

KEY FINDINGS

Health, Traffic, and Environmental Justice: a Health Impact Assessment of the Still/Lyell Freeway Channel in the Excelsior District

Issue	Findings ^a	Method
Traffic		
	The proportion of trucks and buses to overall traffic in areas where families live and children play exceeds 10% (similar to volumes at Highway 880 near the Port of Oakland). At the corner of Still & Lyell Streets, over 107 medium and big trucks pass in one hour.	Traffic counting
	In addition to heavy local traffic on Still and Lyell Streets, the Excelsior neighborhood is impacted by approximately 200,000 vehicles per day from Highway 280, more than 6,000 vehicles from Alemany Boulevard, and more than 13,000 vehicles from Mission Street.	Secondary data analysis ^b
	Of the 18 MUNI bus routes that serve the southeast part of San Francisco, 83% are diesel bus lines and 17% are electric lines.	PODER contact, SFMTA
	Project area residents documented the following negative health impacts of traffic in their community: idling trucks, garbage and debris, air and noise pollution, freeway noise, traffic congestion, concentration of gas stations, and parked commuter cars.	Community photography
Air Quality		
	41% of community survey participants reported smelling car, truck, or bus exhaust <u>on their block</u> in the last six months on at least a weekly basis (25% reported smelling it daily).	Community surveying ^c
	44% of community survey participants reported smelling car, truck, or bus exhaust in the places where they go to school, go to work, play in parks, or other places in their daily routine.	Community surveying ^c
	23% of Excelsior neighborhood residents live within 500 feet of busy roadways (100,000+ vehicles/day), a significant source of air pollution, compared to only 4% citywide.	Secondary data analysis ^d
	Over 20% of community survey participants reported smelling car, truck, or bus exhaust <u>in their homes</u> in the last six months.	Community surveying ^c
	Roadway and freeway traffic modeling results in PM 2.5 (i.e., fine particulate matter) exposures 0.2 -0.4 ug/m3 greater than ambient levels. These elevated levels produce significant increased risk of heart, lung and circulatory diseases for nearby families.	Air quality modeling ^{e,j}
	A 0.2 ug/m3 increase in PM2.5 affecting a population of 100,000 adults would result in about 20 extra premature deaths per year. A 0.2 ug/m3 increase in PM2.5 would also result in ~160 days per year with respiratory symptoms, 108 days with work limitations, and 577 days with minor activity limitations in the same adult population.	Secondary data ⁱ
	Truck traffic on Lyell and Still Streets is the greatest contributor to PM 2.5 exposure on those streets, based on community traffic counts.	Air quality modeling, ^e Traffic counting
Environmental Noise		
	Neighborhood noise levels are in excess of those that the San Francisco General Plan would identify as acceptable for new residential construction.	Noise modeling and monitoring ^g
	Areas at the end of Cayuga near Highway 280 were measured in excess of 70 Leq (equivalent constant decibel levels) due almost exclusively to freeway traffic.	Noise modeling and monitoring ^g
	The project site is highly impacted by excessive noise in excess of 70 Ldn (day-night average sound level), capable of increasing blood pressure, elevating cortisol level, and generally increasing stress response and associated heart disease, in addition to annoyance, sleep disturbance, and reduced learning in children.	Noise modeling and monitoring ^g
	Over 35% of community survey participants reported that traffic noise - from MUNI buses, trucks, the 280 freeway, and neighborhood traffic - interferes with the sleep of people in their household. An additional 37% reported the noise used to disturb their sleep, but they'd gotten used to it.	Community surveying ^c
Pedestrian Hazards		
	27% of community survey participants reported either a household member or neighbor had been hit by a vehicle while walking in the neighborhood.	Community surveying ^c
	In the project area from 2001 -2005, there were 55 motor vehicle collisions with pedestrians that resulted in the person walking being injured or killed. Only 15 of the 176 San Francisco census tracts had more motor vehicle collisions resulting in pedestrian injury or death during that period (totals ranging from 0 - 191 collisions).	Secondary data analysis ^d
	Of those with children, 57% of community survey participants reported that neighborhood traffic dangers affect their willingness to let their children walk or play outside.	Community surveying ^c
The Community		
	From 1960 to 2000, the areas close to the freeway have transformed from majority white to majority people of color.	U.S. Census analysis ^h
	The proportion of foreign-born population in the Excelsior area is 52% compared to 37% citywide.	U.S. Census analysis ^h
	From 1960 to 2000, the project area, and areas close to the freeway, has had a dramatic increase in the number of children living there.	U.S. Census analysis ^h
	Two-thirds of community survey participants came from an immigrant experience; over 75% spoke a language other than English at home.	Community surveying ^c
	From 1960 to 2000, the population in the Southeast has concentrated more and more closer to the freeway.	U.S. Census analysis ^h
	Proportion of families with children under 18 years old in the Excelsior is 45%.	Secondary data analysis ^d
	Of the people who live within 500 feet of the 280 & 101 freeways, 42% are Asian, 25% are Latinos, and 11 % are African American.	Secondary data analysis ⁱ
	The 280 freeway has become a real barrier, or color line, because the dynamics on both sides of the freeway are very different.	U.S. Census analysis ^h
Community Health Outcomes		
	Top neighborhood killers and causes of illness are ischemic heart disease, stroke, lung cancer and other cancers, and lung disease (chronic obstructive pulmonary disease, COPD) based on 2000-2001 death data, all of which have an increased risk from long-term exposure to air pollution as well as noise. In addition, traffic collisions make it into the top 10 causes of death and injury.	Secondary data analysis ⁱ
	In 2006, the neighborhood also had the highest number of Emergency Department visits for asthma of all San Francisco neighborhoods (n=266).	Secondary data analysis ^k
	The neighborhood had the highest overall number of asthma hospitalizations of all San Francisco neighborhoods, with 538 hospitalizations with asthma as the principal diagnosis from 2001-2006.	Secondary data analysis ^k
Community Solutions		
	Almost 50% of community survey participants reported that reducing the amount of trucks that pass through our neighborhood would improve our community's health a lot.	Community surveying ^c
	69% of community survey participants reported that ensuring our children have safe routes to and from school would improve our community's health a lot. Among families with children, 82% felt that safe routes to and from school would improve our community's health a lot.	Community surveying ^c
	More than 75% of community survey participants reported that having non-polluting buses would improve our community's health a lot, and among those that reported having smelled exhaust on their block in the past six months, 83% believed that having non polluting buses would improve our community's health a lot.	Community surveying ^c
	More than 50% of community survey participants reported that improving our access to health care services would improve our community's health a lot.	Community surveying ^c
	More than 50% of community survey participants reported that building a sound wall next to the freeway would improve our community's health a lot.	Community surveying ^c

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SFMTA: San Francisco Municipal Transportation Agency

a The geographic area analyzed for the community varies based on the research method employed - largely informed by the availability of aggregated secondary data. The area level analyzed is noted by superscript next to the method used, as detailed in the "Method" column. These findings should therefore be interpreted with caution to the fact that the geographic definition of the community changes based on the research method.

b Data obtained from the California Department of Transportation, Traffic Data Branch (2007) and available at: <http://traffic-counts.dot.ca.gov/> and SF-CHAMP, the San Francisco County Chained Activity Modeling Process, a transportation forecasting model developed by the San Francisco County Transportation Authority (SFCTA) for use in various land use and transportation planning applications. Model documentation can be downloaded from: www.sfcta.org.

c Community surveying targeted a 7-census block area. The completion rate was over 35% (52/146 occupied housing units per U.S. Census 2000 data).

d Data is for the Excelsior Planning Neighborhood, and was obtained from the Healthy Development Measurement Tool, a comprehensive evaluation metric to consider health needs in urban development developed by the San Francisco Department of Public Health and available online at: http://www.thehdmtool.org/master_list.php.

e The modeled area includes the location of the freeway as well as the one-way truck and traffic feeder routes for the Still/Lyell corridor and Highway 280 underpass.

f CARB (California Air Resources Board). 2002. Staff Report: Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates. Available: <http://www.arb.ca.gov/research/aaqs/std-rs/pm-final/pm-final.htm>), cited in Bhatia R, Rivard T. Assessment and Mitigation of Air Pollutant Health Effects from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review. San Francisco Department of Public Health. 2008. Available at: http://www.sfphe.org/publications/Mitigating_Roadway_AQLU_Conflicts.pdf.

g Data is aggregated for the project census tract. Pedestrian injury collision data obtained from the California Highway Patrol, Accident Investigation Unit, Statewide Integrated Traffic Records System (SWITRS). Additional information available online at: <http://www.chp.ca.gov/switrs/index.html>.

h Data is aggregated for the project census tract. Data for 1960 - 2000 obtained from: Minnesota Population Center. National Historical Geographic Information System: Pre-release Version 0.1. Minneapolis, MN: University of Minnesota 2004.

i Analysis of 2000 census data provided by PODER, and conducted by the Environmental Law & Justice Clinic.

j Data is for the Excelsior community zip code, 94112. This data was accessed from the San Francisco Burden of Disease and Injury website, available online at <http://www.healthysf.org/bdi/outcomes/index.html>.

k Data is for the Excelsior community zip code, 94112. Asthma hospitalization and emergency room data by resident zip code for San Francisco obtained by request California Breathing, a program in the California Department of Public Health's Environmental Health Investigations Branch. Additional information regarding asthma data can be accessed at: http://www.californiabreathing.org/index.php?option=com_content&task=view&id=89&Itemid=270.