPLICABILITY AND INTENT OF THIS NOTICE:

This notice serves to advise applicants for discretionary land use requests under the authority of the City Planning Commission of the Commission's concerns. Project design alternatives have been identified below. If integrated into the project design, these measures may help to reduce or address impacts and public health risks, and therefore, should be considered.

BACKGROUND:

Review of recent air pollution studies shows a strong link between the chronic exposure of populations to vehicle exhaust and particulate matter from roads and freeways and elevated risk of adverse health impacts, particularly in sensitive populations such as young children and older adults. Areas located within 500 feet of a freeway¹ are known to experience the greatest concentrations of fine and ultrafine particulate matter (PM), a pollutant implicated in asthma and other health conditions. In 2003, the California Legislature enacted SB 352, which precludes the siting of public schools within 500 feet of a freeway, unless it can be shown that any significant health risk can be mitigated.

On January 26, 2009 the City Planning Department presented a report to the City Planning Commission in response an earlier Commission request for Department staff to outline recommendations addressing the issue of public health and freeway proximity. In response to a subsequent request on November 11, 2011, the Planning Department submitted a report in January 2012 outlining potential mitigation measures for housing projects in proximity to freeways. On July 12, 2012 the CPC directed staff to prepare an advisory notice notifying applicants of the Commission's interest and careful consideration of public health implications in their review of freeway-adjacent projects.

DEFINITION OF SENSITIVE USES:

South Coast AQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, defines a sensitive receptor as a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant.

¹ Freeway, as defined in the Caltrans Highway Design Manual – Chapter 60, pg. 60-2: (May 7, 2012)

"Freeway--A divided arterial highway with full control of access and with grade separations at intersections."

The following are land uses (sensitive sites) where sensitive receptors are typically located:

- residences
- schools, playgrounds and childcare centers
- long-term health care facilities
- rehabilitation centers
- adult day care/convalescent centers
- hospitals
- retirement homes

EXISTING ADOPTED POLICIES:

The City's General Plan already contains adopted policies addressing health-based risks and outcomes. Below are a few that are directly related to the placement of sensitive uses near freeways.

Air Quality Element Policy 4.3.1: Revise the City's General Plan/Community Plans to ensure that new or related sensitive receptors are located to minimize significant health risks posed by air pollution sources.

Housing Element Policy 4.1.9: Whenever possible, assure adequate health-based buffer zones between new residential and emitting industries.

Housing Element Policy 2.1.2: Establish standards that enhance health outcomes.

A Finding of consistency with the existing policies in the City's adopted General Plan will be weighed in the Commission's consideration of each project, as set forth in LAMC Section 12.32 C.3 (Land Use Legislative Actions):

"Procedure for Applications. (Amended by Ord. No. 173,754, Eff. 3/5/01.) Once a complete application is received, as determined by the Director, the Commission shall hold a public hearing or direct a Hearing Officer to hold the hearing. If a Hearing Officer holds the public hearing, he or she shall make a recommendation for action on the application. That recommendation shall then be heard by the Planning Commission, which may hold a public hearing and shall make a report and recommendation regarding the relation of the proposed land use ordinance to the General Plan and whether adoption of the proposed land use ordinance will be in conformity with public necessity, convenience, general welfare and good zoning practice."

STANDARD CONDITIONS AND DESIGN ALTERNATIVES TO CONSIDER:

Currently, there is no requirement to provide mitigation measures to address diminished ambient air quality in projects that are developed "by-right" - that is, without discretionary approval. However, with projects that require discretionary approval, the City has an opportunity to impose conditions to lessen the effects of air pollution exposure.

Incorporating the following standard conditions can further enable the Commission to evaluate the merits of a project in order to make the required Findings.

Though impact analysis of the air environment on new sensitive receptors in proximity to transportation facilities is not required by CEQA, in the interest of providing information to the

public, and creating healthy communities, the following measures should be taken under advisement.

1. Conduct Site-Specific Health Risk Assessment

The City Planning Commission advises that applicants of projects requiring an Environmental Impact Report, located in proximity of a freeway, and contemplating residential units, schools, and other sensitive uses, perform a Health Risk Assessment as a supplemental technical report. The Health Risk Assessment can provide valuable information to applicants in understanding any potential health risks associated with a project and will enable applicants to make informed decisions about site planning and design up-front, from the earliest stages of a project. A Health Risk Assessment is prepared by a qualified consultant who can: identify air quality levels particular to a specific project site based upon variables such as topography and prevailing wind patterns, for example; disclose potential health risks to future residents or occupants that may result from the project; and offer best practices to improve health outcomes, based upon emerging research and in accordance with policies of the South Coast Air Quality Management District (SCAQMD).

2. Improve Indoor Air Quality with MERV-Rated or HEPA Air Filtration Equipment

As a condition of approval, the City Planning Commission may, at its discretion, impose a requirement that any project proposing sensitive land uses (as defined above) within 1,000 feet of a freeway shall be required to install and maintain air filters meeting or exceeding the ASHRAE Standard 52.2 Minimum Efficiency Reporting Value (MERV) of 11 or higher.

3. Further Reducing Exposure through Project Design

- Building Orientation. Locate open space areas (courtyards, patios, balconies, etc) as far from the freeway sources as possible;
- Screening with Vegetation. Plant vegetation between receptors and freeway sources. Mature tree species such as redwood, live oak, and deodar trees have found to remove particulate matter².
- Reduce Operable Windows. Consider designing a site plan that requires minimal operable windows on freeway-facing frontages.

FUTURE STEPS:

The City may go further to address this issue in New Community Plans, as part of the new Health and Wellness Chapter of the General Plan Framework, and possibly through development standards in the Comprehensive Zoning Code Revision. In the interim this important issue will continue to be brought to the fore, and alternatives and conditions suitable to each individual project considered.

² Cahill, Thomas A. 2008. Removal Rates of Particulate Matter onto Vegetation as a Function of Particle Size. Breathe California Sacramento-Emigrant Trails.
<http://www.secreathe.org/Local%20Studies%20Vegetation%20Study.pdf>

Comment 1 - The project site is located favorably relative to adjacent freeways because of prevailing wind directions.

Response 1 - Whether the winds are blowing north, east, south or west, the site is inevitably downwind of one, and sometimes both adjacent freeways. The nearest Class A weather station with a long wind monitoring history is the Van Nuys Airport. The wind direction frequency and the relationship relative to the adjacent freeways are as follows:

Wind From:	Frequency	405 Fwy	101 Fwy
North	10.0%	II	XX
Northeast	5.8%	--	XX
East	8.7%	--	II
Southeast	18.8%	--	--
South	8.4%	II	--
Southwest	4.6%	XX	--
West	7.4%	XX	II
Northwest	5.7%	XX	XX
Calm	30.5%	???	???

II = winds are parallel to the freeway with several miles of upwind "fetch" (worst-case)

XX = winds are cross-freeway with less local accumulation

Neither freeway is upwind of the site slightly under 20% of the time, calm winds that allow for local pollution buildup without any favorable ventilation occur 30% of the time, and the site is downwind of one or more freeways around 50% of the time. North-south winds along the 405, east-west winds along the 101, and stagnating calm winds which are all worst-case conditions are found on almost two-thirds of all hours of the year. It would be folly to suggest that somehow the prevailing meteorology is favorable for reducing freeway air pollution exposure.



Giroux & Associates
Environmental Consultants

July 8, 2013

Bradley S. Torgan, JD, AICP

927 Kings Road, #220

West Hollywood, CA 90069

Re: Il Villagio Toscano

Dear Mr. Torgan,

You have asked me to comment on several assertions that were made at the Los Angeles City Planning Commission hearing on the Il Villagio Toscano project regarding air quality issues. Specifically, you have asked for responses to claims that:

- The project site is located favorably relative to the adjacent freeways because of prevailing wind conditions;
- With a high frequency of calm winds freeway pollution plumes will go straight up and not reach the site; and,
- Allowing windows that open only on the sides of the buildings opposite the freeway façade will minimize residential indoor pollution.

My comments are attached. As they note, these assertions have no basis in fact. Please contact me if you have any further questions.

Sincerely,


Hans Giroux

Air Pollution Specialist

Giroux & Associates

Comment 2 - With a high frequency of calm winds, the freeway pollution plumes will go straight up and not reach the site.

Response 2 – Thermal buoyancy of vehicle exhaust plumes is dissipated within only a few feet of plume rise. After that, dispersion is left to the vagaries of the windfield. There are very few hours of the year that have completely calm winds. There are many hours of the year that have wind speeds that are too small to accurately measured by traditional anemometers. Any wind of less than 3 mph has traditionally been reported as “calm” even if speeds are actually 1 – 2 mph. Such winds tend to change direction easily, and pollution plumes thus meander back and forth with a steady accumulation of pollution from constant recirculation of progressively polluted air.

Classical dispersion theory suggests that concentrations are best estimated by the Gaussian dispersion formula as follows:

$$X \text{ (parts per million)} = Q \text{ (grams/time)} / U / \sigma\text{-y} / \sigma\text{-z}$$

U is the wind speed, the sigma-s are the lateral and vertical turbulence parameters. As U approaches zero (calm), the theoretical concentration approaches infinity. Infinite concentrations have never been observed because vehicle wake turbulence and thermal buoyancy will create some initial dispersion and perfect calms do not persist in nature. Clearly, however, very light winds and stable conditions (low sigma values) produce the maximum freeway pollution impact.

The UCLA studies of the pollution effects of the temporary closure of the 405 Freeway found that even as far downwind as 1,000 feet, vehicular pollutants were six times higher than upwind background levels even under normal sea-breeze conditions. If that effect were applied to the proposed project site with less set-back distance and a high frequency of near-calm winds, it is quite conceivable that short-term pollution levels could be more than 20 times the regional background. Indoor air pollution levels can be substantially reduced with high efficiency air filtration, but residents essentially must be made prisoners of their units with no uncontrolled natural ventilation to achieve that effect.

Comment 3 - Allowing openable windows only on the facades facing away from the freeway will minimize residential interior air pollution.

Response 3 - The attached scientific paper on air flow around buildings, although written almost 50 years ago, puts this notion into the category of folklore. Every student in Fluid Dynamics 101 learns from the outset that a wake eddy forms at the rear of blunt objects where the air is streaming towards the structure both on its upwind face and on the sheltered downwind side. Open windows on the downwind building face are not much protection from pollution infiltration. To be effective, the entire complex needs to have sealed windows and filtered ventilation air.

A Canadian study (2003), CMHC Technical Series 03-105, clearly concluded that particles can penetrate into residential interiors even with closed windows unless extra precautions are taken. The study concluded:

The best protection from outdoor particles is provided by a system which positively pressurizes the house while cleaning the incoming air.

The proposed project needs to have a centralized ventilation system like many high-rise hotels that is equipped with high efficiency air filtration systems throughout the entire residential component rather than a system of some windows operable and some not and individual air filtration systems.

Air Flow Around Buildings

Guidelines that will help you evaluate the effects of wind and rain on exhaust stacks to prevent re-entry of contaminated air and intake of moisture

By JOHN H. CLARKE

*Supervisor of Air Conditioning
and Powerhouse Design
Union Carbide Corp.
Food Products Div.*

IN BUILDING DESIGN there are many basic criteria that are of doubtful ancestry. Nevertheless, they seem to be firmly embedded in the minds of the architectural, engineering, and construction fraternity. Lack of understanding of air flow around buildings and of wind and rain conditions seems to be the basis for some of this folklore.

For example, many texts stress the need for locating buildings and their air inlets and outlets to take advantage of the prevailing winds. Stack caps and ventilation inlets and outlets are frequently designed for nearly vertical rain-

This article is based on a paper presented by the author at the Industrial Ventilation Conference, Michigan State University, February 1967. The author will make available approximately 65 slides and an annotated text for use by groups interested in the topics discussed.

fall, which probably does occur in rare instances.

Some building codes require outside air inlets to be located 15 to 25 ft from exhausts so as

to avoid re-entry of building fumes and odors. It is assumed that in this way only clean, invigorating air will be drawn into the inlets. Such is not the case. In one recently constructed building the inlets and exhausts are located in a band around the periphery of the of the building, just below the roof. It is generally necessary to shut off the kitchen exhaust fans at dinner time to avoid offending the cash customers in the dining room. Many designers are not convinced that adjacent inlets and outlets are a problem, even when toxic fumes or odors are involved.

Because of these many misunderstandings, it is the purpose of this article to review the nature of air flow over buildings in terms of flow, pressures, rain protection, fume dispersion, and allied factors as they relate to the design of industrial ventilation equipment and systems.

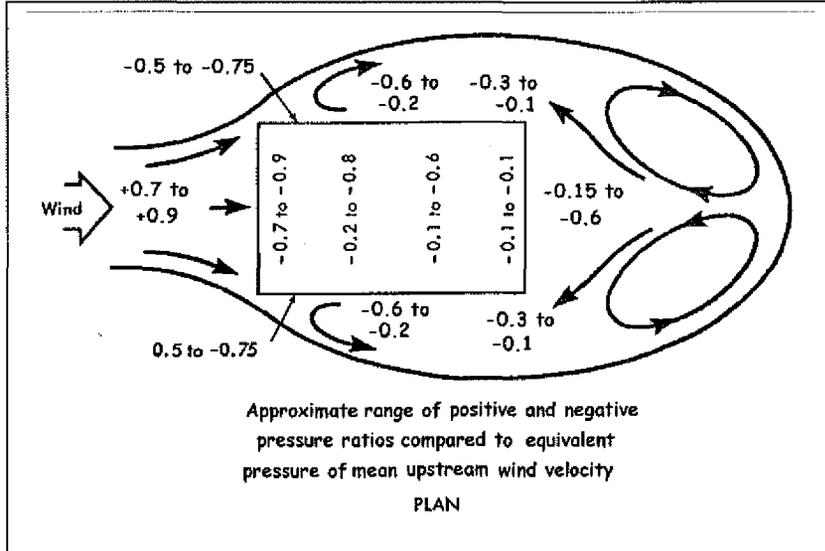
Air flow over a building creates a positive pressure zone

on the upstream side and negative pressure zones (cavities or eddy zones) on the roof and all other sides, as illustrated in Fig. 1. Such pressures may be as great as ± 0.9 of the equivalent pressure of the mean upstream wind velocity. With air flow perpendicular to the wind-ward wall, the height of the roof cavity above the ground may be approximately 2.0 to 1.3 times the building height for conventional one and two story industrial buildings. Such a ratio must be used with caution, however, because the 'cavity height is independent of building height within certain limits. Wind tunnel studies by Holdredge, Reed, Evans, Halitsky, and others,^[1,2]¹ indicate that the height ratio for a cube is approximately 1.5:1. If the cube is decreased in height,

¹ Numerals within the Brackets refer to references at the end of the article

the cavity height over the roof decreases. It increases if the cube is made wider. But with an increase in cube height, the height of the cavity over the roof is practically unchanged. Fig. 2 illustrates how the cavity height varies with the building height and width.

The length of the building cavity may be approximately three times the building height. This is a rough figure, widely variable, and should be used accordingly. Its significance is that the cavity will extend over the entire roof for many buildings. For very long buildings (in the wind direction), the air flow will attach to the roof.

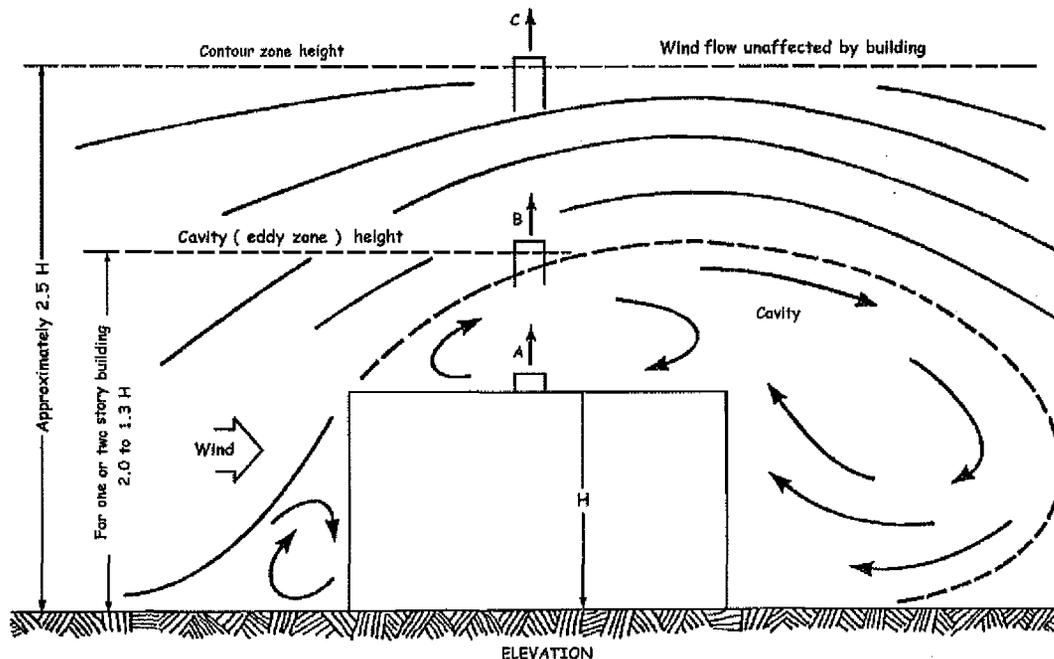


to the roof.

The size and shape of the building airflow contour and cavities remain relatively unchanged with wind velocity. It is the intensities of the pressures and vacuums that vary with wind velocity.

Contaminants released at roof level may spread over the entire roof inside the cavity. Fumes carried over the lee side will be brought to the ground and back to the building, and may even flow up onto the roof. These contaminants will enter nearby ventilation intakes, frequently in

EFFECTS OF AIR FLOW over building are illustrated. Extent of active and positive pressures are indicated in plan view, eddy and four zone heights in elevation.



Stack heights:

- A - Discharge into cavity should be avoided because re - entry will occur. Dispersion equations not applicable.
- B - Discharge above cavity is good. Re - entry will be avoided, but dispersion may be marginal or poor from standpoint of air pollution. Dispersion equations not applicable.
- C - Discharge above contour zone is best -- no re - entry, maximum dispersion.

For wind directions oblique to the upstream wall or walls, the height of the roof cavity will be much lower than for perpendicular flow. Based on field observations, the height may be as low as 3ft over the roof. Rounded corners of walls and stepped-back construction also reduce the cavity height.

To assure discharge away from the building, the effluent must be exhausted outside the cavity or eddy zone. If this is not possible, high velocity, vertical discharge above the roof at the highest practical level should be the design aim. This will reduce the concentration to a considerable degree since more fumes will be entrained in the air moving over and away from the building.

The contour of the air flow over a building, also illustrated in Fig. 1, affects stack operation and causes downwash up to a height of approximately 2.0 to 2.5 times the building height. Like a building cavity, the contour height is a function of the building shape. The height of the contour zone is much lower for buildings that are round or have step-backs or domed roofs. Thus, the Houston Astrodome would have a very low contour zone relative to its height. Discharge above the contour zone is very important for high emission rates, for highly toxic effluents, and for nuisance effluents like mercaptans, which have, extremely low odor perception concentrations. In such cases, it may be advisable to estimate required stack height by computation and verify it by means of smoke tests of the building and stack (if existing) or a wind tunnel model.

Prevailing Wind a Prevailing Myth

One theory that has always been prominent in building design is that a significant prevailing wind exists that can justify the orientation or location of buildings and their inlets and outlets. This theory fails to account for the conditions illustrated in Fig. 3. Properly defined, a prevailing wind is the wind direction of most frequent occurrence. But the prevailing wind may have a frequency only a few percentage points higher than any other wind direction. Inquiries to the

U. S. Weather Bureau and investigation of numerous records and studies have made it clear that in the *design sense* it is improbable that there is a prevailing wind in any where in the country—unless it is of the do it yourself type illustrated in Fig. 4.

Keep in mind that even if a wind direction does prevail 80 percent of the time, safety, proper effluent dispersion, and good operation of the ventilation system must still be provided the remaining 20 percent. The wind rose in Fig. 5. Makes it quite clear that there is no prevailing wind in Chicago. It is not unusual for the wind to swing through 360 Deg. In a day. A study of the local wind conditions should be made as a part of any building design. Inlets, outlets, and ventilation systems must be designed to operate at the required conditions during all wind conditions

Rainblow Not Rainfall

A great deal of misinformation exists with respect to rain also. Changnon and Jones^{3,4} have provided some extremely interesting information from studies at stations on the East and West Coast and in the Midwest. During a rainstorm most of the rain falls in a relatively short period of time. This

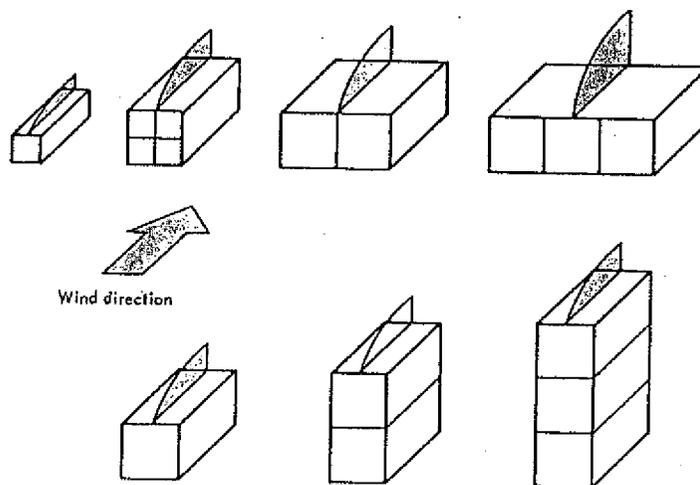
heavy rain is normally accompanied by high winds. For example, one rainfall of 30 min duration produced 1 in. of rain, half of which was produced in the first 5 min during high wind conditions. The high wind gusts were approximately three times the average wind velocity for the storm. The rain angles or inclinations were found to be quite high, and with high wind approached 90 deg. At buildings where air flows upward at a wall, it is not unusual for rain to be rising.

It should be kept in mind that in designing for wind and rain, it is not the average conditions that are the most important. Instantaneous or short duration conditions are usually the controlling factors.

Don't Forget Meteorology

Meteorology is very important to building design. This is a complex subject,⁵ and only a few pertinent items will be mentioned here.

The vertical temperature profiles of the air control stack plume behavior and the mixing depth available for containing, the contaminants from building stacks. Formulas are available for predicting stack dispersion, but these apply only for



2 BLOCKS stacked here visualize how cavity height varies with height and width of windward surface. Cavity height increases with width in top row (left to right) but remains unchanged with increased height in bottom row.



Foul Up Own Pollution Gauge

Hartford, Conn.-The state health department's pollution measuring device is useless when the wind blows from the southeast. A department official said such a wind causes smoke and soot from the department smoke stack to settle on the roof-top instrument, causing it to give an abnormally high pollution reading.--The *Detroit News*, January 29, 1967.

3 DESIGN for prevailing winds? Which one? Flags atop ballpark are being prevailed upon by op-posite wind directions.

neutral, steady state conditions where a stack discharges above the building contour zone, avoiding the effects of the stack itself, the building, adjacent structures, and topography. When stack gases are subjected to atmospheric diffusion (and building

turbulence is not a factor), ground level concentrations on the order of 0.001 to 0.01^{6,7} of the stack concentration are possible for a properly designed stack. Much higher concentrations occur within building cavities and turbulent zones with poorly designed stacks.

Topography and nearby structures may disturb the air flow contours and create disturbances that bring the stack effluent down to the ground. Heat islands created by large industrial or urban areas may cause unanticipated wind shifts or changes in the vertical temperature profile that result in high contaminant concentrations. Frequent wind shifts or unusual wind flow conditions may result from the heating, and cooling that takes place from day to night or from sun effect on hills and valleys. Frequent wind direction changes occur as high and low pressure areas move across the continent.

At a recent ASHRAE symposium, on weather, the chairman, Professor E. W. Hewson, summed up the session with this

statement concerning meteorology: "It is doubtful that there is a field of such fundamental importance to engineers which is so neglected in their formal education. Most engineering schools offer at least one course in engineering geology, but it is the rare engineer who has an opportunity to study engineering meteorology as a part of his university educational experience. The air conditioning engineer shares this lack, and his interest in the atmosphere is as great as any."

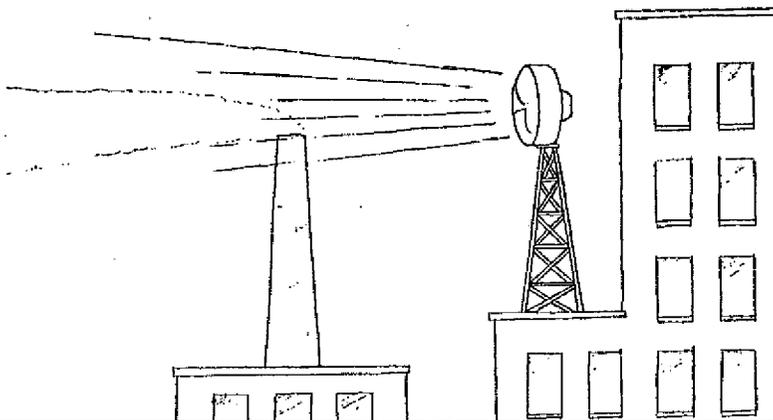
We need not be expert meteorologists in the industrial ventilation field, but we should have a sufficient understanding of the principles involved to recognize when a meteorologist should be consulted in developing practical, economical, and sound solutions to building re-entry and air pollution problems.

Air Flow and Building Design

Without going into great detail, let us review some of the more important effects of air flow as it concerns industrial ventilation design:

o Natural Ventilation ---Natural ventilation has been used for centuries, but in industrial applications it should be limited to high buildings with high internal heat loads that will provide adequate convective motive forces. Wind induced ventilation, because it is undependable, should be limited to a supplementary rather than basic role. As we have seen, it is useless to attempt to ventilate a building by orienting inlets and outlets for so-called prevailing winds.

o Uniform volume and building balance ---internal building pressures are greatly affected by wind pressures. A building with an opening, on the upstream side is subjected to positive pressure, as shown in Fig.6. An



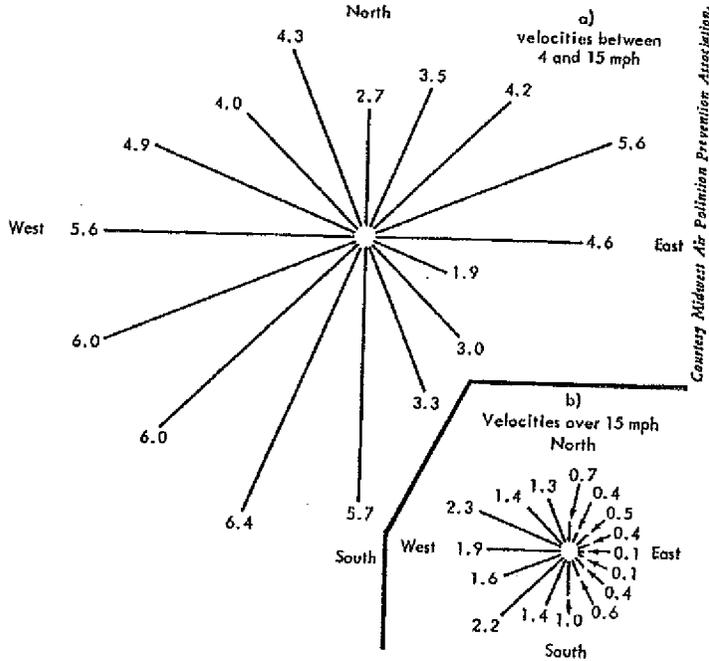
4 DO-IT-YOURSELF prevailing wind may justify design concept; nature is less accommodating.

opening on the downstream or lee side creates a negative pressure in the building. A building with internal partitions and both windward and leeward openings, as well as partition openings, is subjected to a variety of positive and negative pressures depending on the sizes of the openings in each location.

In many plant areas, it is desirable to maintain inward or outward flow for contamination control or to provide the necessary makeup air for safe removal of fumes. Wind pressure effects must be considered in such cases. Wind pressures of 0.10 to 0.20 in.WG are quite common, and pressures in excess of 0.50 in.WG may be experienced during periods of high wind. Pressure differences can cause flow variations in excess of 25 percent for medium pressure systems (1.00 to 1.50 in.WG). Low pressure fans vary in capacity drastically with wind pressure changes, and they may be reversed in flow.

Wind pressure may be thought of as a second fan in series with the building fan,⁸ raising or lowering system pressure and volume as wind speed varies, as shown in Fig. 7. Where close control of building balance is required, roof inlets (mushroom or gooseneck type), which are subjected to negative pressures only, are preferable to wall inlets, which are subjected to both positive and negative pressures. Wall inlets and outlets should never be used with low pressure systems when building balance is important. High pressure systems (3.0 to 4.0 in.WG,) must be used, and the building must be tight.

• *Pressure control on buildings*--The pressure control of a building requires sophisticated control of supply and exhaust systems. These require sensing probes located to detect the relative pressures. Space to space, this is not difficult. It is not too hard if one is controlling an entryway with respect to the outside. Difficulty arises in the control of large spaces or buildings.



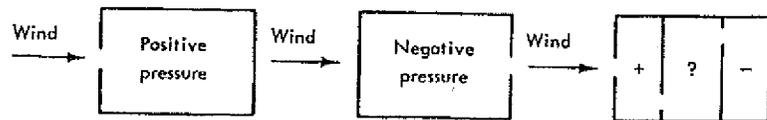
5 WIND ROSES for Chicago area indicate duration of wind directions in percent for wind velocities a) between 4 and 15 mph and b) over 15 mph.

Even with constant wind velocity, the pressures on the wall and roof surfaces vary greatly. The only location for a reference probe is at a point above the building contour zone. And if located here, what is its significance? The building roof is still mostly or all negative, as are the sides and leeward surfaces. The windward surfaces are under pressure. Again, if pressure control is essential, the best guarantee is a tight building with controlled high pressure ventilation systems and preferably roof inlets and outlets.

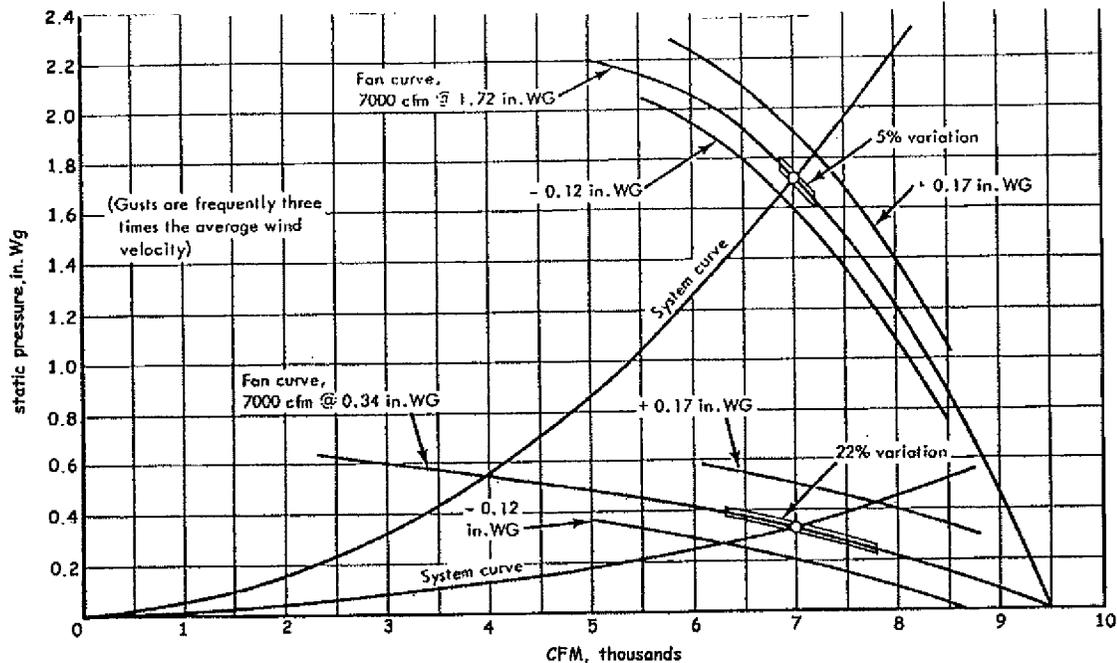
• *System testing* --Because of the surges and volume changes that occur with changes in wind speed, it is necessary to test during calm conditions to get meaningful readings. Outlet readings taken at different times and at different wind conditions cannot be expected to indicate the degree of

balance in a system that is varying in capacity by 25 or 30 percent during wind pressure changes. Some air flow test instruments cannot be read with accuracy during surging conditions.

• *Rain protection*--As mentioned above, rainfall angles can be quite high. Around buildings and at walls, the rain direction may be horizontal or rising. Consequently, the usual 45 deg wall louvers cannot be considered completely dry. Many stack caps are not dry for the same reason. Tests of a standard cone stack cap mounted two-thirds of the stack diameter above the slack, as in Fig. 8. Revealed that the rain protection angle of 37 deg was exceeded to such an extent that 16 percent of the rainfall



6 PRESSURE EFFECTS of wind are illustrated on building with opening on windward side, left, on building with opening on leeward side, center, and on partitioned building with openings on windward and leeward sides and in partitions, right.



7 EFFECT of 20 mph wind (0.193 in. WG) on fan performance is charted. A pressure of 0.17 in. WG in positive pressure zone (0.9 of the equivalent pressure of the wind velocity) and a pressure of - 0.12 in. WG in negative pressure zones (0.6 times the equivalent pressure) produces a differential of 0.29 in. WG.

entered the stack on the average. During some rains, as much as 45 percent of the rainfall was admitted. Clearly, cone caps are not rainproof.

• *Building re-entry*—The problems of building re-entry are serious. They range from nuisance conditions to exposures requiring complete building evacuation. Frequently the conditions result from fans or stacks that discharge on or near the roof. Architects have compounded

the problem by enclosing rooftop equipment in architectural fences intended to improve appearance, as shown in Fig. 9.

There are at least four aspects of re-entry that should concern the industrial ventilation engineer:

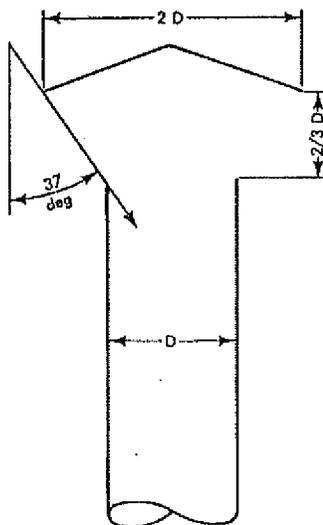
1) *Fumes and odors*—Re-entry of fumes and odors is a major problem, the former having frequently caused evacuation of building. Odors may not be health hazards, but they may be highly objectionable even in minute quantities. For example, the odor threshold of mercaptans is approximately 0.3 ppm.

2) *Cooling towers*—Return of cooling tower discharge to tower inlet does not appear to be serious for most installations, but if air flow is restricted by walls or enclosures, serious capacity reduction may result. In addition, the cooling tower discharge may impose a heavy latent load on air conditioning system having inlets close to the tower.

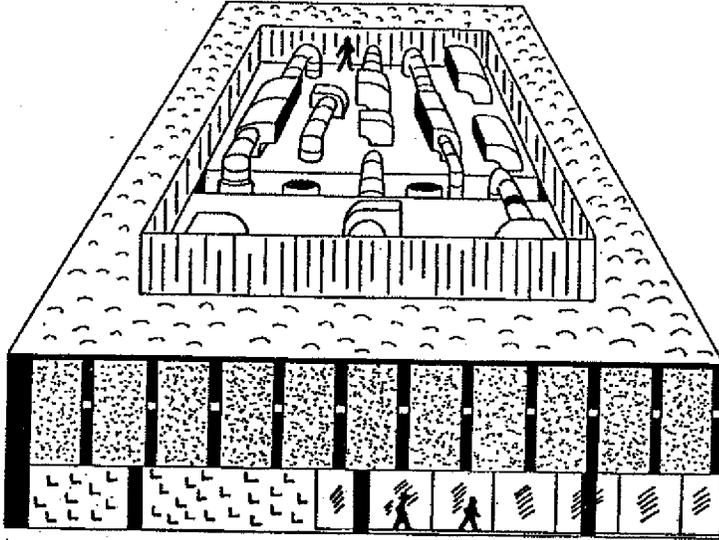
3) *Air conditioning systems* Re-entry of

heated or moisture laden air into air conditioning system inlets can impose high loads on the system. An ill-conceived inlet and outlet arrangement illustrative of this is shown in Fig. 10. The bottom three louvers are intakes for a bank of air-cooled condensers; the top three are condenser air discharge outlets. Intake and exhaust temperatures of 92 and 100 F. respectively, were measured on a day when the outside temperature was 80 F. More than half the intake air was from the condenser exhaust.

4) *Corrosion*—Corrosion is a little understood but very important and unfortunate byproduct of fume re-entry. Re-entry is causing rapid corrosion of system casings, heaters, cooling coils, fans, control elements, and other equipment in many plants. After extensive smoke one large manufacturer of electrical components traced serious problems of product corrosion to re-entry of fumes from its exhaust systems. At a large packing plant, the pH of the cooling tower water dropped from 8.2 to 3.5 in an hour. This happened intermittently. It took considerable sleuthing to trace this problem to the stack discharge of a smoke house in the same building.



8 CONE CAPS fail to provide rain protection. Tests of a cap installed two-thirds of the stack diameter above the stack with a rain protection angle of 37 deg revealed that 16 percent of the rainfall was admitted on the average and 45 percent as a maximum.



9 ARCHITECTURAL FENCES may improve rooftop appearance, but they also contain effluents, enhancing possibility of re-entry of contaminated air and odors.

Too often emphasis is placed on the location of inlets to avoid reentry. But inlets are passive, and their location has relatively little effect on re-entry. It is the *stacks* or other discharges that must be located properly to prevent or minimize re-entry.

• *Stack draft*-It is common to talk about backdrafts in furnace or boiler flues caused by wind impingement effects. Except when a flue terminates close to a high pitched roof, or if it is in the pressure zone of a wall or other high structure, stack backdrafting from wind impingement, in my opinion, does not occur. Wind blowing past a stack aspirates air or flue gas out of the stack. During wind gusts, there are like surges in outflow from the stack. Many stack caps fitted to prevent backdrafting actually accentuate the wind induced surges. They are thus more likely to cause extinguished pilot lights. Fortunately, draft diverters, installed to prevent alleged backdraft, do reduce wind surge effect sufficiently to avoid difficulty with pilot lights.

How To Design Stacks

No discussion of. Air flow over buildings is complete unless the subject of stacks is included. Here we will assume that all practical steps have been taken by means of collectors, scrubbers, or process changes to reduce the contaminant discharge rates to

reasonable minimums. The remaining effluents must then be discharged to the outside in a manner that provides maximum dilution and dispersion in the atmosphere with minimum re-entry into the building and minimum pollution of air in adjacent areas. Good stack design can meet dispersion requirements, but it must be kept in mind that stacks can provide dispersion only. In no way can they reduce the rate of contaminant discharge; nor is a stack a substitute for any of the previously mentioned means

of reducing emission rates.

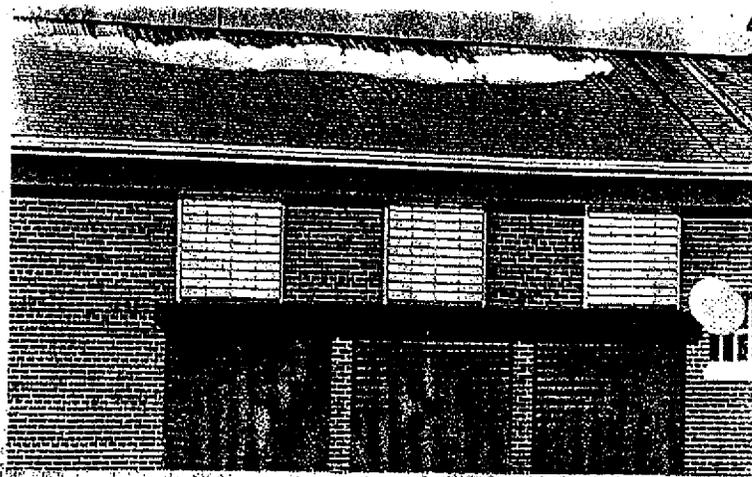
Stacks must be designed and located for satisfactory cooperation during all wind conditions. Wind has an overwhelming effect on stack discharge and may carry the plume horizontally within a short distance from the stack.

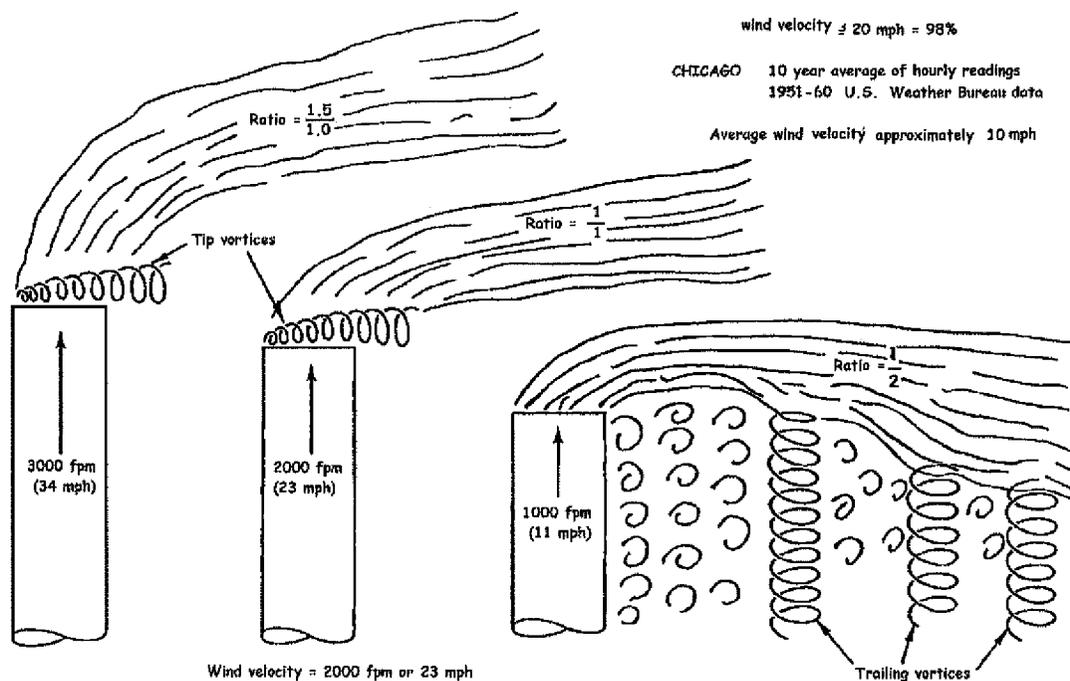
Effective stack height is the actual stack height plus the added height obtained by discharge velocity and temperature. These additions are very important for large power generating station stacks. They are much less important for the small stacks of low discharge mass used in most industrial applications. Nevertheless, the design should be aimed at obtaining the maximum practical effective stack height. In no case should discharge be at roof level or at low velocity.

Some of the more significant factors in stack design are as follows:

- Wind flow around stacks creates negative zones, eddies, and vortices in the same manner as around buildings. Tip and trailing vortices, as Sherlock calls them,⁹ form behind stacks as shown in Fig. 11. The trailing vortices are vertical cylinders of whirling air that break off on each side of the stack. These vortices may bring fumes down into the stack wake and building cavity, thus reducing the effective

10 RE-ENTRY of exhausted fumes and odors is virtually assured by this building's arrangement of intakes and outlets.





11 FORMATION of tip and trailing vortices from stack and effects of discharge velocity are depicted. Ratio of stack discharge velocity to wind velocity should be at least 1.5:1.

height of the stack. Tip vortices, which form over the top edges of the stack, have a horizontal configuration and can have a powerful effect in bringing stack effluent down into the stack wake and trailing vortices.

The ratio of stack discharge to wind velocity is very important in stack effectiveness. At ratios of 1.5:1 and higher, the effluent will break cleanly from the stack, adding to its effective height. At a ratio of 1:1, performance will be poorer. At still lower ratios, very poor performance will result, and downwash along the stack as far as six or more diameters may occur. This reduces the effective height of the stack and may bring the effluent down into the building cavity. In Chicago, the wind velocity is at or below 20 mph approximately 98 percent of the time. Therefore, in this area a stack discharge velocity of 3000 fpm (34 mph) will provide a stack discharge to wind velocity ratio of approximately 1.5 to 1, with good stack performance most of the time. The discharge velocity, should be selected consistent with the wind conditions at a particular locality. In any case, velocities in excess of

2000 fpm are needed to scavenge condensed moisture from the stack.

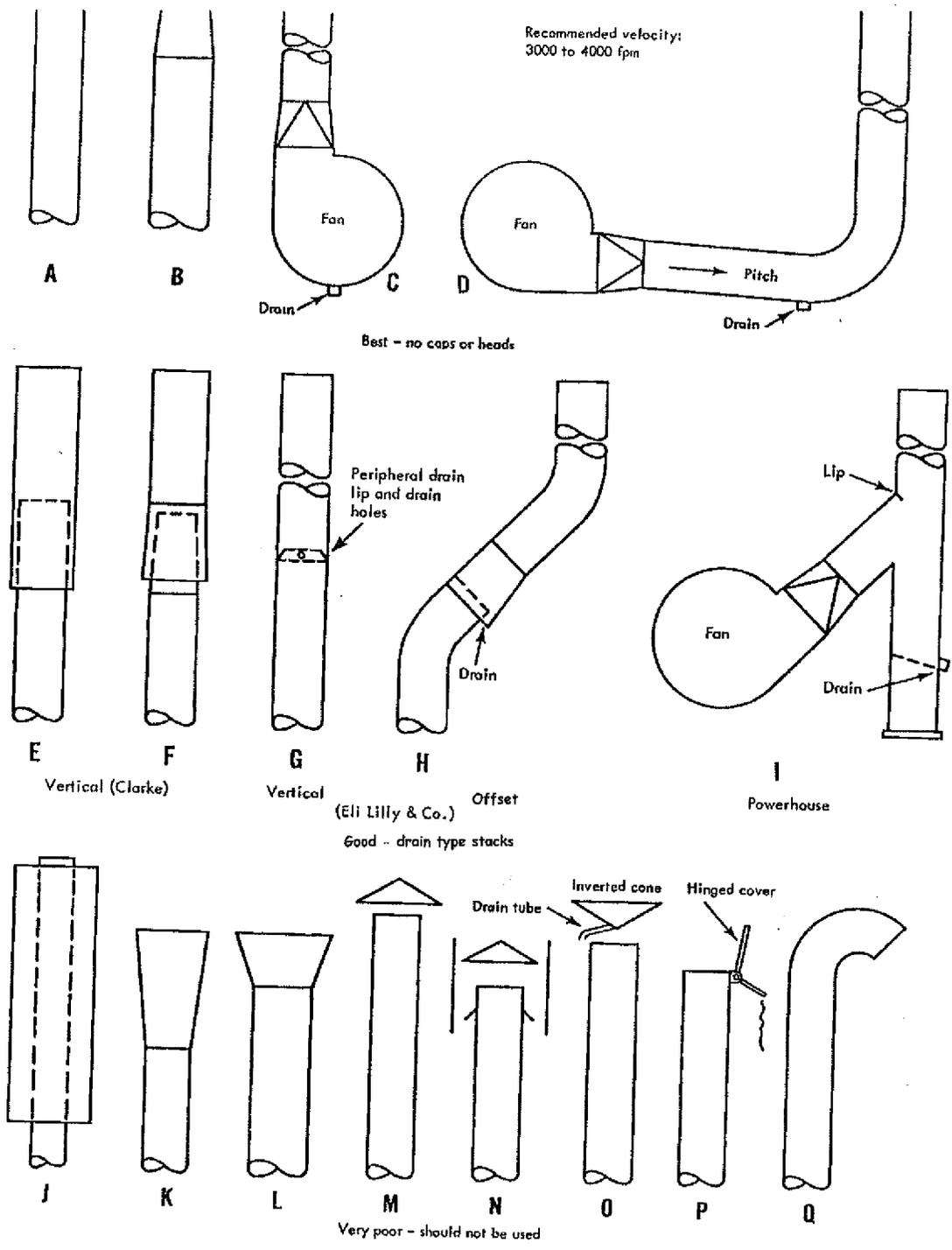
Stack discharge within the building cavity (Point A in Fig. 1) is not recommended. In the exceptional cases where it may be necessary, the stack discharge velocity may have to be 6000 fpm or higher to discharge partially out of the cavity. Such cases require thorough study of stack performance to avoid the possibility of unacceptable air pollution. Above the cavity (Point B in Fig. 1) a discharge velocity of 3000 to 4000 fpm will be adequate for many stacks to provide effective height and good dispersion. Engineers investigating stack design for TVA¹⁰ found little advantage in exceeding approximately 3000 fpm if the discharge is above the contour zone (Point C in Fig. 1). The modest increase in effective height obtained by higher velocities is more than offset by the increased power requirements.

The best stack shape in most cases is a straight cylinder. If it is desirable to reduce friction, the main stack can be sized for approximately 2500 fpm and a nozzle located at the top to provide high discharge velocity. Venturi stacks (expanding stacks to recover velocity

pressure) should never be used because the low velocities defeat the need for increased effective height. Obviously, no other type of stack with an expanding cone top should be used. Fig. 12 illustrates good and bad stack designs.

In a discussion on the design of stacks for ships, Sherlock¹¹ indicated that the influence of high velocity (and buoyancy) may be nullified entirely in those stack designs in which the area of the smoke jet is only a small percentage of the top area of the stack enclosure. Fig. 12J shows such a stack. Performance conditions are determined by the wake conditions of the large enclosure. This is similar to a stack discharging flush with a building roof. An architectural enclosure around a stack or Group of stacks should be avoided for the same reason (see Fig. 9).

The stack or stacks should be located on the highest roof of a building whenever possible. They should not be located on low roofs or the ground unless



the stack height is ample to clear the wakes of nearby structures. A central location in a large industrial complex can often effectively reduce contamination outside of the plant area by providing a greater distance for dispersion. Considering the circulation and dispersion characteristics of the roof cavity, stack design ordinances requiring

discharges to be at least 15 ft away from any ventilation inlet are unrealistic. Fume discharge at high elevation is required to prevent re-entry. Often, a stack discharge, above an intake may provide the safest condition from a re-entry standpoint.

- Stack caps that deflect the effluent downward or drastically reduce the

required high velocity, vertical discharge should not be used. There is no proved need for such devices; more desirable alternatives are available.

What Weather Protection?

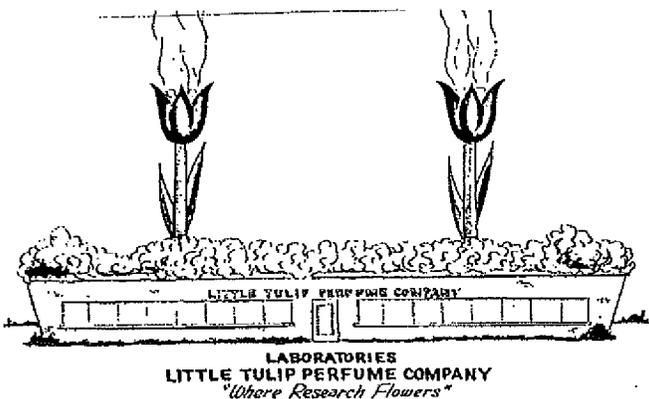
It should be clearly understood that for systems operating continuously

and having discharge velocities greater than 2000 rpm no cap of any kind is needed. Rain will not enter a stack. The terminal velocities of rain do not exceed approximately 2000 fpm for the largest drops, and they decrease greatly as drop size decreases.¹²

The need for stack caps has been greatly overstated. For intermittently operated systems, some weather protection may be needed if the downtime is appreciable. This protection can be provided by drains at the bottoms of stacks, collector rings and drains, or drains at elbows or the bottoms of fan casings. (If corrosion is a problem, materials should be selected accordingly.) In addition to these methods, a variety of drain type stacks, as illustrated in Fig. 12, may be used.

Buildings Can Be Well Stacked

Large central systems for fume removal are recommended and should always be used where safe and practicable. Such systems will aid by diluting intermittent bursts of fumes from



13 CHALLENGE TO ARCHITECTS: esthetic(?) stack designs that blend with building appearance, yet provide safe and effective discharge of effluents.

a single hood or collecting station. There are rare cases where separate systems are mandatory, as for perchloric acid. Consequently, the chemical and safety problems should be checked carefully. A few large systems are more reliable and more readily maintained than numerous small systems. A few stacks can be designed to blend into the

building design. A forest of stacks cannot.

The principal objection to stacks of adequate height has been appearance. But stacks or stack assemblies of esthetically pleasing appearance are possible, Fig. 13 not with standing. Competent architects can handle the problem. There is an urgent need for acceptable designs.

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MEMO

To: Bradly S. Torgan, JD, AICP
From: Hans Giroux, Senior Analyst
Subject: Il Villagio Toscana FEIR Responses Review
Date: April 23, 2013

Via e-mail:

As per your request, we have reviewed the Responses to Comments included in the Final EIR related to air quality impacts. The responses were largely non-responsive by providing justification why a recommended line of analysis is not required rather than addressing the underlying issue. In particular, the responses fail to adequately acknowledge that freeway proximity has many more health impacts than increased cancer risk. The *Los Angeles Times*, on April 18, 2013, notes as follows:

“Studies have shown that exposure to elevated levels of vehicle pollution can contribute to asthma, heart disease, and other health problems” (p. AA6)

The impact analysis incorrectly focuses almost exclusively on diesel exhaust and its relationship to excess cancer risk. The health problems noted above are only fractionally related to diesel particulate matter (DPM). Fuel combustion produces a wide spectrum of irritants and triggers that generate acute and chronic health responses beyond cancer risk. Studies by Dr. Suzanne Paulsen from UCLA found that freeway-induced air pollution can often be five times higher than ambient conditions (Carmageddon I). The freeway exhaust plume is detectable as far as one mile downwind during early morning stable meteorological conditions, being maximized immediately adjacent to the freeway as for this proposed project site.

The responses defend the use of MERV 16-rated air filters as reducing health impact potential to less than significant even though the ability of such filters to remove ultra-fine particulates and non-diesel particulate pollution is unproven. The justification for the failure to demonstrate the efficacy of such filters is that there are no ambient air quality standards for ultra-fine particulates, so no analysis is required. An analysis being required is not the issue, the question is do they work well enough to be credible and defensible mitigation in support of a finding of a less-than-significant impact. Without a demonstration of efficacy, The Lead Agency cannot accept this measure as adequate support for a less-than-significant health impact finding.

The same type of response has been provided regarding the failure to use the age specific factors (ASF) in risk assessment as recommended by OEHHA. The response claims that diesel particulate matter is not mutagenic. The *Journal of Inhalation Toxicology* states as follows:

“Concern about the carcinogenic potential of diesel engine exhaust derives in part from the mutagenic activity of organics that can be extracted from the exhaust particles. (1999, Mar; 11(3):215-28)

If one “googles” diesel exhaust & mutagenicity, there will be thousands of hits disputing the contention that diesel exhaust is not mutagenic as justification for not applying age adjustment factors in risk assessments as recommended by the most cognizant state agency. The same type of health impact mechanism that makes young children more sensitive to mutagenic effects drive their sensitivity to non-cancerous air pollution exposure. Construction of a massive residential project at the junction of two major freeways defies the recommendations of all health scientists regarding the buffer distance needed to protect the most vulnerable segments of society relative to air pollution exposure.

Please call me with any questions.



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Study Links Autism to 101, 405 Freeway Traffic

The UCLA study identifies 7,603 autistic children whose mothers were exposed to high levels of air pollution during pregnancy.

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Researchers at UCLA have discovered a link between cases of autism in Los Angeles County and air pollu that of the 101 and 405 freeways near Sherman Oaks.

The study, published March 1 in [Environmental Health Perspectives](#), looked at 7,603 3-5-year-old children 1998-2009 and found associations between the disorder and prenatal exposure to air pollution in the Los Angeles area. The researchers worked closely with the [California Department of Developmental Services](#) and other agencies to identify children with autism.

The researchers — Tracy Ann Becerra, Michelle Wilhelm, Jørn Olsen, Myles Cockburn and Beate Ritz — used analysis and data from ambient air pollutant monitoring stations positioned throughout L.A. County.

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Ambient Air Pollution and Autism in Los Angeles County, California

Tracy Ann Becerra,¹ Michelle Wilhelm,¹ Jørn Olsen,¹ Myles Cockburn,² and Beate Ritz¹

¹Department of Epidemiology, Fielding School of Public Health, University of California, Los Angeles, Los Angeles, California, USA;

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BACKGROUND: The prevalence of autistic disorder (AD), a serious developmental condition, has risen dramatically over the past two decades, but high-quality population-based research addressing etiology is limited.

OBJECTIVES: We studied the influence of exposures to traffic-related air pollution during pregnancy on the development of autism using data from air monitoring stations and a land use regression (LUR) model to estimate exposures.

METHODS: Children of mothers who gave birth in Los Angeles, California, who were diagnosed with a primary AD diagnosis at 3–5 years of age during 1998–2009 were identified through the California Department of Developmental Services and linked to 1995–2006 California birth certificates. For 7,603 children with autism and 10 controls per case matched by sex, birth year, and minimum gestational age, birth addresses were mapped and linked to the nearest air monitoring station and a LUR model. We used conditional logistic regression, adjusting for maternal and perinatal characteristics including indicators of SES.

RESULTS: Per interquartile range (IQR) increase, we estimated a 12–15% relative increase in odds of autism for ozone [odds ratio (OR) = 1.12, 95% CI: 1.06, 1.19; per 11.54-ppb increase] and particulate matter $\leq 2.5 \mu\text{m}$ (OR = 1.15; 95% CI: 1.06, 1.24; per 4.68- $\mu\text{g}/\text{m}^3$ increase) when mutually adjusting for both pollutants. Furthermore, we estimated 3–9% relative increases in odds per IQR increase for LUR-based nitric oxide and nitrogen dioxide exposure estimates. LUR-based associations were strongest for children of mothers with less than a high school education.

CONCLUSION: Measured and estimated exposures from ambient pollutant monitors and LUR model suggest associations between autism and prenatal air pollution exposure, mostly related to traffic sources.

KEY WORDS: air pollution, autism, land-use regression, pregnancy, traffic. *Environ Health Perspect* 121:380–386 (2013). <http://dx.doi.org/10.1289/ehp.1205827> [Online 18 December 2012]

Autistic disorder (AD) is a serious developmental condition characterized by impairments in social interaction, abnormalities in verbal and nonverbal communication, and restricted stereotyped behaviors thought to be attributable to insults to the developing fetal and/or infant brain (American Psychiatric Association 2000; Geschwind and Levitt 2007). The prevalence of autism has risen for the past 20 years, partly due to changes in case definition and improved case recognition. Hertz-Picciotto and Delwiche (2009) suggested the observed rise in incidence in California between 1990 and 2001 may partially but not fully be explained by younger age at diagnosis (12% increase) and inclusion of milder cases (56% increase). Although evidence for genetic contributions is considered quite strong, twin concordance research recently suggested that environmental causes are also important (Hallmayer et al. 2011), and it is quite conceivable that multiple genes interact with environmental factors (Cederlund and Gillberg 2004; Glasson et al. 2004).

Few studies to date have examined the impact of air pollution on brain development in general during pregnancy, although air pollution exposure during the prenatal period has been associated with a variety of adverse birth outcomes (Ritz and Yu 1999; Ritz et al. 2000; Srám et al. 2005; Williams

et al. 1977) and neuropsychological effects later in childhood (Calderón-Garcidueñas et al. 2008; Edwards et al. 2010; Perera et al. 2006, 2012; Suglia et al. 2008; Tang et al. 2008; Wang et al. 2009). The biological mechanisms by which air pollution may cause autism are largely unknown, although the immune system has been implicated as possibly playing a role (Hertz-Picciotto et al. 2008). Only three studies to date have examined associations between autism and air pollution exposures during the prenatal period (Kalkbrenner et al. 2010; Volk et al. 2010; Windham et al. 2006). In one study, autism was associated with ambient air concentrations of chlorinated solvents and heavy metals near birth residences (Windham et al. 2006). Another study of autism reported elevated odds ratios (ORs) for methylene chloride, quinoline, and styrene exposures in ambient air, but near-null effect estimates for ambient air metals and other pollutants (Kalkbrenner et al. 2010). A third study reported that children born to mothers living within 309 m of a freeway during pregnancy were more likely to be diagnosed with autism than children whose mothers lived > 1,419 m from a freeway (Volk et al. 2010).

We derived air pollution exposure measures using data from government air monitoring stations that provide information on

spatial and temporal variations in criteria pollutants, and from a land use regression (LUR) model we developed for the Los Angeles Air Basin. The LUR model allowed us to greatly improve our spatial characterization of traffic-related air pollution. Because heterogeneity of the autism phenotype and its severity may be attributable to influences on different critical gestational windows of brain development (Geschwind and Levitt 2007), we also seasonalized these traffic measures to investigate vulnerable trimesters of development. Here we examine associations between measured and modeled exposures to prenatal air pollution and autism in children born to mothers in Los Angeles County, California, since 1995.

Methods

In this population-based case-control study, our source population consisted of children born in 1995–2006 to mothers who resided in Los Angeles County at the time of giving birth.

Case ascertainment and definition. In Los Angeles, children with autism are identified through seven regional centers, contracted by the California Department of Developmental Services (DDS), whose staff determine eligibility and coordinate services in their respective service areas. Cases are children given a primary diagnosis of AD, the most severe among the autism spectrum disorders (ASD) diagnoses, between 36 and 71 months of age at a Los Angeles Regional Center during 1998–2009. During our study period, eligibility for DDS services did not depend on citizenship or financial status—services were available to all children regardless of socioeconomic, health insurance status, or racial/ethnic identification. Referrals to the regional centers are usually made by pediatricians, other clinical providers, and schools, but parents may also self-refer their children.

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The diagnosis of AD was based on the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision* (DSM-IV-R) (American Psychiatric Association 2000), code 299.00, reported on the Client Development Evaluation Report (CDER). Validation studies have established the reliability and validity of the CDER in California (California Department of Developmental Services 1986, 2007).

Record linkage. We attempted to link 10,821 DDS records of children with autism to their respective birth records using the National Program of Cancer Registries Registry Plus™ Link Plus Software (Centers for Disease Control and Prevention (CDC) 2010a). Given the child's first and last name, birth date, and sex; mother's first and last name and birth date; and father's last name and birth date, we probabilistically matched the two records and reviewed all high scoring linkages (≥ 25), almost half of the linkages (9,120 of 22,806), only accepting those manually confirmed to be likely matches (see CDC for record linkage concepts) (CDC 2010b). The remaining lower scoring linkages were reviewed using SAS version 9.2 (SAS Institute Inc., Cary, NC) and accepted on the condition that the child's first and last name, and birth date matched perfectly. We correctly linked 8,600 DDS records (79.5% of all cases) to birth records. Of the 2,221 DDS records not linked to CA birth records, 35% were not born in Los Angeles County, 46% were missing birthplace information, and only 19% recorded the child as born in Los Angeles County. The most common reason for nonlinkage was missing or incomplete linkage information on either of the records.

From among linked cases, we further excluded children whose mother's residency was outside of Los Angeles County during her pregnancy ($n = 41$), records with missing or implausible gestational ages (< 21 or > 46 weeks) or birth weights (< 500 g or $> 6,800$ g) ($n = 508$), and cases who did not have a primary diagnosis of AD ($n = 448$), leaving a final sample of 7,603 children with autism successfully linked to a birth certificate who met all inclusion criteria.

Control selection. We selected 10 controls for each case from our source population. Using birth certificates, each control was randomly selected without replacement and matched on birth year and sex. In addition, each control's gestational age at birth had to be equal to or greater than the gestational age at birth of their matched case to ensure prenatal exposures could be estimated for comparable lengths of time. Children were eligible as controls if they had no documentation of autism—did not have a DDS record in Los Angeles County by 2009, had a plausible gestational age (21–46 weeks inclusive) and

birth weight (500–6,800 g inclusive), and the mother resided in Los Angeles County at the time of birth.

Matching by birth year balanced the large increase in autism rates during the case ascertainment period, 1998–2009. The matched control set included 76,030 children born during 1995–2006. From among these, we further excluded 248 control children who died before 6 years of age (71 months) based on California death records, leaving 75,782 controls.

Residential locations at delivery that were reported on birth certificates were mapped using a custom geocoder (Goldberg et al. 2008), and further exclusions were necessary if residential addresses were not geocodable (9 cases, 147 controls) [see Supplemental Material, Table S1 (<http://dx.doi.org/10.1289/ehp.1205827>)]. The geocoded residential locations at birth were then linked to the nearest government air monitoring station in Los Angeles County and our LUR model.

This research was approved by the University of California, Los Angeles, Office of the Human Research Protection Program and the California Committee for the Protection of Human Subjects, and was exempted from informed consent requirements.

Exposure assessment. Using measurements for the criteria pollutants carbon monoxide (CO), nitrogen dioxide (NO₂), nitric oxide (NO), ozone (O₃), and particulate matter concentrations with an aerodynamic diameter ≤ 10 μm (PM₁₀) and ≤ 2.5 μm (PM_{2.5}) from nearest monitoring stations, we estimated average exposures for the entire pregnancy and for three specific periods during pregnancy based on the birth date and gestational age reported on the birth certificate: first trimester (estimated first day of last menstrual period through day 92), second trimester (days 93–185), and third trimester (day 186 to date of birth). The length of each pregnancy averaging period for controls was the same as for their matched case: Averaging periods for each autistic risk set were truncated at the gestational age of the matched case at birth. Hourly measurements for CO, NO₂, NO, and O₃ (1000–1800 hours) were first averaged for each day if sufficient data were available [for details, see Supplemental Material, Table S2 (<http://dx.doi.org/10.1289/ehp.1205827>)]. Daily averages for the gaseous pollutants and 24-hr measurements of PM₁₀ and PM_{2.5} (collected every 6 and 3 days, respectively) were then averaged over the different pregnancy periods when data were sufficient to do so (see Supplemental Material, Table S2).

To classify prenatal exposures to traffic-related pollutants on a more spatially-resolved scale, we extracted NO and NO₂ concentration estimates at each residential location from the LUR model surfaces we developed for the Los Angeles Air Basin (Su et al. 2009).

This LUR model was based on approximately 200 measurements of outdoor air pollution taken during 2006–2007 in locations across Los Angeles County, in addition to predictors of traffic exhaust concentrations (such as traffic counts, truck routes, and roadways). The model explained 81% and 86% of the variance in measured NO and NO₂ concentrations, respectively (Su et al. 2009).

The LUR models most closely approximate annual average concentrations. Thus, in addition to using the LUR annual average (“unseasonalized”) estimates, we also generated “seasonalized” estimates to incorporate yearly and monthly air pollution variations. Specifically, using ambient air monitoring data for NO and NO₂ at the closest monitoring station, the LUR estimates were adjusted to represent pregnancy month-specific LUR values by multiplying the LUR (unseasonalized) estimates for NO and NO₂ by the ratio of average ambient NO and NO₂ during each pregnancy month to annual average ambient NO and NO₂ (2006–2007). These seasonalized monthly LUR values were then averaged over each pregnancy period. We applied the same exclusion criteria for missing values as described above when generating the pregnancy month scaling factors using the government monitoring data.

Statistical analysis. We calculated Pearson's correlation coefficients to examine relations between the various pollutant measures. Associations between air pollution exposure and odds of AD diagnosis were examined using one- and two-pollutant models. We adjusted for LUR estimates of traffic-related exposures in our monitor-based pollutant models and assessed particles and the gaseous pollutant ozone together in the same model. We calculated ORs and 95% CIs using conditional logistic regression to estimate increases in odds of AD per interquartile range (IQR) increase in pregnancy exposures, based on exposure distributions in the controls.

We adjusted for potential confounders for which data were available on birth certificates based on prior knowledge (see Table 1 for categories used in models): maternal age, maternal place of birth, race/ethnicity, and education; type of birth (single, multiple), parity; insurance type (public, private, or other, a proxy for socioeconomic status); and gestational age at birth (weeks). In addition, we estimated pollutant effects without adjustment for gestational age to allow for the possibility that this factor might be an intermediate and thus on the causal pathway between air pollution and autism.

We expected maternal education to correlate with estimates of air pollution and autism (Ponce et al. 2005), so we also used unconditional logistic regression models to estimate associations stratified by maternal education (less than high school, high school,

Table 1. Demographic and prenatal characteristics by case (7,594) and control group (n = 75,635) [n (%)].

Characteristics	AD cases	Controls ^a
Sex		
Male	6,291 (82.8)	62,643 (82.8)
Female	1,303 (17.2)	12,992 (17.2)
Birth year		
1995	277 (3.7)	2,762 (3.7)
1996	319 (4.2)	3,173 (4.2)
1997	382 (5.0)	3,812 (5.0)
1998	487 (6.4)	4,859 (6.4)
1999	455 (6.0)	4,533 (6.0)
2000	594 (7.8)	5,904 (7.8)
2001	732 (9.6)	7,285 (9.6)
2002	885 (11.7)	8,776 (11.6)
2003	1,035 (13.6)	10,336 (13.7)
2004	1,034 (13.6)	10,284 (13.6)
2005	874 (11.5)	8,735 (11.6)
2006	520 (6.9)	5,176 (6.9)
Gestational age (weeks) (mean ± SD)	39.0 ± 2.6	39.4 ± 2.3
Maternal characteristics		
Maternal age at delivery (years)		
≤ 18	178 (2.3)	4,987 (6.6)
19–25	1,673 (22.0)	23,906 (31.6)
26–30	2,034 (26.8)	20,228 (26.7)
31–35	2,159 (28.4)	16,845 (22.3)
> 35	1,550 (20.4)	9,654 (12.8)
Missing	0	5 (0.0)
Maternal birthplace		
U.S.-born	3,544 (46.7)	32,590 (43.1)
Foreign-born	4,038 (53.2)	42,939 (56.8)
Unknown	12 (0.1)	115 (0.1)
Maternal race/ethnicity		
Non-Hispanic white	2,625 (34.6)	20,616 (27.3)
Non-Hispanic black	622 (8.2)	6,028 (8.0)
Hispanic	3,183 (41.9)	40,118 (53.0)
Asian	1,073 (14.1)	8,123 (10.7)
Other/unknown	91 (1.2)	750 (1.0)
Maternal education		
< High school	1,725 (22.7)	27,232 (36.0)
High school	1,861 (24.5)	20,115 (26.6)
> High school	3,926 (51.7)	27,400 (36.2)
Unknown	82 (1.1)	888 (1.2)
Prenatal characteristics		
Type of birth		
Single	7,218 (95.0)	73,880 (97.7)
Multiple	376 (5.0)	1,755 (2.3)
Insurance type		
Public (Medi-Cal)	2,971 (39.1)	39,382 (52.1)
Private	4,432 (58.4)	33,746 (44.6)
Other	117 (1.5)	1,925 (2.6)
Unknown	74 (1.0)	582 (0.8)
Parity		
One (index birth)	3,280 (43.2)	29,399 (38.9)
Two	2,556 (33.7)	23,495 (31.1)
Three	1,134 (14.9)	13,296 (17.6)
> Three	623 (8.2)	9,417 (12.4)
Unknown	1 (0.0)	28 (0.0)
Birth weight (g) (mean ± SD)	3321.0 ± 640.9	3377.8 ± 543.3
Paternal age at delivery (years)		
≤ 18	53 (0.7)	1,484 (2.0)
19–25	1,017 (13.4)	16,067 (21.2)
26–30	1,545 (20.4)	17,752 (23.5)
31–35	1,999 (26.3)	17,174 (22.7)
> 35	2,502 (32.9)	17,286 (22.9)
Unknown	478 (6.3)	5,872 (7.8)
Paternal education		
< High school	1,508 (19.9)	23,653 (31.3)
High school	1,931 (25.4)	19,725 (26.1)
> High school	3,589 (47.3)	25,145 (33.2)
Unknown	566 (7.4)	7,112 (9.4)

^aControls are matched to cases by sex and birth year, and at minimum reached the gestational age of the case.

more than high school) controlling for the matching variables (birth year, sex, and gestational weeks at birth) in addition to the other covariates noted above.

Results

Both mothers and fathers of children with autism were older and more educated than parents of control children, and mothers were more often non-Hispanic white but less often Hispanic, especially foreign-born Hispanic (Table 1). A higher percentage of mothers of case children were primiparous and had multiple gestations. As expected, children with autism had a lower mean gestational age at birth and birth weight than control children. Of the children with autism not linked to a Los Angeles County birth record, parental characteristics were undetermined because of frequent missing information—50–60% missing maternal and paternal age/birthday (results not shown). However, of these non-linked DDS records, 42% of families were Hispanic (results not shown), comparable to the 41.9% of Hispanic mothers of case children included in this study (Table 1).

Unseasonalized LUR-based exposure estimates for NO and NO₂ were negatively correlated with entire pregnancy ozone ($r = -0.23$ and -0.33 , respectively) but positively correlated with entire pregnancy CO, NO, NO₂, and PM_{2.5} ($r = 0.22-0.43$), and as expected, correlations between measured levels of pollutants and seasonalized LUR estimates were stronger than correlations with unseasonalized LUR estimates ($r = 0.30-0.73$) [see Supplemental Material, Table S3 (<http://dx.doi.org/10.1289/ehp.1205827>)]. Even though all trimester-specific measures correlated moderately with entire pregnancy averages ($r \geq 0.46$), second-trimester exposure averages correlated most strongly with entire pregnancy averages ($r \geq 0.80$), and first- and third-trimester averages for the same pollutants were least correlated ($r = 0.05-0.37$) (results not shown).

We estimated 4–7% relative increases in odds of an AD diagnosis per IQR increase in unseasonalized LUR measures of NO and NO₂ in adjusted models (Table 2). These OR estimates remained similar (1.03 to 1.09) in two-pollutant adjusted models (Table 3). ORs for autism per IQR increase in monitor-based estimates of entire pregnancy exposure to NO and NO₂ were slightly smaller than associations with IQR increases in LUR-based estimates (Table 2). We also estimated increases in odds of AD diagnosis per IQR increase in entire pregnancy exposure to ozone (OR = 1.06; 95% CI: 1.01, 1.12) and PM_{2.5} (OR = 1.07; 95% CI: 1.00, 1.15) (Table 2). In two-pollutant models these estimates increased (O₃ OR = 1.12; 95% CI: 1.06, 1.19; PM_{2.5} OR = 1.15; 95% CI: 1.06, 1.24)

when we mutually adjusted for both pollutants (Table 3). In addition, without adjustment for gestational weeks at birth, associations increased further or remained the same; for the two-pollutant models including ozone and PM_{2.5} (O₃ OR = 1.14; 95% CI: 1.10, 1.19; PM_{2.5} OR = 1.15; 95% CI: 1.09, 1.22) or O₃ and LUR-NO₂ (O₃ OR = 1.10; 95% CI: 1.06, 1.14; LUR-NO₂ OR = 1.10; 95% CI: 1.07, 1.13) (results not shown).

In general, effect estimates did not show consistent patterns across trimesters in one-pollutant models. For example, average second- and third- but not first-trimester exposures to O₃ were associated with AD [first-trimester OR = 1.00 (95% CI: 0.97, 1.03); second-trimester OR = 1.02 (95% CI: 1.00, 1.05); third-trimester OR = 1.04 (95% CI: 1.01, 1.06)] [see Supplemental Material, Table S4 (<http://dx.doi.org/10.1289/ehp.1205827>)].

Adjusting for maternal education changed air pollution effect estimates most strongly, likely because socioeconomic status is strongly associated both with air pollution exposure and autism diagnosis. We also investigated potential effect measure modification of the air pollution and autism association: We examined whether air pollution effect estimates vary according to strata of maternal education possibly due to differences in vulnerability, in actual exposure, or exposure and outcome misclassification. Generally, LUR-based traffic-related pollutant estimates showed the strongest association with autism in children of the least educated mothers, compared with mothers in the highest educational stratum (Table 4).

Table 2. Associations between IQR increases in entire pregnancy average air pollution exposures and AD: conditional logistic regression analysis using matched controls.^a

Exposure metric	IQR	Unadjusted		Adjusted ^b	
		OR	r ^c (case/control)	OR (95% CI)	
U-LUR-NO	9.40 ppb	0.87	7,420/72,231	1.04 (1.00, 1.08)	
U-LUR-NO ₂	5.41 ppb	0.91	7,420/72,231	1.07 (1.03, 1.12)	
S-LUR-NO	18.46 ppb	0.84	6,279/52,144	1.02 (0.96, 1.08)	
S-LUR-NO ₂	9.70 ppb	0.87	6,279/52,144	1.05 (0.98, 1.12)	
CO	0.55 ppm	0.85	7,421/72,253	0.99 (0.94, 1.05)	
NO	29.67 ppb	0.85	7,421/72,253	1.01 (0.95, 1.07)	
NO ₂	10.47 ppb	0.89	7,421/72,253	1.04 (0.98, 1.10)	
O ₃	11.54 ppb	1.19	7,421/72,253	1.06 (1.01, 1.12)	
PM ₁₀	8.25 µg/m ³	0.96	6,795/63,662	1.03 (0.96, 1.10)	
PM _{2.5}	4.68 µg/m ³	1.01	5,840/55,776	1.07 (1.00, 1.15)	

Abbreviations: S-LUR, seasonalized land use regression; U-LUR, unseasonalized land use regression.

^aControls matched to cases by birth year, sex, and at minimum reached the gestational age of the case. ^bAdjusted for maternal age, education, race/ethnicity, maternal place of birth; type of birth, parity, insurance type, gestational weeks at birth (continuous). ^cSample with complete data (i.e., strata with at least one case and one control).

Table 3. Associations between IQR increases in entire pregnancy average air pollution exposures and AD: conditional logistic regression analysis using matched controls, ^a adjusted^b two-pollutant models.

Pollutant 1	IQR	Pollutant 2	IQR	r ^c (case/control)	Pollutant 1 OR (95% CI)	Pollutant 2 OR (95% CI)
O ₃	11.54 ppb	U-LUR-NO	9.4 ppb	7,420/72,231	1.08 (1.03, 1.14)	1.06 (1.02, 1.11)
O ₃	11.54 ppb	U-LUR-NO ₂	5.4 ppb	7,420/72,231	1.08 (1.03, 1.14)	1.09 (1.04, 1.13)
NO	29.67 ppb	U-LUR-NO	9.4 ppb	7,420/72,231	0.99 (0.93, 1.05)	1.04 (1.00, 1.09)
NO	29.67 ppb	U-LUR-NO ₂	5.4 ppb	7,420/72,231	0.98 (0.92, 1.04)	1.08 (1.03, 1.13)
CO	0.55 ppm	U-LUR-NO	9.4 ppb	7,420/72,231	0.97 (0.92, 1.03)	1.05 (1.00, 1.09)
CO	0.55 ppm	U-LUR-NO ₂	5.4 ppb	7,420/72,231	0.96 (0.91, 1.02)	1.08 (1.03, 1.13)
PM ₁₀	8.25 µg/m ³	U-LUR-NO	9.4 ppb	6,794/63,642	1.02 (0.95, 1.10)	1.04 (1.00, 1.09)
PM ₁₀	8.25 µg/m ³	U-LUR-NO ₂	5.4 ppb	6,794/63,642	1.00 (0.93, 1.07)	1.08 (1.03, 1.13)
PM _{2.5}	4.68 µg/m ³	U-LUR-NO	9.4 ppb	5,839/55,757	1.06 (0.99, 1.14)	1.03 (0.98, 1.08)
PM _{2.5}	4.68 µg/m ³	U-LUR-NO ₂	5.4 ppb	5,839/55,757	1.05 (0.97, 1.12)	1.07 (1.01, 1.12)
O ₃	11.54 ppb	PM ₁₀	8.25 µg/m ³	6,795/63,662	1.06 (1.01, 1.12)	1.04 (0.97, 1.11)
O ₃	11.54 ppb	PM _{2.5}	4.68 µg/m ³	5,840/55,776	1.12 (1.06, 1.19)	1.15 (1.06, 1.24)

U-LUR, unseasonalized land use regression.

^aControls matched to cases by birth year, sex, and at minimum reached the gestational age of the case. ^bAdjusted for maternal age, education, race/ethnicity, maternal place of birth; type of birth, parity, insurance type, gestational weeks at birth (continuous). ^cSample with complete data (i.e., strata with at least one case and one control).

Table 4. Associations between IQR increases in entire pregnancy average air pollution exposures and AD: unconditional logistic regression by maternal education.

Pollutant	IQR	Adjusted ORs by maternal education ^a					
		< High school		High school		> High school	
		Case/control	Adjusted OR	Case/control	Adjusted OR	Case/control	Adjusted OR
U-LUR-NO	9.40 ppb	1,713/27,051	1.11 (1.05, 1.18)	1,842/19,967	1.03 (0.97, 1.09)	3,865/26,987	0.99 (0.95, 1.03)
U-LUR-NO ₂	5.41 ppb	1,713/27,051	1.17 (1.10, 1.25)	1,842/19,967	1.06 (1.00, 1.13)	3,865/26,987	1.03 (0.98, 1.07)
S-LUR-NO	18.46 ppb	1,435/23,270	1.03 (0.96, 1.10)	1,513/16,533	1.02 (0.95, 1.09)	3,331/22,872	1.01 (0.96, 1.07)
S-LUR-NO ₂	9.70 ppb	1,435/23,270	1.04 (0.97, 1.27)	1,513/16,533	1.07 (0.98, 1.15)	3,331/22,872	1.07 (1.01, 1.12)
CO	0.55 ppm	1,714/27,036	0.96 (0.85, 0.96)	1,842/19,949	1.03 (0.97, 1.09)	3,865/26,960	1.09 (1.04, 1.14)
NO	29.67 ppb	1,714/27,036	0.96 (0.89, 1.03)	1,842/19,949	1.02 (0.95, 1.09)	3,865/26,960	1.04 (0.99, 1.10)
NO ₂	10.47 ppb	1,714/27,036	0.97 (0.90, 1.04)	1,842/19,949	1.08 (1.01, 1.16)	3,865/26,960	1.07 (1.02, 1.12)
O ₃	11.54 ppb	1,714/27,036	1.09 (1.02, 1.16)	1,842/19,949	1.07 (1.01, 1.14)	3,865/26,960	1.04 (0.99, 1.09)
PM _{2.5}	8.25 µg/m ³	1,352/20,540	1.04 (0.96, 1.12)	1,415/15,547	1.09 (1.01, 1.17)	3,074/21,976	1.06 (1.00, 1.12)
PM ₁₀	4.68 µg/m ³	1,585/24,775	0.97 (0.91, 1.04)	1,670/18,273	1.08 (1.01, 1.16)	3,550/24,707	1.02 (0.97, 1.07)

Abbreviations: S-LUR, seasonalized land use regression; U-LUR, unseasonalized land use regression. Missing maternal education (case/control): U-LUR: 63/718; S-LUR: 50/806; monitor-based criteria: 63/715; PM₁₀: 57/659; PM_{2.5}: 51/596.

^aAdjusted for child's birth year, sex; maternal age, race/ethnicity, maternal place of birth; type of birth, parity, insurance type, gestational weeks at birth (continuous).

Discussion

We estimated an approximately 3–9% relative increase in the odds of AD per IQR increase in entire pregnancy exposure to NO (9.40 ppb) and NO₂ (5.41 ppb) as estimated by our two-pollutant LUR models. Our LUR model was built upon neighborhood-level measures of nitrogen oxides (NO_x) and represents smaller-scale variability in exhaust pollutants, compared with estimates based on air monitoring station measurements (Zhou and Levy 2007). We also estimated a 5–15% relative increase in the odds of AD per IQR increase in entire pregnancy exposure to PM_{2.5} (4.68 µg/m³) (Table 3), a pollutant whose concentrations are driven partly by fossil fuel combustion in motor vehicles. In addition, an 11.54-ppb increase in O₃ exposures during pregnancy was associated with a 6–12% relative increase in the odds of having a child diagnosed with autism.

Few studies have previously examined associations between air pollution-related exposures during the prenatal period and later development of autism, and none used ambient air monitoring data or LUR models to estimate risk in a large population. A relatively small study (284 cases, 657 controls) in the San Francisco Bay, California, area used study-specific census tract pollution

scores derived from annual average concentrations and found hazardous air pollutant (HAP) concentrations (i.e., mercury, cadmium, nickel, trichloroethylene, and vinyl chloride) near birth residences to be associated with autism (Windham et al. 2006). A study by Kalkbrenner et al. (2010) in North Carolina and West Virginia, with less exposure variability compared with California, reported near-null effect estimates for metals and several pollutants associated with AD in the San Francisco study. Both studies relied on the same HAP pollutant data source and the CDC autism surveillance system (Autism and Developmental Disabilities Monitoring Network) to identify cases. However, instead of sampling controls from birth certificates, the North Carolina/West Virginia study investigators, using education records, selected control children with speech and language impairment (383 cases, 2,829 controls). A third study (304 autism cases and 259 typically developing controls) based in California [Childhood Autism Risks from Genetics and the Environment (CHARGE) study] reported relatively strong associations (OR = 1.86, 95% CI: 1.04, 3.45) between childhood autism and proximity (living within 309 m) to a freeway during pregnancy (Hertz-Picciotto et al. 2006; Volk et al. 2010). Trimester-specific addresses were geocoded, and measures of distance to freeways and major roads were calculated using geographic information system software. This small study was the first to suggest that traffic-related exposures might increase the risk of autism. In our study, we observed weaker associations with monitor-based and modeled air pollution exposure estimates in a much larger study population.

Gestational toxicity may plausibly result from maternal exposure to NO₂, which has been shown to disturb early neuromotor development in animals, causing coordination deficits and reduced activity and reactivity in rats (Tabacova et al. 1985); specifically, NO₂ exposure at low (0.05–0.10 mg/m³) and high (1 and 10 mg/m³) concentrations for 6 hr each day throughout gestation affected neuromotor development in offspring. The mean NO₂ level in our study (30.8 ppb) [see Supplemental Material, Table S3 (<http://dx.doi.org/10.1289/ehp.1205827>)] falls within the exposure range classified as “low” in this animal study (0.05–0.10 mg/m³ or 26.6–53.2 ppb). Beckerman et al. (2008) suggested that NO may be a proxy measure for ultrafine particle (UFP; < 0.1 μm in aerodynamic diameter) exposures from traffic exhaust and reported strong correlations between 1-week average concentrations of NO, NO₂, and NO_x and short-term (10 min) measures of UFP ($r = 0.8–0.9$) at varying distances from a major expressway in Toronto, Canada. Fine particles (PM_{2.5}) can cause oxidative stress, and *in vitro* animal and human

postmortem brain studies showed they can trigger cellular toxicity and brain cell pathology (Lai et al. 2005; Li et al. 2003; Peters et al. 2006). Hertz-Picciotto et al. (2005) found that maternal PM_{2.5} exposures 2 weeks before birth were associated with altered lymphocyte immunophenotypes, and suggested that this might mediate effects of air pollution on childhood morbidity. Developmental immune system disruption has been hypothesized to play a role in neurobehavioral disorders such as autism, considering the close connection between the development of the immune system and the central nervous system (Hertz-Picciotto et al. 2008).

To our knowledge, this is the first study to suggest associations between ozone and AD. Although O₃ levels have dropped over the last decade, the Los Angeles region still often has the highest levels of O₃ nationwide, violating federal health standards an average of 137 days/year (averages from 2007 through 2009) (Roosevelt 2011). In contrast with the traffic-related and particle associations that became positive only when we adjusted for maternal education, O₃ effect estimates moved closer toward the null after adjustment for covariates. This is consistent with expectations, because traffic-related pollution is higher in lower-SES (socioeconomic status) neighborhoods, whereas O₃ levels are higher in suburban high-SES areas, and autism is more likely to be diagnosed earlier in children of mothers with higher SES. Specifically, O₃ and NO follow opposite distribution patterns across the Los Angeles Air Basin. O₃ is formed by photochemical reactions in the presence of precursor pollutants from exhaust, and concentrations are low near freeways/roadways (due to presence of strong NO emission sources) and higher in suburban neighborhoods (Wilhelm et al. 2009). Controlled animal studies suggest that O₃ may cause adverse neurobehavioral effects after gestational exposure (Kavlock et al. 1980; Petrucci et al. 1995; Sorace et al. 2001).

We relied on information recorded on California birth certificates to adjust for potential confounding by prenatal risk factors for autism reported in the literature (Gardener et al. 2009, 2011)—parental age at birth, parity, maternal place of birth, and multiple births. However, we were unable to control for potential confounding due to maternal physical and mental health history, or maternal active or passive smoking. Women giving birth in Los Angeles are predominantly Hispanic, and our survey of 2,543 women giving birth in Los Angeles County in 2003 found that only 1% of foreign-born Hispanic, 5% of U.S.-born Hispanics, and 7% of non-Hispanic whites were active smokers during pregnancy (Hoggatt et al. 2012). Also, a recent study found no association [prevalence ratio = 0.88 (95% CI: 0.72, 1.08)] of

maternal smoking during pregnancy with AD (Kalkbrenner et al. 2012). Confounding by other SES-related factors potentially correlated with air pollution is also a concern. Families of lower SES are more likely exposed to air pollution, and less likely represented in the autism case group, possibly due to underascertainment (Durkin et al. 2010; Grineski et al. 2007; Institute of Medicine 1999), which could have potentially biased our effect estimates toward the null. However, we estimated stronger associations among those with the lowest maternal education for LUR-based estimates of NO and NO₂. We adjusted for type of insurance (public vs. private pay), as well as other SES indicators important in the Los Angeles community (i.e., maternal place of birth and education) because we previously showed that these factors were sufficient to adjust adequately for SES in Los Angeles County birth outcome and air pollution studies; effect estimates for air pollution and birth outcomes were very similar when we adjusted for maternal occupation, income, and education or simply for birth certificate-derived SES measures (Hoggatt et al. 2012).

In addition to being a confounder, gestational age at birth may also be a mediator between air pollution and autism. In analyses not adjusting for gestational weeks at birth we estimated larger or similar effect sizes. However, not adjusting for gestational age at birth may also result in biased estimates because of our matching design. Specifically, because controls were sampled from among children who at birth had reached at minimum the gestational age of the matched case, gestational age as a matching variable required that we analytically control for it. Thus the magnitude and direction of any potential bias from adjusting or not adjusting for gestational age at birth is not easily quantifiable.

A source of exposure measurement error is the reliance on address information reported on birth certificates, which does not account for women who worked far from home or residential mobility during pregnancy. Previous U.S.-based studies (1997–2004) indicate that 15–30% of women change residence during pregnancy (Chen et al. 2010; Lupo et al. 2010). In our previous population-based survey of 2,543 women residing in 111 ZIP codes in Los Angeles County and delivering in 2003, 22% reported moving during pregnancy (Ritz et al. 2007). Our survey also found pregnant women of lower SES less likely to be employed and more likely to spend time near their residence, suggesting exposure is less misclassified for lower compared with higher-SES women.

Distance from a monitoring station likely introduced some nondifferential misclassification of exposure, especially for pollutants such as CO and NO₂ that are more

heterogeneously distributed. On average, the distance between home addresses and the nearest monitoring station was 6.7 miles in our study, and monitor-based estimates of CO, NO, and NO₂ are questionable in their validity if air pollution measurements are more accurate representations of actual exposures for women living closer to a station (Ghosh et al. 2012; Wilhelm et al. 2011). Ambient station measures for PM_{2.5} and O₃, however, are less likely to misrepresent actual exposures, because these pollutants are generally considered more homogeneously distributed over larger regions.

LUR-derived NO and NO₂ estimates are much more spatially resolved than monitor-based estimates, and were previously associated with adverse pregnancy outcomes in the same Los Angeles population (Ghosh et al. 2012; Wilhelm et al. 2011). Our LUR model not only represents local traffic-related pollution well, it reduces possible confounding by spatial SES factors. For example, autism diagnoses have been reported to vary spatially in California due to SES (Van Meter et al. 2010), but measures of air pollution are not inherently influenced by these spatial factors related to SES (Wilhelm et al. 2009). For pollutants that are more homogeneous over larger regional areas, such as PM_{2.5} and O₃, confounding due to SES is possible; nevertheless, associations were stronger when we mutually adjusted for both pollutants.

A major strength of our study was the use of our novel LUR exposure measures for traffic-related pollution in addition to routine, government monitoring station data for criteria pollutants to help identify specific emissions of concern for autism. Furthermore, selection bias due to participation is unlikely to have occurred.

Conclusions

The observed association with the LUR model estimates and monitoring station-based O₃ and PM_{2.5} measures suggest a link between AD and traffic-related exposures during pregnancy. Ideally, future autism and air pollution studies should use neighborhood-level monitoring or modeling of air toxins such as polycyclic aromatic hydrocarbons and possibly speciated PM_{2.5} to determine whether these results are reproducible with improved air pollution assessment.

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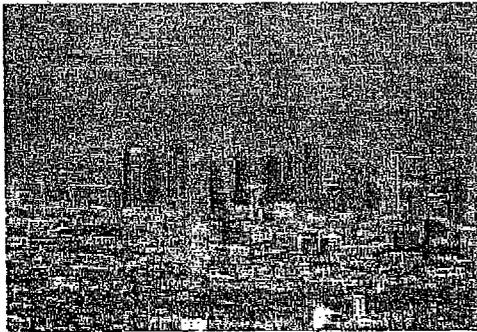
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A quarter of Angelenos breathe noxious freeway pollutants every morning

By Alison Hewitt | April 17, 2013



Although air quality has improved dramatically in Los Angeles in recent decades, a joint study by UCLA and the California Air Resources Board suggests that roughly a quarter of Angelenos are exposed to noxious plumes of freeway fumes almost every morning — far more people than previously believed.

Researchers found that overnight atmospheric conditions concentrate freeway pollutants in a plume stretching 1.5 kilometers (approximately 0.93 mile) downwind, seeping inside homes and buildings, and lingering as late as 10 a.m. The same effect would be expected downwind of any highway nationwide, the researchers said.

Half of the residents of the greater Los Angeles area live within these impact zones around freeways, meaning that about a quarter are on the downwind side of a freeway on any given day.

The 1.5 kilometer measurement is in striking contrast to earlier studies in the United States and Australia showing that daytime pollutant concentrations extended no more than about 300 meters (about 0.19 mile) downwind of major roadways, and confirms an earlier UCLA study that showed the same result at a single coastal location.

Professor Suzanne Paulson of UCLA's Department of Atmospheric and Oceanic Sciences and the Institute of the Environment and Sustainability headed the study, working with Professor Emeritus Arthur Winer of UCLA's Fielding School of Public Health and led by Wonsik Choi, a postgraduate researcher in Paulson's lab. The findings were published in December in the journal **Atmospheric Environment**.

The researchers measured pollutant concentrations upwind and downwind of the 91, 210, 110 and 101 freeways using a zero-emission vehicle equipped with specialized instruments to quantify the amount of ultrafine particles and other tailpipe pollutants such as nitrogen oxide and carbon monoxide. Starting before morning rush hour, a researcher drove back and forth several times on surface streets perpendicular to the four freeways, visiting each freeway five times.

"This is happening around every freeway," Paulson said. "It's clear that heavily trafficked roadways have a large impact on downwind populations, and a similar situation likely happens around the world in the early morning hours. The particles tend to end up indoors, so a lot of people are being exposed inside their homes and schools."

Although closed windows help block the particles from seeping inside, previous studies have shown that indoor pollution levels still reach 50 to 70 percent of outdoor levels, the researchers noted.

By knowing which way the wind is blowing, the researchers can extrapolate their findings to any freeway. Their latest measurements, and the most common nighttime wind patterns, result in the following impact zones:

Sides of freeways in greater Los Angeles with concentrated pollution in early morning			
Location	Freeway	Typically polluted side	How determined
Carson	110	Mostly east, sometimes west	Current study
Claremont	210	South	Current study
Downtown L.A.	101	South	Current study
Paramount	91	South	Current study
San Fernando Valley	101	North	Extrapolated from wind data
San Fernando Valley	118	South	Extrapolated from wind data
San Fernando Valley	405	Varies: West and east	Extrapolated from wind data
Santa Monica	10	South	Earlier study
West L.A.	405	West	Extrapolated from wind data

The morning concentration of pollutants near highways is due to a combination of the nighttime cooling of the atmosphere, called a nocturnal surface inversion, and the weak evening breeze. At night, cool air sinks, trapping polluted air close to the ground, where it can't interact with cleaner air from above. As drivers create more emissions overnight and during morning rush hour, Los Angeles' mild "land breeze" pushes the increasing pollution in a plume to one side of the freeway. The cold layer traps the plume until well into the morning rush hour, when sun-warmed air begins to rise and a stronger sea breeze takes over, mixing pollutants throughout the atmosphere and diluting their influence.

"While freeway plumes vary slightly from location to location, all of the sites exhibited highly elevated traffic-related pollution at distances of at least 1.5 kilometers on the downwind side of the freeway in the early morning," Choi said.

Freeway pollutants have been linked to increases in asthma, heart attacks, strokes, diabetes, low birth weight, pre-term births and other ailments. So what can people do to limit their exposure to polluted air?

"If your home is within about 1.5 kilometers of a freeway, you may want to close your windows during the early morning hours," Winer said. "It's also best not to run or otherwise heavily exercise within the 1.5 kilometer impact zone in the early morning."

Likewise, schools near freeways should avoid holding gym classes first period, and people with breathing difficulties should filter their indoor air, the researchers suggested.

The **UCLA Institute of the Environment and Sustainability** is an educational and research institute that unites disciplines: physical, life and social sciences; business and economics; public policy and urban planning; engineering and technology; and medicine and public health. The institute includes multiple cross-disciplinary research centers, and its environmental science undergraduate degree program is one of the fastest growing majors at UCLA. The institute also advises businesses and policymakers on sustainability and the environment and informs and encourages community discussion about critical environmental issues.

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Freeway air pollution travels farther in early morning

By Bettina Boxall, Los Angeles Times

1:53 PM PDT, April 17, 2013

Two years ago researchers outfitted an electric Toyota RAV4 with a set of test instruments and drove back and forth near four Los Angeles County freeways between 4:30 a.m. and 6:30 a.m., sampling the air.

The results confirmed that in the early morning, concentrated plumes of air pollution from freeways can travel more than a mile downwind, exposing more residents than previously thought to harmful pollution levels.

Most previous air quality studies, based on measurements taken during the day or evening, have found that vehicle emission plumes generally blow no more than about 1,000 feet downwind from a major roadway before they break up.

But in the hours just before sunrise, weather conditions are different. Nocturnal surface inversions, caused by nighttime cooling, trap air near the ground, slowing the dispersal of concentrated pollution particles and allowing them to travel farther than during the day.

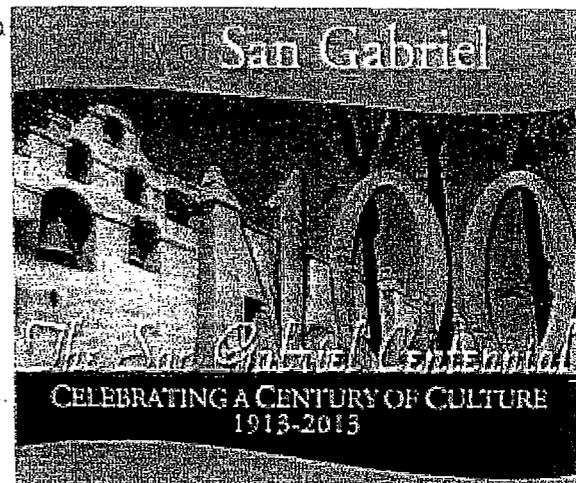
A 2009 study documented extended emission plumes near the 10 Freeway in the early morning. To see whether the same thing was happening elsewhere, researchers from UCLA and the California Air Resources Board in 2011 sampled the air in residential neighborhoods downwind of the 91 Freeway in Paramount, the 210 in Claremont, the 110 in Carson and the 101 in downtown Los Angeles.

Their findings, published in December in the journal *Atmospheric Environment*, suggest that in the hours before sunrise, residential exposure to freeway pollution is more far-reaching than previously thought.

"It's clear heavily trafficked roadways have a large impact on downwind populations, and a similar situation likely happens around the world in the early morning hours," said Suzanne Paulson, a UCLA atmospheric sciences professor and co-author of the paper. "The particles tend to end up indoors, so a lot of people are being exposed inside their homes and schools."

Studies have shown that exposure to elevated levels of vehicle pollution can contribute to asthma, heart disease and other health problems.

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Freeway air pollution travels farther in early morning - latimes.com

In greater Los Angeles, where apartment buildings and single-family homes stand cheek by jowl with some of the busiest freeways in the nation, the researchers estimated that on any given morning, roughly a quarter of the population could be exposed to downwind pollution consisting of ultrafine particles, nitric oxide and hydrocarbons.

Their advice: If you live within roughly a mile of a freeway and are downwind, keep your windows closed in the hours just before sunrise. Use air conditioning. Install HEPA air filters. Postpone outdoor exercise until later in the morning or exercise farther away from the highway.

After sunrise, the surface air warms up and the inversion breaks up, diluting the pollution.

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LAFD Deployment Plan Under Fire

Does LAFD's new deployment plan lead to longer response times?

By Robert Kovack and John Simerson

| Saturday, Mar 24, 2012 | Updated 8:28 PM PDT

Monica Mocaer remembers losing her home and almost her father.

"My dad was screaming, 'I'm on fire. I'm on fire,'" she said. "And I hugged him and his skin came off in my arms."

Jack Mocaer, 53, has spent weeks in the Intensive Care Unit at the Grossman Burn Center after 60 percent of his body was burned in the fire, sparked in the early morning of Jan. 12.

The Mocaers called 911 and waited.

"I just stood there watching it get worse and worse," Monica said.

The closest fire station, 105, is barely two miles from the Mocaer's home. But that morning, the station was empty -- one of its two companies eliminated by budget cuts. The one remaining was already out on another emergency call.

"The company that should have been in that district would have gotten there in four minutes," said LAFD Captain John Rojas.

But the incident report showed Captain Rojas and the team from Station 106 arrived on scene in nine minutes.

"Could we have made a difference?" Rojas said. "We'll never know."

The goal of any fire department is to respond to an emergency in five minutes or less, 90 percent of the time, according to the National Fire Protection Association.

Why five minutes?

"In EMS, you are talking about clinical death after five minutes," said former LAFD Commissioner Tom Curry. "On structure fires, now you have roof collapse. And in brush fires, the first five minutes is more important than the next five hours."

The city of L.A.'s pressing financial needs have meant a new deployment plan for the LAFD. Four ambulances and 18 fire companies are now shut down for good, including the Mocaers' local engine company 105.

"The fire chief people came over and told us it took way too long and gave us his apology," Monica said.

Even before the new deployment plan took effect last July, the department was meeting the five minute goal only 63 percent of the time, according to documents obtained by NBC 4.

Since then, the goal is slipping farther away. Five-minute response time is now less than 60 percent.

Instead of the five minute goal, records show the LAFD responds on average in seven minutes and 24 seconds, 90 percent of the time.

"That means somewhere in the array, if you look closely enough, there are ten and twelve minute responses, which is unacceptable," Curry said.

Between July and November 2011, the longest response time happened on Sept. 20, when first responders arrived to South Hillcrest Drive in a little over 44 minutes, according to documents.

L.A. firefighters may be called to an emergency and now have no choice but to leave their backyard unprotected.

"Ever since the deployment, I am not only fearing for the people who work for me," Rojas said. "I am fearing for the people of Los Angeles."

As for Jack Mocaear, he's facing months of rehabilitation while his family wonders just how much those few minutes would have mattered.

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Find this article at:
<http://www.nbclosangeles.com/news/local/LAFD-Deployment-Plan-Under-Fire-140979723.html>

L.A. council members call for accurate Fire Department figures

Last year, the council made cuts to Fire Department units based on data that overstated the department's performance. But new figures show actual response times were lower.

March 13, 2012 | By Kate Linthicum, Robert J. Lopez and David Zahniser

The Los Angeles City Council made deep cuts to the Fire Department last year after being presented with data that overstated how quickly rescuers arrived at the scene of citizen calls for help.

In presentations made by fire officials to council members as they considered reducing fire engines and ambulances at more than one-fifth of the city's stations, the department said first responders arrived at the scene of a medical emergency within five minutes nearly 80% of the time. Similar statistics were also included in a Fire Commission report to Mayor Antonio Villaraigosa.

But those figures inaccurately portrayed department performance, according to new numbers released by the department last week. The new statistics show that medical rescuers actually arrived on scene within five minutes only 64% of the time in 2008 and hit that mark even less in the following two years.

The department's statistician said he could not explain the discrepancy between the new numbers and the numbers in the Fire Commission report.

Last week, the Fire Department acknowledged that for years it provided lawmakers with misleading statistics that showed firefighters were on scene in less than five minutes roughly 80% of the time. They said they had used the wrong formula to calculate those reports.

Some City Council members said Monday they were disturbed about voting on the cuts based on inaccurate information. Councilwoman Jan Perry said that neither the Fire Department nor the mayor's office, which called for the budget reductions, informed her that response time numbers were not properly calculated.

"We were the ones casting the vote," said Perry, who is running for mayor. "If someone was aware that we were basing a vote on erroneous information, it would have been their responsibility to tell the council that."

Perry said she wanted an "unbiased third-party audit" of the department's response times, going back to at least 2010.

Councilman Dennis Zine, chairman of the council's auditing committee, said he planned to probe the department's statistics.

"We need to get honest numbers," Zine said. "If they're not being honest and credible that creates a huge problem. Fudging numbers is not acceptable at all."

Fire officials told The Times the department had traditionally used a six-minute time frame to calculate response statistics — even though their reports used a five-minute time frame. The department also only counted responses to the most critical emergencies, which also improved the performance figures.

Two years ago, officials began adjusting their calculations to bring them in line with the widely accepted five-minute standard of the National Fire Protection Assn., which says departments should hit that goal 90% of the time.

One community activist who opposed the budget cuts and who has studied the response times in Los Angeles, said it was troubling that flawed data appeared to have been used in decision-making. He said it was symptomatic of a larger City Hall problem. "Statistics are put forward to accomplish a goal, and nobody is held accountable," he said.

The issue surfaced last week after mayoral candidate Austin Beutner wrote an online column criticizing Perry and Councilman Eric Garcetti for approving Fire Department cuts. Citing agency reports, Beutner complained about a steep increase in response times.

But after his attack — and a Times inquiry — the department pushed back, saying Beutner had mixed the old and new response time statistics.

Villaraigosa's office said the change in the department data was not misleading but simply reflects changes in the formula for assessing response times. A spokesman for the mayor said Villaraigosa was not informed of the changes until over the weekend.

Across the country, departments use different metrics to assess how well they respond to medical emergencies.

Fire officials elsewhere say meeting the five-minute response goal is difficult, but possible with vigilant monitoring of calls and units in the field. In San Francisco, officials rely in part on "dynamically deployed" ambulances that are moved from station to station throughout the day depending on call volume.

"We have people looking at that constantly," said Mindy Talmadge, spokeswoman for the San Francisco Fire Department. So far this year, she said, the city's first responders have arrived on the scene in emergency medical calls within four minutes and 52 seconds 90% of the time.

The L.A. Fire Department also hopes to use statistics to better allocate resources, officials say. Chief Brian Cummings said he planned to move several fire crews around the city based on data analysis.

Cummings, who was promoted to chief last year, was a main architect of the 2011 redeployment. The department said the plan would save nearly \$200 million over three years.

The first cuts to the department came in 2009, when the cash-strapped city began a program of rotating ambulance and fire truck closures. Within months, the department acknowledged that critical minutes were lost in several emergency medical calls, including one in which rescuers took more than 10 minutes to arrive at a Bel-Air home where a 3-year-old boy had drowned in a swimming pool.

"Every minute that you add to a response to a heart attack, or the beginning of a fire, that could actually be a life and death issue," Councilman Paul Koretz said of the cuts. He said the city needs to know "the real, perfectly accurate numbers."

"It's very disconcerting that the numbers on which we base significant life and death policy decisions...are flawed."

Lawmakers say that with a \$220-million budget shortfall, it's unlikely the Fire Department will recoup any emergency units this year. But the issue could be kept alive in the mayor's race, in which several contenders are vying to replace Villaraigosa.

City Controller Wendy Greuel, one mayoral candidate, said her office plans to investigate the response times and look at the effects of the cuts.

"It is clear that there was a misrepresentation," she said. "If standards changed, if numbers changed, the public should be informed of that, as well as leadership."

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Los Angeles Times staff writer Ben Welsh contributed to this report.

November 20, 2012

LOS ANGELES FIRE DEPARTMENT

BRIAN L. CUMMINGS
FIRE CHIEF

November 8, 2012

BOARD OF FIRE COMMISSIONERS
FILE NO. 12-195

TO: Board of Fire Commissioners
FROM: Brian L. Cummings, Fire Chief
SUBJECT: PRELIMINARY REPORT - TASK FORCE ON INFORMATION AND DATA ANALYSIS

FOR INFORMATION ONLY:	<input type="checkbox"/> Approved	<input type="checkbox"/> Approved w/Corrections	<input type="checkbox"/> Withdrawn
	<input type="checkbox"/> Denied	<input type="checkbox"/> Received & Filed	<input type="checkbox"/> Other

For Information Only

On June 27, 2012, the Fire Chief formed the Task Force on Information and Data Analysis composed of public and private leaders for their knowledge, vision, public policy experience, and diversity of professional and organizational expertise.

The multi-disciplinary task force, comprised of sworn and civilian Fire Department personnel, with specialized technical assistance provided by subject matter experts from the RAND Corporation, University of Southern California, and the Los Angeles Police Department including a liaison from the Fire Commission, spent four months analyzing response time data.

The task force reviewed the Controller's Audit and was directed to refine processes for presenting clear, consistent and easily understood information regarding response times, as well as establishing measurements and benchmarks.

The Fire Department embraces the preliminary report to develop a system that will enable data to be shared with members of the public and Department in a transparent manner.

Board report prepared by Assistant Chief Patrick Butler Chair Task Force IDA.

Attachment



LOS ANGELES FIRE DEPARTMENT

BRIAN L. CUMMINGS
FIRE CHIEF

November 2, 2012

TO: Brian L. Cummings, Fire Chief

FROM: Patrick I. Butler, Assistant Chief
Special Operations Division

SUBJECT: PRELIMINARY REPORT - TASK FORCE ON INFORMATION AND
DATA ANALYSIS

Executive Summary

During recent months, a number of issues arose that brought to question the reliability of response times reported by the Los Angeles Fire Department. In order to address these concerns, and to ensure public confidence, Fire Chief Brian L. Cummings, with the full encouragement and support from the Board of Fire Commissioners, appointed a task force to identify potential issues and provide recommendations and solutions related to the Department's information and data analysis. This Task Force on Information and Data Analysis ("Task Force IDA") is comprised of subject matter experts from within the LAFD, and works in close conjunction with technical advisors from RAND and USC. Fire Commissioner Alan J. Skobin serves as the Fire Commission liaison and provides guidance, support, and leadership. Additionally, the subcommittee included recommendations from Mr. Jeff Godown, who formally served as a performance and data management consultant for the department and who identified some issues and provided support.

Task Force IDA established three separate tracks, each with specific and measurable objectives: Track 1- Data Accuracy/Interpretation, Track 2 – Research Plan and Development of FIRESTATLA¹, a data driven and accountability system, which will enable the LAFD to use leading-edge technology and innovative management techniques to enhance Department performance, accountability and transparency. Track 3 - Implementation of FIRESTATLA and other performance measurements.

In order to effectively address the first track of data accuracy and interpretation, the Task Force subcommittee developed a process which included problem definition,

¹FIRESTAT / management system / Los Angeles Fire Department council file: 12-0240 - Motion moved by Councilmember Mitchell Englander

methodology, identification of data sources, analysis, testing, and implementation. This report is primarily focused on Track 1, Data Accuracy/Interpretation.

The initial research required analysis of approximately 2.4 million incident records collected between January of 2007 and March of 2012, as well as recent data from July, August and September of 2012.

As a result of our initial analysis the subcommittee identified issues in the following four areas and have implemented short-term solutions and provided recommendations for longer-term solutions: 1) LAFD Computer Aided Dispatch, 2) Training/Education, 3) Integration and Synchronization, and 4) Technology. Additionally the Task Force conducted an emergency response time analysis.

1) The LAFD Computer Aided Dispatch system (CAD) is a 30 year old system that was designed and implemented for dispatching emergency resources. During the last 30 years, it has had several hardware and software upgrades, including a new platform which was upgraded through reverse engineering in 2002. The LAFD CAD was not designed for the demand of today's data reporting requirements and has limitations with many current technologies. It is an event-driven system with human interaction that captures transactions and inputs from callers, dispatchers, and responding units. While it can be used to provide data-based reports, the use should be limited in scope and only with a complete understanding of reporting criteria. Through initial analysis, the subcommittee found problems with the reporting system and the reporting criteria. These problems have since been identified and corrections implemented to ensure accurate reporting.

The corrections include several programming changes as well as establishing criteria for incident coding and separating non-emergency responses as recommended in the Controller's Audit². In addition, the subcommittee developed and implemented a Standards Management System to identify and flag data anomalies. A new report³ is now generated that supervisors and analysts can then use to determine the nature of these anomalies, which may be caused by human error, process inefficiency, and/or unique aspects of Los Angeles. Because the time-stamping process from the time LAFD takes the call to resources arriving at the scene is currently not completely automatic, and there are other steps that involve human interaction, human errors will continue to occur. However, once they are identified, the involved procedure, whenever possible, will be modified in order to reduce the frequency of occurrences. Similarly, should an anomaly be due to inefficiency of the existing process, efforts are being implemented for process improvements.

² http://controller.lacity.org/stellent/groups/electedofficials/@ctr_contributor/documents/contributor_web_content/lacityp_020450.pdf

³ Outside Standards Report - Developed by FirstWatch and the LAFD

The new Standards Management System developed by the subcommittee, with properly defined categories will provide a constant feedback loop for identifying and correcting anomalies. With these short term implementations, the existing CAD system can now provide more accurate data than before, and the department can use it for limited reporting purposes until enhancements to CAD system are made. Further, all prior reporting data should not be relied upon until they are properly recalculated and validated with the new recommended changes.

2) Training/Education - The statistical analysis of data by LAFD department staff who are not trained in this field led in part to inaccurate reporting. A general lack of data knowledge, interpretation, and understanding of the CAD systems can magnify this problem.

It became apparent that policy decisions based on data requires professional analysts to work more closely with policy makers to improve decision making and eliminate ambiguity. Until the selection, development and formal training of LAFD staff who work in a number of disciplines including data analysis are accomplished, future data-based decisions should include input from the Task Force.

3) Integration and Synchronization - The data which the LAFD relies on to make certain public safety decisions is managed, maintained, and accessed by multiple departments. The Information Technology Agency (ITA) maintains the CAD data production, and both the LAFD Management Information Systems Division (MIS) and Planning Section share and access these data through a sub-set of data bases and filtering reports. To achieve accuracy and accountability, all participants who play a role in data reporting, should be well integrated and synchronized. The LAFD needs to improve its processes of integration and synchronization with ITA. ITA has trained and qualified experts, many with over 25 years of experience in this field. It is essential that upon finding data anomalies, a thorough investigation and cross checking with ITA should occur. In the past, there have been cases where ITA employees with expert knowledge in data management and interpretation were never accessed by LAFD staff. In addition there were times when both agencies used different interpretations, which led to different conclusions.

Until a formal integration process is in place, all Fire Department requests for CAD data reports and interpretation should be routed through the LAFD Metropolitan Fire Dispatch and Communications Division which will vet these with the Public Safety Dispatch Division from the Information Technology Agency.

4) Technology - There are a number of technologies available that can enhance public safety and reduce response times, and are at varying degrees of progress in the department. These technologies include; Fire Station Alerting System (FSAS), Computer Aided Dispatch System (CAD), Global Positioning Systems(GPS), Automatic Vehicle Locating Systems (AVL), Geographic Information Systems (GIS), Automatic

Resource Recommendation Software (ARRS), and Traffic Pre-emption Systems. Currently, the Department does not have GPS or AVL in all of its units and is in the process of replacing the FSAS. A team outside the scope of the Task Force was assembled to assess the current CAD system and make recommendations for a future system.

The Department should develop a comprehensive technology-based strategic plan to address these and other needs. While technology is not a substitute for human interaction and decision making, it can certainly enhance efficiency in the operational aspects of resource dispatch and deployment.

Response Time Analysis

Because the initial focus of the subcommittee was aimed at data accuracy and interpretation, a baseline analysis of the department's emergency response time was conducted to better understand and identify problems. After running preliminary tests with the new changes and recommendations in place, the subcommittee conducted an emergency response time analysis for the month of September 2012 and arrived at the following results:

The average⁴ total response time for all 911 emergency incidents in the City of Los Angeles from the time a 911 call is received by an LAFD dispatcher to the time the first unit arrives on scene is 6 minutes and 47 seconds (6:47)

Using the NFPA 1710 national standard for fire department response time performance the following are the preliminary results: EMS 60.9% and Fire 61.3%.

Accurate reporting of response time is an important tool in assuring the best possible emergency service for the City of Los Angeles. An accurate understanding of how quickly first responders are able to get on scene at emergencies is important for Fire Department management, city policy makers, and the public to determine the appropriate allocation of resources for the Los Angeles Fire Department.

Recommendations

Thus far the Task Force subcommittee has recommended and implemented (those marked with an asterisk below) the following recommendations as a result of our research, which we recommend should be adopted and implemented by the department.

- *Report total emergency response times to be from the time of call receipt by the LAFD to the time of the first unit on scene, according to guidelines set forth by NFPA 1221⁵ and NFPA 1710⁶.

⁴ City wide average is used in this method to establish a baseline but not as a statistical inference or performance indicator.

- *Establish clear and unambiguous definitions and standards for all terms, such as coding of incident types, used in the CAD data base.
- *Adopt the Standards Management System to flag, trap, and mitigate data anomalies in the areas of 1) call processing time, 2) turnout time, and 3) travel time.
- *Expand the current use of FirstWatch®⁷ to include and continue near real time monitoring of CAD data with an emphasis on response time analysis.
- *Expand the current use of Palantir Gotham™⁸ and/or other appropriate systems to aggregate and integrate databases for the purpose of department performance analysis.
- *Expand the current partnership with RAND Corporation to include policy analysis, operations research, and provide recommendations for technology enhancements and process improvements.
- Adopt and implement minimum training and education requirements for LAFD analysts.
- Establish a specific data analysis unit within the LAFD which includes technical assistance from outside experts and academics.
- Maintain continual analysis of CAD data.
- Develop and implement a publicly accessible website that provides response times by community and district.
- Integrate the LAFD Metropolitan Fire Dispatch and Communications Division with the Public Safety Dispatch Division from the Information Technology Agency into a single entity to mirror the model used by LAPD in TEAMS II.
- In order to provide consistency, maintain the current command team at Metropolitan Fire Dispatch and Communications Division until the programming changes and technology upgrades are in place.
- Determine and analyze the call processing and transfer time from the LAPD Public-Safety Answering Point (PSAP) to LAFD.
- Report response times by district, community and other geographical areas.
- Develop a process and coding system to identify transitional calls and responses (Emergency to Non-Emergency and Non-Emergency to Emergency).
- Analyze call processing and consider separating Card 33, 37, and other time intensive protocols for the purposes of analysis.
- Implement programming changes that restrict out of sequence MDC entries.

⁵ National Fire Protection Association 1221 - Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems (New Changes Adopted 2012)

⁶ National Fire Protection Association 1710 - Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special operations to the Public by Career Fire Departments 2010 Edition

⁷ FirstWatch® a syndromic surveillance program and real-time early warning system.

⁸ Palantir Technologies is a software company that produces the Palantir Gotham™ and Palantir Metropolis™ platforms for analyzing, integrating, and visualizing data, including structured, unstructured, relational, temporal, and geospatial data.

Background

On July 7, 2012, Fire Chief Brian L. Cummings, with the full encouragement and support from the Board of Fire Commissioners assembled the LAFD Task Force on Information and Data Analysis ("Task Force IDA") to identify potential issues and provide recommendations and solutions related to the Department's information and data analysis. This Task Force on Information and Data Analysis ("Task Force IDA") is comprised of subject matter experts from within the LAFD, and works in close conjunction with technical advisors from RAND and USC. Fire Commissioner Alan J. Skobin serves as the Fire Commission liaison and provides guidance, support, and leadership. Additionally, the subcommittee included recommendations from Mr. Jeff Godown, who formally served as a performance and data management consultant for the department and who identified some issues and provided support.

The Task Force mission statement is: To develop systems, policies, and processes to accurately and transparently capture, measure, analyze, and report the inputs, outputs and outcomes of our Department. This real time accurate information will enhance leadership and policy decisions and allow our internal and external stakeholders to see and measure our performance, initiate discussion and dialogue, as well as develop and disseminate best practices throughout the Department.

Task Force IDA established three separate tracks, each with specific and measurable objectives. Each track has a subcommittee assigned to develop systems, policies, and processes to address each objective.

Track 1- Data Accuracy/Interpretation

- Conduct an analysis on LAFD data collection and review coding of incident types.
- Develop a consistent methodology for differentiating and coding emergency and non-emergency incidents.
- Develop a single agreed upon system for data processing and reporting of the statistical information.
- Analyze data, draw comparisons, and suggest policies and practices that might produce improvements in our system.

Track 2 – Research Plan and Development of FIRESTATLA

- Identify best practices in data collection and analysis from other fire departments and academia, and look for opportunities to apply these models in our organization.
- Determine what areas of the organization can benefit from data analysis.

- Seek input from the various segments of the Department and ensure that the field and operational level provide feedback.
- Determine resource needs and which Bureaus, Divisions, Sections, Units should be responsible.
- Determine how to gather performance data from other areas of the Department (e.g. OT, Work Comp, etc.) and develop a framework for objective and transparent analysis and decision making.

Track 3 - Implementation of FIRESTATLA

- Implement real time data analysis tools in order to report accurate and timely data.
- Implement leadership and accountability strategies that use data and other metrics (e.g. gap analysis) to drive continuous process improvement in the organization.
- Implement a consistent format for dialogue across the organization where data and other metrics can be discussed to help form the basis for improvements, changes, and best practices.
- Develop a method for disseminating best practices throughout the Department.
- Implement a publicly accessible system (website) to access real time information on response times and other performance data that the public wants to know.

Scope

This preliminary report has been developed to provide an overview, progress, and recommendations specifically related to Track 1 - Data Accuracy and Interpretation in the following 4 areas 1) LAFD Computer Aided Dispatch 2) Training/Education 3) Integration and Synchronization 4) Technology. Additionally the Task Force subcommittee conducted an emergency response time analysis.

The subcommittee assigned to data accuracy and interpretation is primarily a team which consists of members from public agencies, private enterprise, academia, and research institutions. These include; the Los Angeles Fire Department (LAFD), the Los Angeles Police Department (LAPD), Information Technology Agency (ITA), FirstWatch®, Palantir Technologies, USC, and the RAND Corporation.

Methodology

In order to effectively address data accuracy and interpretation, the team developed a process to define the problem, establish a methodology, identify data sources, and analyze data, testing, and implementation. Primary methods included; direct observations, interviews, qualitative and quantitative analysis. The initial steps required team members to analyze 2,425,582 incident records from January 1, 2007 to March 26, 2012 as well as 64,000 records from July, August, and September of 2012. Once a potential issue was identified, the team selected solutions and implemented these in a

test bed "sandbox" server to test their findings. If the issue was resolved, the solution(s) would be tagged, identified with a number and implemented into the "live" data base.

Findings

A public-safety answering point (PSAP), is a call center responsible for answering calls to an emergency telephone number for police, fire, rescue, and ambulance services. In the City of Los Angeles, the LAPD serves as the PSAP and is the initial 911 receiving point of emergency calls for service. If the call requires a fire department response, the call is then transferred to the Metropolitan Fire Dispatch and Communications Division. In 2011 the LAFD responded to approximately 373,000 incidents⁹.

LAFD Computer Aided Dispatch- The computer aided dispatch system is designed primarily to dispatch, and maintain the status of resources in the field. In the LAFD CAD system, fire department dispatchers receive calls for service from various sources; one source is the Enhanced 911 (E911), which is interfaced with the computer and automatic number identification automatic location identification (ANI-ALI). This system automatically inputs the telephone number and address of the caller into the CAD, eliminating the time required to manually locate the address and facilitating the process of request for service. As the dispatcher gains information on the type of call through a series of questions, it is manually entered into the CAD system. When the CAD system has sufficient information to recommend a response algorithm; it will do so by issuing the recommendation for the approval of the dispatcher. (See Attachment C for Call Processing and Response Time Continuum)

Apart from E911, there are several other ways in which the public and other agencies can call and request emergency service. Those include; calls via 10 digit numbers, calls transferred from another PSAP, calls from a third party, out of state calls, and other methods. Calls that originate outside of E911 do not have ANI-ALI and require dispatchers to verify and manually enter the address, which increases call processing time and ultimately increase total response time. Cell phone calls require more time to validate the address and location of the caller.

In addition, a CAD system manages resource status and interfaces with a records management system to capture and retain incident data. The central focus of a CAD system should be aimed at making the job of the 911 call takers, dispatchers, resource controllers and first responders faster, safer and more efficient so that the public receives fast and effective service. While these objectives are critical, accurate statistical reporting and analysis should not be compromised, because they are the indicators whether objectives are met and or better met.

⁹ 11-10-2011 LAFD Fire Facts

The use of trained and qualified personnel and the partnership with outside private enterprises such as FirstWatch®, is essential when interpreting reports and making data-based decisions from the CAD system. The CAD system requires continual software and programming upgrades/changes, each of which may consider and exclude different types of data anomalies. It is important to make clear what is excluded from the calculation of the response time and explain why these anomalies are treated and displayed separately.

The LAFD CAD is over 30 years old and certain enhancements and improvements to the LAFD system could improve both the dispatching, response, and reporting aspect. It may also have some limitations that can no longer be adapted to adequately and reliably interface with new systems and technologies. An LAFD dispatcher should always be able to process calls and provide pre-arrival instructions without completing a large number of steps. Anything that can be auto-populated or automated with the latest technology such as the capabilities of geographic information systems (GIS) and automatic vehicle location (AVL) or other service enhancements should be implemented.

The overall system uses a combination of technology and human interaction to effectively dispatch resources and provide service. This human interaction also presents areas for human error to occur. Three areas were identified where human error could impact dispatching and data capturing: 1) Call Processing, 2) Dispatching, and 3) Responding.

During call processing, dialogue between the requesting party and dispatcher can create conditions for error. Some examples include unknown address/location, type of emergency, language barrier, third party information, and other information that requires the dispatcher to verify and cross check the information, each of which further delays dispatch. Additionally, some calls require special detailed instruction for processing, including lost hikers, inter-facility transports, locating caller, Emotional Content and Cooperation Score (ECCS-level), or other necessary time required to effectively dispatch the resources.

During dispatching, the dispatcher has to initiate a series of command prompts and maintain situational awareness for other calls pending in the queue. This manual interaction is subject to human error and has the potential to delay a dispatch.

During response, the responding units manually update their status and push buttons on a mobile data computer (MDC) to signal and trigger a time stamp when they are enroute to a call (ENR), on-scene of a call (ONS) and then available from the call (AVI). These data are captured by the CAD and essentially determine this segment of the response timeline. If a firefighter forgets to push the button or the radio signal is interrupted due to radio coverage or a system outage, then this time sequence may be incomplete or incorrect. The subcommittee found approximately 150 records per month

that appeared to have out of order, incomplete, or negative time stamps. These are being analyzed and are identified by the Standards Management System. Programming changes that restrict MDC out of sequence entries may eliminate some of these errors.

One of the initial action items for the subcommittee was to analyze response time data to identify patterns and outliers. During this process, it was discovered that there were instances where the data inaccurately reported some response times to take as long as 28 hours to arrive on scene. This was clearly a mistake. By homing in on these outliers and drilling down into these incidents, the subcommittee determined that certain programming changes to the computer aided dispatch system (CAD) caused the reporting side of the CAD to generate data that was inaccurately interpreted.

The programming changes that affected these reports were the result of prior programming changes that were designed to address issues, which the subcommittee found had caused unintended second and third order effects.

As reported in the City Controller's Audit¹⁰, the Department did not have a consistent method for differentiating and coding emergency responses and non-emergency responses. This issue was addressed by the subcommittee and resolved by adopting a single standard which clearly defines these types of responses. Using this new standard the department will be able to more accurately report response times and perhaps recalculate previously-reported inaccurate data that have drawn public attention. Additionally the subcommittee identified transitional calls; those that can originate as an emergency call/response and then are downgraded to non-emergency or upgraded from non-emergency to emergency are not easily identified and should be assigned a separate code in the CAD when this takes place because they can skew data.

The following is a list of issues that were discovered and programming changes that have been implemented to enhance reporting criteria¹¹:

- WRS Override - Subsequent responding units overriding the initial on-scene time.
- Date Stamp Clock - Some data fields had an additional 24 hour time stamp added.
- Dropped Records - The MIS data base had missing records due to a routine data push.
- Emergency and Non-Emergency criteria - Controller's Audit found errors in criteria.
- Pended Calls - Dispatcher training has been implemented.
- Address Command Prompt - Incorrect/old address data on the command line caused faulty time stamp.

¹⁰ http://controller.lacity.org/stellent/groups/electedofficials/@ctr_contributor/documents/contributor_web_content/lacityp_020450.pdf

¹¹ These programming changes will be monitored with the SMS to ensure compliance.

Fire Chief
 Task Force Preliminary Report
 November 2, 2012
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Issue	Description	Impact	Solution	Implementation
WRS Override	Subsequent responding units overriding time stamps	Caused reports to include the time stamp from the last transaction. Led to inaccurate reporting by LAFD	Programming changes will capture the time stamp from the first unit when querying reports	Yes
24 hour Date Stamp Clock	Some data fields had an additional 24 hour time stamp added	Caused certain incidents to show more than 24 hour response times	Programming changes will eliminate the 24 hour date stamp from these incidents. Outside Standard Report will flag these occurrences.	Yes
Emergency and Non-Emergency Criteria	Not all incidents are clearly identified as Emergency or Non-Emergency	Causes the reports to include calls for Non-Emergency service which impacts response time reporting	LAFD adopted a standard list that separates these types of calls	Yes
Pended Calls	Emergency calls are sometimes manually processed and a dispatcher may forget to dispatch a pending call in the queue	Causes a delay in dispatching	Dispatcher training and Outside Standard Report will flag these occurrences.	Yes
Address Command Line Prompt	Incorrect/old address data on the command line caused faulty time stamp.	Causes wrong time stamp to be included in the report and can either show positive or negative response times	Current solution being beta-tested.	No <i>Outside Standard Report will flag these occurrences.</i>

Dropped Records	MIS data base was found to have missing records due to a routine data push.	Caused missing records on the reporting side. Including out of sequence AVI time stamps.	ITA staff is restoring records through archives/tapes and will analyze for additional issues. Programming changes are being implemented.	On-going - progress includes 1 year of back data already in the restoration process
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Training/Education-The Department relies on data to make certain operational and public safety decisions. While it has some very experienced personnel in terms of emergency operations, it lacks professional experience in the areas of statistical analysis and data interpretation. While the inaccurate reporting of response times was caused by a full array of problems described above, inexperienced personnel do increase human errors. Having conducted direct observations and interviews with Department personnel in the LAFD Planning Section, the subcommittee found that there were no formal education or professional certificates required to serve in these positions. Establishing clear performance metrics and blending practical experience with theory through professional courses or advanced degrees in statistics and operations research will enhance data-based decisions in the LAFD.

Integration and Synchronization- The data which the LAFD rely on to make certain public safety decisions is managed, maintained, and accessed by multiple departments. The Information Technology Agency (ITA) maintains the CAD data production and the LAFD Management Information Systems Division (MIS) and Planning Section shares and accesses these data through a sub-set of data bases and filtering reports. In order to prevent a situation where there may be competing or different priorities, the Public Safety Dispatch Division from the Information Technology Agency should be re-assigned from ITA to the LAFD under the formal command of Metropolitan Fire Dispatch and Communications Division. This re-alignment will ensure a single point of direction and eliminate the potential impacts from organizational shifts in priorities.

Technology- How to improve the overall level of the department's technology and equipment has become a very important issue at present. There are several technologies available that can enhance public safety and reduce response times. These technologies include; Fire Station Alerting System (FSAS), Computer Aided Dispatch System (CAD), Global Positioning Systems(GPS), Automatic Vehicle Locating Systems (AVL), Geographic Information Systems (GIS), Automatic Resource Recommendation Software (ARRS) and Traffic Pre-emption Systems.

Many fire departments have a paradoxical relationship with technology. While one should embrace the ideas of new technology, real time information and analysis tools, it is also important to understand that technology can sometimes be unreliable and may create a dependence which can compromise decision making and impact service. The combination of these two downsides could be problematic. To address this concern, technology should be designed and built to enhance service delivery and reduce human error, but not to replace the necessary experience and decision making skills that firefighters have developed.

Currently the department is taking steps to replace the Fire Station Alerting System (FSAS) and CAD. The FSAS is the system that controls the fire station dispatch audio, signal lights, and other fire station alerting hardware and software. This proposed system should decrease incident turnout times through early pre-alerting of first responders, prior to actual dispatch recommendation and voice dispatch phase. Additionally it may decrease human error during a pre-alert or dispatch phase through text-to-speech technology to fire stations and to first responders available on radio in the field. The FSAS may also create efficiencies and reduce dispatcher stress through the use of text-to-speech technology, lessening time for dispatchers to vocalize dispatches and concentrate on CAD dispatch recommendations and essential voice radio traffic on tactical channels.

In September of 2012, the department initiated the first step towards developing a future CAD system. This initial step included the development of a CAD assessment team, who will develop criteria and conduct a specific needs assessment before proceeding with a request for proposal. Improving, upgrading, or replacing the CAD will facilitate integration with several other technologies that will enhance dispatching and improve reporting and records management. For example, there are certain technology improvements that could reduce human error in responding units, like "geofencing". A geo-fence could be dynamically generated, as in a radius around an address, location, or predefined set of boundaries. Once a dispatch is received and the apparatus is moving above a certain speed, the system automatically transmits the signal to the CAD and triggers an enroute time stamp, instead of having to push a button. Also, when the apparatus is within a certain distance of the address, it will automatically trigger an on-scene stamp and decrease human error if someone forgets to press the button. This type of technology can automatically handle many of the manual prompts.

Another CAD integrated technology is Automatic Resource Recommendation Software (ARRS). In this system the resource recommendation decision is based on the real-time location providing quicker emergency responses and better allocation of resources. The department has taken the initial steps towards implementing AVL into the existing CAD and will pursue integration with ARRS.

Advancements in traffic management technology include the Traffic Pre-emption Systems, which allows the normal operation of traffic lights to be preempted by an

emergency vehicle. This system is designed to help reduce response times and enhance traffic safety by stopping conflicting traffic and allowing the emergency vehicle right-of-way.

The subcommittee recommends that the department continue to upgrade and replace their systems as well as adopt and implement many of these new technologies to improve safety, service, and reduce response times.

Response Time Analysis¹² - While the initial focus of the subcommittee was aimed at data accuracy and interpretation, a baseline analysis of the Department's emergency response time was conducted to verify that the programming changes and Standards Management System were accurate. After running preliminary tests with July and August data, the subcommittee ran the same test with the new changes and recommendations in place for September and determined the following results:

The average¹³ total response time for all 911¹⁴ emergency incidents in the City of Los Angeles from the time a 911 call is received by an LAFD¹⁵ dispatcher to the time the first unit arrives on scene is 6 minutes and 47 seconds (6:47). This time includes the average call processing time of 1 minute and 42 seconds.

The response time analysis was based on the following criteria:

- All emergency responses (Fire/Other/EMS) within the month of September 2012; from the time a call is received via a 911 call by the LAFD dispatch center to the time the first unit arrives on scene of the incident address. This total response time for this calculations includes; call processing time, turnout time, and travel time.
- Removing records that had negative time records or out of sequence time stamps, which are being reviewed as part of the subcommittee's recommendations.

The subcommittee also broke down these calls into Fire and EMS and compared them to the NFPA 1710 performance standard, which states that *"the fire department shall establish a performance objective of not less than 90 percent for the achievement of each turnout time and travel time objective specified in 4.1.2.1"*.

Using the criteria for Emergency Medical Services and Fire the following are the results for the month of September 2012¹⁶:

¹² See Attachment A - *FirstWatch September Response Time Data Review - LAFD Task Force IDA*

¹³ Average is used in this method to establish a baseline but not as a statistical inference or performance indicator.

¹⁴ Calls received via 911 lines were analyzed in this test because they include an initial time stamp.

¹⁵ This number does not include the call transfer time from the LAPD PSAP to LAFD.

¹⁶ Note: Using only 1 month of data as a baseline - sample size may not be indicative of a larger set.

EMS

- Average Response Time (HH:MM:SS): 00:05:01
- Median¹⁷ 00:04:40
- Mode¹⁸ 00:04:45
- Count of Calls *Within 5 Minutes*: 12,216 (60.9%)
- Count of Calls *Over 5 Minutes*: 7,836 (39.1%)

Fire

- Average Response Time (HH:MM:SS): 00:05:38
- Median¹⁹ 00:04:49
- Mode²⁰ 00:04:52
- Count of Calls *Within 5:20 Minutes/Seconds*: 1,130 (61.3%)
- Count of Calls *Over 5:20 Minutes/Seconds*: 713 (38.7%)

NFPA 1710 Response Time Standard 2010
 90% Achievement for EMS/Fire excluding ALS

Emergency Incident	Turnout Time	Travel Time	Response Time
Emergency Medical Services - First Resource	60 seconds	240 seconds	300 seconds (5 minutes)
Fire - First Resource	80 seconds	240 seconds	320 seconds (5 minutes 20 secs.)

Using the Standards Management System - Minimum and maximum time stamps were also analyzed to determine causal factors in any type of large variance of separation. The maximum and minimum sample also referred to in our analysis as the largest observation, and smallest observation, are the values of the greatest and least elements of the data set. Using this approach as another method to analyze data, the department can focus on outliers to determine causal factors, human error, process inefficiency, resources, and/or unique aspects of Los Angeles

Limitations of this Report

This preliminary report only sampled emergency incidents from July, August and September of 2012, and conducted an average total response time (Call Processing, Turnout, and Travel Time) as well as baseline EMS and Fire calls for September 2012. While the sample of data may be too small to make any specific inferences; the

¹⁷ The numerical value separating the higher half of the sample data from the lower half.
¹⁸ The value that appears/occurs most often in the sampled data.
¹⁹ *Ibid*
²⁰ *Ibid*

department will be able to conduct additional response time analysis by specific queries, such as EMS, Fire, and other types of incidents with the recommendations in place.

The subcommittee did not analyze the department deployment plans²¹ and did not apply those factors to the scope of this analysis.

Further Research

The subcommittee recommends that the department continue to analyze response times and other data as well as compare these numbers within a larger sample size. Additionally, the department should analyze response times in different communities and fire station districts. This research can be achieved by expanding the use of the RAND Corp., USC, FirstWatch®, Palantir Technologies and other industry experts, as well as establishing an LAFD Data Analysis Unit with trained personnel. Continued testing and analysis will be required to identify and ensure that data anomalies are properly addressed.

FIRESTATLA - In April of 2012, Councilmember Mitchell Englander introduced a motion directing the department to develop and implement FIRESTATLA, a data driven performance and accountability system which will enable the LAFD to use leading-edge technology and innovative management techniques to identify gaps and enhance department performance. The Task Force has undertaken the lead for development and implementation of this important program, which will transition this to the department once it is developed. While the primary focus of the Task Force thus far has been data accuracy and interpretation, a separate committee of the Task Force has made significant progress in developing the framework for FIRESTATLA with the support and guidance from Chief Brian Cummings, Fire Commissioner Alan J. Skobin and John Neuman, the LAPD Senior Management Analysts and Assistant Commanding Officer of the Real-Time Analysis and Critical Response (RACR) Division²².

Commissioner Skobin, who formerly served as an LAPD Commissioner for 9 years, has tremendous background in public safety and was integrally involved with performance improvements and institutional reform at the LAPD. His experience, along with that of John Neuman, who has a depth of knowledge and experience, and was recently assigned to assist with FIRESTATLA, will provide the necessary foundation for the Task Force to develop the vital framework and strategy for FIRESTATLA. FIRESTATLA will use data as the foundation for transparency, accountability, and development of best practices.

²¹ Modified Coverage Plan(MCP) - Enhanced Modified Coverage Plan (EMCP) - Deployment Plan (DP)

²² Detailed to the LAFD with the support of LAPD Chief Charlie Beck, and facilitated by the Deputy Mayor for Homeland Security and Public Safety.

The Task Force plans to issue a public report on its progress and strategy for implementation of FIRESTATLA. The target date for completion of this report is early December 2012.

Conclusion

This preliminary report identified issues with the current CAD system, data accuracy, and interpretation. The subcommittee implemented solutions and recommendations that will allow the department to once again report response times. With the implementation of new technologies, FIRESTATLA, Standards Management System, training and developing a formal structure for analysis and reporting, the subcommittee is confident that the department will be able to accurately, transparently, and reliably report response times, and to ensure public confidence.



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Acknowledgements

The following is the list of subcommittee members and advisory teams that contributed to the content of this preliminary report or provided advisory support.

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References and Attachments

Attachment A - FirstWatch - September Response Time Data Review -LAFD Task Force IDA - 10/10/2012 (Preliminary Report)

Attachment B - Outside Standards Report (Example)

Attachment C - Call Processing and Response Continuum

FirstWatch - September Response Time Data Review

LAFD Task Force IDA - 10/10/2012

Attachment A

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FirstWatch - September Response Time Data Review

LAFD Task Force IDA - 10/10/2012

Overview

Response Time Analysis for September, 2012

The basis of the criteria used in following response time analysis is centered on information provided by the Task Force IDA sub-committee. Asking the question: How long does it take to get a resource to a 911 emergency call from the time that it is received by LAFD? There are two specific segments that we are focused on for this report: 1) Alarm Call Processing - Initial 911 to WRS and 2) Response Time - WRS to 1st Unit On Scene.

Summary of Analysis

Criteria

FirstWatch Trigger Source for Analysis: Task Force IDA - LAFD - Response Time 5 mins

- Date Range: Between September 1, 2012 00:00:00 and September 30, 2012 23:59:59
- All Fire and EMS emergency calls that came in on a 911 phone line, excluding specified non-emergency calls types. (Also referred to as "Overall" in this report)
- Excludes the following *non-emergent* Incident types:

11A1,12A2,12A2E,12A3,12A3E,13A1,13A1C,16A1,16A2,16A3,17A0G,17A1,17A1G,17A1J,17A2,17A2G,17A2J,17A3,17A3G,17A3J,17O1,17O1J,18A1,1A1,20A1,20A1C,20A1H,21A1,21A2,22A1,22A1A,22A1B,22A1M,22A1X,22A1Y,23O1V,24O1,25A1,25A1B,25A1V,25A1W,25A2,25A2B,25A2V,25A2W,26A1,26A10,26A11,26A12,26A13,26A14,26A15,26A16,26A17,26A18,26A19,26A2,26A20,26A21,26A22,26A23,26A24,26A25,26A26,26A27,26A28,26A3,26A4,26A5,26A6,26A7,26A8,26A9,26O10,26O11,26O12,26O13,26O14,26O15,26O16,26O17,26O,8,,26O19,26O2,26O20,26O21,26O22,26O23,26O24,26O25,26O26,26O27,26O28,26O3,26O4,26O5,26O6,26O7,26O8,26O9,27A1G,27A1S,27A1X,29A1,29A1A,29A1M,29A1U,29A1X,29O1,2A1,2A1I,2A1M,2A2,2A2I,2A2M,30A1,30A2,36A0,36A1A,36A1B,36A2A,36A2B,36A2C,3A1,3A2,3A3,4A1,4A1S,4A2,4A2S,5A1,5A2,7A3,7A3E,7A3F,8A1,8O1,8O1B,8O1C,8O1G,8O1M,8O1N,8O1R,8O1S,8O1U,9B1,9B1A,9B1B,9B1C,9B1D,9B1E,9B1F,9B1G,FO,ENG,ILLEGAL,INVEST,INVESTA,INVESTF,INVESTL,INVESTM,INVESTP,INVESTT,LOST,SAFEH,SAFES,TIRE,TOW,TRK,TSI,VIP.

- Calls must have an Initial 911 and 1st Unit On Scene timestamp to be a qualified record.
- Measured against 5 minute (300 seconds) response time standard (60 seconds for Alarm Call Processing and 240 seconds for turn-out and travel time)
- No specific unit type or capability designation is used for filtering criteria. We are evaluating all resource types.

FirstWatch - September Response Time Data Review

LAFD Task Force IDA - 10/10/2012

Dataset

- September 2012 - Total Overall Calls: **22,049**
- Total Records Removed with Errors: **154 (0.7%)**
 - *Bad or irregular records based on items identified in discussions - i.e. > 1st Unit Enroute timestamp before 1st Unit On Scene, and data entry errors for the September data set. Recommend not focusing on these specific calls, since a low percentage.*
- Total Calls Evaluated (Errors Removed): **21,895**

Alarm Call Processing - Initial 911 to WRS

- Average Initial 911 to WRS - Alarm Call Processing (HH:MM:SS): Time: **00:01:42**
- Count of Calls **Over** 90 Seconds: **10,994 (50.2%)**
- Count of Calls **Within** 90 Seconds: **10,901 (49.8%)**

Incident Turnout Times - WRS to 1st Unit Enroute

- Average Incident Turnout - WRS to 1st Unit Enroute(HH:MM:SS): **00:00:57**

Incident Response Times - WRS to 1st Unit On Scene

- Average Response Time (HH:MM:SS): **00:05:05**
- Count of Calls **Over** 5 Minutes: **8,650 (39.5%)**
- Count of Calls **Within** 5 Minutes: **13,245 (60.5%)**

Incident Response Times EMS - WRS to 1st Unit On Scene

- Average Response Time (HH:MM:SS): **00:05:01**
- Count of Calls **Over** 5 Minutes: **7,836 (39.1%)**
- Count of Calls **Within** 5 Minutes: **12,216 (60.9%)**

Incident Response Times Fire - WRS to 1st Unit On Scene

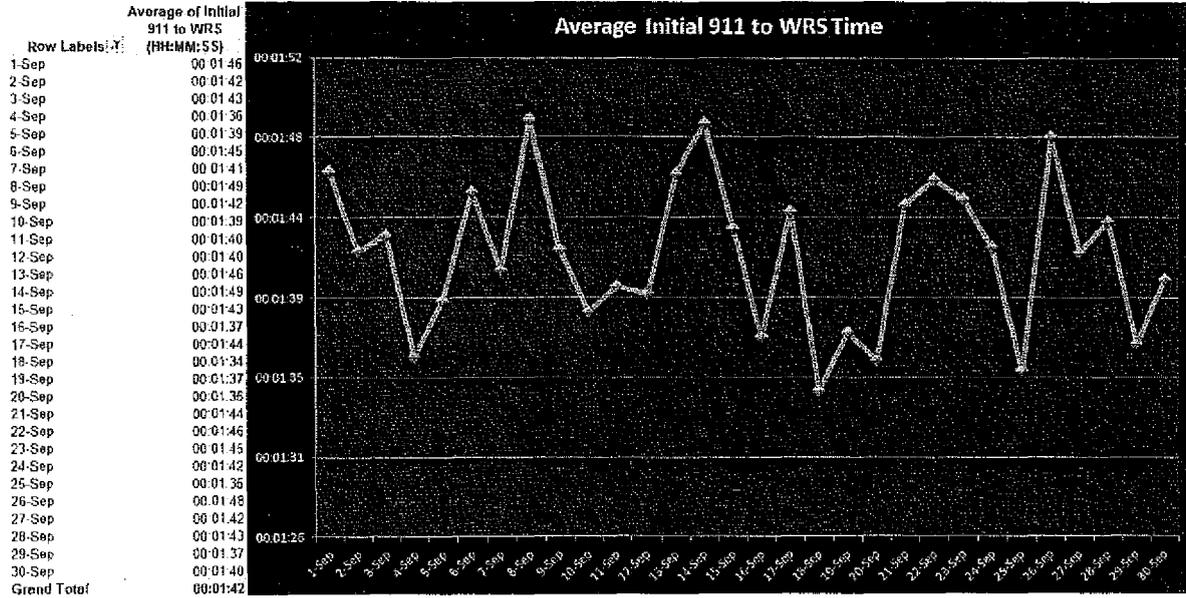
- Average Response Time (HH:MM:SS): **00:05:38**
- Count of Calls **Over** 5:20 Minutes/Seconds: **713 (38.7%)**
- Count of Calls **Within** 5:20 Minutes/Seconds: **1,130 (61.3%)**

FirstWatch - September Response Time Data Review

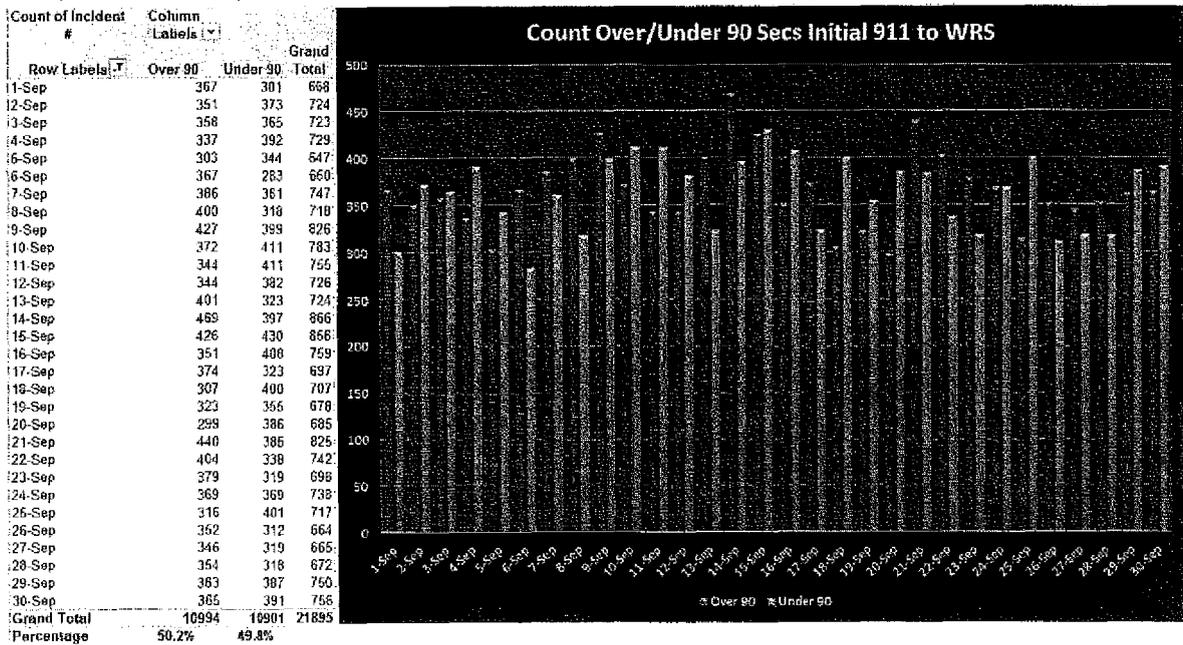
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Alarm Call Processing Charts

Average Initial 911 to WRS Time (Alarm Call Processing Time)



Count of Under/Over 90 Second Alarm Call Processing

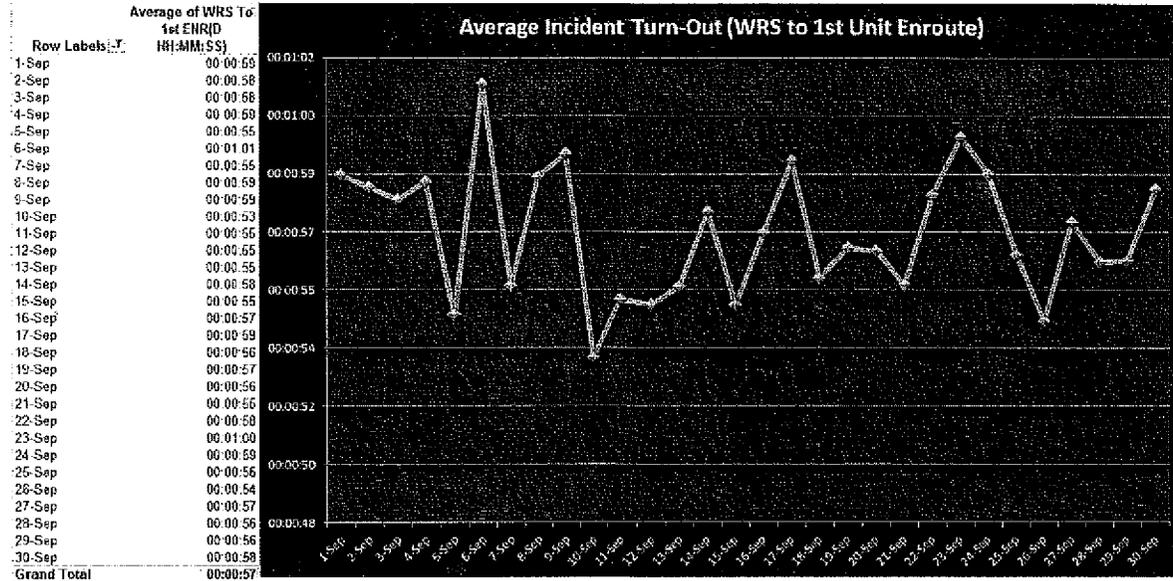


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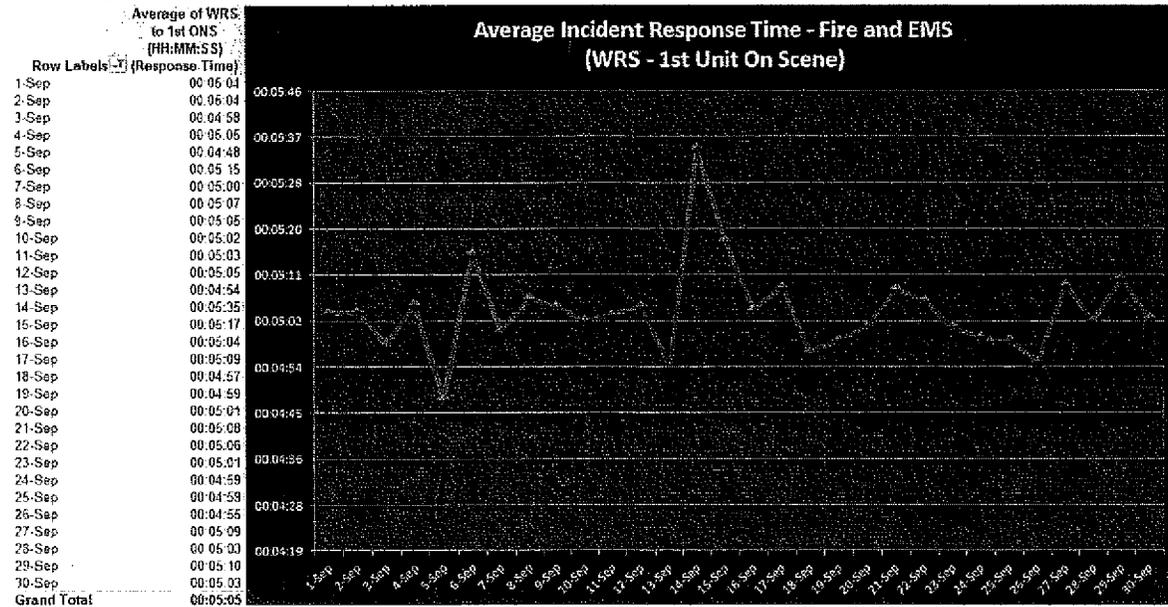
Incident Turn Out Times Charts

Incident Turnout - Overall (WRS to 1st Unit Enroute)



Incident Response Times Charts

Average Response Time - Overall (WRS to 1st Unit On Scene)

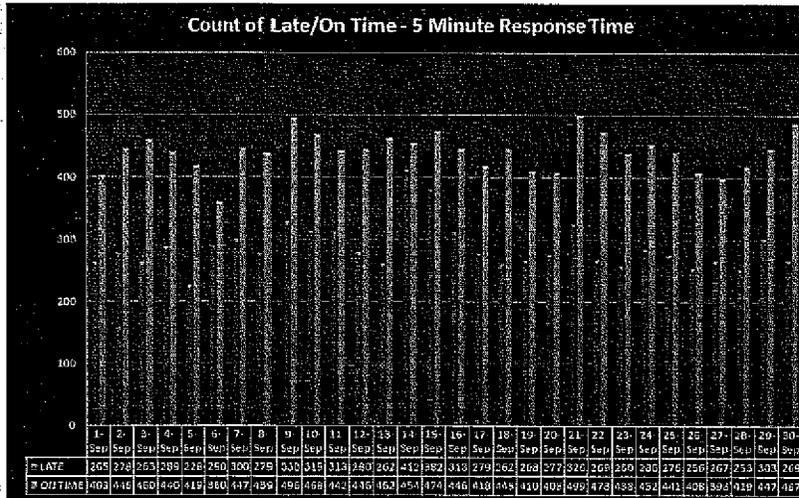


FirstWatch - September Response Time Data Review

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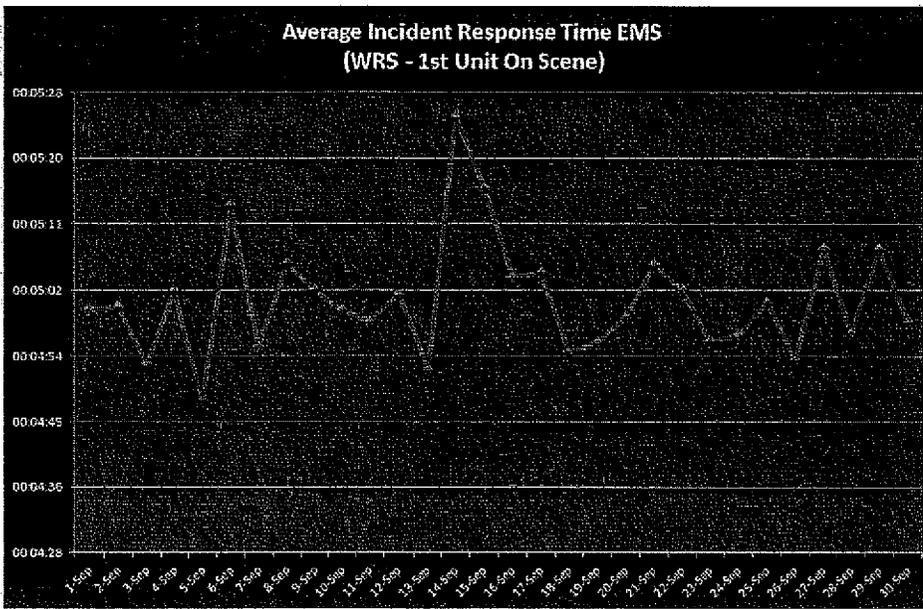
Count of Calls Over/Under 5 Minute (300 SECS) Response Time- Overall (WRS to 1st Unit On Scene)

Count of Incident #	Column Labels	ON TIME	Grand Total
1-Sep	LATE	265	668
2-Sep	LATE	278	724
3-Sep	LATE	263	723
4-Sep	LATE	289	729
5-Sep	LATE	228	647
6-Sep	LATE	290	650
7-Sep	LATE	300	747
8-Sep	LATE	279	718
9-Sep	LATE	330	826
10-Sep	LATE	315	793
11-Sep	LATE	313	755
12-Sep	LATE	280	726
13-Sep	LATE	282	724
14-Sep	LATE	412	865
15-Sep	LATE	382	855
16-Sep	LATE	313	759
17-Sep	LATE	279	697
18-Sep	LATE	262	707
19-Sep	LATE	268	678
20-Sep	LATE	277	685
21-Sep	LATE	326	825
22-Sep	LATE	269	742
23-Sep	LATE	260	698
24-Sep	LATE	286	738
25-Sep	LATE	276	717
26-Sep	LATE	256	654
27-Sep	LATE	257	665
28-Sep	LATE	253	672
29-Sep	LATE	303	790
30-Sep	LATE	299	796
Grand Total		8638	21895
Percentage		39.5%	60.5%



Average Response Time EMS (WRS to 1st Unit On Scene)

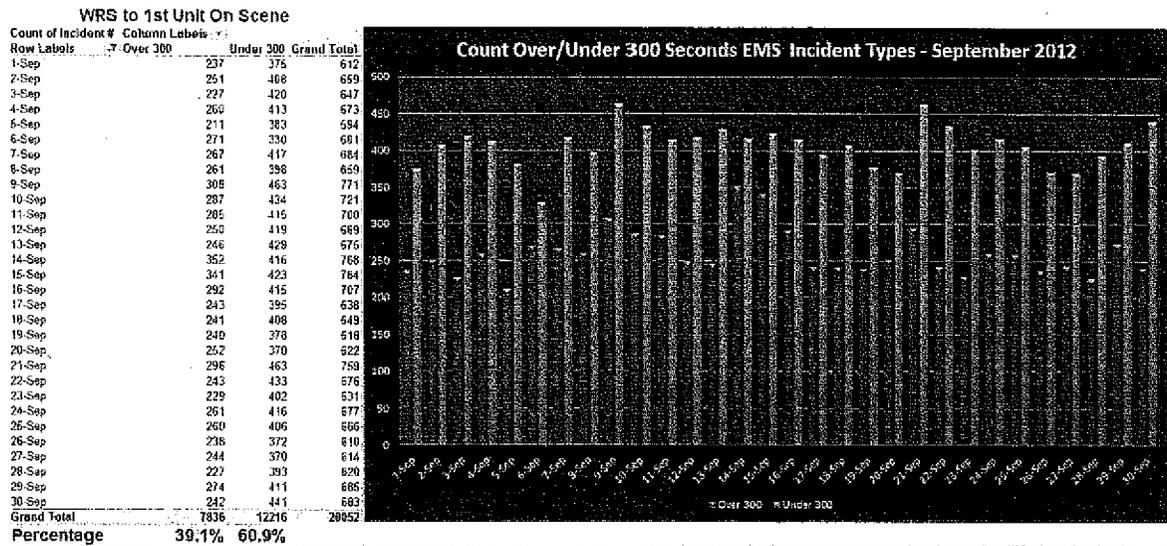
Row Labels (Response Time)	Average of WRS to 1st Unit On Scene (HH:MM:SS)
1-Sep	00:05:00
2-Sep	00:05:00
3-Sep	00:04:53
4-Sep	00:05:02
5-Sep	00:04:48
6-Sep	00:05:14
7-Sep	00:04:55
8-Sep	00:05:06
9-Sep	00:05:02
10-Sep	00:05:00
11-Sep	00:04:58
12-Sep	00:05:02
13-Sep	00:04:52
14-Sep	00:05:25
15-Sep	00:05:16
16-Sep	00:05:04
17-Sep	00:05:05
18-Sep	00:04:54
19-Sep	00:04:56
20-Sep	00:04:59
21-Sep	00:05:06
22-Sep	00:05:02
23-Sep	00:04:56
24-Sep	00:04:57
25-Sep	00:05:01
26-Sep	00:04:53
27-Sep	00:05:08
28-Sep	00:04:57
29-Sep	00:05:08
30-Sep	00:04:50
Grand Total	00:05:01



FirstWatch - September Response Time Data Review

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Count of Calls Over/Under 5 Minute (300 SECS) Response Time EMS (WRS to 1st Unit On Scene)



Response Time Intervals EMS

WRS to 1st Unit On Scene - EMS INC TYPES

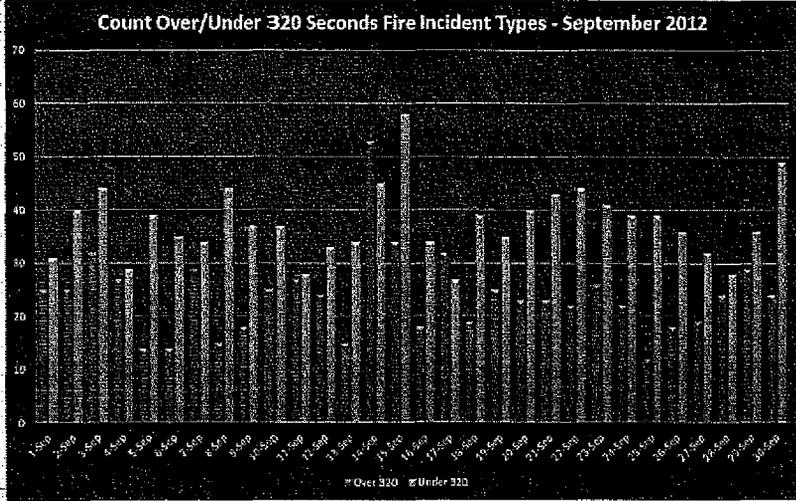
RespTime In Min	Count of Incident #	% of Grand Total
<1 or (blank)	64	0.32%
1-6	15485	77.22%
6-11	4122	20.56%
11-16	261	1.30%
16-21	89	0.44%
21-26	21	0.10%
26-31	6	0.03%
31-36	2	0.01%
36-41	2	0.01%
Grand Total	20052	100.00%

FirstWatch - September Response Time Data Review

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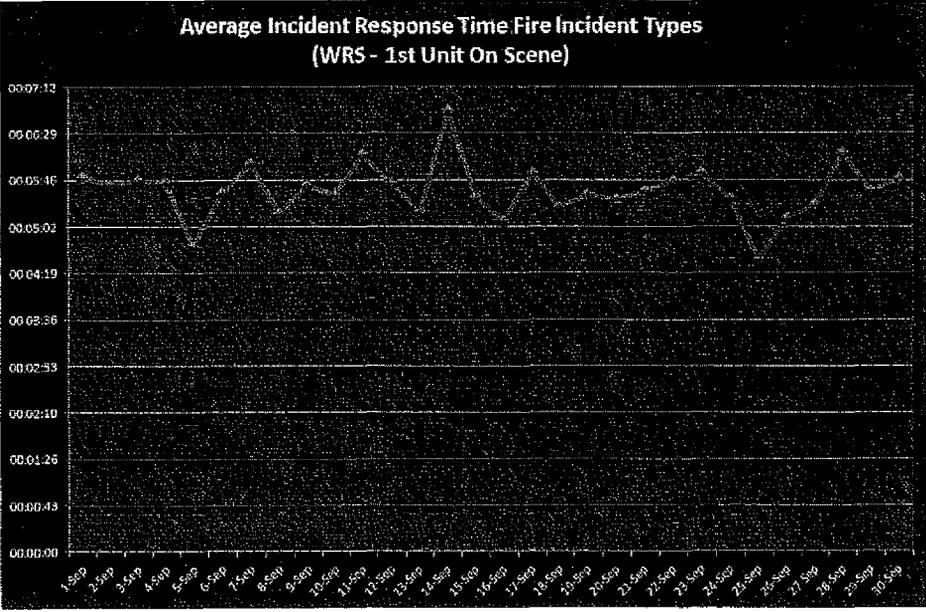
Count of Calls Over/Under 5:20 Minute (320 SECS) Response Time Fire (WRS to 1st Unit On Scene)

WRS to 1st Unit On Scene			
Count of Incident #	Column Labels	Under 320	Grand Total
Row Labels	Over 320		
1-Sep	25	31	56
2-Sep	25	40	65
3-Sep	32	44	76
4-Sep	27	29	56
5-Sep	14	39	53
6-Sep	14	35	49
7-Sep	29	34	63
8-Sep	15	44	59
9-Sep	18	37	55
10-Sep	25	37	62
11-Sep	27	20	47
12-Sep	24	33	57
13-Sep	15	34	49
14-Sep	63	45	108
15-Sep	34	56	90
16-Sep	18	34	52
17-Sep	32	27	59
18-Sep	19	39	58
19-Sep	25	36	61
20-Sep	23	40	63
21-Sep	21	43	64
22-Sep	22	44	66
23-Sep	26	41	67
24-Sep	22	39	61
25-Sep	12	39	51
26-Sep	18	36	54
27-Sep	19	22	41
28-Sep	24	28	52
29-Sep	29	36	65
30-Sep	24	48	72
Grand Total	713	1130	1843
Percentage	38.7%	61.3%	



Average Response Time Fire (WRS to 1st Unit On Scene)

Row Labels	Average of WRS to 1st ONS (HH:MM:SS)	(Response Time)
1-Sep	00:05:40	00:07:13
2-Sep	00:05:42	
3-Sep	00:05:45	
4-Sep	00:05:43	00:06:29
5-Sep	00:04:44	
6-Sep	00:05:33	
7-Sep	00:06:00	00:05:46
8-Sep	00:05:15	
9-Sep	00:05:40	00:05:02
10-Sep	00:05:32	
11-Sep	00:06:09	
12-Sep	00:06:43	00:04:19
13-Sep	00:05:17	
14-Sep	00:06:50	
15-Sep	00:05:30	00:08:36
16-Sep	00:05:08	
17-Sep	00:05:52	00:02:53
18-Sep	00:05:21	
19-Sep	00:05:32	
20-Sep	00:05:27	00:02:10
21-Sep	00:05:36	
22-Sep	00:05:44	
23-Sep	00:05:52	00:01:26
24-Sep	00:05:28	
25-Sep	00:04:31	
26-Sep	00:05:10	00:00:43
27-Sep	00:05:23	
28-Sep	00:06:11	00:00:00
29-Sep	00:05:36	
30-Sep	00:05:45	
Grand Total	00:05:38	



FirstWatch - September Response Time Data Review
LAFD Task Force IDA - 10/10/2012

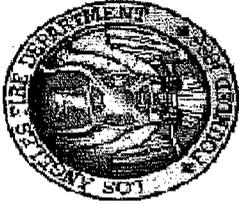
Response Time Intervals Fire

WRS to 1st Unit On Scene - Fire Inc Types

RespTime In Min	Count of Incident #	% of Grand Total
<1 or (blank)	14	0.76%
1-6	1274	69.13%
6-11	451	24.47%
11-16	66	3.58%
16-21	25	1.36%
21-26	9	0.49%
26-31	2	0.11%
31-36	1	0.05%
36-41	1	0.05%
Grand Total	1843	100.00%

Response Time Review - Outside Standard Responses

Attachment B



Criteria:

Date Range: to

Total Response Time is measured as initial 911 received to First Unit On Scene. Using 8 minute as the standard

8 Minutes used for initial analysis only - secondary analysis will include other standards

Incident Number	Initial 911 Time	Initial 911 to Creator	Average	Creation to WRS	Average	% of RT	Creation to WRS	Average	% of RT	Initial 911 to WRS	Average	% of RT	WRS to 1st EPR	Average	% of RT	1st EPR to OMS	Average	% of RT	Total Response Time
	10/14/2012 1:09:19 AM	00:00:30	00:01:22	00:01:20	7%	3%	00:01:50	00:00:51	5%	00:01:50	00:00:51	5%	00:01:50	00:01:50	5%	00:01:50	00:01:50	5%	00:19:35
	10/14/2012 6:25:52 PM	00:00:23	00:01:20	00:01:20	7%	2%	00:01:43	00:00:51	5%	00:01:43	00:00:51	5%	00:01:43	00:01:43	5%	00:01:43	00:01:43	5%	00:18:41
	10/14/2012 3:42:28 PM	00:00:26	00:00:27	00:00:27	2%	2%	00:00:53	00:00:44	4%	00:00:53	00:00:44	4%	00:00:53	00:00:53	4%	00:00:53	00:00:53	4%	00:18:19
	10/14/2012 2:05:11 PM	00:00:20	00:00:58	00:00:58	5%	2%	00:01:18	00:00:56	5%	00:01:18	00:00:56	5%	00:01:18	00:01:18	5%	00:01:18	00:01:18	5%	00:17:55
	10/14/2012 8:19:31 AM	00:00:29	00:00:07	00:00:07	1%	3%	00:00:36	00:00:36	3%	00:00:36	00:00:36	3%	00:00:36	00:00:36	3%	00:00:36	00:00:36	3%	00:17:53
	10/14/2012 5:03:37 PM	00:00:53	00:00:53	00:00:53	5%	5%	00:00:53	00:00:53	5%	00:00:53	00:00:53	5%	00:00:53	00:00:53	5%	00:00:53	00:00:53	5%	00:17:06
	10/14/2012 6:42:38 PM	00:00:05	00:00:05	00:00:05	1%	1%	00:00:05	00:00:05	1%	00:00:05	00:00:05	1%	00:00:05	00:00:05	1%	00:00:05	00:00:05	1%	00:16:06
	10/14/2012 12:22:05 PM	00:00:37	00:00:12	00:00:12	1%	4%	00:00:12	00:00:17	8%	00:00:12	00:00:17	8%	00:00:12	00:00:17	8%	00:00:12	00:00:17	8%	00:16:05
	10/14/2012 8:30:32 AM	00:00:33	00:00:55	00:00:55	6%	4%	00:00:55	00:00:58	7%	00:00:55	00:00:58	7%	00:00:55	00:00:58	7%	00:00:55	00:00:58	7%	00:14:32
	10/14/2012 7:56:32 AM	00:00:06	00:00:06	00:00:06	1%	1%	00:00:06	00:01:08	9%	00:00:06	00:01:08	9%	00:00:06	00:01:08	9%	00:00:06	00:01:08	9%	00:12:56
	10/14/2012 8:14:47 PM	00:00:12	00:00:12	00:00:12	2%	2%	00:00:12	00:00:42	5%	00:00:12	00:00:42	5%	00:00:12	00:00:42	5%	00:00:12	00:00:42	5%	00:12:48
	10/14/2012 4:53:41 PM	00:00:28	00:00:28	00:00:28	4%	4%	00:00:28	00:01:15	10%	00:00:28	00:01:15	10%	00:00:28	00:01:15	10%	00:00:28	00:01:15	10%	00:12:53
	10/14/2012 8:18:23 PM	00:00:30	00:00:30	00:00:30	4%	4%	00:00:30	00:00:43	6%	00:00:30	00:00:43	6%	00:00:30	00:00:43	6%	00:00:30	00:00:43	6%	00:12:07
	10/14/2012 1:41:36 AM	00:00:24	00:00:24	00:00:24	3%	3%	00:00:24	00:00:16	2%	00:00:24	00:00:16	2%	00:00:24	00:00:16	2%	00:00:24	00:00:16	2%	00:12:04
	10/14/2012 2:32:30 PM	00:00:12	00:00:12	00:00:12	2%	2%	00:00:12	00:01:18	11%	00:00:12	00:01:18	11%	00:00:12	00:01:18	11%	00:00:12	00:01:18	11%	00:12:03
	10/14/2012 5:47:52 PM	00:00:13	00:00:13	00:00:13	2%	2%	00:00:13	00:00:10	1%	00:00:13	00:00:10	1%	00:00:13	00:00:10	1%	00:00:13	00:00:10	1%	00:11:59
	10/14/2012 9:56:02 PM	00:00:25	00:00:25	00:00:25	4%	4%	00:00:25	00:03:45	31%	00:00:25	00:03:45	31%	00:00:25	00:03:45	31%	00:00:25	00:03:45	31%	00:11:59

RTHUR L. KASSAN, P.E.
Consulting Traffic Engineer

April 9, 2013

Bradly S. Torgan, Esq.
927 Kings Road #220
West Hollywood, CA 90069

Subject: Il Villaggio Toscano Project
Refined Conceptual Site Plan

Dear Mr. Torgan:

Subsequent to the completion of my letter of February 12, 2013, in which I commented on the inadequacies of the Environmental Impact Report for the above-captioned project, it has come to my attention that there are several serious deficiencies in the "Refined Conceptual Site Plan" for the development [Figure II-1, page II-2 of the FEIR]. The deficiencies, if not corrected, will lead to traffic operational and safety problems. In particular: a) there will be conflicts between market delivery trucks and other vehicles and pedestrians within the development site; and b) residential ingress and egress could be blocked due to unforeseen and unaccounted for events. Neither the DEIR nor the FEIR for this development has addressed these potentially significant design defects.

Delivery Truck Access

The problem arises from the inadequate curb return and turning radius proposed for the intersection of the development "fire lane" and Camarillo Street at the southwestern corner of the site. Although the roadway along the western and northern periphery of the site is labeled "fire lane", that roadway is actually a development access and circulation roadway that will serve the primary entries/exits for the residential parking and the retail parking, as shown on the plan. Additionally, and most crucially, that roadway will provide the only on-site circulation routing for trucks heading to and from the "market loading area" in the northern part of the development.

The market loading area is shown on the plan with a southwest-to-northeast alignment and with the loading docks and market delivery doors in the southwestern part of the area. Therefore, it can be inferred that the truck delivery and pick-up operation will be as follows:

- market-oriented trucks will turn from either direction of Sepulveda Boulevard to enter Camarillo Street traveling westbound;
- the trucks will turn right from westbound Camarillo Street to the northeast bound fire lane and proceed to the market loading area;
- the trucks will back into the loading area at an angle to the fire lane with their front ends heading toward the northeast;

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Culver City, CA 90230

FAX
(310) 558-1829

Page 2

- when leaving, the trucks will exit the loading area frontwards and head to the driveway on Sepulveda Boulevard at the northeastern corner of the site, from which they will have to turn right onto southbound Sepulveda Boulevard.

The trucks serving the market loading area will range in size up to a 50-foot long semi-trailer combination truck with a 40-foot long wheelbase (designated a WB-40 truck in traffic engineering design terms). For design purposes, that size and type of truck has a 20-foot long inner turning radius and a 41.2-foot long outer turning radius.

Based on the "Revised Conceptual Site Plan", the curb return proposed for the intersection of Camarillo Street and the fire lane will be approximately 15 feet in radius. Further complicating the turning problem at the intersection will be the angle at which the two roadways intersect. The fire lane will intersect Camarillo Street at an angle of approximately 70 degrees. Normally, streets intersect at a 90-degree angle or as close to that as possible. With the angle shown on the plan, the entering truck will have to turn through a total of 110 degrees, causing the truck to use more of the fire lane roadway to complete its turn than would be necessary under normal conditions.

Attached are two exhibits that illustrate the potential turning paths of the market-bound trucks.

Exhibit A shows the minimum turning path of a WB-40 truck with the intersection curb return shown on the plan. The truck would have to start its turn 13 feet south of the Camarillo Street curbline. The truck is 8 ½ feet wide. Added to the 13 feet from the curbline, the turning truck will occupy more than 21 feet of the 25-foot westbound roadway of Camarillo Street. That would result in the truck blocking all of the westbound traffic flow on the street.

Even starting that far into the street, the outer edge of the turning truck would be at the western curbline of the fire lane. That is, the truck, in turning to travel northbound, would occupy the entire width of the fire lane, intruding into the southbound lane.

Any vehicle that is southbound on the fire lane within four vehicle lengths of the intersection would impede the turning of the truck from Camarillo Street. Southbound drivers exiting from the residential and retail driveways, not understanding the physical necessities of a turning truck, may try to pass around it and cause collisions. As the southbound fire lane will be the primary exit route for vehicles leaving the residential and retail components of the development, the potentials for interference and safety hazard are high.

Exhibit B shows the minimum path that could accommodate the turning truck without its intruding into the southbound lane of the fire lane and starting from an acceptable location within the Camarillo Street roadway – approximately 6 feet from the north curbline, leaving an 11-foot lane width for other westbound traffic on the street. Based

Bradly S. Torgan, Esq.
April 9, 2013

Page 3

on Exhibit B, it is recommended that a minimum of a **30-foot radius curb return** be provided at the "northeast" corner of the intersection of Camarillo Street and the fire lane.

That radius curb return would eliminate the need for the intrusion of turning trucks into the conflicting southbound fire lane traffic. That size and larger curb returns are commonly provided at city street intersections at which meaningful numbers of large trucks are expected to turn. For example, the curb returns at the intersection of Camarillo Street and Sepulveda Boulevard are of 30- to 35-foot radius.

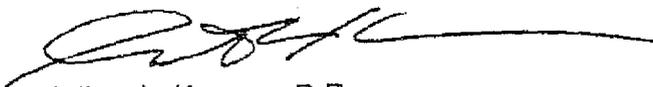
Shown on the development plan at the southwestern corner of the site, adjacent to the small-radius curb return, is a small, square building that is not identified as to use. A 30-foot or larger radius curb return would pass through that building. It would be necessary to re-locate or modify that building in order to provide the recommended adequate turning radius for the market-oriented trucks.

Vehicle Access for the Residential Parking

The Refined Conceptual Site Plan shows only one on-site driveway identified as "Residential Parking Entry". As that is the only driveway identified for general, i.e., non-guest parking, it can be assumed that it is a two-way driveway that will be used for residential parking exiting as well as entry. With one driveway serving the approximately 800 residential parking spaces, there could be entry and exiting problems in cases of: a) one or more vehicles blocking the driveway because of an accident or breakdown; b) a fire near the driveway; c) earthquake damage to the building affecting the driveway; or d) similar types of unpredictable but possible adverse incidents. For the safety and convenience of the development residents, a second two-way driveway must be provided to serve the large residential parking facility.

If you have any questions about my concern and recommendation for the significant design feature, please contact me at your convenience. The analysis should be added to the environmental impact studies for the development. I would be pleased to present my analysis to City officials and staff for the benefit of the truckers and the development residents and retail patrons.

Very truly yours,



Arthur L. Kassan, P.E.
Registered Traffic Engineer No. 152
Registered Civil Engineer No. 15563

Attach.

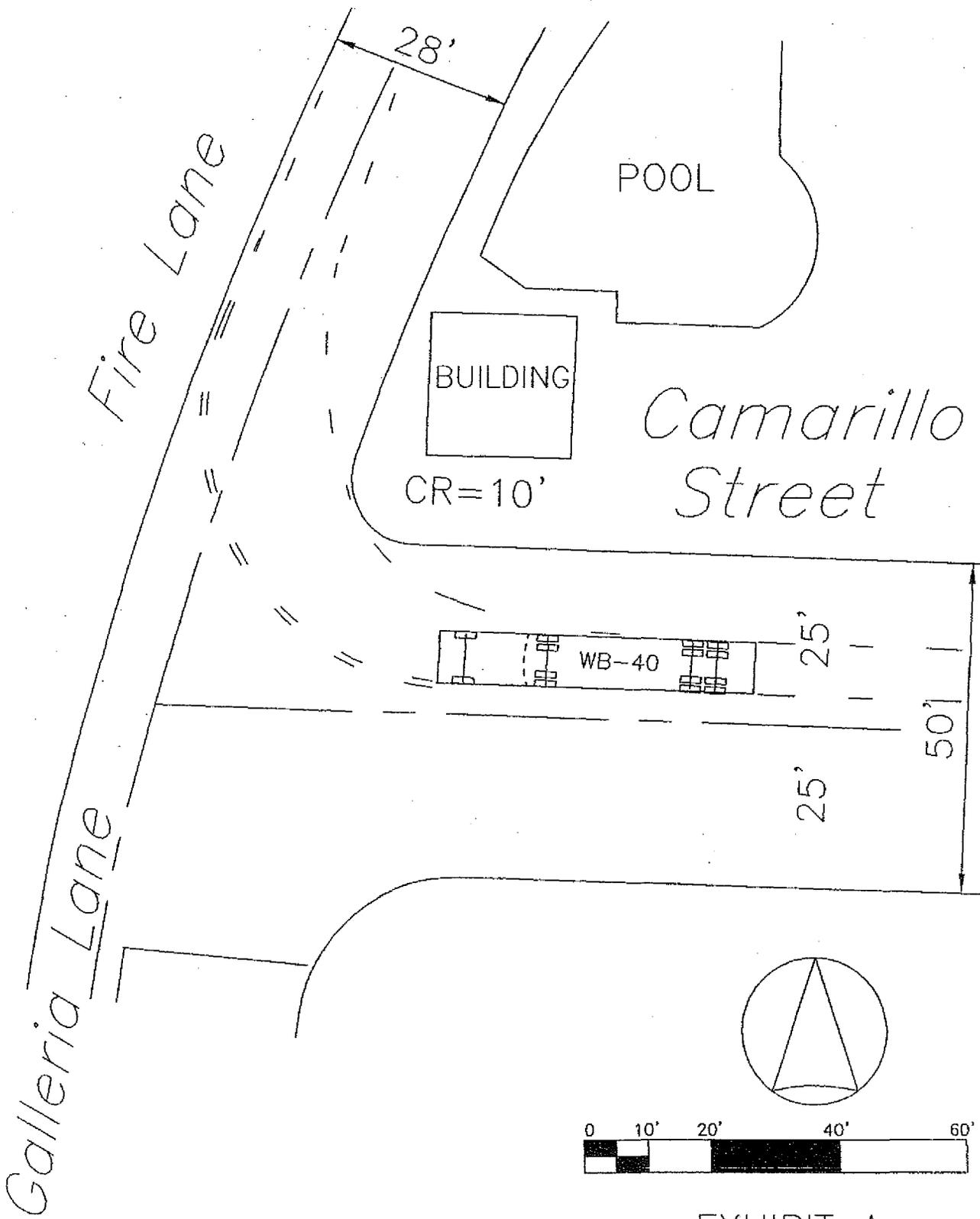


EXHIBIT A
 TRUCK TURNING PATH WITH
 PLANNED CURB RETURN

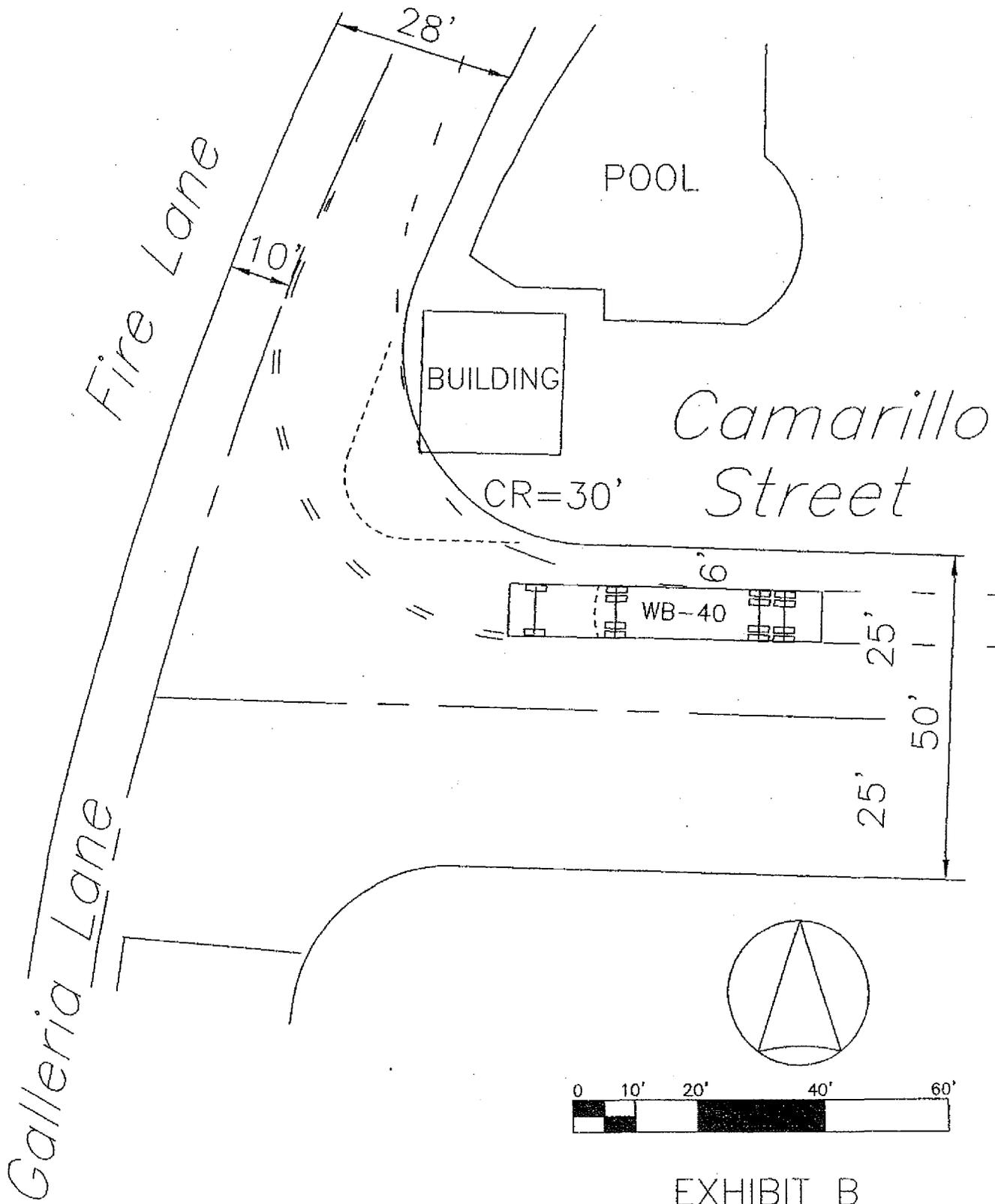


EXHIBIT B
 TRUCK TURNING PATH WITH
 ENLARGED CURB RETURN

DEPARTMENT OF TRANSPORTATION

DISTRICT 7, REGIONAL PLANNING

IGR/CEQA BRANCH

100 MAIN STREET, MS # 16

LOS ANGELES, CA 90012-3606

PHONE: (213) 897-9140

FAX: (213) 897-1337

*Flex your power!
Be energy efficient!*

February 19, 2013

Ms. Srimal Hewawitharana
Department of City Planning
City of Los Angeles
200 N. spring Street, Room 750
Los Angeles, CA 90012

IGR/CEQA No. 130204AL-FEIR
Referenced to
IGR/CEQA No. 110501AL-NOP
IGR/CEQA No. 121036AL-DEIR
Millennium Hollywood Project
Vic. LA-101, PM 7.37
SCH #: 2011041094

Dear Ms. Hewawitharana:

Thank you for the opportunity to review the Final Environmental Impact Report (FEIR) for the Millennium Hollywood Project (Project). This letter serves to reiterate our concerns that the FEIR does not fulfill the requirements of the California Environmental Quality Act (CEQA).

We have the following comments after reviewing the FEIR:

1. CEQA requires the preparation of an EIR to identify a project's significant effects on the environment, identify alternatives to the project, and devise measures to mitigate or avoid those effects. (Pub. Resources Code §§ 21002.1, subd. (a) & 21061.) This Project is a project of statewide, regional, or areawide significance. (CEQA Guidelines § 15206, subd. (b).) When a project is of statewide, regional, or areawide significance, CEQA requires that the lead agency consult with responsible agencies, state agencies with jurisdiction over resources affected by the project, and public agencies with jurisdiction over a transportation facility. (Pub. Resources Code §21092.4, § 21153; CEQA Guidelines § 15086.) Caltrans notified the City of Los Angeles (City) that to properly assess the potential impacts to the State Highway System (SHS) from the Project, a proper traffic impact study (TIS) must be completed.
2. A valid TIS represents the linchpin in Caltrans' efforts to assess a project's potential impacts to the State transportation infrastructure. To assist the City in its preparation of a valid TIS, Caltrans informed the City that the TIS needs to comply with the "*Caltrans Guide for the Preparation of the Traffic Impact Studies*". Unfortunately, the City did not work with Caltrans and instead relied on its own Congestion Management Program (CMP), which **DOES NOT** adequately study the impacts to the SHS. Because the TIS did not adequately analyze the traffic impacts, the City therefore did not identify adequate mitigation. Caltrans is concerned that the Project impacts may result in unsafe conditions due to additional traffic congestion, unsafe queuing, and difficult maneuvering. The City's analysis incorrectly focuses its attention on impacts *to the CMP from the project*. CEQA does not call for an

evaluation of the impacts of a proposed project on an existing plan; it is concerned with the impacts from the project upon the environment, which is defined as the existing physical conditions in the affected area. The City did not study impacts to or identify adequate mitigation for the SHS.

3. Caltrans operates a multi-modal transportation system across the State, and is responsible for the planning, building and maintenance of that system. (Sts. & Hwy. Code § 90 et seq.) While the lead agency for a project has the authority to determine the initial significance of the project's impacts under CEQA, Caltrans has the ultimate authority under the Streets and Highways Code, as the owner and operator of the facilities, to make that determination on the SHS.
4. The intent of the CMP is to assist federal, state and local agencies in developing and implementing comprehensive planning strategies to handle traffic congestion. (Gov. Code, § 60588) Unfortunately, the CMP process does not adequately evaluate the impacts to the SHS, nor does it make the City the final authority over highway safety issues. As the owner and operator of the SHS facilities, Caltrans provides comments on environmental documents and the analysis of impacts to the SHS.
5. The purpose of allowing the public and other governmental agencies the opportunity to review EIRs includes: sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counter proposals. (CEQA Guidelines, Section 15200.) The TIS did not provide Caltrans, or any other reader, with sufficient traffic analysis to properly review and assess the traffic assumptions, lead agency analysis, and conclusions regarding the Project and its impacts.
6. The CMP does not capture the same data for analysis that the Highway Capacity Manual (HCM) uses. For example, the CMP (1) fails to analyze off-ramps, (2) fails to analyze freeway impacts, including where existing LOS is F, if the Project trip assignments is less than 150 cars, (3) uses a flawed percentage ratio to determine the significance of impacts, and (4) incorrectly analyzes cumulative traffic impacts.
7. The CMP, Section D4 Study Area, indicates that "The geographic area examined in the TIA must include the following, at a minimum" and "Caltrans must also be consulted through the Notice of Preparation (NOP) process to identify other specific locations to be analyzed on the state highway system." Caltrans identified potential study locations for the Project, but the City does not include an analysis of these locations in the FEIR.
8. CEQA requires mitigation for site-specific issues. However, the CMP does not include site-specific safety considerations, nor is it based on an appropriate measure of effectiveness for site-specific considerations. Therefore, analysis under the CMP alone does not comply with CEQA.
9. The FEIR fails to provide queuing analysis on the off-ramp where the freeway ramps will back up, creating a potential unsafe condition. As Caltrans has already informed the City, the off-ramps which would represent the most impacted area from the Project should be analyzed utilizing the HCM 85th percentile queuing analysis methodology with the actual signal timings at the ramps termini. The City did not do this analysis in the FEIR, nor does the CMP address this issue.

10. The CMP improperly uses a percentage criterion for determining the significance of traffic impacts. The use of a "ratio theory" or "comparative approach," such as the CMP's "2% increase in trips" criterion, improperly measures a proposed project's incremental impact relative to the existing cumulative effect rather than measuring the combined effects of both the project and other relevant past, present, and future projects.
11. A lead agency that intends to approve developments with unmitigated significant traffic impacts must make Findings that no measures are feasible to mitigate those impacts, and must issue a Statement of Overriding Considerations, which indicates that allowing this project to proceed would be in the best interest of the general public.
12. Caltrans' Concerns with the City's Response to Comments in the FEIR:

a) **Concerns regarding Response to Comment Nos. 03-2 and 03-5**

The Traffic Impact Study Guide (TISG) states that "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on the State highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS." The City failed to consult with Caltrans to determine the appropriate target LOS for this project.

What's more, the State Highway facility can absorb additional traffic without degradation, if it is operating at a higher level of service where there are uncongested operations, higher travel speeds and freedom of movement. However, the greater the congestion, the lower the threshold of traffic needed to create an impact. The TISG describes the trip generation changes that would trigger the need to consult with Caltrans or that are likely to indicate a probable significant effect. At certain locations, even less than 50 peak hour trips may have a significant impact on operations and the LOS. Impacts are most often considered significant by Caltrans if they might create an unsafe condition by increasing or relocating traffic demand, thereby increasing the risk of turn movement conflicts on the SHS. The other major concern is when the integrity of the SHS would be at risk from physically undermining or destroying the structures. Traffic that exceeds an operational or capacity threshold will have a different level of significance depending on whether the analysis looks at mainline or access locations.

b) **Concerns regarding Response to Comment Nos. 03-3, 03-4 and 03-5**

The Transportation Modeling Procedures and Results (Appendix B of FEIR) demonstrates that the Project adds traffic to the freeway. Cumulatively, the 58 related projects that are referred to in the DEIR, the proposed NBC Universal Project and the Hollywood Community Plan, also add traffic to the freeway and should have been included in the model. Route 101 already operates at LOS F in the vicinity of the Project. Regardless of programs that include upgrades to the transit system or TDM to improve traffic conditions, the net effect of any additional trips likely will worsen the existing freeway condition. Adopting an arbitrary value of 150 or more trips to constitute a significant impact is not a realistic approach and does not capture the impacts to the SHS. Any additional traffic to the mainline, particularly where the LOS is operating at "F" or worst, needs to be mitigated in compliance with CEQA.

Page 1 of the Transportation Modeling Procedures and Results states, "the Hollywood Community Plan Update was also determined not to have a significant impact on the freeway system." This statement is false; according to the DEIR (SCH No. 20020410009) for the Hollywood Community Plan Update (Page 4.5-30), the proposed plan compared to the 2005 conditions would result in an unavoidable significant adverse transportation impact and the Plan offers transportation improvements to mitigate the traffic impacts. The Hollywood Community Plan TIMP includes LRTP Highway/Freeway Improvements (page 48), LRTP Arterial Street Improvements (page 49), and Capital Improvements (page 66). All of those improvements include freeway mainline and on/off ramp improvements in the project vicinity.

Caltrans will consider any and all improvements that would benefit the SHS, including the ATSAC/Adaptive Traffic Control System Highway and Street Traffic Signal Management System. Instead, Caltrans was and still is unable to assess the benefits of such a program because there is no traffic study in the EIR that includes the necessary analysis.

c) Concerns regarding Response to Comment Nos. 03-6, 03-11, and 03-14

The listed ramp intersections *are* "those at which the Project traffic impacts have the potential to be significant and substantial." The study locations should include all freeway elements, including freeway mainline, weaving sections, meters, ramps, and ramp junctions, in the study area. The traffic impact analysis methodologies are spelled out in the Caltrans guidelines and are used throughout the State when State Highway facilities are involved. For off-ramps and ramp junctions, Caltrans uses the HCM for analysis. The FEIR is flawed because the City relies upon the Critical Movement Analysis (CMA), which does not address off-ramp queuing that can lead to operational and safety issues.

Without a queuing analysis at the intersections of US-101 off-ramp (see Caltrans letter dated December 10, 2012, Item #5 and #6d), neither Caltrans nor the City can determine whether the traffic from the off-ramps will back up to the mainline, thus creating an unsafe condition to the public. Therefore, the FEIR fails to provide and analyze the impacts upon the SHS from queuing. Again, please provide the traffic analysis at the specified locations, per our Comment Nos. 03-6 and 03-11, as there may be significant impacts from the Project.

d) Concerns regarding Response to Comment No. 03-7

Caltrans concurs with Comment No. 59-27 (Jordan, David). The internal capture rates in Table IV.K.1-4 lack support. LADOT relies on ITE studies from Florida from the early 1990s and these studies are outdated. Instead, the Texas A & M University, Texas Transportation Institute for the Federal Highway Administration collected updated data at Legacy Town Center in February 2010. Please submit this data and the corresponding analysis for this Project to Caltrans for our review.

e) Concerns regarding Response to Comment No.03-9

Limitations exist regardless of the type of analysis used, but Caltrans prefers the Select Zone Analysis. If the City instead utilizes a manual approach, the analysis should include

an appropriate study area that addresses impacts to State Highway facilities. Consultation with Caltrans is a critical step in the scoping process and all stakeholders should be included in the environmental review; unilateral review and approval by LADOT is not sufficient.

The traffic model analysis (FEIR Appendix B) provides alternative values for the traffic on US-101 which select locations that are too closed to the project resulting in an incomplete model analysis for the project trips distribution on the US-101 where only small amount of trip is assigned to US-101.

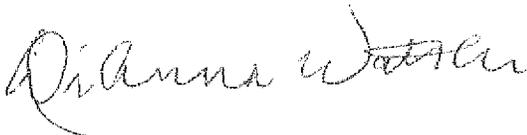
f) Concerns regarding Response to Comment No. 03-13

The City must conduct an HCM weaving analysis for both the northbound and southbound mainline segments, between the on- and off-ramps within the project vicinity utilizing balanced traffic demands entering and exiting the weaving segments. This would show whether the traffic flow will operate safely.

As stated above, Caltrans is concerned that the project impacts may result in unsafe conditions due to additional traffic congestion, unsafe queuing, and difficult maneuvering. These concerns need to be, and have not been, adequately addressed in the EIR. In summary, without the necessary traffic analysis, Caltrans cannot agree that the FEIR substantively identifies and mitigates the Project's impacts to the State highway facilities as required under CEQA.

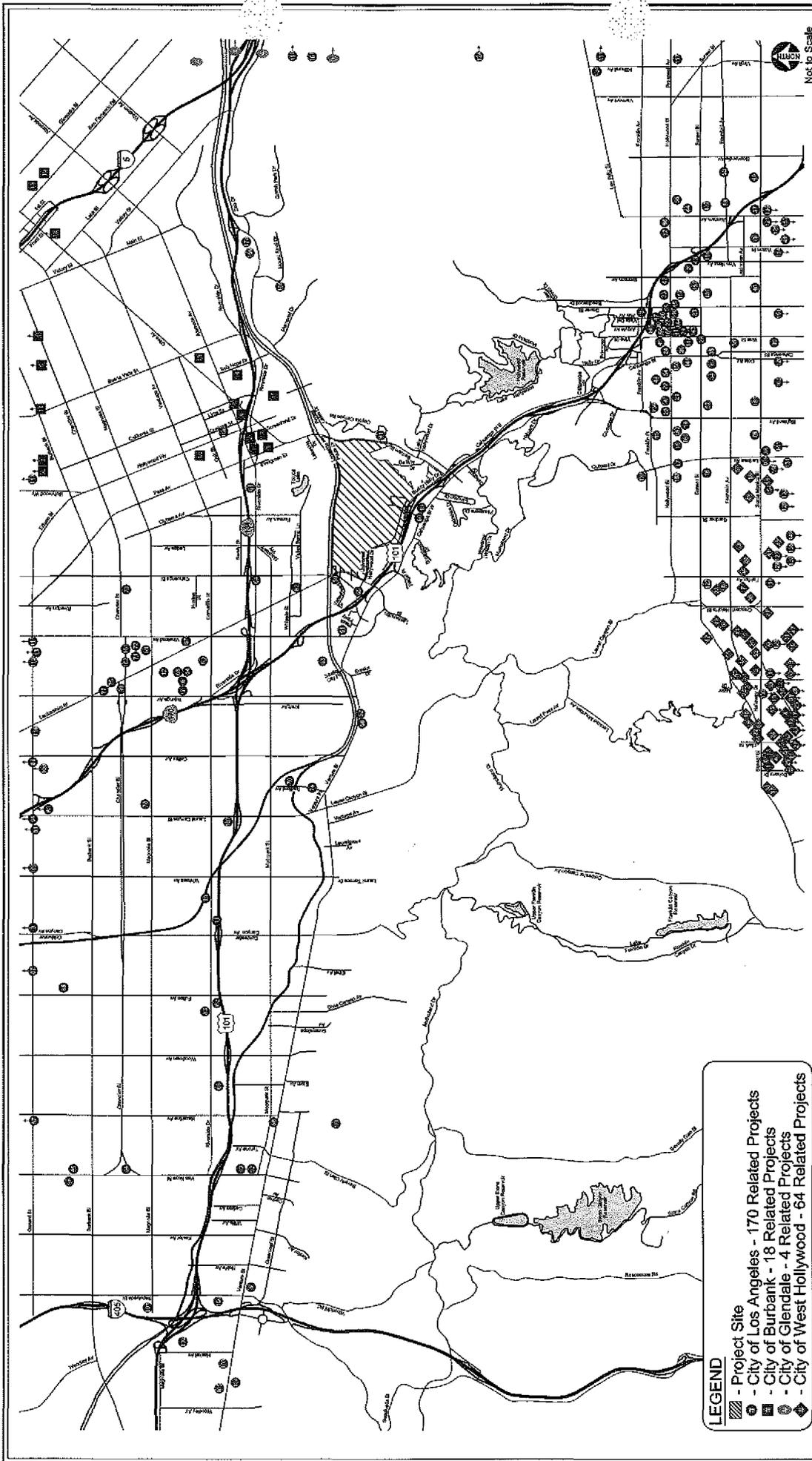
We have been and will continue to be available to work in partnership with the City to identify adequate mitigation as a result of the traffic impacts from the Millennium Hollywood proposed project. If you have any questions, please feel free to contact me at (213) 897-9140 or Alan Lin, the project coordinator, at (213) 897-8391, and please refer to IGR/CEQA No. 130204AL.

Sincerely,



DIANNA WATSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse
Jon Foreman, City of Los Angeles



LEGEND

- Project Site
- City of Los Angeles - 170 Related Projects
- City of Burbank - 18 Related Projects
- City of Glendale - 4 Related Projects
- City of West Hollywood - 64 Related Projects

Source: City of Los Angeles, California, and City of West Hollywood, Inc., 2010.



Figure 22
Location of Related Projects

Table 6 (Continued)
Related Projects

Map ID	Project Name/Location	Description/Land Use	Size	Status ¹
91.	Residential Development 3716 - 3720 Barham Boulevard	Residential	307 DU	Proposed
92.	VEN-2004-33, Sherman Oaks Square 4454 Van Nuys Boulevard	Residential	98 DU	Proposed
93.	VEN-2003-79, Best Buy 4500 Van Nuys Boulevard	Electronics Superstore	60,000 sf	Proposed
94.	SFV-2003-66), Keyes European 5344 Van Nuys Boulevard	Car Dealership	40,852 sf	Proposed
95.	SFV-2003-76, Keyes Acura 5746 Van Nuys Boulevard	Car Dealership	48,017 sf	Proposed
96.	SFV-2004-28, Keyes Lexus 5855 Van Nuys Boulevard	Car Dealership	78,370 sf	Proposed
97.	SFV-2006-193 14117 Vanowen Street	Mixed-Use	-	Proposed
98.	AMPAS Museum	Museum Expansion	-	Proposed
99.	NoHo Art Wave Mixed-Use Development (includes 1.7 million sf of retail, commercial and residential development)	Mixed-Use	-	-
100.	VEN-2004-26 Il Villaggio Toscano 4805 Sepulveda Boulevard	Residential Grocery Store Specialty Retail	500 DU 45,000 sf 10,000 sf	Proposed
101.	SFV-2004-58, Emek Hebrew Academy Emek Hebrew Academy	School	225 seats	Proposed
102.	VEN-2004-67, LAUSD Academy K-8 School 15530 Hesby Street	Elementary School (K-8)	528 students	Proposed
103.	VEN-2007-05, Valley Beth Shalom Pre-School 15739 Ventura Boulevard	Pre-School	100 students	Proposed
104.	SFV-2004-64, Land Rover Encino 15800 Ventura Boulevard	Auto Parts Center Auto Care Center	3,599 sf 14,714 sf	Proposed
105.	SFV-2004-79, California United Bank 15821 Ventura Boulevard	Bank	6,400 sf	Proposed

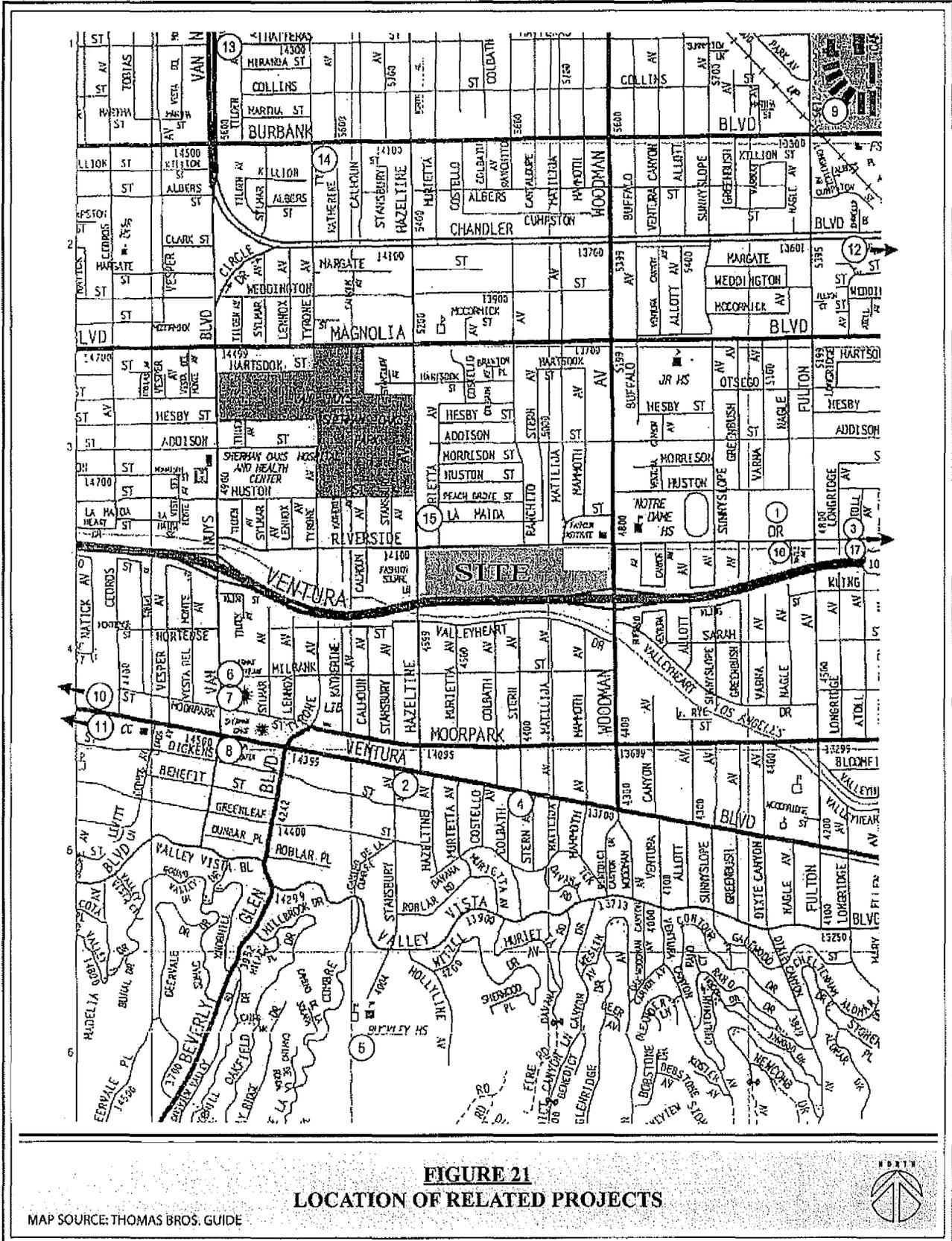


FIGURE 21
LOCATION OF RELATED PROJECTS

MAP SOURCE: THOMAS BROS. GUIDE



TABLE 3
LIST OF RELATED PROJECTS [1]

MAP NO.	FILE PROJECT NUMBER	PROJECT NAME LOCATION	LAND USE	SIZE	STATUS	DISTANCE FROM SITE
1	VEN 2004-273	Chase Knolls Apartments 13401 Riverside Dr	Apartments Senior Apartments	102 DU 40 DU	Proposed	.5 Miles
2	VEN 2004-5/ EAF 2002-6453	Camino Real Mixed-Use Development 14121 Ventura Blvd	Condominiums Retail Restaurant Fast Food w/ out Drive-thru	88 DU 6,000 SF 7,000 SF 3,500 SF	Proposed	.6 Miles
3	VEN 2003-2/ EAF 2003-1757	Riverside Drive Office Buildings 12828 Riverside Drive	Office	29,475 SF	Proposed	1.2 Miles
4	VEN 2003-15	Walgreens 13920 Ventura Blvd	Drugstore	11,244 SF	Proposed	.8 Miles
5	VEN 2003-194	Buckley School 3900 Stansbury Ave	School	100 Additional Students (830 Students Total)	Proposed	1.2 Miles
6	VEN 2003-79	Best Buy 4500 Van Nuys Blvd	Retail	60,000 SF	Proposed	.9 Miles
7	VEN 2004-33	Sherman Oaks Square 4454 Van Nuys Blvd	Apartments	98 DU	Proposed	.9 Miles
8	VEN 2003-13	Gas Station Expansion 14478 Ventura Blvd	Gas Station	392 SF	Proposed	1.1 Miles
9	VEN 2003-19	Los Angeles Valley College 5800 Fulton Ave	College	2,300 Students	Proposed	1.9 Miles
10	VEN 2004-86	15222 Ventura Blvd	Condominiums Specialty Retail	52 DU 7,460 SF	Proposed	2.0 Miles
11	VEN 2004-26	Il Villaggio Toscano 4805 Sepulveda Blvd	Apartments Grocery Retail Existing Apartments Existing Residence Existing Office	500 DU 45,000 SF 10,000 SF (24 DU) (11 DU) (52,452 SF)	Proposed	1.8 Miles
12	EAF 2001-3806	5300 Coldwater Canyon Ave	Self Storage Demolish Health Club	60,250 SF (14,624 SF)	Proposed	1.7 Miles
13	EAF 2004-0661	5829 Van Nuys Blvd	New Car Sales	85,038 SF	Proposed	1.8 Miles
14	ENV 2005-5273- MND	14242 West Burbank Blvd	Condominium	26 DU	Proposed	7.8 Miles
15	ENV 2005-6373- MND	4838 North Hazeltine Ave	Condominium	23 DU	Proposed	456 Feet
16	2006-44	Meridian Evangelical School 13330 Riverside Drive	Private School	300 Students	Proposed	.6 Miles
17	2006-130	Sherman Village 12629 Riverside Drive	Condominium	247 DU	Proposed	2.0 Miles

[1] Source: City of Los Angeles Departments of Planning and Transportation, as of July 31, 2007.

The related projects listed in *Table 3: List of Related Projects* are considered, to the extent that they are appropriate and relevant in the context of incremental impacts of the Proposed Project, in the cumulative impact analysis of each environmental issue evaluated in this EIR.

CITY OF LOS ANGELES
CALIFORNIA



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July 10, 2007

NOTICE OF PREPARATION AND NOTICE OF PUBLIC SCOPING MEETING

EAF NO.: ENV 2007-0254 EIR

PROJECT NAME: Universal City Vision Plan

PROJECT LOCATION/ADDRESS: 100 Universal City Plaza, Universal City, CA 91608

COMMUNITY PLANNING AREA: Sherman Oaks-Studio City-Toluca Lakes-Cahuenga Pass

COUNCIL DISTRICT: 4

DUE DATE FOR PUBLIC COMMENTS: August 9, 2007

The City of Los Angeles, Department of City Planning, will be the Lead Agency and will require the preparation of an environmental impact report ("EIR") for the project identified herein (the "Project"). The Department of City Planning requests your comments as to the scope and content of the EIR. The purpose of the Scoping Meeting is to receive input from the public as to what areas the EIR should study. No decisions about the project are made at the scoping meeting. The Project description, location, and the potential environmental effects are set forth below. Also included below are the date, time, and location of the Scoping Meeting that will be held in order to solicit input regarding the content of the Draft EIR. The Scoping Meeting is in an open house format. **THIS IS NOT THE REQUIRED PUBLIC HEARING FOR MUNICIPAL CODE ENTITLEMENT REQUESTS which will be scheduled after preparation of the EIR.** A copy of the Initial Study prepared for the Project is not attached but is available for review at the Department of City Planning, 200 North Spring Street, Room 601, Los Angeles, CA 90012.

PROJECT DESCRIPTION: The Project Applicant, Universal City Studios LLLP, L.P., proposes the development of approximately 1.56 million square feet of various net new commercial uses (approximately 2.2 million square feet of new commercial development less 647,000 square feet of demolition), a 500-room hotel and 2,937 multi-family residential units. The Project proposes new development across all of the major types of land uses that occur on the Project Site, including CityWalk, theme park (including Amphitheater use), tram tour, studio, production, retail, office and hotel uses, in addition to the introduction of residential uses onto the Project Site. This proposed new development would be supported by additional parking facilities and improvements to the on-site circulation system.

The Project Applicant is requesting the following discretionary approvals from the City of Los Angeles as part of the proposed Project: adoption of a Specific Plan to regulate development within the City portions of the Project Site; General Plan Amendment to establish a Specific Plan land use designation for the City portions of the Project Site; the removal of a small portion of the Project Site from the Mulholland Scenic Parkway Specific Plan; Zone Change to effectuate the new Specific Plan; Tentative Tract Maps for mixed-use development (including residential condominiums with accompanying Development Design Guidelines); Development and Pre-Annexation Agreement; a Haul Route Permit; Grading approvals; and any additional actions that may be determined necessary.



CITY OF LOS ANGELES
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July 19, 2007

CITY OF LOS ANGELES
NOTICE OF PREPARATION AND
NOTICE OF PUBLIC SCOPING MEETING

EA# NO.:	ENV-2007-9914-MND
PROJECT NAME:	Westfield Fashion Square Expansion
PROJECT ADDRESS:	14006 RIVERSIDE DRIVE, SHERMAN OAKS, CA
COMMUNITY PLAN AREA:	Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass
COUNCIL DISTRICT:	Two (2) - Wendy Greuel
COMMENT DUE DATE:	August 20, 2007

The City of Los Angeles, Department of City Planning, as the Lead Agency, is requiring the applicant to prepare an Environmental Impact Report (EIR) for the project identified herein. The Department of City Planning requests your comments as to the scope and content of the EIR. A comprehensive project description and potential environmental effects are included below. Also included are the date, time and location of the Public Scoping Meeting (open house format), which will be held to solicit input regarding the content of the EIR.

PROPOSED PROJECT

Under previous entitlements, approximately 975,000 gross leasable square footage (GLSF) is permitted at the existing Fashion Square shopping center. A total of approximately 867,000 GLSF has been constructed to date. The proposed project entails construction of the remaining 108,000 GLSF of development previously permitted and the development of an additional 172,000 GLSF, for a total of approximately 280,000 GLSF of retail and restaurant uses. The EIR will examine the potential impacts associated with the addition of 280,000 square feet to the existing mall.

The proposed project will be located on the southerly portion of the site, primarily between the existing shopping center and the Ventura (101) Freeway. Access location on Hazeltine Avenue will not be changed. The existing access driveways along Riverside Drive would be closed in favor of a new signalized driveway. This new main driveway will be across from Matilija Drive. Access on Woodman would be restricted to right turn entry only driveway. Parking for the proposed project will be provided in both a new structure constructed as part of the development as well as rooftop parking constructed above the new mall, and surface



REPORT

DATE: February 9, 2011

TO: P&P TAC

FROM: Simon Choi/Frank Wen, SCAG Staff
Deborah Diep, Director, Center for Demographic Research, CSU, Fullerton

SUBJECT: Options to Incorporate 2010 Census data into the 2012 RTP Forecast

Recommendation Action:

Request that the P&P TAC evaluate options of how to incorporate the 2010 census data into 2012 RTP to further facilitate an informed decision by SCAG.

Background

Responding to the January 11, 2011 staff presentation to the P&P TAC on the 1.3 million population gap between the 2010 Census count of California population and the State DOF annual population estimates, the 2010 Census forthcoming data release, potential magnitude of discrepancy at the local levels, and likely impacts on 2012 RTP/SCS and RHNA development, the P&P TAC formed a working group led by Deborah Diep of CSU, Fullerton to look into the various issues regarding the 2010 Census data release timing and incorporation into the RTP process.

The report- Incorporation of Decennial 2010 Census data into the 2012 RTP/SCS Integrated Growth Forecast (See the Separate Attachment) - prepared by the working group was submitted and discussed at the February 1, 2011 Subregional Coordinators meeting. General consensus was reached that the driving concern on this topic is related to the timely completion of the 2012 RTP/SCS and upcoming RHNA. The committee asked staff to present 2 to 3 viable options.

The primary and immediate goal for SCAG is to follow a fully viable schedule and process to complete 2012 RTP on time relative to the Region's transportation conformity determination deadline and secure federal transportation dollars. A secondary goal is to produce the RHNA with no legal challenges.

Three Options (Work Plan and Timeline are attached):

Option 1: Do nothing. Do not incorporate 2010 Census data into RTP/SCS or RHNA.

This is a defensible process and methodology which SCAG was already pursuing. The best and latest data were incorporated into the 2012 RTP/SCS growth forecasting process launched in May 2009. Following a 20-month bottom-up and local review process, the region collectively has reached a consensus regarding the projected growth of population, employment and household for 2020 and 2035. The 2010 Census data is being released at a time that arguably falls outside the practicable schedule to be incorporated into 2012 RTP/SCS development.

Pro:

- Staff can proceed with all of the many tasks already on-going, and move forward according to work plan and 2012 RTP/SCS technical approach.

REPORT

Con:

- Negative public opinion by not using what would be perceived as the “latest and greatest” information.
- Vacancy rates are outdated.
- Increased likelihood of RHNA challenge through litigation.
- Difficulty in using other than the 2010 Census data to accurately depict current/base year conditions.

Option 2: Incorporate Redistricting data (P.L. 94-171) into RTP/SCS and RHNA processes and use growth increments (delta) submitted/approved by jurisdictions, over 20-month review and input process, to recalculate the 2020 and 2035 target years.

Highlights:

- Jurisdictions within SCAG region have participated in the 20-month review and input process for developing the growth forecast dataset.
- Growth increments for 2008-2020 and 2020-2035, already approved by jurisdictions will not be changed.
- SCAG staff works from March to April to process census geographies and data, update 2010 data in growth forecast, “backcast” new 2010 numbers to 2008.
- 2020 and 2035 totals will be updated based on new 2010 data and the growth increments for 2008-20 and 2020-35 already reviewed/approved by jurisdictions.

Pro:

- Incorporates the “latest and greatest” 2010 Census Redistricting data (P.L. 94-171).
- SCAG has already done preliminary model calibrations to address gap.
- RHNA allocations at the jurisdiction level will use 2010 Census population and housing data.
- Jurisdictions have already reviewed/approved data and growth increments.
- Staff has evaluated timeline and tasks and believes the 2012 RTP can be completed within the required timeframe for the federal agencies to approve conformity determination so as to not jeopardize transportation funding.

Con:

- Does not allow for another full review and update process by jurisdictions.
- Schedules are very tight; leaves no room for any mistakes or errors in datasets development, model calibration, and model output production.

Option 3: Incorporate 2010 Census Redistricting data (P.L. 94-171) into RTP/SCS and RHNA processes with full revisions of growth projections, jurisdiction review to all years, and revised growth increments.

Pro:

- Incorporates the “latest and greatest” 2010 Census Redistricting data (P.L. 94-171).
- Allows for another full review by jurisdictions of incremental year data and growth.
- RHNA allocations at the jurisdiction level will use 2010 Census population and housing.
- SCAG has already done preliminary model calibrations to address gap.

REPORT

Con:

- Full revisions of growth projections and review by jurisdictions basically start the growth forecasting process all over again. In particular, review by local jurisdictions would necessitate packaging data, sending it out for review, fielding questions, collecting and incorporating comments, follow up with non-responders, updating full SED dataset and modeling variables again.
- These additional tasks would adversely impact the timely completion of 2012 RTP/SCS, EIR, and may postpone the approval of RTP and jeopardize funding and transportation projects. [*The delay in adoption of 2012 RTP is deemed not viable.*]
- Still lack of key datasets (detail census data by age, gender and ethnicity - release in late Summer 2011, updated national employment projections by BLS - available in November 2011) for technically sound revisions of the regional, county and city projections of both population and employment.

Work Plan Options and Timelines																
	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12
Release Draft RTP/SCS																
RTP/SCS Adoption and Draft RHNA Release																
Data Gathering Workshop																
On-going Data Gathering & Revisions																
Incorporation Subregion SCS																
Public Outreach RTP/SCS Workshops																
Data Gathering and Revisions																
Needs Assessment																
Development of Financial Plan																
Alternative Development and Selection																
Develop Draft RTP/SCS & PEIR																
Workshops with Elected Officials																
Buld Correspondence Table of TAZs with 2010 Census Boundaries																
EDD Benchmark of Employment data for 2010 and 2009																
Census redistricting data-PL 94-171 (Block level pop/housing)-estimated date																
Option 2: Update the Base year While Holding Growth Unchanged																
Backcast to 2008 data set with PL94-171 data																
Update 2020 & 2035 data, Keep the same growth delta																
Quick turnaround for local jurisdiction confirmation (2 weeks)																
Public Outreach RTP/SCS Workshops																
Data Gathering and Revisions																
Develop Draft RTP/SCS & PEIR																
Option 3: Revisit the regional/county/city and TAZ growth with Census Data																
Backcast to 2008 data set with PL94-171 data																
1. Reconvene Panel of Experts determine region/county growth: 2020/2035																
2. Disaggregate to city/Taz: 2020 & 2035																
3. Prepare & distribute city/Taz datasets to jurisdictions for review																
4. Collect & revise Land use along with revised growth forecasts/distribution																
5. Data Gathering Workshop/On-going Gathering & Revisions																
6. Public Outreach RTP/SCS Workshops, Data Gathering & Revisions																
7. Develop Draft RTP/SCS & PEIR																

California Demographic Futures

The Los Angeles Projections

The Generational Future of Los Angeles: Projections to 2030 and Comparisons to Recent Decades

USC
Price

Sol Price School
of Public Policy

DOWELL MYERS
JOHN PITKIN

MARCH 2013

Suggested citation

Dowell Myers and John Pitkin. 2013. The Generational Future of Los Angeles: Projections to 2030 and Comparisons to Recent Decades. Produced by the Population Dynamics Research Group, Sol Price School of Public Policy, University of Southern California. Text and supporting materials are published at: <http://www.usc.edu/schools/price/research/popdynamics>

A short descriptive title for the projection series is:
Pitkin-Myers 2012 Los Angeles Generational Projections.

About the Projections

The first projection report in the series on California Demographic Futures was issued in 2001, followed by a second in 2005. Additional generational projections that follow this general model have been prepared for the United States and selected subareas of California. This specialized program of research is conducted through the USC Population Dynamics Research Group. A number of reports and supporting special studies carried out in preparation for the post-2010 census series of projections can be found on the project website: <http://www.usc.edu/schools/price/futures>

The Generational Future of Los Angeles: Projections to 2030 and Comparisons to Recent Decades

Executive Summary

This report reveals a dramatic generational change in the Los Angeles population. Comparing the last 20 years to the next 20 years, sweeping changes are found on many fronts. Explicit comparison to past decades highlights the magnitude of transition now under way. These include major changes in the immigrant origins of the population and rapidly slowing rates of racial and ethnic change. Of greatest importance are changes in the age mix of the residents, including shrinking numbers of children and dramatically higher numbers of seniors.

These demographic changes reverse some long-established trends and overturn old assumptions about Los Angeles and its residents. The reversals have already begun and can be observed in census data of 2010. But they are best understood when viewed over both a 20-year historical and 20-year future horizon.

Foresight on the current decade and coming years is drawn from detailed demographic projections newly developed after the 2010 census and presented in this report. The new Pitkin-Myers 2012 Generational Projections for Los Angeles are benchmarked to related projections completed in 2012 for California as a whole. This projection series, under development for more than a decade, includes details about immigrants and residents born in California that are not reported in other projections.

Ten major findings emerge from the 2012 Los Angeles generational projections. They reflect population dynamics whose changes may be surprising and which have very consequential impacts. (All data are for the greater Los Angeles population that resides in Los Angeles county.)

1. Continuing Low Population Growth. Much slower population growth is foreseen in these projections than was expected in the early 2000s. In fact, we now expect total population growth in each of the coming decades to resemble what was experienced in 4 of the last 5 census decades. The lone exception of high growth in the 1980s is increasingly viewed as an anomaly that has confused many observers about what is normal for a county as large and fully settled as Los Angeles.

2. Declining Number of Children. From 1990 to 2000, the number of children under age 10 had grown by 11.4%, but after 2000 the numbers of children turned steeply downward, falling 16.9% by 2010. The projection for the current decade is a further decline of 14.6% by 2020, with only a small further decline (4.0%) by 2030. Birth data show this decline commenced well prior to the onset of the recession in 2007, and in fact births in Los Angeles county in 2011 are fully 35% lower than in their peak year of 1990.

3. Annual Flow of New Immigrants is Plunging. Whereas the flow of new immigrants into Los Angeles soared upward in the 1970s and 80s, peaking in 1990 with a volume that is 234% higher than in 1970, after 1990 the inflow began to turn downward. In the last

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POPULATION DYNAMICS RESEARCH GROUP

J.1. POPULATION AND HOUSING GROWTH

I. INITIAL STUDY SCREENING PROCESS

A. Initial Study Checklist Question

- XII.a): Would the project induce substantial population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- XII.b): Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

B. Introduction

The quantity and distribution of population and households in the City affects the environment, use of infrastructure, and the demand for public services. Thus, in order to respond to and plan for future population and households, the General Plan, including the Framework and Housing Elements, and the Southern California Association of Government (SCAG) Regional Comprehensive Plan and Guide (RCP&G) include forecasts of population and housing trends.¹ Because the projections are used to plan the infrastructure and level of service required to support the future population, actual growth in excess of the projections can lead to deficiencies. According to the CEQA Guidelines Section 15064(e): "Economic and social changes resulting from a project shall not be treated as significant effects on the environment. Economic or social changes may be used, however, to determine that a physical change shall be regarded as a significant effect on the environment." Population and housing growth are examples of economic and social changes.

¹ *The City of Los Angeles uses two different estimates of its population. The first is prepared by the California Department of Finance (DOF) and provided to SCAG. For purposes of conformity with the requirements of these other agencies, the City uses this estimate when and where appropriate. The City Planning Department prepares an estimate of its population based on a number of locally derived factors including: building and demolition permits issued, school enrollments, and the percentage of active electric meters. The City Planning Department estimates are used for planning purposes in the City of Los Angeles. It should be noted that both sets of numbers are estimates and, therefore, only close approximations of the actual population. Every 10 years these estimates are reconciled by the U.S. Census.*