On Jun 27, 2017 10:57 AM, "Stacy Hatfield" <stacyhatfieldart@gmail.com> wrote:

Dear Council Members

I am writing in favor of the North 40 project.

I spoke at one of the public hearings about the project. At the time I was near to tears because of the hostile environment with towns people in my opinion bullying tactics to people in favor of the project. I suspect many people did not speak up because of the hostility in the room. I had a hard to time getting my thoughts out because of it.

That being said our Valley has a seriouse housing crisis, each city and town must do its part to create more housing especially low income housing. The plan does include this.
I have to wonder why our community does not want to be a leader in this area.
It is emberrasing that people complain about the look and feel of the plan instead of perhaps lets include more low income and how can the town of Los Gatos work with the builders to include subsidies and create even more low income units.

I also am concerned with the traffic safty on Lark Ave. Which the bulider plans to work on with the turn lanes and lights on both los gatos blvd and Lark. I believe the added traffic in the town currently has to do with the traffic apps.

I am an avid bike rider. The plan which creates the path ways and interaction with Los Gatos Creek Trail is fantastic. Currently I do not feel safe riding my bike on Lark Ave.

Thank You

Stacy Hatfield

Joel Paulson

From: Patricia CHAPPELL <pmchappell@comcast.net>
Sent: Monday, July 24, 2017 11:21 AM
To: Joel Paulson
Subject: In Favor of North 40

Dear Mayor Sayoc and Council Members:
After following the proposed North 40 development for years, I am in favor of the project as proposed. I urge you to take positive action as soon as possible.
The further expenditure of money on attorneys' fees is misplaced and a waste of the town's resources.
Thank you for your consideration,
Pat Chappell
Bean Av
Los Gatos

Sent from my iPad

RECEIVED

JUL 24 2017

TOWN OF LOS GATOS
PLANNING DIVISION

To: Town Council

From: Melanie Hanssen

Subject: Getting the North 40 Phase 1 application to address Town standards

As has been stated before, the North 40 represents an unprecedented opportunity to address a number of unmet needs in Los Gatos, as well as satisfy state requirements for affordable housing.

Unfortunately, the Phase I application that is being reconsidered by you still does not satisfy either the subjective or objective requirements of the N40 specific plan or the General Plan (Housing Element), especially in the area of providing for unmet needs and also in terms of addressing the full expectation for affordable housing that was planned for within the N40. While the recent decision and judgement by Judge Drew Takaichi found that the Town must set aside its denial and reconsider the project under the provisions of Government Code 65589.5(j), there is still an opportunity to address some of the concerns that led to the original denial in September 2016. One possible course of action would be to approve the project subject to conditions that would bring the current application more into compliance with the standards set forth in our General Plan (including Housing Element) as well as the N40 Specific Plan.

In reviewing the judge's decision, it did appear that there was "substantial evidence" to support the majority of the findings in the original denial, however, in several cases, the judge determined the reasons for the September 2016 denial were "discretionary determinations of a subjective policy" vs. objective standards. This included issues of density, unmet needs and affordability.

In reviewing section (j) of the Housing Accountability Act, it does appear that the Town would have to identify new objective general or specific plan and zoning standards or criteria in effect at the time of the application or determine that there are impacts to public health or safety than cannot be mitigated. It is also not permitted under this provision of the Act to approve the project with a condition that it be developed at a lower density.

Considering the possibility of identifying impacts to public health or safety that cannot be mitigated is difficult since there is a certified EIR and Initial Study of the Phase I application that concludes there are no significant impacts that cannot be mitigated. Having said this, there is one major concern that has been brought up by many residents

(in addition to traffic) that would be worth evaluating further or creating a condition to modify the Phase I application. This is the issue of air quality from all the cars on CA 17. In the hearings of 2016, much evidence was presented that there could be issues of lung cancer and other illnesses caused by car exhaust when housing is place that close to the freeway. Examples were given of other cities in California that had experienced these issues when building residences close to freeway. We did not hear of a specific distance that would guarantee safety, but one condition to consider would be to require that no housing be located closer than a specified distance (greater than in the current application) from highway 17.

Probably the number 1 health and safety complaint by the residents during the original hearings was about traffic, including the impact to emergency services. However, given the certified EIR and the accommodations made by the developer as part of the Phase 1 application, it might be very difficult to make this a reason for denial. Having said this, some residents have suggested putting a moratorium on further applications for the North 40 until there is time to revise the Specific Plan to consider reducing the amount of commercial space in the North 40 for future phases. This would definitely make a difference in traffic and give the Town time to address the requirements in the plan. While this is not part of the decision being considered this evening, it is a very good idea and should be implemented as soon as possible before any more applications are received. And of course, all of the mitigations proposed to date relative to the Phase I application should be implemented.

Given the requirements in the Housing Element for density in the North 40, the fact that no unit allocations per district were included in the Specific Plan, the judge's ruling that the reasons for denial in these areas were not objective standards, and that Housing Accountability Act would not allow an approval at a lower density, it does not appear that the Town can realistically reduce the density of the Phase 1 application, while reconsidering the project in light of Housing Accountability Act (j). However, it is critical that the Town not lose the opportunity to address some of the most important parts of the General Plan/Housing Element and Specific Plan.

One part of the application that should remain untouched is the senior affordable housing (50 units). This number of affordable units within one development is unprecedented in our Town and would make a large impact on the Town's RHNA for low

income residents. It is only possible to have this within the N40 economically due to being part of a much larger development.

Having said this there is the need of the rest of our seniors. As has been stated time and time again, senior housing is a huge unmet need in the Town. Our Housing Element clearly identifies that 1/3 of the residents in Town will be seniors age 65 and up with a desire to age in place or at least in the community. Aside from the 50 units of affordable housing proposed which would not realistically be available to most Los Gatos seniors, there are very few units proposed with features that would be acceptable to seniors considering move-down housing. Vice Mayor Rennie mentioned during one of the 2016 hearings that he was very moved by a conversation he had with a senior citizen that did not know where to go from her single family home in Los Gatos. Testimony was made during the Planning Commission hearings that the Terraces in Los Gatos have a 2-year wait to be able to move in. Obviously, there is a need for senior step-down housing and there is no reason that this cannot be designed at 20 DU per acre. Of the 270 market rate units, only a handful address the needs seniors who are clearly a huge part of the Town? Given the statistics, at least 1/3 or more of these units should be designed for the move-down senior market. Instead, Summerhill has decided that they want to build homes for young professionals working at Netflix (they testified to this in the hearings). But this isn't addressing our huge unmet need for move-down housing for seniors. One way this could be addressed is requiring as a condition of approval that Summerhill homes modify fully the designs of 1/3 of the 270 units to meet senior requirements. The AARP as well as many other organizations have identified features desirable to seniors in housing. Some of these include:

- Safety features such as non-slip floor surfaces (80 percent)
- Bathroom aides such as grab bars (79 percent)
- A personal alert system that allows people to call for help in emergencies (79 percent)
- Entrance without steps (77 percent)
- Wider doorways (65 percent)
- Lever-handled doorknobs (54 percent)
- Higher electrical outlets (46 percent)
- Lower electrical switches (38 percent)

Further ideas such as stacked flats, 1st floor master bedroom and bath, and in unit elevators have been suggested by others and are also included in the Specific Plan. The Planning Commission recently heard and approved a move-down housing proposal with

in unit elevators and many sustainable features as well. The target audience—seniors living in large homes in the hills that want smaller homes, less maintenance and features that would enable them to stay there as long as possible. Hopefully the Town Council would consider this as either a reason for denial or condition of approval.

Millennials—Here again, the Phase 1 application does not truly meet the unmet needs of millennials that live in today or grew up in Los Gatos. Appendix C of the Specific Plan discusses these needs and the current application being considered addresses only some of the requirements. Appendix C and several residents have submitted alternate suggestions that would include instead of 1500 square foot units, many more units that are 500-750 square feet and/or studios or at least less bedrooms. Not only would this help with affordability, but it would also create less intense buildings in terms of size. When asked about this in the hearings last year, Summerhill stated they did not see a market for "for sale" units that are 500 square feet—those would be rental units that Summerhill does not wish to build. But the Town has an obligation to address the unmet needs of its residents. There is an opportunity to build smaller units in several locations within the North 40 and offer these to millennial singles or couples from LOS GATOS that are currently struggling to find acceptable housing. And this would also meet the density requirements of our Housing Element. A possible solution to this would be to create a condition require size reductions in a certain percentage of the units, ideally at least 1/3 of the total 270 units with the goal of addressing unmet needs affordability and intensity.

I do hope that the Town Council will seriously consider taking a strong position by requiring either modifications to design as a condition of approval or an outright denial. The North 40 is a once in a lifetime opportunity to provide housing and commercial property that addresses unmet needs and also to provide for affordable housing. There are any number of ways to modify this application given the requirements of the Judge's ruling, the Housing Accountability Act, the requirements of the North 40 specific plan as well as our Housing Element.

sv@home

RECEIVED
JUL 24 2017
@ 1:20PM
TOWN OF LOS GATOS
PLANNING DIVISION

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Ron Gonzales, Chair
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Andrea Osgood
Eden Housing

Kelly Snider
Kelly Snider Consulting

Jennifer Van Every
The Van Every Group

Staff

Leslye Corsiglia
Executive Director

TRANSMITTED VIA EMAIL

July 24, 2017

Los Gatos Town Council
110 E. Main Street
Los Gatos, CA 95030

Dear Mayor Sayoc, Vice-Mayor Rennie, and Town Council Members Jensen, Leonardis, and Spector.

RE: North Forty Phase 1. Architecture and Site Application S-13-090, Vesting Tentative Map Application M-13-014.

Silicon Valley at Home (SV@Home) is the voice of affordable housing in Silicon Valley, representing a broad range of interests, from leading employers that drive the Bay Area economy, to labor and service organizations, to affordable and market-rate developers who provide housing and services to those most in need.

On behalf of our members and coalition partners, we thank you for holding hearings on the North 40 development and **strongly urge the Town Council to undertake the following actions:**

- **Set aside the denial of the North 40 Phase 1 (Project) application issued on September 1, 2016; and**
- **Reconsider the Project during the August 1, 2017 hearing as directed by the Santa Clara County Superior Court's order to do so under the provisions of the Housing Accountability Act (HAA).**

The North 40 Project will create an estimated 320 new homes, including 50 affordable homes for seniors, that will serve to partially mitigate Los Gatos' severe housing needs. Like the surrounding region, the Town of Los Gatos faces a housing crisis of epic proportions – 93 percent of the Town's workforce lives outside the community and more than 11 low-wage workers compete for each affordable home. The median home sales price in Los Gatos is now $1.7 million and median rent for all properties in the Town, including all unit sizes, was a staggering $4,900 a month (source: Trulia). With these high housing prices, even tech employees, with an average income of $113,300, must pay significantly more than 30% of their income toward rent. **The Town must act decisively, swiftly, and consistently to increase its stock of affordable homes to mitigate the traffic and equity problems the community faces – and that effort begins with approving the North 40 Phase 1 project.**

350 W. Julian Street, Building 5, San José, CA 95110
408.780.2261 • www.svathome.org • info@siliconvalleyathome.org

Housing is a regional concern and all communities need to take action to meet the housing needs of their residents and workers. In the previous Regional Housing Needs Allocation (RHNA) cycle (2007 to 2014), the Town permitted a total of 228 units, representing 41% of its share of housing. Your support of this Project is of critical importance, helping to ensure that Los Gatos addresses its own housing needs.

Between 2010 and 2016, the Project underwent more than sufficient scrutiny through +100 public meetings and countless presentations to various community stakeholders, Town Committees, and Town Commissions. **To alleviate the existing lack of housing, we strongly urge you to approve the Project without delay.**

Thank you for your consideration. We appreciate the opportunity to provide feedback and would be happy to respond to any questions that you may have.

Sincerely,

Pilar Lorenzana, Deputy Director, **SV@Home**
Jeffrey Buchanan, Director of Public Policy, **Working Partnerships USA**
Jennifer Loving, Executive Director, **Destination: Home**
Kevin Zwick, CEO, **Housing Trust Silicon Valley**
Kyra Kazantzis, Directing Attorney, **Law Foundation of Silicon Valley**
Mathew Reed, Community Organizer, **Sacred Heart Community Service**
Michael Lane, Policy Director, **Non-Profit Housing Association of Northern California**
Ron Johnson, **Affordable Housing Network**
Steve Levy, Director, **Center for Continuing Study of the California Economy**

cc:

Laurel Prevetti, Town Manager, manager@losgatosca.gov
Rob Schultz, Town Attorney, attorney@losgatosca.gov
Joel Paulson, Community Development Director, jpaulson@losgatosca.gov

From: Grams, Paul R. (ARC-T) [mailto:paul.r.grams@nasa.gov]
Sent: Monday, July 24, 2017 3:40 PM
To: Council; Town Manager; Planning; Clerk
Subject: North 40 Concerns

July 24, 2016

Planning Commission
110 E. Main Street
Los Gatos, CA 95030

SUBJECT: THE NORTH 40 DEVELOPMENT CONCERNS

Dear Members of Town Council and Planning Commission:

You already know of the many concerns about North 40 development. We realize urbanization is inevitable but the developer who will profit by tens of millions must reduce substantial community impact that will last decades.

Many of the mitigations below will need county and state involvement but the developer must implement changes now that will reduce substantial community impact.

Please require developer to do modifications to proposed development listed below and set aside land and assist with funding to reduce traffic congestion for North 40 residents/businesses and Los Gatos as a whole:

Increase Lark- Highway 17 on ramp going north to 3 lanes; developer provides 12 ft. of land

Increase Lark an additional 1 or 2 lanes from Los Gatos Blvd. to 17; developer provides 12 to 24 feet of land

Increase Los Gatos Blvd from 4 lanes to 6 lanes from Lark to Samaritan Drive, developer assists with funding to purchase land from 11 remaining lots not already set back

Assist with funding to increase Lark-17 overpass an additional 1 or 2 lanes

Thank you,

Paul Grams

642pm

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JUL 24 2017
TOWN OF LOG GATOS
CLERK DEPARTMENT

Town of Los Gatos
Town Council Meeting

July 24, 2017
Special Meeting Regarding North 40

Sam Weidman

Appendix M of Draft EIR

Report

North 40 Specific Plan Transportation Impact Analysis

1. INTRODUCTION

This report presents the results of the Transportation Impact Analysis (TIA) conducted for the proposed North 40 Specific Plan (the project).

ANALYSIS OVERVIEW

The TIA was conducted by evaluating the operations of key intersections near the site during the morning (AM) and evening (PM) commute periods, when traffic volumes on the surrounding streets are highest.

Intersection counts were conducted during the AM peak period (7:00 AM – 9:00 AM) and the PM peak period (4:00 PM – 6:00 PM) in **January and February 2013**.

Counts from **October 2012** were used for the intersections of Los Gatos Boulevard and Lark Avenue.

PROJECT ALTERNATIVES

The TIA evaluates two project alternatives, as detailed below:

Alternative A

Retail: 269,000 square feet

Hotel: 150 rooms

Office: 125,000 square feet (62.5 ksf medical/dental office and 62.5 ksf general office space)

Residential: 364 units (73 cottage cluster units, 73 apartments and 218 condominium/townhouse units)

Alternative B

Retail: 400,000 square feet

Hotel: 150 rooms

Residential: 364 units (73 cottage cluster units, 73 apartments and 218 condominium/townhouse units)

TABLE 13 – NORTH 40 EXISTING AND EXISTING PLUS PROJECT LOS

	Intersection	Peak Hour	Existing		Existing + Project A		Existing + Project B	
			Delay[1]	LOS[1]	Delay[1]	LOS[1]	Delay[1]	LOS[1]
20	National Avenue and Samantan Drive*	AM	36.0	E	37.0	E	36.9	E
		PM	37.3	E	40.9	E	41.0	E
21	Los Gatos Boulevard and Terreno De Flores/Noddin Avenue* †††	AM	21.6	C	14.4	B	14.1	B
		PM	41.2	E	28.9	D	28.3	D
22	Los Gatos Boulevard and Camino Del Sol/ Bennett Way* †††	AM	126.7	F	17.2	C	16.2	C
		PM	41.1	E	17.1	C	17.4	C
23	Los Gatos Boulevard and Lark Avenue	AM	37.8	D+	44.2	D	41.9	D
		PM	34.1	C-	41.0	D	41.3	D
24	Los Gatos Boulevard and Gateway Drive/ Garden Lane	AM	21.3	C+	20.7	C+	20.9	C+
		PM	18.0	B	17.2	B	17.2	B
25	Los Gatos Boulevard and Chirco Drive-Los Gatos Almaden	AM	26.8	C	27.8	C	27.6	C
		PM	24.2	C	26.4	C	26.9	C
26	Los Gatos Boulevard and Blossom Hill Road	AM	33.9	C-	34.4	C-	34.3	C-
		PM	36.3	D+	37.5	D+	37.7	D+
27	Los Gatos Boulevard and Shannon Road/Roberts Road	AM	24.3	C	24.4	C	24.4	C
		PM	16.7	B	16.6	B	16.6	B
28	Los Gatos Boulevard and Saratoga Los Gatos Road	AM	33.7	C-	33.5	C-	33.6	C-
		PM	36.4	D+	36.2	D+	36.2	D+
29	National Avenue and Los Gatos Almaden Road	AM	21.1	C+	22.9	C+	21.4	C+
		PM	8.9	A	9.0	A	9.0	A
30	SR 17 Northbound Ramps and Camden Avenue/White Oaks Road	AM	66.7	E	66.8	E	66.8	E
		PM	66.7	E	66.7	E	66.7	E
31	SR 17 Southbound Ramps and San Tomas Expressway	AM	75.7	E-	75.6	E-	75.7	E-
		PM	56.4	E+	56.8	E+	56.8	E+
**	Los Gatos Blvd and Neighborhood Street (NEW)	AM	N/A	N/A	8.6	B	7.9	B
		PM	N/A	N/A	11.7	B	12.8	B

Tuesday, 7/18/2017 10:45 am

In Front of Office Depot

Tuesday, 7/18/2017 10:46 am

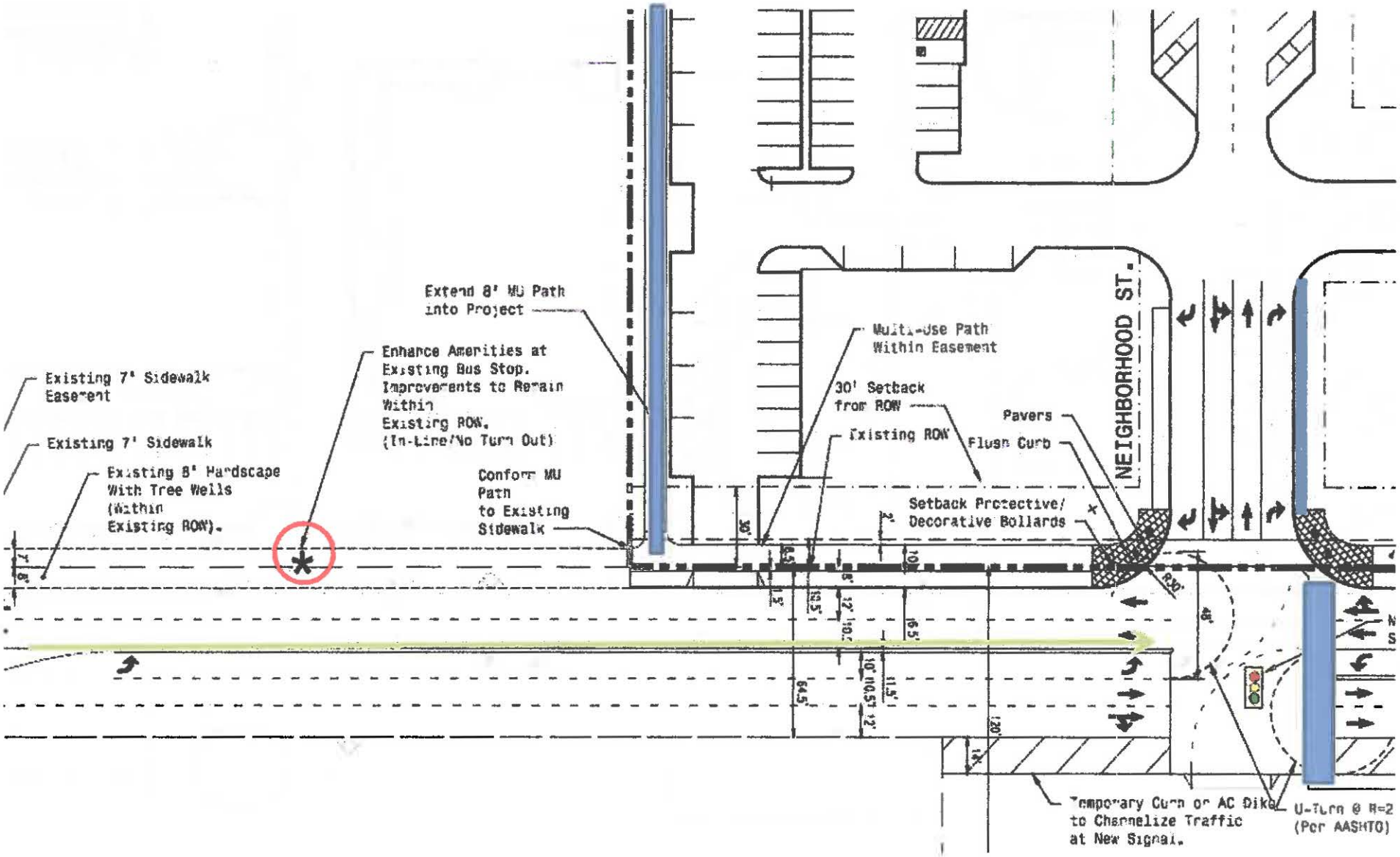
Just North of Camino del Sol

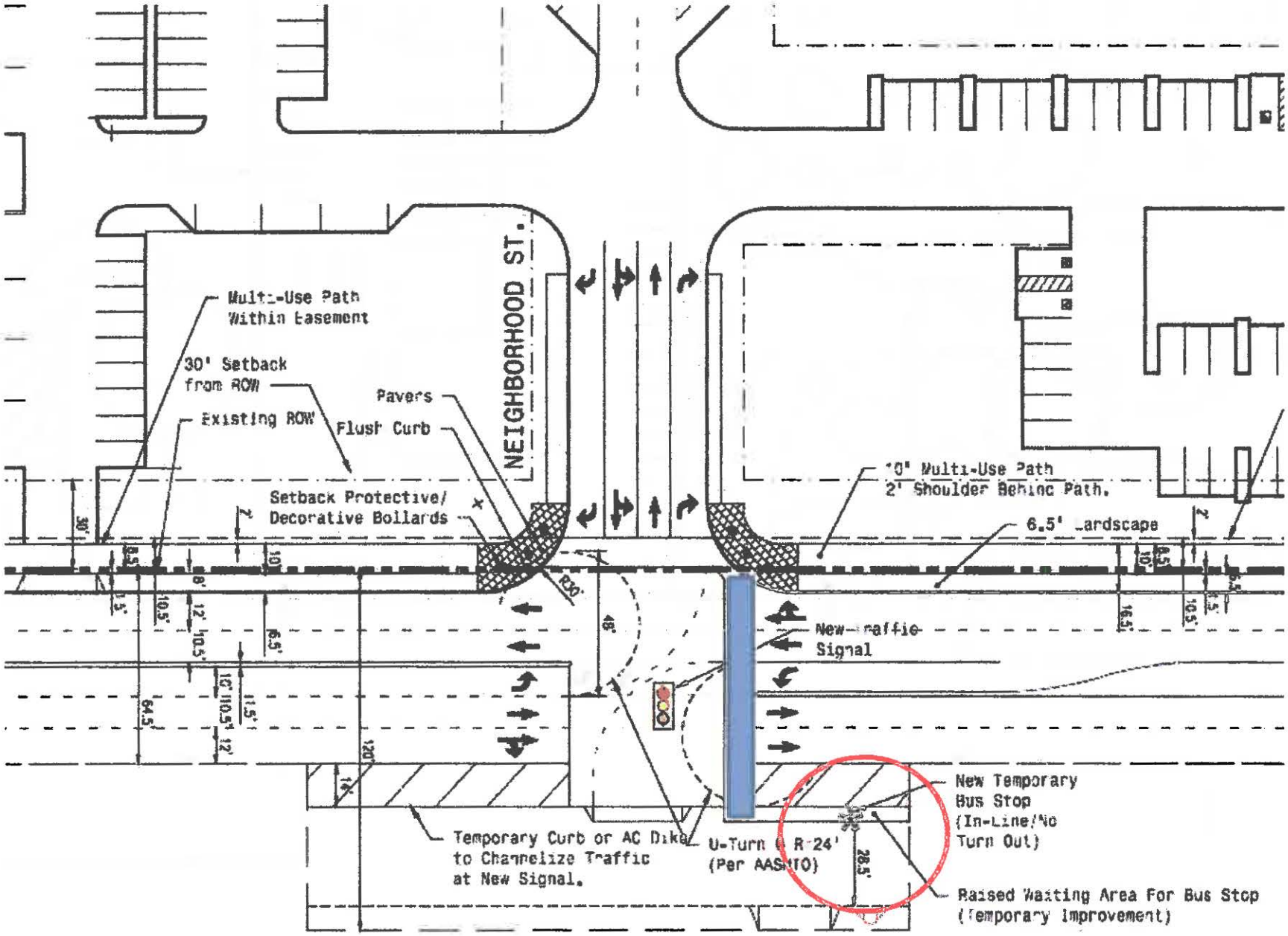
Unit Area Calculations								
		Gross Area	Net area	Coverd Parking provided	# of plans	Total Gross Area *	# of Bedrooms	Total Bedrooms
Garden Cluster								
Building type area range	Plan 1	1214	1119	1	10	12140	1	10
918 sq. ft. - 1999 sq. ft.	Plan 1x	1687	1546	2	4	6748	2	8
	Plan 2	1416	1305	2	10	14160	2	20
	Plan 2x	918	839	1	11	10098	1	11
	Plan 3	1722	1610	2	8	13776	2 + den	16
	Plan 4	1442	1351	1	10	14420	1 + den	10
	Plan 5	1418	1325	1	10	14180	1	10
	Plan 6	1945	1778	2	10	19450	3	30
	Plan 7	1998	1789	2	10	19980	3 + den	30
Garden Cluster Total					**83**	**124952**		**145**
Condominium Cluster								
Building type area range	Plan 1	996	940	2	20	19920	2	40
996 sq. ft. - 1959 sq. ft.	Plan 2	1255	1176	1	10	12550	1 + den	10
	Plan 3	1570	1415	1	10	15700	1 + den	10
	Plan 4	1608	1477	1	10	16080	1 + den	10
	Plan 5	1832	1696	2	10	18320	2 + den	20
	Plan 6	1942	1731	2	10	19420	2 + den	20
	Plan 7	1959	1867	2	10	19590	3	30
Condominium Cluster Total					**80**	**121980**		**140**
Rowhomes								
Building type area range	Plan 1	1628	1455	2	36	58608	2 + den	72
1500 sq. ft. - 1944 sq. ft.	Plan 2	1527	1417	2	37	56499	2	74
	Plan 3	1944	1742	2	24	46656	3	72
Rowhomes Total					**97**	**161763**		**218**
TOTALS					**260**	**408695**		**503**
Average sq. ft. (Gross)						1572		
Average bedroom count								1.93

Parking Calculations								
			Total Number	Required Parking	Total required	Total Provided	Tandem Percentage	
Residential Stalls (Covered)								
1 bedroom units			71	1	71	71		
2 and 2+ bedroom units			189	2	378	378		
Total					**449**	**449**	38%	
Guest Stalls							**Standard Stall**	**Accessible Stall**
1 bedroom units			71	0.5	35.5			
2 and 2+ bedroom units			189	0.5	94.5			
Total					130	132	125	7

* Gross area does not include garage not specific plan requirements

covrd parking	# units	# cars
1	10	10
2	4	8
2	10	20
1	11	11
2	8	16
1	10	10
1	10	10
2	10	20
2	10	20
2	20	40
1	10	10
1	10	10
1	10	10
2	10	20
2	10	20
2	10	20
2	36	72
2	27	54
2	24	48
Totals	250	429


Extend 8' MU Path into Project
Enhance Amenities at Existing Bus Stop. Improvements to Remain Within Existing ROW. (In-Line/No Turn Out)
Existing 7' Sidewalk Easement
Existing 7' Sidewalk
Existing 8' Hardscape With Tree Wells (Within Existing ROW).
Conform MU Path to Existing Sidewalk
Multi-Use Path Within Easement
30' Setback from ROW
Existing ROW
Pavers
Flush Curb
Setback Protective/ Decorative Bollards
NEIGHBORHOOD ST.
Temporary Curb or AC Dike to Channelize Traffic at New Signal.
U-Turn @ R=2 (Per AASHTO)


NEIGHBORHOOD ST.
Multi-Use Path
Within Easement
30' Setback
from ROW
Existing ROW
Pavers
Flush Curb
Setback Protective/
Decorative Bollards
10' Multi-Use Path
2' Shoulder Behind Path.
6.5' Landscape
New Traffic
Signal
Temporary Curb or AC Dike
to Channelize Traffic
at New Signal.
U-Turn (R=24'
(Per AASHTO)
New Temporary
Bus Stop
(In-Line/No
Turn Out)
Raised Waiting Area For Bus Stop
(Temporary Improvement)

6:53pm -Ken

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JUL 24 2017
TOWN OF LOS GATOS
CLERK DEPARTMENT

Everything You Wanted to Know About Environmental Regulations And Related Programs….

But Were Afraid to Ask!

A Guide for EPA Region 8 Small Communities
2010 Revised Edition

OTHER PROGRAMS

Children's Environmental Health

Why Focus on Children's Environmental Health?

It is important to develop strong partnerships and networks across government agencies, health and environmental organizations, health care providers, educators, and the general public to take steps to protect children's health from the variety of contaminants and pollutants that may affect them where they live, learn and play. We must work together to ensure that their homes, schools, and playgrounds provide the necessary environmental conditions for normal growth and development. We need to focus on preventing unnecessary exposures as a first-line defense against harmful environmental pollutants while we continue to improve environmental protections and health outcomes.

Children are not "little adults":

Children may be more vulnerable to environmental exposures than adults, and there is clear evidence that they may face health and development risks from environmental contaminants because:

- children's neurological, immunological, respiratory, digestive, and other physical systems are still developing and may be more easily harmed by exposure to any number of factors in the environment;
- children eat more, drink more, and breathe more than adults in proportion to their body weight—their food, water, and air therefore must be especially safe;
- children play and learn by crawling and placing hands and objects in their mouths, increasing their chances of exposure to environmental contaminants;
- children have unique exposure pathways, such as through the placenta and breast milk; and,
- children have limited ability to communicate and urge action about their environment and their health; others must act on their behalf.

EPA's Children's Environmental Health Program

On April 21, 1997, the President signed the Executive Order on the Protection of Children from Environmental Health Risks and Safety Risks. This Executive Order requires all federal agencies to assign a high priority to addressing health and safety risks to children, coordinate research priorities on children's health, and ensure that their standards take into account special risks to children. In May 1997, EPA established the Office of Children's Health Protection (OCHP) to support the Agency as it implements the President's Executive Order as well as the national Agenda to Protect Children's Health from Environmental Threats. The mission of OCHP is to make the health protection of children and the aging a fundamental goal of public health and environmental protection in the United States and around the world. OCHP supports and facilitates Agency efforts to protect children's health from environmental threats.

OTHER PROGRAMS

Emergency Planning & Community Right-to-Know Act

Also Known as the Superfund Amendments & Reauthorization Act (SARA), Title III

The Emergency Planning and Community Right-to-Know Act (EPCRA), enacted in 1986, has two major purposes: 1) to increase public knowledge of and access to information on the presence of toxic chemicals in communities, releases of toxic chemicals into the environment, and waste management activities involving toxic chemicals; and 2) to encourage and support planning for responding to environmental emergencies.

What is an Environmental Emergency?

An environmental emergency is a sudden threat to the public health or the environment arising from the release or potential release of oil, radioactive materials, or hazardous chemicals into the air, land, or water. These emergencies may occur as a result of transportation accidents, events at chemical or other facilities that use or manufacture chemicals, or as a result of natural or man-made disasters.

What are some of the requirements of EPCRA?

Section 304 requires immediate notification to authorized agencies for reportable releases of listed hazardous substances. Section 313 requires certain businesses to submit annual reports to the EPA and the State by July 1 of each year. These reports include the amounts of toxic chemicals their facilities release into the environment, either routinely or as a result of accidents. This information is entered into the EPA database known as the Toxics Release Inventory (TRI) that informs local governments and the public about releases of toxic chemicals.

EPCRA mandated the formation of State Emergency Response Commissions (SERCs), which must appoint Local Emergency Planning Committees (LEPCs). SERCs and LEPCs must be notified by facilities of chemical accidents subject to EPCRA requirements. LEPCs are required to analyze hazards and develop a local emergency plan to respond to chemical emergencies. Additionally, the LEPC must exercise, review and update its plan annually and make it available to the public. Businesses and industrial facilities must report annually to the SERC and LEPC on the chemical types, storage amounts and locations at their facilities. The SERC and LEPC must also make this inventory information available to the public.

In addition, if there is a chemical accident or other environmental emergency, responding organizations, such as the local fire department, will be prepared to deal effectively with the problem because of the EPCRA information and training. EPCRA enables state and local governments and the public to identify what needs to be done at the local level to better deal with pollution and chemical emergencies.

OTHER PROGRAMS

Does the EPCRA apply to my community?

Yes, the chemicals being released in and near your community may pose a threat to citizens, to employees working at the facilities, and to the greater total environment. Chemicals being stored or processed at these facilities may also present a hazard to individuals (such as fire fighters, emergency medical and law enforcement personnel) asked to respond to accidents, spills, and other hazardous situations.

Compliance with EPCRA regulations can influence land use planning decisions for your community. For example, you would not want to locate a business or industry using chemicals that might present a hazard to individuals next to a school. EPCRA provides stiff penalties for facilities that do not comply, and it allows citizens to file lawsuits against companies and government agencies to force them to comply with the law.

If the EPCRA applies, what should I do?

As a member of the public, you should, first, be informed. TRI information is available to you on the Internet at http://www.epa.gov/tri . This includes EPA's Envirofacts Warehouse and other computer accessible data tools. With this information, you as an individual and as part of citizen groups can work to encourage reductions in TRI annual emissions by local industry and business.

As a local official, you should insist on complete planning and adequate preparation for environmental emergencies. You should review the membership list of your LEPC to make sure that it is representative of the community and includes individuals from citizen groups, fire departments, hospitals, schools, state and local governments, medical, industry and business groups, such as farmers. It is important for the LEPC not only to carry out the emergency planning process but also to communicate with the public about its activities.

In short, you should become familiar with the law so that you will know what tools are being made available to better assess and manage the chemical risks present within your community.

Whom to notify in case of an environmental emergency

In the event of a public health emergency, company officials must first contact local emergency response agencies, and then notify the appropriate state and Federal authorities. To report oil and chemical spills, call the National Response Center at (800) 424-8802.

Additional Information

- Region 8 Environmental Information Service Center: (303) 312-6312
- Region 8 EPCRA Program website: http://www.epa.gov/emergencies/index.htm
- Toxics Release Inventory website: http://www.epa.gov/tri/

To: Los Gatos Town Council
From: Dr. Mac Marland
Re: North 40 TC meeting, 7/24/2017

I am Dr. Mac Marland. I have an office on National Avenue in Los Gatos where I have specialized in diseases of the lungs and critical care medicine, mostly at Good Samaritan Hospital, for some 25 years. I apologize for not being able to speak at the meeting on 7/24 but my son is getting married this weekend.

Over the last 25 years, literally hundreds of studies have been published showing a link between living near a freeway and increased rates of asthma, cancer, heart attacks, preterm births, decreased life expectancy, and an array of other health problems studies have associated with living close to major roadways. Collectively, these studies have been persuasive enough that in 2003, California state law prohibited the construction of new public schools within 500 feet of freeways. In 2005 State Air Quality Regulators began warning against building new housing near freeways and, amazingly, since 2012, the Los Angeles County Planning Department has been issuing a "freeway adjacent advisory notice" for all new proposed housing within 1000 feet of a freeway. Most recently, in 2017, the CA Air Resources Board took the stand that no new housing should be closer than 500 feet to a freeway.

Yet everything changed on June 29, 2017, when the premier US medical journal, The New England Journal of Medicine, published an article that had an unprecedented sample size of almost 61,000,000 adults, or 96% of the total US Medicare population age 65 and over. This Harvard University study showed that living near a freeway and being exposed to ozone and small particulates (both from car and truck exhausts) at levels ***below*** current national standards was associated with significant adverse effects including a significant increase in death rates. As with second hand cigarette smoke, the authors found no safe level of exposure. Farther from freeways is better but these researchers still saw a detrimental effect up to 1 mile away in certain situations.

So, the Town Manager asked that speakers at this meeting present objective comments on the proposed North 40 project. I don't know what could be more objective than this study with 61 million people! No one should have to choose between affordable housing and breathing clean, healthy air. Plus, those residents in the 49 senior units, along with any children living there, would be most affected. Who wants to live in a residence where one has to keep their windows closed 24/7 because the outside air (and noise) is dangerous to one's health?

Our medical knowledge is always evolving and changing. It was only 53 years ago that the US Surgeon General first wrote about the dangers of smoking. Now we discuss 2nd and 3rd hand cigarette smoke and in just the last year, Los Gatos has prohibited smoking in all hotels and motels, multiple unit housing, in parks and on trails, in all workplaces, and throughout all commercial districts. A noble accomplishment, indeed, all to reflect the current science and

safeguard people's health. But why the progress? Because the "Science" showed the dangers of any exposure to cigarette smoke, which is an EPA designated Class A carcinogen (no exposure level is considered safe). With this Harvard study, we now have conclusive evidence that living near freeways is also dangerous in a fashion similar to other Class A carcinogens. Think of what similar regulations have been enacted as science and medicine uncovered the dangers of any exposure to asbestos, lead in paint and gasoline, flame retardants in children's clothing and furniture, DDT and other pesticides, etc.? The point is that smart decisions are based on current science. To do otherwise is indefensible. As the Los Gatos TC, you have a moral obligation to incorporate the latest science into these North 40 plans. As discussed in both the Town's General Plan and the North 40's Specific Plan, the health and welfare of the citizens of this Town are paramount. The Santa Clara County General Plan, Healthy Housing Element (page 65), dated 8/25/2015, recognizes the health dangers associated with proximity to significant sources of particulate matter pollution (such as freeways), where diesel fuel emissions are concentrated and pollutant levels are heightened.

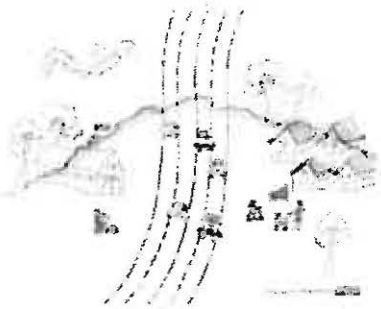
Even Judge Takaichi's ruling acknowledges (page 3) the importance of an "...adverse impact upon the public health and safety unless the project is disapproved or approved upon the condition that the project be developed at a lower density." The Judge's decision (page 3, next paragraph) also addresses the mitigation argument for the installation of air filters. Air quality engineers proved the inadequacy of this argument in protecting against second hand cigarette smoke in multiunit housing. And, yes, the highest quality air filters would help against particulates but they must be frequently replaced, are very expensive, the building's ventilation system must run virtually full time with all doors and windows closed, and they do nothing to combat ozone pollution. Do we want to establish the need for "the air filter police"? I certainly don't. It would be better to require all new housing be located farther than 500 feet, and ideally 1000 feet from any freeway. And that distance-consideration doesn't even consider the proximity of Los Gatos Blvd and Lark Avenue. These proposed "black lung lofts," as they have been labeled, would be surrounded by sources of air pollution. And should one wonder which way the wind is literally blowing, the North 40 "Existing Conditions" Technical Document 1837, shows the prevailing winds blow from the NW across Highway 17 into the North 40 area, thus maximizing exposure to all who live there.

Sincerely yours,

A. M. Marland, M.D.
15215 National Avenue, Suite 200
Los Gatos, CA 95032

What is a safe distance to live or work near high auto emission roads?

May 28, 2015 By [illegible] — 0 Comments



A nearby roadway may be putting your household's health at risk. The same is true of workplaces, schools, and other places where people spend significant time. This health risk is from the elevated auto emissions near high traffic roadways. It's a health risk separate and in addition to the regional air pollution from auto emissions.

We have come to draw a false sense of security from our collective sharing of regional air pollution and, perhaps, the belief that regulatory agencies protect us. However, research continues to show that air pollution, particularly from auto emissions, has profound effects on health. Moreover, such impacts are unequally distributed among local populations, largely based on nearness to major roadways.

Discussions about whether or not to build or expand roadways are dominated by the topics of traffic congestion relief, urban planning, and greenhouse gasses. The impact of roadways on Americans' health and morbidity is often lost in the discussions. 53,000 U.S. deaths annually are attributable to automobile emission air pollution. (Calazzo, et al., 2013) Many more are ill or incapacitated from auto emissions. Ninety percent of the cancer risk from air pollution in Southern California is attributable to auto emissions. (Hulsey, et al., 2004, par. 10) For comparison, there are 35,000 U.S. deaths a year from auto collisions (NHTSA, 2012), which is the top cause of death for U.S. males between the age of 15 and 24, and in the top ten causes of death of all Americans through the age of 54.

The impact on life and safety generally from road expansion receives little attention. However, auto emission pollution based on proximity to source, i.e. line-source pollution, is one of the most overlooked health threats in the U.S. Current U.S. policies and regulations do little to protect susceptible populations, including children, from the dangers of nearness to auto-emission sources. Undoubtedly, the disproportionate lack of urgency concerning the health impacts of air pollution is attributable to its hidden and delayed impact. Although the health impacts of air pollution on general populations are certain, individual diagnoses of

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disease rarely identify air pollution as the cause. As a result, the health threat fails to take on the personal dimension of other health threats. The same was true with smoking for many decades. Additionally, awareness of line-source pollution is further hindered by confusion with regional / ambient air pollution, which typically manifests in more noticeable high ozone levels, i.e., smog.

Air pollution monitored by various agencies includes particulate matter (PM), ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, and lead. However, two of these cause the most concern due to their prevalence and health significance: 1) Ozone, which causes the brown smog commonly seen over cities and 2) Particulate matter (PM), also referred to as ultra-fine particulates (UFP). Unlike ozone, PM exposure is directly related to proximity to source – primarily areas near to or downwind from high traffic areas. Moreover, for health impacts, PM pollution may be the worst of the lot. Heart disease, lung function impairment, leukemia, asthma, and lung cancer, are some of the conditions that have been associated with PM exposure resulting from proximity to high traffic sources. (Hulsey, et al., 2004, par. 6; Fuller, et al., 2012, pp. 257 – 265) As stated in a 2002 study about exposure to highway PMs:

> Throughout the past decade, epidemiological studies have reported a consistent relationship between increases in particulate matter (PM) exposure and contemporary increases in mortality and morbidity. (Zhu, et al., 2002)

Children are

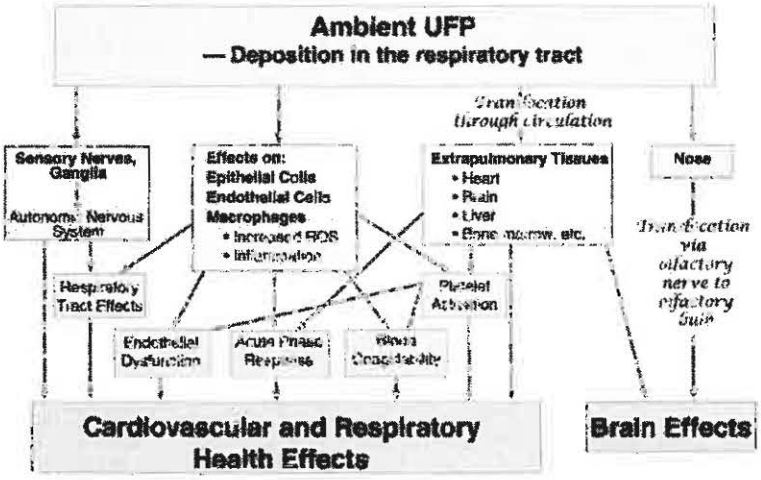


Figure 17. Hypothesized pathways via which inhalation of UFPs may lead to effects on cardiovascular and respiratory systems and on the brain. Reprinted with permission from the Health Effects Institute, Boston MA.

especially vulnerable to auto-emission health impacts because, among other reasons, they breathe more air relative to their body weight than adults, are more physically active, and spend more times outdoors during times when pollutant levels are at their highest. (Hulsey, et al., 2004) Additionally, children have many more years ahead of them in which the cumulative damage caused by auto emissions can manifest itself in disease or disability. Women who live near areas of high automobile traffic during pregnancy have a 20 – 30% higher chance of having children with lung impairment. (Morales, et al., 2014) Auto emission PM exposure from nearness to high traffic during the the third trimester of pregnancy doubles the risk for autism. (Raz, et al., 2014).

11% of U.S. residents, over 30 million people, live within 100 meters of 4 lane or greater highways. (Brugge, et al., 2007; Howard, 2011) Adding in work places, schools, and

commuting, it is reasonable to extrapolate that roughly 1/3 of people spend a substantial portion of their day exposed to unhealthy levels of auto emission PMs.

So how can you determine your own exposure level or that of your children? Below are some key distances and other factors:

Ground Zero:

Curbside and in-traffic air contains high levels of all pollutants associated with auto emissions – both PMs and gaseous substances like benzene and carbon monoxide. (Hulsey, et al., 2004, par. 7) PM exposure at intersections is as much as 29 times higher than other portions of the road. (Goel & Kumar, 2015) Cyclists, auto occupants with windows down or vents open, toll booth operators, and roadside residents and businesses receive up to 25 times the level of PM exposure. (Zhu, et al., 2002) Moreover, the air inside a car typically contains higher concentrations of these pollutants than the air outside of the car – as much as 4 times the benzene and 10 times the carbon monoxide. (ICTA, 2000) Keeping the windows closed and the ventilation set to recirculate can reduce in-car pollutants to 20% that of air outside the car. (L.A. Times, 2013)

High Toxicity Zone – 300 – 500 feet:

On average, PM concentration is significantly higher within 330 feet (100 meters) of major highways than it is further away. (Zhu, et al., 2002) The smallest PMs, with a peak concentration of 1.6 x 10(5)/cm3, are the most dangerous. Smaller PMs carry toxic substances deeper into the lungs and body, and as a result, have more profound health effects. (Cal. EPA, Aug. 2014, p.29) They are concentrated in an area within 330 feet from highways. (Zhu, supra) Pregnant women who live within 500 feet of high traffic areas are prone to birth complications, including premature birth, low birth weight children, and children with medical problems. (Wilhelm & Ritz, 2003) A review of a broad range of studies has correlated early mortality — from a wide range of illnesses — with living within 330 feet of a high traffic roadway and related exposure to various auto emission substances. (Beelen, et al., 2008)

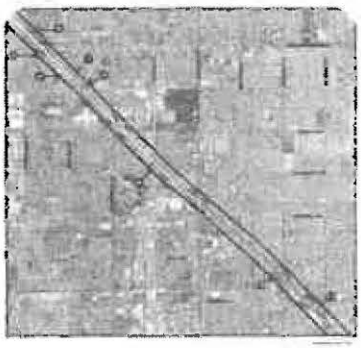


Figure 3.2.6-4: Sensitive Receptor Locations (Springdale Street to Warner Avenue) May 2012, I-405 Improvement Project

Elevated Toxicity Zone – 1,000 – 1,500 feet:

PMs from auto emissions are elevated within 1,000 feet (300 meters) of a major highway. (Yifang, et al., 2002, pp. 1038-1039) A Denver study indicated that children living roughly within that distance were eight times as likely to develop leukemia and six times as vulnerable to all types of cancer. (Hulsey, et al., 2004,- par. 1) In another study, children under 5 years of age admitted to hospitals with asthma emergencies were significantly more likely to live within 500 meters (1,640 feet) of a major highway when traffic flow exceeded 24,000 vehicles per hour than those who lived further away or when traffic flow was less. (Edwards & Walters, 1994) Particle levels return to near normal beyond that distance.

Other Factors Influencing Air Pollution Levels Near Roadways:

Wind:

People living "downwind" of highways with 4 or more lanes (2 lanes in each direction) are exposed to higher levels of fine particulate matter. (Brugge, et al. 2007) However, this circumstance does not exempt one side of a highway from PM dangers. In many regions, wind direction changes not only depending on weather conditions, but also between day and night.

Sun, Rain & Humidity:

Areas receiving higher amounts of rain or humidity can experience reduced auto-emission pollution levels, especially ultra-fine particulate pollution. The clean air you sense after a rain storm really is cleaner. This fact is regularly demonstrated in high-pollution Bejing. (USA Today, Aug. 11, 2008) Atmospheric conditions alter the size, distribution, and composition of freshly-emitted PM through condensation, evaporation, and dilution during transport to downwind locations. (Brugge, et al., 2007) Thus, higher humidity levels can tamp down the distribution of PMs. (HEI Review Panel, 2013, p.24) Conversely, sun, heat, and lack of humidity generally favor greater distribution of PM. Additionally, ground level ozone concentration is unhealthiest on sunny and warm days.

Topography:

PM, as well as gaseous air pollutants, tend to concentrate in valleys due to containment by topographical features. (HEI Review, supra) Inversions, in which a layer of cold air is trapped underneath a layer of warm air, keep PM concentrated near ground level and aggravate the concentration of PM in valley and canyon floors. Ibid. Fog is often an indicator of an inversion.

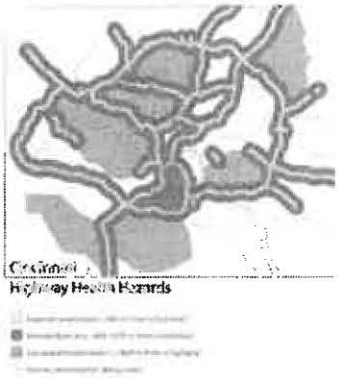
A temperature inversion in a valley – clean air poster from a Teacher's Guide to Clean Air by BC Transit, Nov. 2005 – republished permission Ministry of Environment, British Columbia Canada

Time:

The time of day can influence PM concentrations near highways – both in terms of traffic concentrations and in terms of weather. (HEI Review Panel, supra) Of course, highways experience much higher traffic concentrations at certain times of the day. However, such concentration has become less varied as employers stagger work shifts to alleviate commuting burdens and as continued highway expansion creates induced demand (tendency of freeway expansion to create more demand and congestion in the long run by facilitating sprawl). Additionally, the heating and cooling of day and night effect pollution concentrations at ground level.

Auto Emission Air Pollution as a Social Justice Issue:

The unavoidable conclusion from the research is that each time a major highway is built or expanded, some of the residents living nearby will pay with their health or lives. Nevertheless, compared to industrial uses that pose potential health risks, roadway construction projects remain relatively unregulated as a direct air pollution health risk. (Hulsey, et al., 2004) The same is true of the siting of residential, employment, senior, or educational uses near highways.



Cincinnati highway proximity health hazards. Republished permission LADCO

Low income and minority populations are disproportionately impacted by air pollution health risks. (Beleen, 2008) Suburban expansion creates a demand for road expansion through existing neighborhoods. Lower income neighborhoods and ethnic minority populations least often wield the political influence necessary to resist road expansion projects. Additionally, multifamily and affordable housing is more likely to be sited near high traffic areas than is more expensive detached housing. More recently, the construction of high density "transit oriented developments" (TODs), which are intended to reduce auto reliance and which often include affordable housing, are frequently sited near high traffic areas. There has been little acknowledgement in U.S. transportation policy of the social inequality and the ethical issues related to sacrificing the health of members of one community to facilitate the growth and commuting of another community.

Property condemned for a road expansion project results in monetary compensation to the owner based on fair market value. However, residents put at risk by the additional traffic emissions as a result of living adjacent to or near the road project cannot recover compensation or assistance to relocate.

Construction and expansion of roadways may involve some public disclosure of health impacts via environmental reporting documents but the reporting tends to assume that "no build" highway expansion options will simply result in ever increasing congestion. However, more than a half century of highway building has demonstrated that congestion relief from road expansion tends to be temporary, and that the long term impact is increased automobile use and traffic congestion. Such "induced demand" is increasingly recognized as the long term effect of expanding roadways to relieve current traffic congestion.

Increasingly, line-source proximity to auto emission pollution and the refinement and improved accuracy of roadway air pollution dispersion modeling is being used in legal and political challenges to highway expansion proposals. Given the stakes, its hard to justify the continued expansion of roadways in urban areas, the slowness of conversion to non-combustible fuel automobiles, or the proportionately small investment in public transit. If such decisions were based solely on health criteria proportionate to other identified public risks, highways might be quarantined as an acutely elevated health hazard to those who live or work near them. Of course, such action is impractical as it would result in vast tracts of existing homes, schools, and places of employment being abandoned.

It is clear that the public is still not fully aware of the difference between ambient air pollution affecting the general populace of a city and line-source air pollution impacting health based on nearness to highways. Perhaps, if the public was more aware of the direct and unequal health impacts of high-traffic roadways, transitioning from roadway expansion to transportation alternatives would receive more urgency. One proposal for an air quality district plan in California required that builders of homes, schools, or day care centers provide notice to their customers of toxic emissions, including those emanating from busy roads, within 1,000 feet. (Hulsey, 2004, p.13)

Without a better understanding of line-source proximity exposure by the general public, its hard to foresee substantial changes. It may take activism and information campaigns, such as posting warning notices in neighborhoods within the 1,000 foot zone, to catch the public's attention and educate it on this health issue.

WARNING:

Areas within 1,000 feet of major roadways contain substances known to cause respiratory illness, heart disease, cancer, and reproductive harm.

Updates:

Updates made February 2, 2016:

"According to a study that will appear in the Feb. 17 (2007) issue of *The Lancet* and is now available online, researchers at the Keck School of Medicine of USC found that children who lived within 500 meters of a freeway, or approximately a third of a mile, since age 10 had substantial deficits in lung function by the age of 18 years, compared to children living at least 1,500 meters, or approximately one mile, away." Living Near Highways Can Stunt Lungs, USC News (Jan. 27, 2007).

In November 2015, the U.S. EPA published a "best practices" manual in collaboration with the South Coast Air Quality Management District and the Southern California Clean, Green, and Healthy Schools regarding the location (siting) of schools and mitigation of air pollution at schools. The EPA also has a website page summarizing the booklet, and Planetizen published a summary.

Update made September 26, 2016:

A 2009 study indicates that unhealthy levels of air pollutants extend 1.5 miles downwind of a freeway, particularly in the hours before sunrise. Air pollution from freeway extends further than previously thought, UCLA Newsroom, June 10, 2009

Update January 5, 2017

Study shows relationship between proximity to high traffic roadway and dementia. 7% increase if living within 50 meters of roadway, 4% if within 50 – 100 meters, and 2% if within 100 – 200 meters. A report on the study can be found here. The study itself was published in the Lancet on January 4, 2017.

For a quick guide to air pollution types, see: "The Ultimate Guide to Air Pollution."

Notes:

While this article cites a number of scientific articles, some "rounding" is used for the purpose of readability. In other words, this article attempts to organize and summarize current available data into a general conceptual framework for general public understanding rather than to provide new data.

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Filed Under: Ecology, [illegible]
Tagged With: air [illegible], PM, UFP, [illegible]

About Bill Adams

Bill Adams is the founder and chief editor of UrbDeZine. He is also a partner in the San Diego law firm of Norton, Moore, & Adams, LLP. He has been involved with land use and urban renewal for nearly 25 years, both as a professional and as a personal passion. He currently sits on the boards or committees of ,The Public Interest Advocacy Collaborative, San Diego Historic Site Board, The Food and Beverage Association of San Diego County, and the Heal the Gash Committee (reconnecting communities divided by freeways).

Comments

Sam: says
[illegible] 29, 2011 AT [illegible] AM

Thanks for consolidating so much material and data into one place! This was truly informative.

Log in to Reply

Jacquelynne Le says
JUNE 4, [illegible]

Great! I've been looking forward to this article. I sent the link to a couple friends at Environmental Health Coalition.

Couldn't have come at a better time since there has been talk about SR-94 being widened.

PETITION: http://www.change.org/p/stop-the-[illegible]-line-project?source_location=petition_[illegible]&utm_[illegible]promoted

Thanks!

Log in to Reply

Paul McNeil says
JUNE 4, [illegible] AT 7:[illegible] PM

Nice work, Bill. Well researched and well written. My parents moved me and my 8 siblings to a house immediately abutting the I-5 in Anaheim. The house no longer exists – the victim of the last Disney expansion of the 5. Fortunately, we only lived there for 3 years but the noise was untenable until you got used to it. We had to imagine we were living next to the ocean with waves crashing and swooshing on the rocks. No one had AC and the windows were open half the year. That was in the years before they removed lead from our gasoline. I can't imagine what all we inhaled in those 3 years but you'll be glad to know I feel fine 42 years later!

I still believe we need to densify the communities near transportation corridors. Maybe electric cars and short term rental communities are the answer.

Log in to Reply

Trackbacks

United Kingdom Lung Cancer Coalition | mesothelioma.ber.com says:
May 10, 2016 at 5:27 pm
[...] What is a safe distance to live or work ... – Low income and minority populations are disproportionately impacted by air pollution health risks. (Beleen, 2008) Suburban expansion creates a demand for ... [...]

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Niños indígenas se amparan contra Peña Nieto y empresa eólica por destrucción de su hábitat – Agencia de Información Pública says:
September 6, 2016 at 2:42 pm
[...] acuerdo la revista de planeamiento urbano San Diego UrbDeZine, las autopistas a menos de 300 metros de una población causan fuertes efectos en la salud por las [...]

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Niños indígenas se amparan contra Peña Nieto y empresa eólica por destrucción de su hábitat | Antena San Luis says:
September 6, 2016 at 3:50 pm
[...] acuerdo la revista de planeamiento urbano San Diego UrbDeZine, las autopistas a menos de 300 metros de una población causan fuertes efectos en la salud por las [...]

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This TC has always listened to the science. Last year, you unanimously prohibited smoking in multiunit housing because engineering experts said that was the only way to protect everyone living there from 2nd hand cigarette smoke. Filters simply didn't work. This year you expanded the smoking ordinance to include the sale of all menthol-containing smoking products. These were all bold, proactive decisions meant to protect the health and welfare of all who live and visit Los Gatos. And you based your actions on the science.

And here we are again with the health and safety and welfare of potential Los Gatos citizens, especially the young and old, at issue. And what does the science say? as discussed by Dr. Marland in his letter in your packet, referring to the publication 3 weeks ago of the New England Journal of Medicine? Simply that the closer one lives to a freeway, especially if closer than 1000 feet, that your health will be in jeopardy. The analysis found no safe level of ozone and small particle pollution levels, even at levels well below the legal limits set by the US EPA. To demonstrate how sensitive this study was, reducing fine particle pollution by 1 microgram per cubic meter nationwide, would save about 12,000 lives a year. Another 1,900 lives would be saved annually by lowering ozone pollution by 1 part per billion. Current EPA legal limits are 12 micrograms per meter for particles and 70 parts per billion for ozone, so a little reduction in either pollutant goes a long way.

In earlier hearings in 2015 and 2016, I didn't speak to you about this issue, although at least one other Los Gatos citizen did. In light of this new study, I now feel that I have no choice. I believe that you morally must consider the science and try to move as many of the houses on the North 40 away from Highways 17 and 85 as possible. Ideally up to 1000 feet away. Judge Takaichi wants objective arguments – what can be any more objective than science?

The point is this – last year when you were considering this project, such a strong link between air pollution from cars and trucks was more speculative. That is simply not the case anymore. The siting of any housing on the North 40 should be redesigned to reflect this new

Joel Paulson

From: David Weissman <gryllus@gmail.com>
Sent: Tuesday, July 25, 2017 7:27 AM
To: Robert Schultz; Laurel Prevetti; Joel Paulson; Council
Subject: Fwd: Some great LA Times articles - all by Tony Barboza

Some great Los Angeles Times articles from the last year discussing the dangers of living near a freeway on people's health

1. http://www.latimes.com/local/lanow/la-me-pollution-deaths-20160810-snap-story.html

2. http://www.latimes.com/local/lanow/la-me-ln-freeway-pollution-filters-20170709-story.html

3. http://www.latimes.com/science/sciencenow/la-sci-sn-air-pollution-death-20170628-story.html

4. http://www.latimes.com/projects/la-me-freeway-pollution/

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Thousands of lives could be saved in California by stricter air pollution limits, study finds

A nationwide study finds that Southern California has the most to gain from stricter air quality standards, which could prevent thousands of premature deaths each year. Above, a hazy view of downtown Los Angeles. (Damon Winter / Los Angeles Times)

By **Tony Barboza**

AUGUST 10, 2016, 11:25 AM

More than 2,000 Southern Californians die early each year from polluted air, and the region would benefit the most of anywhere in the country from reducing ozone and fine particle pollution below current federal limits, a new study has found.

The analysis by scientists at New York University and the American Thoracic Society, released Wednesday, estimated that more protective air quality standards would prevent 3,632 deaths a year in California, more than one-third of the 9,320 early deaths linked to dirty air nationwide.

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The study estimates 1,341 avoidable deaths from pollution each year in the Los Angeles metro area and 800 in Riverside-San Bernardino. The region has "the most to gain" from attaining tougher air quality standards because of its large population and high pollution levels, according to the study published in the Annals of the American Thoracic Society, a peer-reviewed journal.

Southern California has the nation's highest levels of ozone — the corrosive gas in smog — and does not meet federal standards for fine particles, harmful soot and chemical-laden specks of pollution that can lodge deep in the lungs.

The "Health of the Air" report also found that reducing ozone and fine particle pollution levels beyond current federal limits would prevent many thousands of heart attacks, emergency room visits and other serious health consequences as well as millions of missed days at school and work nationwide.

The analysis paired pollution-monitoring data from 2011 to 2013 with health studies to estimate health benefits of tightening federal air quality standards to those recommended by the American Thoracic Society, a professional organization of more than 15,000 medical doctors, nurses and other healthcare professionals.

The group recommends strengthening the U.S. Environmental Protection Agency's health standard for ozone pollution from the current 70 parts per billion to 60 ppb and its annual limit on fine particle pollution from 12 micrograms per cubic meter to 11.

While air pollution puts everyone at risk, it is most dangerous to children, the elderly and others with existing respiratory and cardiovascular problems. On high pollution day, they can land in the hospital with more severe asthma, sudden heart attacks and strokes, worsened pneumonia and other illnesses that can be fatal.

"It can be that extra exposure to air pollution that tips them over the edge," said Mary Rice, a pulmonary and critical care physician and assistant professor of medicine at Harvard Medical School.

"It can be that extra exposure to air pollution that tips them over the edge.

— Mary Rice, pulmonary and critical care physician and assistant professor at Harvard Medical School

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Scientists long agreed established that poor air quality shortens lives by worsening other illnesses. Previous health studies have shown that a long-term trend of emissions reductions — particularly for

fine particle pollution — is, over time, resulting in fewer early deaths and longer life expectancy in cities across the U.S.

Yet the number of deaths from air pollution in the U.S. each year remains comparable to those from alcohol-related traffic fatalities, said Kevin Cromar, an assistant professor at NYU's Marron Institute of Urban Management and the study's lead author.

Published in conjunction with the report is an online tool that allows people to search for the air pollution health risks in cities across the U.S. Cromar said the website will be updated over time to "allow cities to track their progress as they improve air quality."

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Steve Lopez on what's been saved along the California coast -- and what the bulldozers are still aiming for

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L.A. requires air filters to protect residents near freeways. Are they doing the job?

The Da Vinci apartments along the 110 Freeway are among the recent developments where the city has required high-efficiency air filters. (Mel Melcon / Los Angeles Times)

By **Tony Barboza**

JULY 9, 2017, 5:00 AM

Despite growing warnings about the health problems tied to traffic pollution, Los Angeles officials continue to approve a surge in residential development along freeways. And the crux of their effort to protect people's lungs is a requirement that developers install air filters.

But even the highest-quality filters capture only some of the dangerous ingredients of car and truck exhaust, and to be effective, experts say, they must be frequently replaced and the building's ventilation system must run virtually full time with all doors and windows closed.

The city inspects new projects' air-filtration systems, but the head of the Department of Building and Safety concedes that his office has no procedures for documenting whether the proper filters were

installed and does not conduct follow-up inspections to ensure that they're being maintained and replaced.

Air-quality regulators and health experts warn that relying on air filtration and other mitigation measures will not solve the health threat to residents moving into new homes along freeways — Southern California's biggest conduits of pollution.

They have for over a decade urged cities to stop permitting new housing within 500 feet of heavy traffic to protect residents from asthma, cancer, heart attacks, preterm births and an array of other health problems studies have associated with living close to major roadways.

Yet, Los Angeles in 2015 issued building permits for 4,300 homes close enough to freeways to threaten occupants' health — more than in any year over the last decade. Since then the city has permitted more than 3,000 additional units within the 1,000-foot distance where the city advises developers that residents are at risk from air pollution, with at least one just 60 feet from freeway traffic.

Health vs. housing

Mayor Eric Garcetti and other local politicians have opposed limits on how many homes can be built near freeways on the grounds that it would hamper efforts to ease Los Angeles' severe housing shortage.

Builders agree, noting that additional restrictions on new construction will increase the cost of housing. "And we have a very, very high need for housing," said Tim Piasky, who heads the Building Industry Assn. Los Angeles/Ventura Chapter.

Environmental advocates and neighborhood groups, meanwhile, call for stricter development standards and freeway buffer zones to protect residents' health.

Doug Haines of the East Hollywood Neighborhood Council told city council members at a recent hearing that fine particulates will damage the lungs of children in hundreds of new housing units proposed along the 101 Freeway.

"It passes through door jambs and window frames. There is no realistic way to filter it," Haines said. "The only way to stop this is to limit all construction next to freeways."

Researchers have for years studied how to protect the health of people living near traffic pollution.

In a report released in April, the California Air Resources Board reviewed more than a decade of scientific studies and highlighted what it said are "promising strategies" to help decrease pollution exposure for residents close to freeways when cities do not heed its warning against building homes within 500 feet.

Among the solutions endorsed by the agency are sound walls, vegetation barriers and "buildings with varying shapes and heights" to help disperse traffic pollutants.

"It's basically giving people a second set of solutions to the problem," said Bart Croes, research division chief at the Air Resources Board.

High-efficiency air filters are among the most effective tools, but neither the Air Resources Board nor most air-quality experts consider them an adequate fix.

What filters can miss

"Filtering the air for particles is better than nothing," said Scott Fruin, a professor of preventive medicine at USC's Keck School of Medicine. But he's skeptical of cities that believe filters are an adequate solution. Studies show, for example, that high-quality air filters can capture some of the harmful particles in traffic emissions, but do not keep out toxic exhaust gases.

"The carbon monoxide, the volatile organics, benzene or 1,3-Butadiene, they're going to be too high and the filtration won't take care of that," Fruin said.

Air-quality officials have also advised cities that the benefits of filters are significantly undermined if the building's heating, ventilation and air conditioning system isn't running at all times with all doors and windows closed.

UCLA doctoral student Amelia Mueller-Williams said that even though she tries to keep the windows of her student housing apartment near the 405 closed, she still finds black dust in tissues when she blows her nose.

"Our home is polluted in every sense of the word," she said.

And such housing keeps getting approved.

In 2013, over the air district's objections, the Los Angeles City Council unanimously approved developer M. David Paul's 325-unit Il Villaggio Toscano project in Sherman Oaks right next to the 405-101 interchange. The city required only that the apartments have high-efficiency air filters and that certain windows facing the freeway can't be opened.

Attorney Robert P. Silverstein, who sued the city, challenging its approval of the project on behalf of a neighborhood group, called such restrictions "a joke."

"There's a reason they call these kinds of apartments 'black lung lofts,' " said Silverstein. "Some of these units are mere feet away from the busiest freeway intersection in the country."

Rick Coca, a spokesman for Councilman José Huizar, who chairs the city's Planning and Land Use Management committee, said Huizar voted for the Il Villaggio Toscano development because it had the support of the local council member at the time, Tom LaBonge.

Former Councilman LaBonge said he voted for the project because it had the support of the planning pepartment, was located on an empty parcel next to the Sherman Oaks Galleria mall and would help satisfy "the need for housing."

Live near the freeway? Tell us your story »

Not all filters are alike

In April 2016 Los Angeles changed its building code to require high-efficiency air filtration in new homes within 1,000 feet of a freeway.

Filters are rated on a 16-point industry scale — the Minimum Efficiency Reporting Value, or MERV — that measures how effectively they block tiny pollution particles.

Studies of Southern California classrooms conducted by South Coast Air Quality Management District and UC Riverside scientists between 2008 and 2010 found that high-performance panel filters with MERV ratings of 13 to 16 removed between 70% and 90% of particle pollution. More common MERV 7 filters removed about 50%, the researchers found.

The state's current filtration standard for new homes is MERV 6.

Under the ordinance Los Angeles adopted, filters must meet a performance rating of 13. The standards are similar to those in San Francisco, which since 2008 has required that level of air filtration in new housing near high-traffic roadways.

Los Angeles officials said they chose to require MERV 13 filtration in part because it was the most realistic option.

Shana Bonstin, a principal planner at the city planning department, said officials were concerned that if they set a more stringent standard "we could be setting ourselves up for a situation where the filters

don't get replaced or maintained: If we placed too burdensome of a requirement, would the trade-offs be too great?

"We wanted to find that perfect balance," she continued, "where residents are provided the most protection and realistically the buildings were going to continue to maintain them."

To work properly, all filters must be replaced between two and four times a year. And higher-rated filters are more expensive. A level 13-to-16 filter costs between $20 and $90, compared with $6 for a common MERV 8 filter, according to a December 2016 planning department report.

The city has in a few isolated cases required developers to install filters even stronger than those now required. Back in 2006, planning officials required developer G.H. Palmer to install level-16 filters at the Piero apartments near the 110 Freeway in Westlake to offer greater health protections to occupants, "removing 99.97% of all airborne contaminants at 0.3 microns," according to a list of requirements imposed by the city as a condition of approval.

The city required similar MERV 16 filtration for the 335-unit Clarendon Apartments approved this year for construction on land abutting the 101 Freeway in Woodland Hills.

Jennifer Gordon, a spokeswoman for developer AMCAL Multi-Housing, Inc., said apartment units would be situated "a minimum of 60 feet from U.S. 101" and that the "community is purposely designed" to face away from the freeway, with a parking structure, a row of trees and a 60-foot residential building insulating areas of the development from traffic.

The City Council unanimously approved the project in March. Mayor Garcetti's office signed off on it. Demolition has begun and the developer expects to finish construction by summer 2019.

Asked why he continues to approve such projects, Garcetti said: "Things have gone through because they've been in the pipeline and city council has approved those." Stopping them, he said, would raise huge legal questions and be a financial burden for investors.

Garcetti said he has directed city staff to look at how the city's zoning can be changed to protect public health.

Earlier this year council members and the mayor backed a new study of development restrictions, design standards and other steps the city could take. In a written statement, Garcetti's spokesman said "no one should ever have to choose between affordable housing and breathing clean, healthy air" and cited a city sustainability plan that sets goals for reducing emissions, electrifying vehicles and increasing public transportation and transit-oriented development.

Past problems

Neighborhood activists have long complained that the city has ignored or failed to enforce promises extracted from developers as conditions of approving their projects, including enhanced air filtration requirements for homes near freeways.

"There's no filter police," said Silverstein, the attorney who has challenged Los Angeles' approval of residential projects. "The developers can say, OK, we're going to do this. But it's meaningless because the city is never going to go back and check."

After inquiries from The Times, the Department of Building and Safety in 2014 found that two apartment complexes developed by Geoffrey H. Palmer — the 526-unit Da Vinci apartments and the 913-unit Lorenzo, both along the 110 freeway in L.A. — had failed to install the proper-strength filters or the equipment necessary to accommodate them.

At the city's request, the developer of the Da Vinci later installed more powerful fan motors in the ventilation system to support thicker filters, said Jeff Napier, a spokesman for the city's Department of Building and Safety.

At the Lorenzo, where lower-strength filters were already in place, the developer installed new ones "with larger surface area to accommodate the existing equipment," Napier said.

Napier said he was not aware of any other projects where the Department of Building and Safety had stepped in.

Councilman Huizar said he hoped the city's latest filtration rules would improve things "by making this a uniform baseline regulation instead of a case-by-case condition." He has asked city staff for data on how the air filtration standards are going and said "we all want assurances that the program is being implemented."

Have the right filters been installed?

The Los Angeles Department of Building and Safety inspectors review building plans and verify air-filtration standards "throughout the project, up to and including the final inspection," Napier said. But the city doesn't keep records documenting whether high-grade air filters were installed as they do other health and safety features, such as smoke detectors.

"There's no set form that checks a box that absolutely the filters were installed," Napier said. "We have a construction boom going on right now. It would be counterproductive to document every little thing that we approve."

Unless it receives a complaint, the city does not conduct follow-up inspections to see if air filters are being maintained and replaced because there is no requirement in the building code, said Frank Bush, the building and safety department's general manager.

"That's on the building owner," Bush said "If we got a complaint we would take action, but nothing proactive."

Mayor Garcetti said he supports a mandatory "check box" to track whether the promised air filters are being installed.

"That would be an easy thing to fix if they're not," Garcetti said. "This is not a sink finish, this a health issue and so it should have the highest priority."

The new filter standards will not help the 600,000 people who, a Times analysis of 2010 U.S. census data indicates, were then living within 1,000 feet of Los Angeles freeways.

One of them is Victor Johnson, 61, who has three air-filtration machines running in his one-bedroom apartment about 300 feet from the 101 Freeway in Studio City. He said he hasn't seen much improvement in his air quality.

He blames his ongoing health problems, which include chronic headaches, colds, inflammation and high blood pressure, on the pollution, which leaves a layer of fine black dust on his shelves and counters.

"Three filters and still this ultra-fine dust that's a fine, fine black powder," Johnson said. "I'm concerned about my lungs. I can deal with the embarrassment of my furniture being dusty. But I don't want the same issues as a coal miner."

Times staff writers Chris Keller, Jon Schleuss and David Zahniser contributed to this report.

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This 'attr(data-c-typename)' is related to: Tom LaBonge

Air pollution exposure may hasten death, even at levels deemed 'safe,' study says

Even at levels considered safe by the Environmental Protection Agency, the fine particulates and ozone in air pollution were associated with premature risk of death, according to a new Harvard study. (Allen J. Schaben / Los Angeles Times)

By **Tony Barboza**

JUNE 28, 2017, 2:00 PM

At a time when the Trump administration is moving to delay and dismantle air quality regulations, a new study suggests that air pollution continues to cut Americans' lives short, even at levels well below the legal limits set by the U.S. Environmental Protection Agency.

The nationwide study of more than 60 million senior citizens linked long-term exposure to two main smog pollutants — ozone and fine particulate matter — to an increased risk of premature death.

The analysis found no sign of a "safe" level of pollution, below which the risk of dying early tapered off.

Harvard University scientists who conducted the study calculated that reducing fine particle pollution by 1 microgram per cubic meter nationwide would save about 12,000 lives each year. Another 1,900 lives would be saved annually by lowering ozone pollution by 1 part per billion, they found.

The study appears in Thursday's edition of the New England Journal of Medicine.

Fine particulate matter is composed of tiny health-damaging specks of pollution that can lodge deep in the lungs and are linked to cardiovascular disease. Ozone, the lung-searing gas in warm-weather smog, triggers asthma and other respiratory illnesses. Both pollutants build up in the air largely as a result of emissions from vehicles, power plants and other major combustion sources.

For the analysis, researchers developed a new computer model that uses on-the-ground air-monitoring data and satellite-based measurements to estimate pollution levels across the continental U.S., breaking the country up into 1-square-kilometer zones. They paired that information with health data contained in Medicare claims records from 2000 to 2012 for all beneficiaries in the 48 contiguous states, a group that represents about 97% of the population ages 65 or older.

The high-resolution data allowed scientists to estimate the health effects of air pollution at levels far below the federal limits. For fine particulate matter, which has a legal limit of 12 micrograms per cubic meter of air, they found that seniors faced an increased risk of premature death when exposed to as little as 5 micrograms per cubic meter, the lowest amount they measured. For ozone, which has an EPA limit of 70 parts per billion, they detected increased mortality at levels as low as 30 ppb, also the smallest concentration they measured.

The researchers calculated that when the concentration of particulate matter rose by 10 micrograms per cubic meter, the chances that a senior citizen would die during the study period rose by 7.3%. And when the ozone concentration rose by 10 ppb, the chances of early death rose by 1.1%. In both cases, the researchers controlled for factors like smoking behavior, weight and income, which are also likely to affect a senior's risk of premature death.

"

The air that we are breathing right now is harmful, it's toxic.

— Francesca Dominici, data scientist at the Harvard T.H. Chan School of Public Health

The findings suggest that even though federal limits on the nation's most widespread air pollutants are updated periodically based on scientific reviews required under the Clean Air Act, they are not strong enough to fully protect the public.

Critics may claim that stronger standards would offer diminishing returns, but the study results provide new evidence that they would actually increase health benefits, with fewer people getting sick and dying from dirty air, said Francesca Dominici, a data scientist at the Harvard T.H. Chan School of Public Health and the study's principal investigator.

"We are seeing that the air that we are breathing right now is harmful, it's toxic," Dominici said.

An editorial that accompanies the study said the findings "stress the need for tighter regulation of air-pollutant levels" and stricter limits on fine particulate matter.

"Despite compelling data, the Trump administration is moving headlong in the opposite direction," the editorial said, citing the president's recent steps to dismantle emissions-cutting rules, withdraw from the Paris climate accord and slash the EPA's budget. "The increased air pollution that would result from loosening current restrictions would have devastating effects on public health."

The findings have important implications for California, where millions of people breathe the nation's highest levels of ozone and fine particulate matter. Despite decades of improvement, the air in Southern California and the San Joaquin Valley remains far from meeting federal health standards.

The new study adds to a robust body of research going back to the early 1990s associating fine-particle pollution with shortened lives. But most of those studies were limited to populations in wealthier and well-monitored urban areas, the researchers said.

The enormous sample size — encompassing nearly all Americans over 65 — allowed scientists to examine air quality differences across all parts of the country, including small cities and rural areas, and among various ethnic and socioeconomic groups.

The researchers found that men, blacks, Asians, Latinos and lower-income seniors all faced higher risks of premature death from fine particulate matter. Black seniors were three times as likely as seniors overall to die prematurely.

Under the Clean Air Act, the EPA must review national air quality standards for six major pollutants every five years and adjust them if necessary to reflect the latest science.

The 12-micrograms-per-cubic-meter standard for fine particulate matter was last updated in 2012. The federal standard for ozone was last strengthened in 2015 and is now being reexamined by the Trump administration.

This month, EPA Administrator Scott Pruitt announced a one-year delay in implementing the federal ozone standard, citing "increased regulatory burdens, restrictions on infrastructure investment, and increased costs to businesses." The decision allows California and other states with ozone levels above the current standard to postpone the adoption of emissions-cutting measures.

Pruitt, who in his previous job as attorney general of Oklahoma made a career of suing to block EPA regulations, is also moving to reshape the agency's science advisory boards. These include the committee that makes recommendations on federal air quality standards.

Environmentalists and health advocates fear Pruitt will replace academic experts with representatives of regulated industries.

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This 'attr(data-c-typename)' is related to: Environmental Science, Scientific Research

L.A. keeps building near freeways, even though living there makes people sick

Are you one of the 2.5 million Southern Californians already living in the pollution zone?

By TONY BARBOZA (HTTP://WWW.LATIMES.COM/LA-BIO-TONY-BARBOZA-STAFF.HTML) AND JON SCHLEUSS (HTTP://WWW.LATIMES.COM/LA-BIO-JON-SCHLEUSS-STAFF.HTML)

MARCH 2, 2017, 3 A.M.

1 dot = 1 person living within 1,000 feet of a freeway in 2010

For more than a decade, California air quality officials have warned against building homes within 500 feet of freeways.

And with good reason: People there suffer higher rates of asthma, heart attacks, strokes, lung cancer and pre-term births. Recent research (http://envhealthcenters.usc.edu/infographics/infographic-living-near-busy-roads-or-traffic-pollution/references-living-near-busy-roads-or-traffic-pollution) has added more health risks to the list, including childhood obesity, autism and dementia.

Yet Southern California civic officials have flouted those warnings, allowing a surge in home building near traffic pollution, according to a Los Angeles Times analysis of U.S. Census data, building permits and other government records.

In Los Angeles alone officials have approved thousands of new homes within 1,000 feet of a freeway — even as they advised developers (https://www.documentcloud.org/documents/3478483-Los-Angeles-advisory-for-projects-within-1-000.html) that this distance poses health concerns.

The city issued building permits for 4,300 homes near freeways in 2015 — more than in any year over the last decade — and signed off on an additional 3,000 units last year.

Public funds, including millions of dollars from California's cap-and-trade program to cut greenhouse gas emissions, are going to developers to build new homes in freeway pollution hot spots.

The population near Los Angeles freeways is growing faster than elsewhere in the city as planners push developers to concentrate new housing near transportation hubs, convinced that increasing urban density will help meet state targets for greenhouse gas reductions.

More than 1.2 million people already live in high-pollution zones within 500 feet of a Southern California freeway, with more moving in every day. Between 2000 and 2010 — the most recent period available — the population within 500 feet of a Los Angeles freeway grew 3.9%, compared with a rate of 2.6% citywide.

Orsini

- 1,072-unit apartment complex
- Opened in three phases between 2004 and 2010
- 1-bedroom apartment rents for $2,000 to $2,500 a month
- Developer Geoffrey H. Palmer has built thousands of units near downtown L.A. freeways and plans more

Have you ever lived near a freeway?

Tell us your story

Los Angeles City Councilman José Huizar, who lives several hundred feet from Interstate 5, said freeway pollution is such an urgent and complex problem that he wants the city to establish buffer zones. He called for a "comprehensive, citywide study of development near freeways that would analyze all impacts of limiting development around freeways."

Other elected officials and business groups argue that Los Angeles is so thoroughly crisscrossed by freeways that restricting growth near them is impractical and would hamper efforts to ease a severe housing shortage. In some cases, city officials are paving the way by re-zoning industrial land along freeways and other transportation corridors.

In an interview at a recent groundbreaking for a freeway-adjacent apartment project, Los Angeles Mayor Eric Garcetti said that he grew up near the 101 and 405 freeways and that many in his family had cancer.

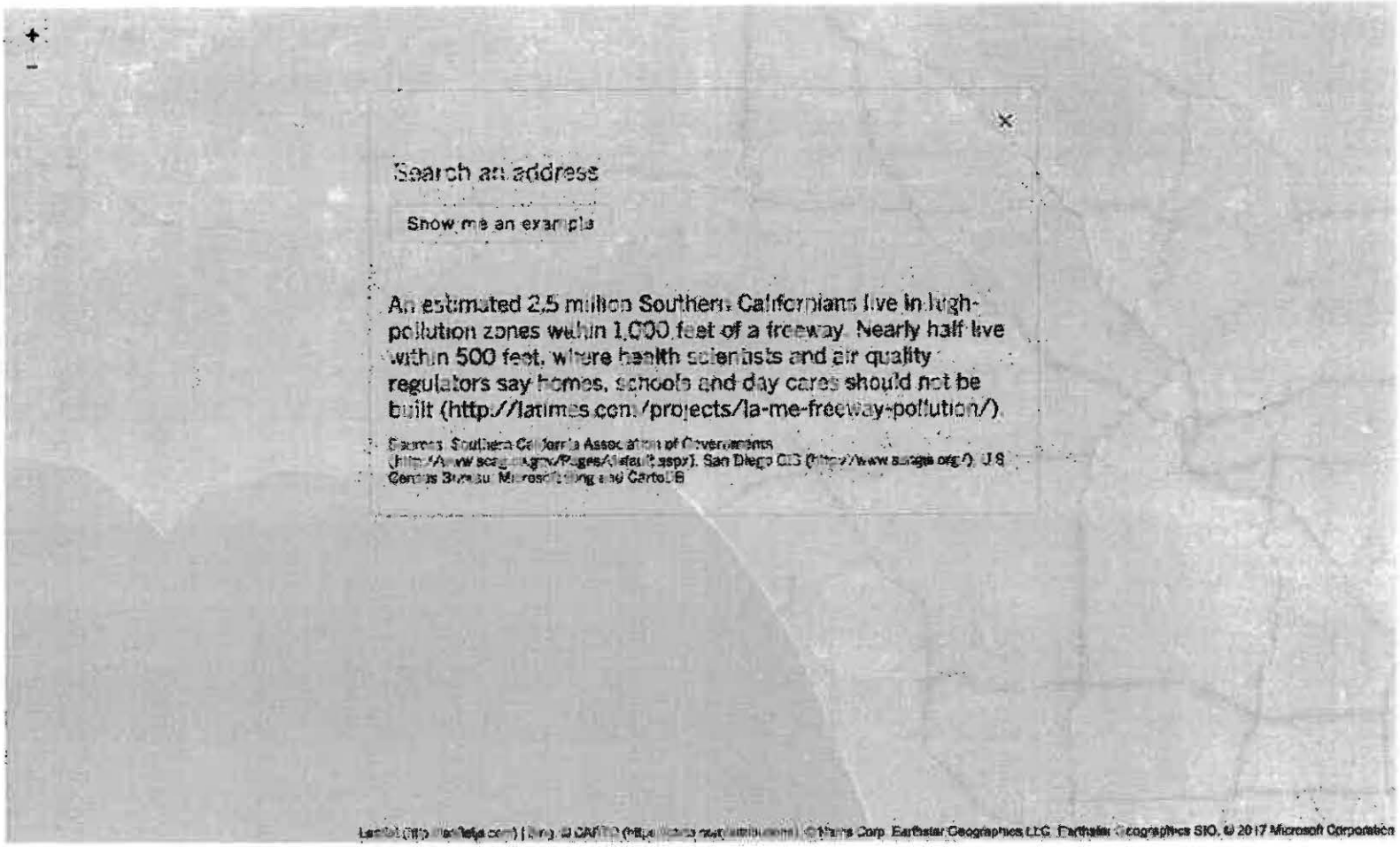
Mayor Eric Garcetti attends a groundbreaking ceremony for a 160-unit affordable apartment project next to the 110 Freeway in South Los Angeles. View more photos (http://www.latimes.com/la-me-ln-freeway-building-pollution-pictures-photogallery.html)

But he said he opposes any restrictions on how many homes can be built near freeways and thinks that improving air-filtration, building design and tailpipe emissions are a better way to reduce risks to residents.

"I take this stuff very seriously, but I also know that in looking for housing we have a very constricted city," he said.

Garcetti spokesman Carl Marziali noted that a prohibition on building within 1,000 feet of freeways, for example, would cover more than 10% of land currently zoned for residential construction in the city, from Westwood to Boyle Heights and San Pedro to Sherman Oaks. But proponents of stricter planning, including supporters of Measure S, a proposal on the March 7 ballot that would place new restrictions on development, have criticized city officials for approving what they term "black lung lofts."

How close to the freeway are you?



Low rent and a location near shops and restaurants are what brought Jeremiah Caleb to an apartment on Beloit Avenue, where a sound wall is all that separates the 405 freeway from sleek new apartments and lofts advertising "good living."

But life got worse for Jeremiah and his wife Angel soon after moving into that one-bedroom on the Westside of Los Angeles.

The couple began to struggle with bouts of coughing, sneezing and headaches. They kept the windows shut, yet a grimy, black film settled regularly over the furniture, counters and even their skin — a never-ending reminder of the vehicle exhaust and soot they were breathing just 100 feet from 14 lanes of traffic.

"We were constantly sick," said Caleb, an actor in his 30s. The couple worried enough about dirty air that they put off having children. "We were desperate to leave, but we felt stuck. We just couldn't afford it."

Business groups have consistently opposed any suggestion of restricting development near heavy traffic.

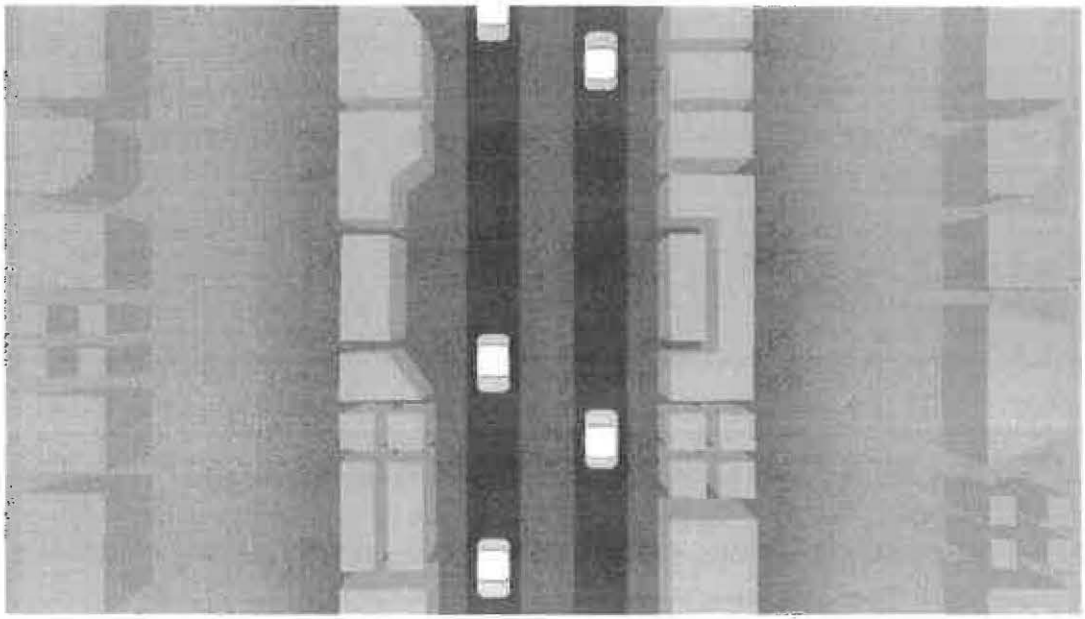
"Freeways are part of Los Angeles' fabric and prohibiting housing by them is unrealistic," said Carol Schatz, president of the Downtown Center Business Improvement District. She argues that such restrictions would

worsen the housing crisis and severely limit the ability to build housing near mass transit.

The Southern California Assn. of Governments, the regional planning agency for Los Angeles, Ventura, Orange, Riverside, San Bernardino and Imperial counties, has projected that the population within 500 feet of a freeway will increase by a quarter million people by 2035.

Rob McConnell, a professor of preventive medicine at USC who studies roadway pollution, is one of a number of health researchers who has advised city officials not to allow new housing that close to freeways.

"I tell them you're going to make a lot of people sick," McConnell said.



Scientists have long known that polluted air cuts lives short.

But pinpointing the harmful agents in traffic pollution is difficult because it's a stew of ingredients including toxic combustion gases, microscopic soot particles, compounds from worn tires and dust from vehicle brake pads. Recent research has narrowed in on one component of special concern: ultra-fine particles, pollutants in freshly emitted vehicle exhaust that can be five to 10 times higher near traffic.

The invisible, chemical-laden specks are less than one-thousandth the width of a human hair — so tiny they are hard to capture with pollution controls or filters. Scientists suspect ultra-fine particles are able to pass through the lungs and into the bloodstream, where they may harm the heart, brain and other organs. Yet they remain unregulated by state and federal authorities.

That emerging science has raised concerns that decades of government regulations, aimed at curbing smog that builds up across vast urban areas, are not sufficiently tailored to the more localized problem of roadway pollution.

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Two years ago, state environmental officials concluded that diesel soot and other carcinogens in vehicle exhaust pose nearly three times the cancer risk previously thought.

In a long-term study (https://healthstudy.usc.edu/), USC researchers have for more than two decades measured the lung capacity of thousands of school children across Southern California. They found that children growing up near major roadways have higher rates of asthma and other respiratory illnesses, including deficits in lung function that can be permanent and lead to a lifetime of health problems.

Even in communities with cleaner air, such as Santa Maria near the Santa Barbara County coast, children living near traffic had the same lung function loss as those in Riverside and other smoggy inland areas, the scientists found.

Anthony Moretti, chairman of pediatrics at White Memorial Medical Center in Boyle Heights, said children who live close to freeways are among those who most frequently land in the emergency room struggling to breathe and in need of treatment for asthma and other respiratory diseases.

"These kids will come in four, five, six times over a six-month period, and clearly their environment is a factor," he said. "I feel for these families because they suffer an undue burden of illness simply because of where they live."

Dr. Anthony Moretti says children who live close to freeways are among those who most frequently arrive in the emergency room struggling to breathe and in need of inhalers and treatment for asthma and other respiratory diseases. (Mel Melcon / Los Angeles Times) View more photos (http://www.latimes.com/la-me-ln-freeway-building-pollution-pictures-photogallery.html)

Public health officials have long warned that traffic pollution can drift well over 1,000 feet from traffic — and more recent research suggests that it may waft more than a mile.

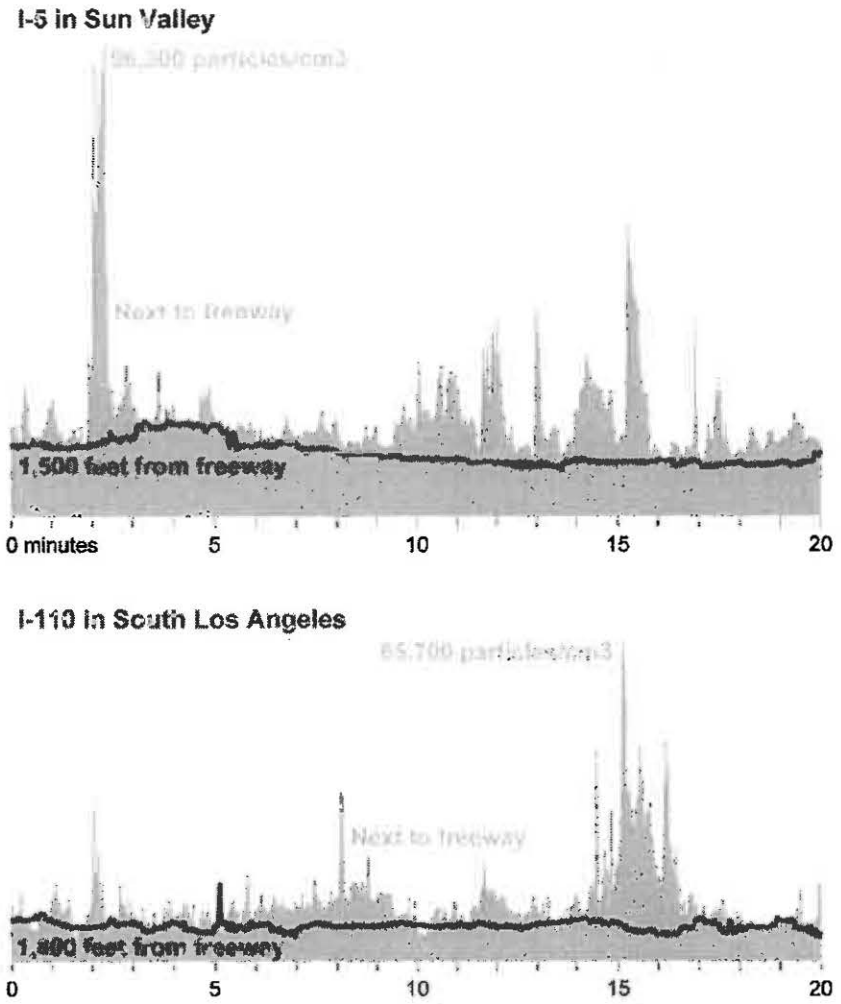
Yet it took lawsuits and a nationwide mandate from the U.S. Environmental Protection Agency to force Southern California air quality officials to begin regularly measuring pollution near Southern California freeways in 2014.

The first readings confirmed that people near freeways breathe higher levels of the exhaust gases nitrogen dioxide and carbon monoxide. Then, in 2015, the South Coast Air Quality Management District detected the region's highest concentrations of fine particulate matter at a new monitoring station 30 feet from the 60 Freeway in Ontario. The findings added compelling evidence that traffic emissions are piling on top of regional smog, hitting people near freeways with a double dose of pollution.

To learn more about the problem, The Times conducted air quality testing at sites where new housing is planned near Los Angeles freeways.

In August and September of 2015, reporters collected air samples at several locations using portable pollution sensors that detect ultra-fine particles, the microscopic pollutants in vehicle exhaust. One set of air samples was taken next to stretches of the 110 and 5 freeways and another set was taken 1,500 to 1,800 feet from the freeways.

Ultrafine particles spike near freeways



Source: TSI P-Trak Ultrafine Particle Counter 8525 readings on Aug. 20, 2015 and Sept. 24, 2015. See the data ↗ (http://www.latimes.com/local/lanow/la-me-ln-freeway-pollution-how-20170227-story.html)

Pollution readings near the freeways were three to four times higher than in neighborhoods at a distance from traffic. Diesel trucks produced the most noticeable pollution, coughing out foul plumes of exhaust and soot that could be seen and smelled as pollution readings jumped.

Scientists at USC and the South Coast air district said the readings were consistent with their measurements near freeways.

One of the locations where reporters detected high pollution levels was next to a vacant lot along the 110 Freeway in South Los Angeles where two apartment buildings for low-income residents are being built.

The $55-million Meta Housing Corp. project, which will bring 160 new housing units to the busy traffic corridor, is partly funded with money from pollution permits sold under the state's cap-and-trade program, among other state and local government subsidies.

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Among the most visible and controversial projects that have raised traffic pollution concerns in Los Angeles are developer Geoffrey H. Palmer's massive Italianate apartment complexes overlooking downtown freeways. He has built thousands of units and is planning more.

In interviews, current and past residents of Palmer's Orsini development, which hulks over the interchange of the 101 and 110 freeways, said they moved to the complex for its convenient downtown location. But many spoke of keeping windows closed to block noise and pollution, deploying house plants to soak up the bad air and constantly sweeping and dusting the fine black soot that seems to find its way onto every surface.

Felicia Gargani said her pet peeve was the grime that collected on her fourth-floor balcony that looked out over the freeway. "If you walk out there barefoot," she said, "your feet turn black."

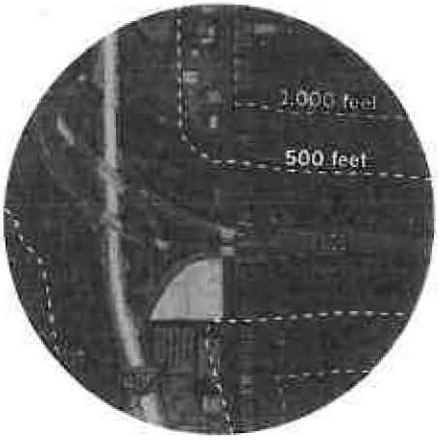
Construction on the Orsini began more than a decade ago, before scientists grasped the extent of the health hazards of building so close to traffic.

In the years since, the South Coast air district has sent dozens of letters to cities sounding alarms about similarly risky home building proposals near freeways in Los Angeles and other communities across its four-county jurisdiction.

Il Villaggio Toscano

- Planned 325-unit apartment complex
- Approved in 2013 by the L.A. City Council over the objections of air quality officials
- Developer M. David Paul pledged to use enhanced air filters

Tell us your freeway story



The air-quality agency reserved some of its strongest criticisms (https://www.documentcloud.org/documents/3474688-Air-district-letter-on-Il-Villaggio-Toscano.html) for developer M. David Paul's 325-unit Il Villaggio Toscano project proposed near the 405-101 interchange in Sherman Oaks, urging Los Angeles city planners in 2011 to "reconsider placing new housing immediately adjacent to one of the busiest freeway intersections in Southern California."

The city "is ignoring the abundant health science data that has come out over the past decade that demonstrates serious health consequences for those living near a freeway," the air district's Ian MacMillan wrote.

Motorists travel along the 101 Freeway in Hollywood. (Mel Melcon / Los Angeles Times) View more photos (http://www.latimes.com/la-me-ln-freeway-building-pollution-pictures-photogallery.html)

Everett Smith, a renter at the Orsini apartments, looks out from his balcony at rush hour traffic on the 101 and 110 freeway interchange in downtown Los Angeles. (Don Bartletti / Los Angeles Times)

The City Council approved the project unanimously in August 2013, with its backers pledging to use the highest-rated air filters.

Los Angeles officials now require all homes built near freeways to have air filtration systems that rate at least 13 on the industry's 16-point effectiveness scale.

California air regulators acknowledge that decades of strict vehicle emissions standards have slashed tailpipe emissions, and they say air quality along freeways will continue to improve as the state transitions to cleaner vehicles and fuels.

Health officials say that those mitigating steps are good, but that the only way to solve the problem is for city and county officials to stop residential building near freeways.

And that, say legal experts, is well within their authority.

Planning experts cite a number of possible approaches to the public health problem.

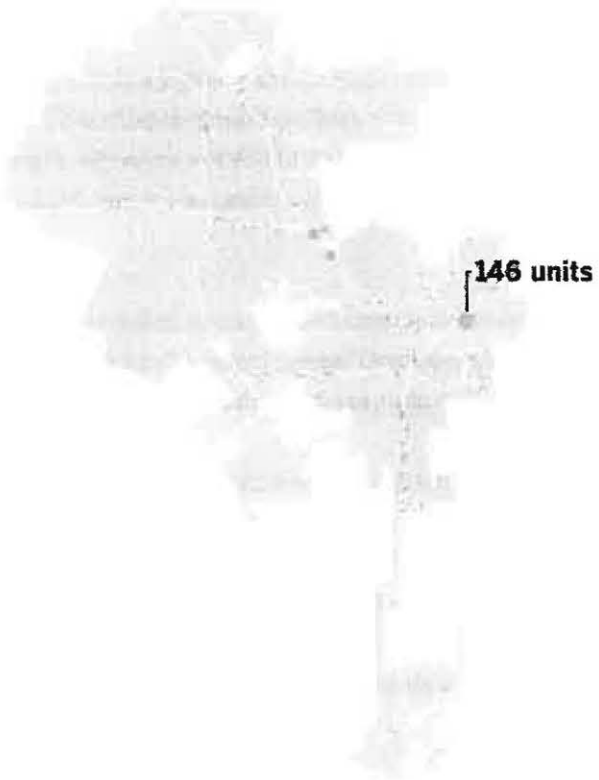
Cities could re-zone areas near heavy traffic to exclude new residential development or change their general plans to prohibit such uses, planning experts say. Officials could adopt ordinances or moratoriums on new residential development. Or they could strengthen building standards — as they have for seismic reasons — forcing developers to design buildings in a way that reduces residents' exposure to polluted air.

"If there's a political will to protect people from this type of development then cities certainly know how to use zoning to accomplish that," said James Kushner, an expert in land-use, development and urban planning at Southwestern Law School.

Thousands of homes approved near L.A. freeways

Use the slider to see where the city has issued building permits within a 1,000 feet of a freeway since 2005.

2005



Sources: Los Angeles Department of Building and Safety, L.A. County Assessor, OpenStreetMap See the data ↗ (http://www.latimes.com/local/lanow/la-me-ln-freeway-pollution-how-20170227-story.html)

One of the only attempts at a ban on development occurred several years ago when the L.A. County Department of Public Health proposed language in the county's general plan to prohibit new housing within 500 feet of freeways, citing the adverse health effects. County planners ultimately rejected the idea.

The failure of such restrictions to gain traction has left some local officials wondering if the only way to keep cities from building more homes near freeways is through a state law.

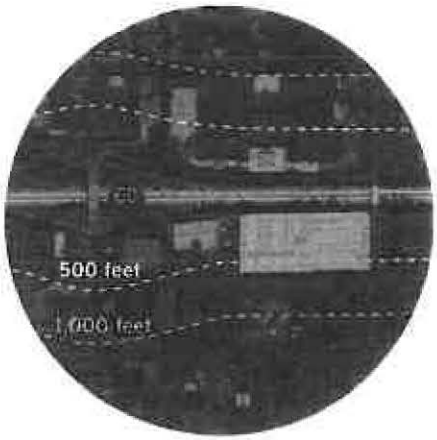
One precedent is a 2003 law California passed prohibiting the construction of new public schools within 500 feet of freeways out of concern for children's health. But school districts have used exceptions in the law to keep building.

Meanwhile, the residential developments that are rising next to freeways continue to spread not just through the urban core, but across the region.

Cedar Point

- 84 single-family homes in San Bernardino County suburb of Chino
- Built in 2015 along one of California's busiest diesel truck corridors
- 4-bedroom houses by Frontier Communities sell for around $600,000

Tell us your story



Among those who did move into one of Cedar Point's four-bedroom houses was Mike Sanchez, his wife and two young daughters.

Buying so close to traffic was a difficult decision, he said, but "one of the sacrifices we made to get into a new home."

Back on the Westside of Los Angeles, Jeremiah Caleb, who spent years battling black road dust and illness while living in an apartment next to the 405, said he and his wife were relieved when she landed a nursing job — a second income that allowed them to move to a less-polluted neighborhood about a mile from any freeway.

Their health has improved, with their once-constant headaches and respiratory problems now a rarity.

"I can leave my doors open and I'm breathing fresh air all the time," he said. "We got lucky. But for most people . . . They're stuck because that's what they can afford."

How we reported the story

How we measured housing growth

Joel Paulson

From: David Weissman <gryllus@gmail.com>
Sent: Tuesday, July 25, 2017 11:02 AM
To: Council; Robert Schultz; Laurel Prevetti; Joel Paulson
Subject: Fwd: NEJM
Attachments: nejmoa1702747.pdf

Here is the NEJM article referred to in Dr. Marland's letter. The dangers of living near a freeway.

The NEW ENGLAND JOURNAL of MEDICINE

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Air Pollution and Mortality in the Medicare Population

Qian Di, M.S., Yan Wang, M.S., Antonella Zanobetti, Ph.D., Yun Wang, Ph.D., Petros Koutrakis, Ph.D., Christine Choirat, Ph.D., Francesca Dominici, Ph.D., and Joel D. Schwartz, Ph.D.

ABSTRACT

BACKGROUND

Studies have shown that long-term exposure to air pollution increases mortality. However, evidence is limited for air-pollution levels below the most recent National Ambient Air Quality Standards. Previous studies involved predominantly urban populations and did not have the statistical power to estimate the health effects in underrepresented groups.

METHODS

We constructed an open cohort of all Medicare beneficiaries (60,925,443 persons) in the continental United States from the years 2000 through 2012, with 460,310,521 person-years of follow-up. Annual averages of fine particulate matter (particles with a mass median aerodynamic diameter of less than 2.5 μm [$PM_{2.5}$]) and ozone were estimated according to the ZIP Code of residence for each enrollee with the use of previously validated prediction models. We estimated the risk of death associated with exposure to increases of 10 μg per cubic meter for $PM_{2.5}$ and 10 parts per billion (ppb) for ozone using a two-pollutant Cox proportional-hazards model that controlled for demographic characteristics, Medicaid eligibility, and area-level covariates.

RESULTS

Increases of 10 μg per cubic meter in $PM_{2.5}$ and of 10 ppb in ozone were associated with increases in all-cause mortality of 7.3% (95% confidence interval [CI], 7.1 to 7.5) and 1.1% (95% CI, 1.0 to 1.2), respectively. When the analysis was restricted to person-years with exposure to $PM_{2.5}$ of less than 12 μg per cubic meter and ozone of less than 50 ppb, the same increases in $PM_{2.5}$ and ozone were associated with increases in the risk of death of 13.6% (95% CI, 13.1 to 14.1) and 1.0% (95% CI, 0.9 to 1.1), respectively. For $PM_{2.5}$, the risk of death among men, blacks, and people with Medicaid eligibility was higher than that in the rest of the population.

CONCLUSIONS

In the entire Medicare population, there was significant evidence of adverse effects related to exposure to $PM_{2.5}$ and ozone at concentrations below current national standards. This effect was most pronounced among self-identified racial minorities and people with low income. (Supported by the Health Effects Institute and others.)

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THE ADVERSE HEALTH EFFECTS ASSOCIATED with long-term exposure to air pollution are well documented.[1,2] Studies suggest that fine particles (particles with a mass median aerodynamic diameter of less than 2.5 μm [$PM_{2.5}$]) are a public health concern,[3] with exposure linked to decreased life expectancy.[4-6] Long-term exposure to ozone has also been associated with reduced survival in several recent studies, although evidence is sparse.[4,7-9]

A Quick Take is available at NEJM.org

Studies with large cohorts have investigated the relationship between long-term exposures to $PM_{2.5}$ and ozone and mortality[4,9-13]; others have estimated the health effects of fine particles at low concentrations (e.g., below 12 μg per cubic meter for $PM_{2.5}$).[14-18] However, most of these studies have included populations whose socioeconomic status is higher than the national average and who reside in well-monitored urban areas. Consequently, these studies provide limited information on the health effects of long-term exposure to low levels of air pollution in smaller cities and rural areas or among minorities or persons with low socioeconomic status.

To address these gaps in knowledge, we conducted a nationwide cohort study involving all Medicare beneficiaries from 2000 through 2012, a population of 61 million, with 460 million person-years of follow-up. We used a survival analysis to estimate the risk of death from any cause associated with long-term exposure (yearly average) to $PM_{2.5}$ concentrations lower than the current annual National Ambient Air Quality Standard (NAAQS) of 12 μg per cubic meter and to ozone concentrations below 50 parts per billion (ppb). Subgroup analyses were conducted to identify populations with a higher or lower level of pollution-associated risk of death from any cause.

METHODS

MORTALITY DATA

We obtained the Medicare beneficiary denominator file from the Centers for Medicare and Medicaid Services, which contains information on all persons in the United States covered by Medicare and more than 96% of the population 65 years of age or older. We constructed an open cohort consisting of all beneficiaries in this age group in the continental United States from 2000 through 2012, with all-cause mortality as the outcome. For each beneficiary, we extracted the date of death (up to December 31, 2012), age at year of Medicare entry, year of entry, sex, race, ZIP Code of residence, and Medicaid eligibility (a proxy for low socioeconomic status). Persons who were alive on January 1 of the year following their enrollment in Medicare were entered into the open cohort for the survival analysis. Follow-up periods were defined according to calendar years.

ASSESSMENT OF EXPOSURE TO AIR POLLUTION

Ambient levels of ozone and $PM_{2.5}$ were estimated and validated on the basis of previously published prediction models.[19,20] Briefly, we used an artificial neural network that incorporated satellite-based measurements, simulation outputs from a chemical transport model, land-use terms, meteorologic data, and other data to predict daily concentrations of $PM_{2.5}$ and ozone at unmonitored locations. We fit the neural network with monitoring data from the Environmental Protection Agency (EPA) Air Quality System (AQS) (in which there are 1928 monitoring stations for $PM_{2.5}$ and 1877 monitoring stations for ozone). We then predicted daily $PM_{2.5}$ and ozone concentrations for nationwide grids that were 1 km by 1 km. Cross-validation indicated that predictions were good across the entire study area. The coefficients of determination (R^2) for $PM_{2.5}$ and ozone were 0.83 and 0.80, respectively; the mean square errors between the target and forecasting values for $PM_{2.5}$ and ozone were 1.29 μg per cubic meter and 2.91 ppb, respectively. Data on daily air temperature and relative humidity were retrieved from North American Regional Reanalysis with grids that were approximately 32 km by 32 km; data were averaged annually.[21]

For each calendar year during which a person was at risk of death, we assigned to that person a value for the annual average $PM_{2.5}$ concentration, a value for average ozone level during the warm season (April 1 through September 30), and values for annual average temperature and humidity according to the ZIP Code of the person's residence. The warm-season ozone concentration was used to compare our results with those of previous studies.[10] In this study, "ozone concentration" refers to the average concentration during the warm season, unless specified otherwise.

As part of a sensitivity analysis, we also obtained data on $PM_{2.5}$ and ozone concentrations from the EPA AQS and matched that data with

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each person in our study on the basis of the nearest monitoring site within a distance of 50 km. (Details are provided in Section 1 in the Supplementary Appendix, available with the full text of this article at NEJM.org.)

STATISTICAL ANALYSIS

We fit a two-pollutant Cox proportional-hazards model with a generalized estimating equation to account for the correlation between ZIP Codes.[22] In this way, the risk of death from any cause associated with long-term exposure to $PM_{2.5}$ was always adjusted for long-term exposure to ozone, and the risk of death from any cause associated with long-term exposure to ozone was always adjusted for long-term exposure to $PM_{2.5}$, unless noted otherwise. We also conducted single-pollutant analyses for comparability. We allowed baseline mortality rates to differ according to sex, race, Medicaid eligibility, and 5-year categories of age at study entry. To adjust for potential confounding, we also obtained 15 ZIP-Code or county-level variables from various sources and a regional dummy variable to account for compositional differences in $PM_{2.5}$ across the United States (Table 1, and Section 1 in the Supplementary Appendix). We conducted this same statistical analysis but restricted it to person-years with $PM_{2.5}$ exposures lower than 12 μg per cubic meter and ozone exposures lower than 50 ppb (low-exposure analysis) (Table 1, and Section 1 in the Supplementary Appendix).

To identify populations at a higher or lower pollution-associated risk of death from any cause, we refit the same two-pollutant Cox model for some subgroups (e.g., male vs. female, white vs. black, and Medicaid eligible vs. Medicaid ineligible). To estimate the concentration-response function of air pollution and mortality, we fit a log-linear model with a thin-plate spline of both $PM_{2.5}$ and ozone and controlled for all the individual and ecologic variables used in our main analysis model (Section 7 in the Supplementary Appendix). To examine the robustness of our results, we conducted sensitivity analyses and compared the extent to which estimates of risk changed with respect to differences in confounding adjustment and estimation approaches (Sections S2 through S4 in the Supplementary Appendix).

Data on some important individual-level covariates were not available for the Medicare cohort, including data on smoking status, body-mass index (BMI), and income. We obtained data from the Medicare Current Beneficiary Survey (MCBS), a representative subsample of Medicare enrollees (133,964 records and 57,154 enrollees for the period 2000 through 2012), with individual-level data on smoking, BMI, income, and many other variables collected by means of telephone survey. Using MCBS data, we investigated how the lack of adjustment for these risk factors could have affected our calculated risk estimates in the Medicare cohort (Section 5 in the Supplementary Appendix). The computations in this article were run on the Odyssey cluster, which is supported by the FAS Division of Science, Research Computing Group, and on the Research Computing Environment, which is supported by the Institute for Quantitative Social Science in the Faculty of Arts and Sciences, both at Harvard University. We used R software, version 3.3.2 (R Project for Statistical Computing), and SAS software, version 9.4 (SAS Institute).

RESULTS

COHORT ANALYSES

The full cohort included 60,925,443 persons living in 39,716 different ZIP Codes with 460,310,521 person-years of follow-up. The median follow-up was 7 years. The total number of deaths was 22,567,924. There were 11,908,888 deaths and 247,682,367 person-years of follow-up when the $PM_{2.5}$ concentration was below 12 μg per cubic meter and 17,470,128 deaths and 353,831,836 person-years of follow-up when the ozone concentration was below 50 ppb. These data provided excellent power to estimate the risk of death at air-pollution levels below the current annual NAAQS for $PM_{2.5}$ and at low concentrations for ozone (Table 1).

Annual average $PM_{2.5}$ concentrations across the continental United States during the study period ranged from 6.21 to 15.64 μg per cubic meter (5th and 95th percentiles, respectively), and the warm-season average ozone concentrations ranged from 36.27 to 55.86 ppb (5th and 95th percentiles, respectively). The highest $PM_{2.5}$ concentrations were in California and the eastern and southeastern United States. The Mountain region and California had the highest ozone concentrations; the eastern states had lower ozone concentrations (Fig. 1).

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Table 1. Cohort Characteristics and Ecologic and Meteorologic Variables.

Characteristic or Variable	Entire Cohort	Ozone Concentration		$PM_{2.5}$ Concentration	
		≥50 ppb*	<50 ppb	≥12 μg/m³	<12 μg/m³
Population					
Persons (no.)	60,925,443	14,405,094	46,520,349	28,145,493	32,779,950
Deaths (no.)	22,567,924	5,097,796	17,470,128	10,659,036	11,908,888
Total person-yr†	460,310,521	106,478,685	353,831,836	212,628,154	247,682,367
Median yr of follow-up	7	7	7	7	7
Average air-pollutant concentrations‡					
Ozone (ppb)	46.3	52.8	44.4	48.0	45.3
$PM_{2.5}$ (μg/m³)	11.0	10.9	11.0	13.3	9.6
Individual covariates‡					
Male sex (%)	44.0	44.3	43.8	43.1	44.7
Race or ethnic group (%)§					
White	85.4	86.6	85.1	82.0	88.4
Black	8.7	7.2	9.2	12.0	5.9
Asian	1.8	1.8	1.8	2.1	1.6
Hispanic	1.9	2.0	1.9	1.9	1.9
Native American	0.3	0.6	0.3	0.1	0.6
Eligible for Medicaid (%)	16.5	15.3	16.8	17.8	15.3
Average age at study entry (yr)	70.1	69.7	70.2	70.1	70.0
Ecologic variables‡					
BMI	28.2	27.9	28.4	28.0	28.4
Ever smoked (%)	46.0	44.9	46.2	45.8	46.0
Population including all people 65 yr of age or older (%)					
Hispanic	9.5	13.4	8.4	8.4	10.0
Black	8.8	7.2	9.3	13.3	6.3
Median household income (1000s of $)	47.4	51.0	46.4	47.3	47.4
Median value of housing (1000s of $)	160.5	175.8	156.3	161.7	159.8
Below poverty level (%)	12.2	11.4	12.4	12.5	12.0
Did not complete high school (%)	32.3	30.7	32.7	35.3	30.6
Owner-occupied housing (%)	71.5	71.3	71.6	68.6	73.2
Population density (persons/km²)	3.2	0.7	3.8	4.8	2.2
Low-density lipoprotein level measured (%)	92.2	92.0	92.2	92.2	92.2
Glycated hemoglobin level measured (%)	94.8	94.6	94.8	94.8	94.8
≥1 Ambulatory visits (%)¶	91.7	92.2	91.6	91.7	91.7
Meteorologic variables‡					
Average temperature (°C)	14.0	14.9	13.8	14.5	13.7
Relative humidity (%)	71.1	60.8	73.9	73.7	69.6

* Summary statistics were calculated separately for persons residing in ZIP Codes where average ozone levels were below or above 50 ppb and where $PM_{2.5}$ levels were below or above 12 μg per cubic meter. The value 12 μg per cubic meter was chosen as the current annual National Ambient Air Quality Standard (NAAQS) (e.g., the "safe" level) for $PM_{2.5}$. BMI denotes body-mass index (the weight in kilograms divided by the square of the height in meters) and ppb parts per billion.

† The number for total person-years of follow-up indicates the sum of individual units of time that the persons in the study population were at risk of death from 2000 through 2012.

‡ The average values for air pollution levels and for ecologic and meteorologic variables were computed by averaging values over all ZIP Codes from 2000 through 2012.

§ Data on race and ethnic group were obtained from Medicare beneficiary files.

¶ The variable for ambulatory visits refers to the average annual percentage of Medicare enrollees who had at least one ambulatory visit to a primary care physician.

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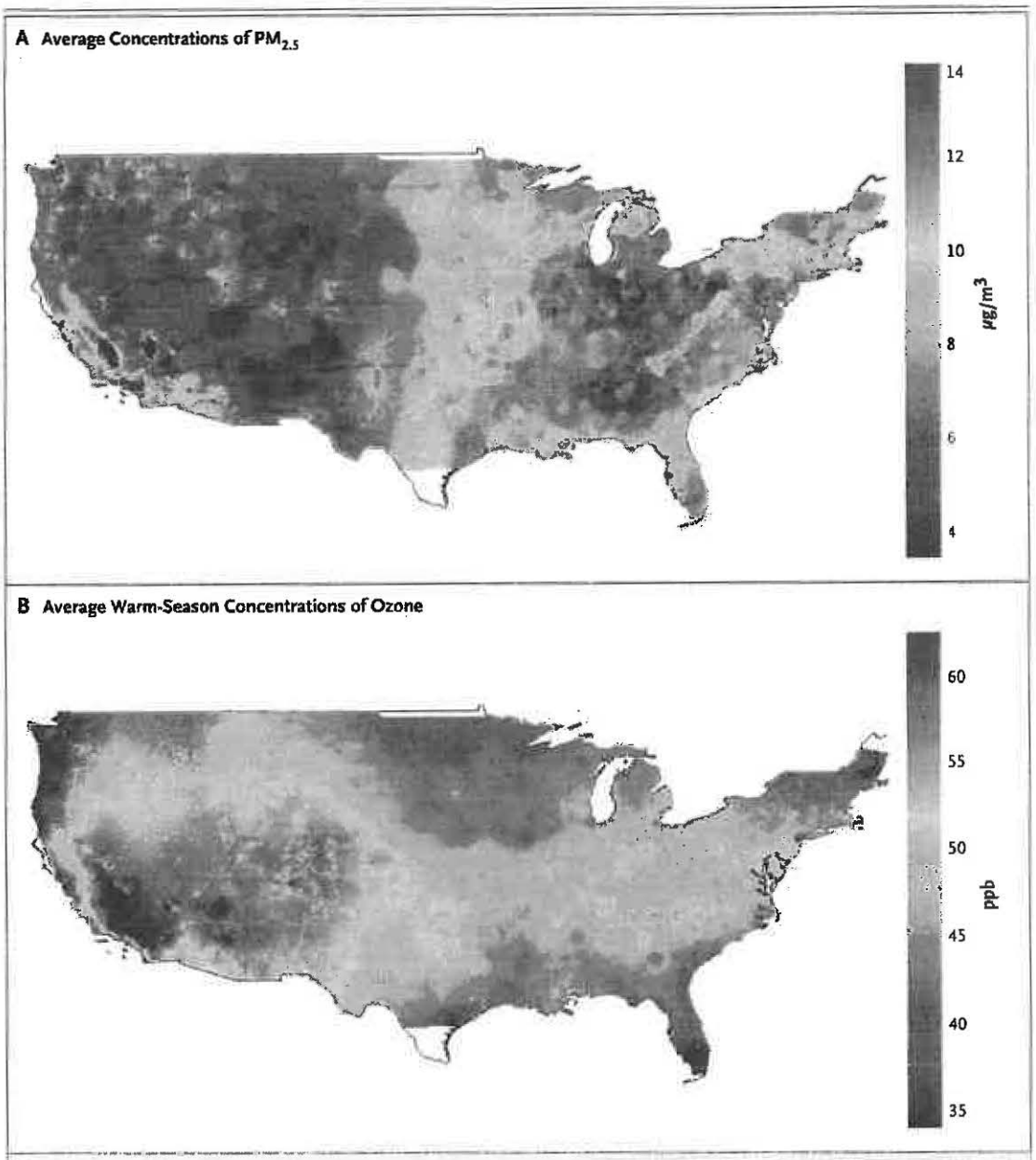

Figure 3. Average $PM_{2.5}$ and Ozone Concentrations in the Continental United States, 2000 through 2012.
Panel A shows the average concentrations of fine particulate matter (particles with a mass median aerodynamic diameter of less than 2.5 μm [$PM_{2.5}$]) in micrograms per cubic meter, as estimated on the basis of all daily predictions during the study period. Panel B shows the concentration of ozone levels in parts per billion as averaged from April 1 through September 30 throughout the study period.

In a two-pollutant analysis, each increase of 10 μg per cubic meter in annual exposure to $PM_{2.5}$ (estimated independently of ozone) and each increase of 10 ppb in warm-season exposure to ozone (estimated independently of $PM_{2.5}$) was associated with an increase in all-cause mortality of 7.3% (95% confidence interval [CI], 7.1 to 7.5) and 1.1% (95% CI, 1.0 to 1.2), respectively. Estimates of risk based on predictive, ZIP-Code–specific assessments of exposure were slightly higher than those provided by the nearest data-monitoring site (Table 2). When we restricted the $PM_{2.5}$ and ozone analyses to location-years with low concentrations, we continued to see significant associations between exposure and mortality (Table 2). Analysis of the MCBS

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Table 2. Risk of Death Associated with an Increase of 10 μg per Cubic Meter in $PM_{2.5}$ or an Increase of 10 ppb in Ozone Concentration.*

Model	$PM_{2.5}$	Ozone
	hazard ratio (95% CI)	
Two-pollutant analysis		
Main analysis	1.073 (1.071–1.075)	1.011 (1.010–1.012)
Low-exposure analysis	1.136 (1.131–1.141)	1.010 (1.009–1.011)
Analysis based on data from nearest monitoring site (nearest-monitor analysis)†	1.061 (1.059–1.063)	1.001 (1.000–1.002)
Single-pollutant analysis‡	1.084 (1.081–1.086)	1.023 (1.022–1.024)

* Hazard ratios and 95% confidence intervals were calculated on the basis of an increase of 10 μg per cubic meter in exposure to $PM_{2.5}$ and an increase of 10 ppb in exposure to ozone.

† Daily average monitoring data on $PM_{2.5}$ and ozone were obtained from the Environmental Protection Agency Air Quality System. Daily ozone concentrations were averaged from April 1 through September 30 for the computation of warm-season averages. Data on $PM_{2.5}$ and ozone levels were obtained from the nearest monitoring site within 50 km. If there was more than one monitoring site within 50 km, the nearest site was chosen. Persons who lived more than 50 km from a monitoring site were excluded.

‡ For the single-pollutant analysis, model specifications were the same as those used in the main analysis, except that ozone was not included in the model when the main effect of $PM_{2.5}$ was estimated and $PM_{2.5}$ was not included in the model when the main effect of ozone was estimated.

subsample provided strong evidence that smoking and income are not likely to be confounders because they do not have a significant association with $PM_{2.5}$ or ozone (Section 5 in the Supplementary Appendix).

SUBGROUP ANALYSES

Subgroup analyses revealed that men; black, Asian, and Hispanic persons; and persons who were eligible for Medicaid (i.e., those who had low socioeconomic status) had a higher estimated risk of death from any cause in association with $PM_{2.5}$ exposure than the general population. The risk of death associated with ozone exposure was higher among white, Medicaid-eligible persons and was significantly below 1 in some racial subgroups (Fig. 2). Among black persons, the effect estimate for $PM_{2.5}$ was three times as high as that for the overall population (Table S3 in the Supplementary Appendix). Overall, the risk of death associated with ozone exposure was smaller and somewhat less robust than that associated with $PM_{2.5}$ exposure. We also detected a small but significant interaction between ozone exposure and $PM_{2.5}$ exposure (Table S8 in the Supplementary Appendix). Our thin-plate–spline fit indicated a relationship between $PM_{2.5}$, ozone, and all-cause mortality that was almost linear, with no signal of threshold down to 5 μg per cubic meter and 30 ppb, respectively (Fig. 3, and Fig. S8 in the Supplementary Appendix).

DISCUSSION

This study involving an open cohort of all persons receiving Medicare, including those from small cities and rural areas, showed that long-term exposures to $PM_{2.5}$ and ozone were associated with an increased risk of death, even at levels below the current annual NAAQS for $PM_{2.5}$. Furthermore, the study showed that black men and persons eligible to receive Medicaid had a much higher risk of death associated with exposure to air pollution than other subgroups. These findings suggest that lowering the annual NAAQS may produce important public health benefits overall, especially among self-identified racial minorities and people with low income.

The strengths of this study include the assessment of exposure with high spatial and temporal resolution, the use of a cohort of almost 61 million Medicare beneficiaries across the entire continental United States followed for up to 13 consecutive years, and the ability to perform subgroup analyses of the health effects of air pollution on groups of disadvantaged persons. However, Medicare claims do not include extensive individual-level data on behavioral risk fac-

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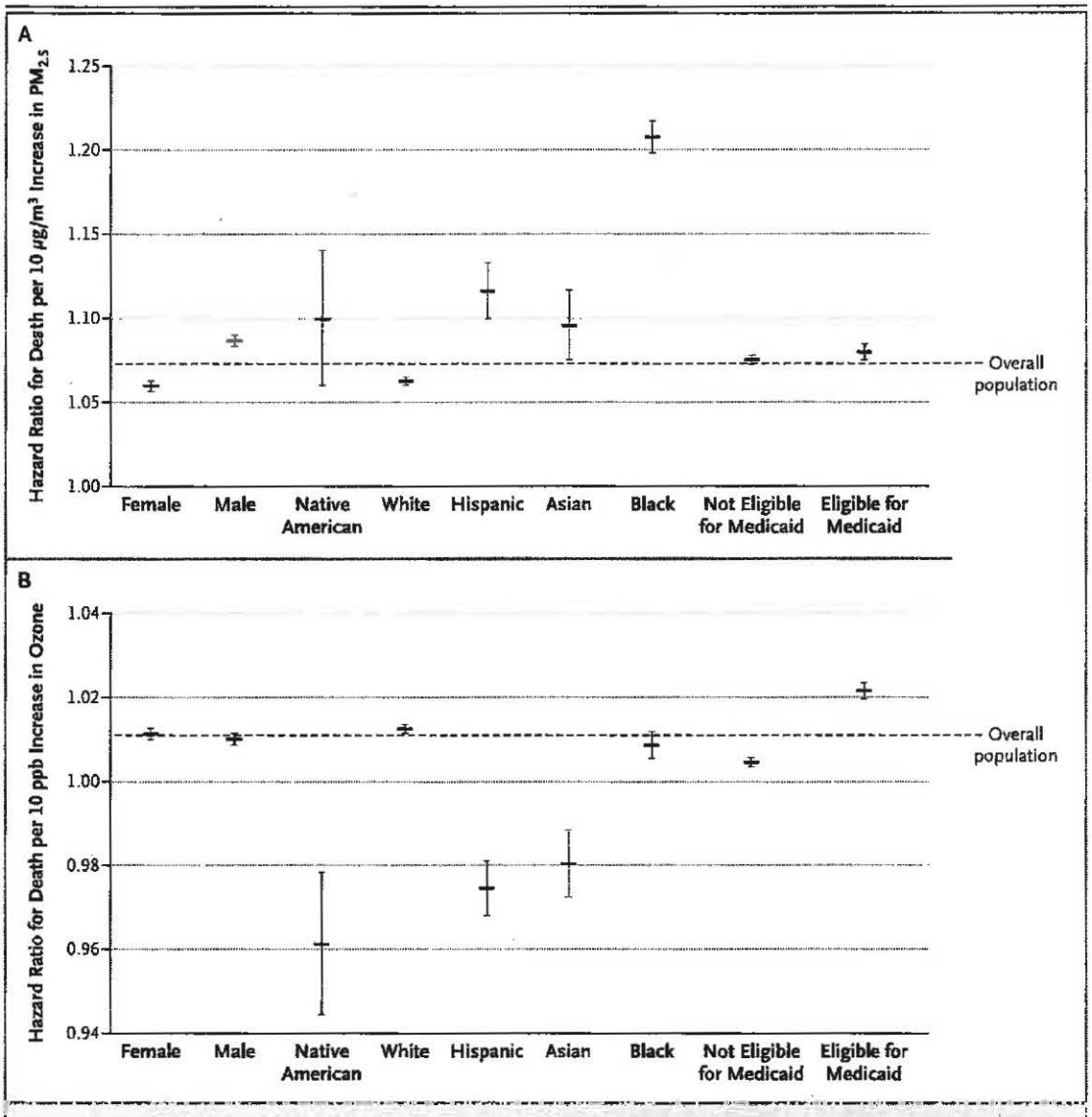

Figure 2. Risk of Death Associated with an Increase of 10 μg per Cubic Meter in $PM_{2.5}$ Concentrations and an Increase of 10 ppb in Ozone Exposure, According to Study Subgroups.

Hazard ratios and 95% confidence intervals are shown for an increase of 10 μg per cubic meter in $PM_{2.5}$ and an increase of 10 parts per billion (ppb) in ozone. Subgroup analyses were conducted by first restricting the population (e.g., considering only male enrollees). The same two-pollutant analysis (the main analysis) was then applied to each subgroup. Numeric results are presented in Tables S3 and S4 in the Supplementary Appendix. Dashed lines indicate the estimated hazard ratio for the overall population.

tors, such as smoking and income, which could be important confounders. Still, our analysis of the MCBS subsample (Table S6 in the Supplementary Appendix) increased our level of confidence that the inability to adjust for these individual-level risk factors in the Medicare cohort did not lead to biased results (Section 5 in the Supplementary Appendix). In another study, we analyzed a similar Medicare subsample with detailed individual-level data on smoking, BMI, and many other potential confounders linked to Medicare claims.[23] In that analysis, we found that for mortality and hospitalization, the risks of exposure to $PM_{2.5}$ were not sensitive to the additional control of individual-level variables that were not available in the whole Medicare population.

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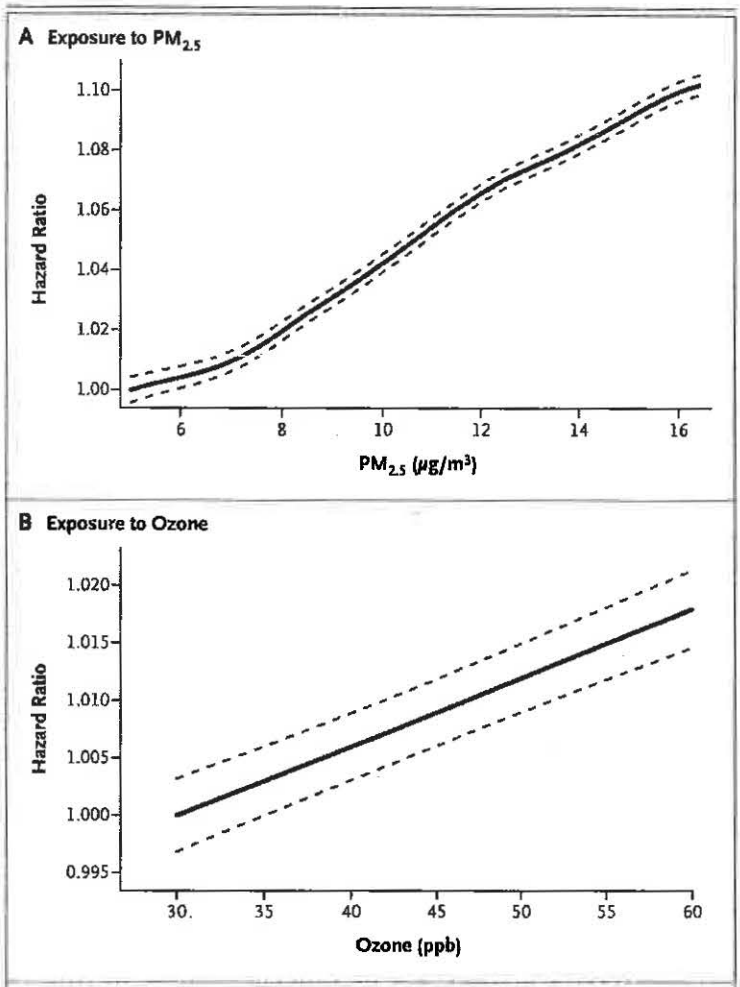

Figure 3. Concentration–Response Function of the Joint Effects of Exposure to $PM_{2.5}$ and Ozone on All-Cause Mortality.

A log-linear model with a thin-plate spline was fit for both $PM_{2.5}$ and ozone, and the shape of the concentration-response surface was estimated (Fig. S8 in the Supplementary Appendix). The concentration–response curve in Panel A was plotted for an ozone concentration equal to 45 ppb. The concentration–response curve in Panel B was plotted for a $PM_{2.5}$ concentration equal to 10 μg per cubic meter. These estimated curves were plotted at the 5th and 95th percentiles of the concentrations of $PM_{2.5}$ and ozone, respectively. The complete concentration–response three-dimensional surface is plotted in Fig. S8 in the Supplementary Appendix.

We also found that our results were robust when we excluded individual and ecologic covariates from the main analysis (Fig. S2 and Table S2 in the Supplementary Appendix), when we stratified age at entry into 3-year and 4-year categories rather than the 5 years used in the main analysis (Fig. S3 in the Supplementary Appendix), when we varied the estimation procedure (by means of a generalized estimating equation as opposed to mixed effects) (Tables S3 and S4 in the Supplementary Appendix), and when we used different types of statistical software (R, version 3.3.2, vs. SAS, version 9.4). Finally, we found that our results were consistent with others published in the literature (Section 6 in the Supplementary Appendix).[5,17,24-28]

There was a significant association between $PM_{2.5}$ exposure and mortality when the analysis was restricted to concentrations below 12 μg per cubic meter, with a steeper slope below that level. This association indicated that the health-benefit-per-unit decrease in the concentration of $PM_{2.5}$ is larger for $PM_{2.5}$ concentrations that are below the current annual NAAQS than the health benefit of decreases in $PM_{2.5}$ concentrations that are above that level. Similar, steeper concentration-response curves at low concentrations have been observed in previous studies.[29] Moreover, we found no evidence of a threshold value — the concentration at which $PM_{2.5}$ exposure does not affect mortality — at concentrations as low as approximately 5 μg per cubic meter (Fig. 3); this finding is similar to those of other studies.[18,30]

The current ozone standard for daily exposure is 70 ppb; there is no annual or seasonal standard. Our results strengthen the argument for establishing seasonal or annual standards. Moreover, whereas time-series studies have shown the short-term effects of ozone exposure, our results indicate that there are larger effect sizes for longer-term ozone exposure, including in locations where ozone concentrations never exceed 70 ppb. Unlike the American Cancer Society Cancer Prevention Study II,[9,10] our study reported a linear connection between ozone concentration and mortality. This finding is probably the result of the interaction between $PM_{2.5}$ and ozone (Section 7 in the Supplementary Appendix). The significant, linear relationship between seasonal ozone levels and all-cause mortality indicates that current risk assessments,[31-33] which incorporate only the acute effects of ozone exposure on deaths each day from respiratory mortality, may be substantially underestimating the contribution of ozone exposure to the total burden of disease.

The enormous sample size in this study, which includes the entire Medicare cohort, allowed for unprecedented accuracy in the estimation of risks among racial minorities and disadvantaged subgroups. The estimate of effect size for $PM_{2.5}$ expo-

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sure was greatest among male, black, and Medicaid-eligible persons. We also estimated risks in subgroups of persons who were eligible for Medicaid and in whites and blacks alone to ascertain whether the effect modifications according to race and Medicaid status were independent. We found that black persons who were not eligible for Medicaid (e.g., because of higher income) continued to have an increased risk of death from exposure to $PM_{2.5}$ (Fig. S4 in the Supplementary Appendix). In addition, we found that there was a difference in the health effects of $PM_{2.5}$ exposure between urban and rural populations, a finding that may be due to compositional differences in the particulates (Table S3 Supplementary Appendix).

Although the Medicare cohort includes only the population of persons 65 years of age or older, two thirds of all deaths in the United States occur in people in that age group. Although our exposure models had excellent out-of-sample predictive power on held-out monitors, they do have limitations. Error in exposure assessment remains an issue in this type of analysis and could attenuate effect estimates for air pollution.[34]

The overall association between air pollution and human health has been well documented since the publication of the landmark Harvard Six Cities Study in 1993.[25] With air pollution declining, it is critical to estimate the health effects of low levels of air pollution — below the current NAAQS — to determine whether these levels are adequate to minimize the risk of death. Since the Clean Air Act requires the EPA to set air-quality standards that protect sensitive populations, it is also important to focus more effort on estimating effect sizes in potentially sensitive populations in order to inform regulatory policy going forward.

The views expressed in this article are those of the authors and do not necessarily represent the official views of the funding agencies. Furthermore, these agencies do not endorse the purchase of any commercial products or services related to this publication.

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No potential conflict of interest relevant to this article was reported.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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Joel Paulson

From: woody <bronco60@comcast.net>
Sent: Wednesday, July 26, 2017 3:11 PM
To: Joel Paulson
Subject: North 40 comment

Dear Mr. Paulson, Town Staff and Town Council Members,

This letter is to put my public comment of July 24th into sharper detail. As then, I will focus only on sections "a" and "e" of the Town's findings in denying the developers' application.

I submit that the legal decision of Judge Takaichi correctly interprets the intent of Government Code 65589.5(j), but incorrectly interprets the facts of the case. His error, as articulated below, led to the inappropriate application of Government Code 65589's additional provisions in subsection (j).

Subsection (j) is inapposite with regard to point "a", page 8 and 9 of the Decision. It does not come into play because the Town, in denying the application, did not seek to reduce the number of housing units. Rather, it sought a better distribution of the units across the property in complete accord with the provisions of the Specific Plan and the many public sessions that went into its decision. The Specific Plan envisions housing units in the Northern District. With respect to these, the court decision states that the Specific Plan "provides no specifics or guidance. There is no specific allocation requirement in the Specific Plan. This is a discretionary determination of the Town of a subjective policy". The court erred in not recognizing that the point of Subsection (j) is its application to the number of housing units, not their "allocation". The Town did not seek to reduce this number. The "allocation" of the housing has nothing to do with the meaning of the word "density" in Subsection (j) and is therefore irrelevant.

With regard to the Town's point "e", page 11 of the Decision, Subsection (j) is equally not pertinent because, here again, the Town does not seek to reduce the number of housing units. That should have ended the matter but the court proceeded to articulate agreement with the Town's point, writing that "(T)here is substantial evidence to support Respondent's finding that the residential housing component of the proposed plan is inconsistent with the Specific Plan goals and policies as expressed in section 2.4 and appendix C". Inexplicably, the Court then stated, "This is a discretionary determination of a subjective policy which the record indicates is supported by substantial evidence". If the word "objective" means no personal or subjective judgment by a public official, and is defined in the Random House Dictionary as: "1. Something that one's efforts are intended to attain or accomplish: purpose; goal; target", point "e" is as "objective" as can be expressed in the English language. The Court should have stated, "This is a *factual* determination of an *objective* policy which the record indicates is supported by substantial evidence". (Italicized words substituted).

In conclusion, it is important to remember that the North 40 Specific Plan is consistent with the Town General Plan and, just as when a court seeks to determine the legislative intent of a statute it reviews the history behind the words, so, here, the deliberations and discussions that gave rise to the provisions of the Specific Plan may be considered in determining the question of "objectivity".

Respectfully submitted,
Woody Nedom
16280 Azalea Way
Los Gatos, CA 95032
408 356-7956

Joel Paulson

From: Sam Weidman <samweidman@sbcglobal.net>
Sent: Thursday, July 27, 2017 10:56 PM
To: Joel Paulson; Laurel Prevetti; Marico Sayoc; Rob Rennie; BSpector; Steven Leonardis; Marcia Jensen
Subject: Traffic Congestion on Lark and Los Gatos Blvd due to North 40 Phase I

Good Evening Town Council Members and Staff

In studying the proposed traffic "improvements" for the North 40 Phase I on Lark Ave and Los Gatos Blvd., it is my opinion that a serious congestion problem will exist throughout the day on Los Gatos Blvd and Lark Ave if the North 40 Phase I Application is approved as it currently is planned due to the new signal light to be installed at Neighborhood Street.

Anyone in the North 40 Phase I area wanting to travel in either direction (north or south) on Los Gatos Blvd to go to 85, Good Samaritan, Nob Hill, Lunardi's, Trader Joes or any of the businesses south on the Blvd are going to have to leave the site via Neighborhood Street. This has the potential for causing a backup into the site waiting to enter the flow of traffic onto Los Gatos Blvd. If they leave via "A" Street on Lark Ave, they are going to have to make a right turn only onto Lark Ave, go over Highway 17 and either make a U-Turn at Garden Hill Drive, Arroyo Grande Way or turn right onto Oka Road, find some place to get turned around (the parking lot on the north east corner makes a good spot) and then re-enter Lark Ave going east with the light. It makes a lot more sense to just go out Neighborhood Street.

If east bound traffic on Lark Ave that wants to turn north on LG Blvd begins to back up because the light at Neighborhood Street is backing up traffic on LG Blvd, I can see people turning left into the site on "A" Street off of Lark to pass through the project and come out on LG Blvd at Neighborhood Street (Thank You Waze). This will cause a lot of congestion in the North 40, especially around the Market Place. Three lanes from Lark Ave turning left onto LG Blvd is going to bunch up as soon as they make the turn because the left lane has to merge immediately with the middle lane which may get pushed into the right lane. While cars are merging they may not be paying attention to the fact that the traffic is stopping ahead because of the light at Neighborhood Street and there will probably be an increase in rear-end accidents.

My presentation at the Town Council meeting on Monday, 7/24/2017, showed that north bound traffic backs up from the light at Burton/Samaritan Drive all the way south to Office Depot during non-peak commute times with school not even in session. What do you think will happen when the distance from Lark Ave to the next signal light is cut in half by the signal light at Neighborhood Street? This traffic situation created by the North 40 development needs to be seriously considered to protect everyone using Lark Ave. and Los Gatos Blvd.

Respectfully

Sam Weidman

Executive Director
Amie Fishman

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July 27, 2017

The Honorable Marico Sayoc
The Honorable Rob Rennie
The Honorable Steve Leonardis
The Honorable Barbara Spector
The Honorable Marcia Jensen
c/o 110 E. Main Street
Los Gatos CA 95070

Dear Mayor Sayoc, Vice Mayor Rennie, and Council Members,

On behalf of the Non-Profit Housing Association of Northern California (NPH), I write again in strong support of the North 40 application and respectfully request that you approve the proposal on Tuesday, August 1.

NPH has closely followed the Town's Housing Element, North 40 Specific Plan, and the North 40 development application. We have attended and participated in the public process and were encouraged when the property was included in the Housing Element and when the Town approved - after years of public process - the North 40 Specific Plan. However, we were greatly disappointed when the project application was denied, and felt the unlawful nature of the reasoning for denial was further highlighted during the Specific Plan Amendment process – essentially that the Town's true desire is to spend endless years discussing potential plans, but has no interest in crafting a truly actionable plan nor approving any proposed development on the site.

After review of the Town's Reply Brief for the North 40 litigation, NPH has specific concerns with the Town's overall position, but most notably the argument that the reason for denial was a **lack of affordable housing** in the current plan.

As we discussed in our letter to the California Department of Housing and Community Development (HCD) and provided to the Town of Los Gatos, one of the most important tools jurisdictions have in creating affordable housing is an inclusionary housing ordinance. These ordinances are particularly important in high-cost areas like Los Gatos because they provide both land and - in some cases, like this one - additional subsidy to get the housing built. The North 40 project application includes a 100% affordable component with 49 units of Very Low Income and 1 unit of Moderate Income housing - units that might not otherwise be built because of the subsidy constraints in the broader environment.

As shown in the Town's recent history of affordable housing development, units at this level are the hardest to produce. According to data provided in the last two Housing Elements by the Town, only **two** housing units have been produced in Los Gatos at the VLI level in the last 15 years.

Table: New Construction Need vs. Housing Units Produced, 2002-2014[1]

Affordability	New Construction Need	Housing Units Produced
Very Low and below	199	2
Low	144	95
Moderate	177	9
Above Moderate	186	565
Total	**706**	**671**

Yet, last summer the Town chose to deny a project application with 49 VLI units – which under the current rate of production, would take **368 years to produce a comparable number of affordable units** in the Town (2 units ÷ 15 years = .133 units a year. 49 ÷ .133 = 368). Given these production figures, the Town's argument that a large reason for denial was a lack of affordability is frankly spurious and is further evidence that the Town is grasping for any and all reasons to wrongfully deny the project.

The Town's denial denigrates the value of the countless hours that the boards, commissions, council and other stakeholders invested to reach consensus in the creation of the specific plan. In addition, the denial flouts the intent and promises made to the State under Housing Element law.

Santa Clara County Superior Court Judge Drew Takaichi's ruling has given the Town a second chance to see this application for what it is: the result of a transparent and well-thought out process that has provided the Town a remarkable opportunity to approve a proposal with nearly 25 times more affordable units than the Town has produced in the last fifteen years. This, alongside the many additional concessions the developers have made, demonstrates that any attempts at further delay or denial are purely obstructionist in nature.

The unlawful denial of the application has already caused another year of delay for the project, including the 49 affordable homes that are desperately needed in the community. The Non-Profit Housing Association of Northern California strongly supports the North 40 project application and urges the Town Council to follow the law and approve it.

Sincerely,

Amie Fishman
Executive Director
Non-Profit Housing Association of Northern California (NPH)

[1] 2007-2014 Housing Element and 2015-2023 Housing Element.

From: Sam Weidman [mailto:samweidman@sbcglobal.net]
Sent: Thursday, July 27, 2017 2:03 PM
To: Joel Paulson; BSpector; Marico Sayoc; Rob Rennie; Steven Leonardis; Marcia Jensen; Laurel Prevetti
Subject: Conditions of Approval for North 40 Application

Los Gatos Town Council Members and Staff

If you do grant the current application for the North 40 Phase I, please consider adding the following Conditions of Approval:

1. Prior to issuance of the certificate of occupancy, the applicant shall submit a plan to the planning director for installing protective bollards at the new temporary raised waiting area for the temporary bus stop that will be directly across Los Gatos Blvd from Neighborhood Street and new left turn lanes. Upon approval of the plan by the planning director, the applicant will install the bollards to the satisfaction of the Town's traffic engineer and will bear the costs of its installation. The plan shall be designed to protect waiting or disembarked bus passengers from possible injury from any out of control southbound vehicles making a U-Turn to head north. These bollards will be in addition to the current plans showing proposed bollards on each of the corners at the entrance/exit to the project site at Neighborhood Street across from the proposed temporary bus stop.

2. The final plans submitted for approval by planning shall include open space for the Senior Affordable Housing. The open space must include a patio, porch, deck, balcony, yard, or shared entry porches or balconies and be available for private use by the tenants.

3. The applicant shall provide five years of irrigation for all of the trees planted along the Multi-Use path that will be installed along Los Gatos Blvd on the east side. Thereafter, the applicant shall be responsible for keeping the leaves swept up and removed from below the trees, and for landscape services to keep the trees trimmed, as needed. The Multi-Use path must be kept clear of debris on a daily basis. If the applicant chooses to make the tree maintenance part of the CC&Rs, it must submit for approval by the planning director a copy of the CC&R paragraph that addresses the tree maintenance.

Thank you in advance for your consideration.

Respectfully,

Sam and Lucille Weidman
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