



Zoning Text Amendment (ZTA) No. 12-07, Special Exceptions – Automobile Filling Station

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Description

ZTA 12-07 revises the special exception standards for the approval of an automobile filling station by requiring that any new automobile filling station designed to dispense more than 3.6 million gallons per year to be located at least 1,000 feet from any public or private school or any park, playground, or hospital, or other public use, or any use categorized as a cultural, entertainment and recreation use. The ZTA also recommends a specific lighting requirement that mirrors that of special exception proposals located in residential zones.

Summary

Staff does not recommend approval of ZTA 12-07. The existing special exception process provides adequate standards and requirements to address issues that potentially could impact properties near a proposed gas station. The public input requirement of the special exception process further provides opportunity to address concerns unique to a particular site.

If the County Council decides to approve ZTA 12-07, staff recommends that the Council:

- Define large gas stations by establishing a maximum number of pumps versus the “gallons per year” gauge as depicted in the ZTA
- Establish a distance separation of 300 feet from the impacted uses versus the 1,000 feet requirement as proposed.
- Decide from where the distance is measured--from the fence line, special exception area, pump islands, or canopy. Staff recommends that the measurement be taken from the canopy.
- Delete the phrase “or any use categorized as a cultural, entertainment and recreation use” (as it pertains to requiring a 1,000 foot distance from a gas station) under Section 59-G-2.06(b). The inclusion of this phrase unnecessarily broadens the scope of the distance separation from certain uses in the land use table such as indoor theatres, indoor rifle or pistol ranges and private clubs and service organizations-some of which also require special exception approval.

Currently, an automobile filling station is allowed in the C-1, C-2, C-3, C-4 and C-6 Commercial zones, a number of industrial zones (I-1, I-2, I-4 and LSC zones), most CBD zones, the TS-M, MXTC, TOMX 2 and CR zones only through approval of a special exception application by the Board of Appeals. For the underlying C-1 and C-2 zones in the Takoma Park/East Silver Spring Commercial Revitalization Overlay Zone, the use is allowed by special exception only if it does not adjoin or confront land in a residential zone. Approval of ZTA 12-07 would impact the application of any proposed new automobile filling station in any of these zones.

Analysis

Special Exception Provisions

Inherent/Non-inherent Effects

The standard of evaluation for a special exception requires consideration of the inherent and non-inherent adverse effects on the nearby properties and general neighborhood where the use is proposed. Inherent adverse effects are the harmful effects caused by the physical and operational characteristics necessarily associated with the particular use irrespective of the size or scale of operations. Non-inherent adverse effects are any harmful effects caused by physical and operational characteristics not necessarily inherently associated with the particular special exception use, or adverse effects created by unusual characteristics of the site.

Any analysis of inherent and non-inherent adverse effects must first establish what physical and operational characteristics are necessarily associated with a particular special exception use. As established by previous automobile filling station cases, the inherent physical and operational characteristics necessarily associated with an automobile filling station include: (1) fuel pumps; (2) a structure providing storage space and shelter for employees; (3) traffic generated by customers, employees, and fuel delivery trucks; (4) potential for queuing vehicles on site; (5) noise associated with the use; (6) signage advertising gas products and prices; (7) outdoor lighting; (8) longer hours of operation than the average business establishment; (9) environmental impacts that may include fumes from idling vehicles and potential spillage of automobile fluids; and (10) underground fuel storage tanks.

Any adverse effects of a proposed automobile filling station that result from the above ten characteristics are considered inherent adverse effects. Alone, inherent adverse effects are not sufficient to constitute a denial. On the other hand, adverse effects that are not characteristic of an automobile filling station use, or inherent effects that are exacerbated due to distinctive site characteristics, are considered non-inherent adverse effects, which may be sufficient to result in the denial of the special exception application.

General Conditions of Approval for Special Exceptions/Specific SE Standards and Requirements

An applicant for a special exception must demonstrate that the general and specific standards and requirements are satisfied. These standards include: minimum setback requirements for gas pumps and queuing of vehicles; maintaining harmony with the general character of the adjacent neighborhoods through consideration of design, scale and bulk of any proposed new structures, intensity and character of activity, traffic and parking conditions; and establishing abatement measures to minimize or eliminate

objectionable noise, vibrations, fumes, odors, dust, illumination, glare, or physical activity at the subject site. When an automobile filling station abuts a residential zone or institutional premises not recommended for reclassification to commercial or industrial zone in an adopted master plan and is not effectively screened by a natural terrain feature, additional screening measures are required.

The special exception process also helps mitigate impacts concerning building/gas pump location and overall site design *on a case by case basis*; a process particularly paramount when an automobile filling station is proposed in the vicinity of residential property.

Neighborhood Need

Under § 59-G-1.24, in addition to the findings and requirements of Article 59-G, an automobile filling station may only be granted when the Board, the Hearing Examiner, or the District Council, as the case may be, finds from a preponderance of the evidence of record that a need exists for the proposed use to serve the population in the general neighborhood, considering the present availability of identical or similar uses to that neighborhood.

Overall, staff believes that the existing special exception review process provides the site by site analysis provisions and public review opportunities necessary to address the appropriateness of permitting an automobile filling station at a proposed location.

Specific ZTA Language as Proposed

Under Section 59-G-2.06(b) the following language is proposed:

(b) *In addition, the following requirements must be [complied with] satisfied:*

(1) *After {effective date}, a new automobile filling station designed to dispense more than 3.6 million gallons per year must be located at least 1,000 feet from any public or private school or any park, playground, or hospital, or other public use, or any use categorized as a cultural, entertainment and recreation use.*

The 3.6 million gallons per year figure stems from the Environmental Protection Agency's (EPA) School Siting Guidelines (Guidelines) and the 2005 California Air Resources Board's (CARB) report "Air Quality and Land Use Handbook: A Community Health Prospective." Both the Guidelines and CARB report define a "large gasoline dispensing facility" as a facility with a throughput of 3.6 million gallons per year or greater. The CARB report also recommends avoiding the siting of new sensitive land uses within 300-feet of a large gasoline dispensing facility. Sensitive land uses include: residences (e.g., houses, apartments, and senior living), schools, day care centers, playgrounds and medical facilities (e.g., hospitals, convalescent homes, and health clinics).

The 1,000 feet distance proposed in the ZTA is premised on the Environmental Protection Agency's (EPA) School Siting Guidelines. The purpose of the guidelines is to recommend that if a school is considering locating within 1,000 feet of certain uses, environmental screening should be done to assess the risks associated with the location. The Guidelines state repeatedly that they are not intended as a

ban on certain uses within a specified distance of a school but rather as a screening tool. Once an environmental assessment has been conducted, if no environmental concern exists, the school may proceed at the given location.

Conclusion

Staff does not recommend approval of the approach of this ZTA and therefore recommends denial of ZTA 12-07. The existing special exception process provides adequate standards and requirements to address issues that potentially could impact properties near a proposed gas station. The public input requirement of the special exception process further provides opportunity to address concerns unique to a particular site.

Staff does not believe that use of a blanket dispensing measure of “gallons per year” is the right approach when analyzing a special exception for an automobile filling station. If the County Council decides to approve ZTA 12-07, staff recommends that “large gasoline dispensing facilities” be captured by defining a maximum number of pumps associated with the facility. This standard would be simpler to enforce and would not necessitate negotiation about what a station is designed to dispense.

Staff further believes that a distance separation of 1,000 feet from the impacted uses proposed in the ZTA is too large. If the County Council decides to approve ZTA 12-07, staff recommends that the minimum distance be reduced to 300 feet based on the recommendation of the CARB report. The County Council should also decide from where the distance is measured--from the fence line, special exception area, pump islands, or canopy. Staff recommends that the measurement be taken from the canopy. Under Section 59-G-2.06(b), staff also recommends deletion of the phrase “or any use categorized as a cultural, entertainment and recreation use” (as it pertains to requiring a 1000 foot distance from a gas station). The inclusion of this phrase unnecessarily broadens the scope of the distance separation from uses in the land use table such as indoor theatres, indoor rifle or pistol ranges and private clubs and service organizations-some of which also require special exception approval. Attachment 3 depicts land use parcel designations and places of interest that typically fit the categories as stated in the ZTA that are located within 300 feet and 1,000 feet of existing gas stations in the County.

GR/MD/kr

ATTACHMENTS

1. ZTA 12-07 as introduced
2. Tables and Excerpts from the EPA School Siting Guidelines & the 2005 California Air Resources Board’s (CARB) report “Air Quality and Land Use Handbook: A Community Health Prospective”
3. GIS Info on Parcels and land uses located within 300 feet & 1000 feet of a gas station in Montgomery County

ATTACHMENT 1

Zoning Text Amendment No.: 12-07
Concerning: Special Exceptions –
Automobile Filling Station
Draft No. & Date: 1 – 4/10/12
Introduced: April 17, 2012
Public Hearing:
Adopted:
Effective:
Ordinance No.:

**COUNTY COUNCIL FOR MONTGOMERY COUNTY, MARYLAND
SITTING AS THE DISTRICT COUNCIL FOR THAT PORTION OF
THE MARYLAND-WASHINGTON REGIONAL DISTRICT WITHIN
MONTGOMERY COUNTY, MARYLAND**

By: Councilmembers Elrich, Ervin, Navarro, and Rice

AN AMENDMENT to the Montgomery County Zoning Ordinance to:

- revise the special exception standards for the approval of an automobile filling station.

By adding the following sections of the Montgomery County Zoning Ordinance, Chapter 59 of the Montgomery County Code:

DIVISION 59-G-2. SPECIAL EXCEPTIONS—STANDARDS AND REQUIREMENTS.
Section 59-G-2.06. Automobile filling station.

EXPLANATION: ***Boldface** indicates a Heading or a defined term.*
Underlining indicates text that is added to existing law by the original text amendment.
[Single boldface brackets] indicate text that is deleted from existing law by original text amendment.
Double underlining indicates text that is added to the text amendment by amendment.
[[Double boldface brackets]] indicate text that is deleted from the text amendment by amendment.
** * * indicates existing law unaffected by the text amendment.*

ORDINANCE

The County Council for Montgomery County, Maryland, sitting as the District Council for that portion of the Maryland-Washington Regional District in Montgomery County, Maryland, approves the following ordinance:

1 **Sec. 1. DIVISION 59-G- 2 is amended as follows:**

2 **DIVISION 59-G-2. SPECIAL EXCEPTIONS—STANDARDS AND**
3 **REQUIREMENTS**

4 * * *

5 **Sec. 59-G-2.06. Automobile filling stations.**

6 (a) In addition to findings required in division 59-G-1, [An] an automobile
7 filling station may be permitted[, upon a finding , in addition to findings
8 required in division 59-G-1,] if the Board of Appeals finds that:

9 (1) [The] the use will not constitute a nuisance because of noise, fumes,
10 odors, or physical activity in the location proposed[.];

11 (2) [The] the use at the proposed location will not create a traffic hazard
12 or traffic nuisance because of its location in relation to similar uses,
13 necessity of turning movements in relation to its access to public
14 roads or intersections, or its location in relation to other buildings or
15 proposed buildings on or near the site and the traffic pattern from such
16 buildings, or by reason of its location near a vehicular or pedestrian
17 entrance or crossing to a public or private school, park, playground, or
18 hospital, or other public use or place of public assembly[.]; and

19 (3) [The] the use at the proposed location will not adversely affect nor
20 retard the logical development of the general neighborhood or of the
21 industrial or commercial zone in which the station is proposed,
22 considering service required, population, character, density, and
23 number of similar uses.

24 (b) In addition, the following requirements must be [complied with] satisfied:

25 (1) After {effective date}, a new automobile filling station designed to
26 dispense more than 3.6 million gallons per year must be located at
27 least 1,000 feet from any public or private school or any park,

28 playground, or hospital, or other public use, or any use categorized as
29 a cultural, entertainment and recreation use.

30 [(1)](2) When such use abuts a residential zone or institutional premises
31 not recommended for reclassification to commercial or industrial zone
32 on an adopted master plan and is not effectively screened by a natural
33 terrain feature, the use [shall] must be screened by a solid wall or a
34 substantial, [sightly,] solid fence, not less than 5 feet in height,
35 together with a 3-foot planting strip on the outside of such wall or
36 fence, planted in shrubs and evergreens. Location, maintenance,
37 vehicle sight distance provisions, and advertising pertaining to
38 screening [shall be as provided for in article] must satisfy Article 59-
39 E. Screening [shall] must not be required on street frontage.

40 [(2)](3) Product displays, parked vehicles, and other obstructions
41 [which] that adversely affect visibility at intersections or to station
42 driveways are prohibited.

43 [(3)](4) Lighting [is] must not [to] reflect or cause glare into any
44 residential zone. Lighting levels along the side and rear lot lines
45 adjacent to a residential zone must not exceed 0.1 footcandles.

46 [(4)](5) When such use occupies a corner lot, the ingress or egress
47 driveways [shall] must be located at least 20 feet from the intersection
48 of the front and side street lines of the lot as defined in [section]
49 Section 59-A-2.1, and such driveways [shall] must not exceed 30 feet
50 in width[; provided, that in areas where no master plan of highways
51 has been adopted, the street line shall be considered to be at least 40
52 feet from the center line of any abutting street or highway].

53 [(5)](6) Each gasoline pump or other service appliance must be located
54 on the lot at least 10 feet behind the building line; and all service,

55 storage, or similar activities in connection with the use must be
56 conducted entirely within the building. There must be at least 20 feet
57 between driveways on each street, and each driveway must be
58 perpendicular to the curb or street line.

59 [(6)](7) Light automobile repair work may be done at an automobile
60 filling station[; provided, that no] but major repairs, spray paint
61 operation or body [or] and fender repair [is permitted] are prohibited
62 uses.

63 [(7)](8) Vehicles [shall not] must be parked [so as to overhang]
64 completely off of the public right-of-way.

65 [(8)](9) In a C-1 zone, an automobile, light truck₂, and light trailer rental,
66 as defined in [section] Section 59-G-2.07, and in a C-2 zone, an
67 automobile, truck₂, and trailer rental lot, as defined in [section] Section
68 59-G-2.09, may be permitted as a part of the special exception[,
69 subject to the provisions set forth for such uses in] if the requirements
70 of this section are satisfied. In addition, a car wash with up to 2 bays
71 may be allowed as an accessory use as part of the special exception.

72 [(9)](10) In a Rural Village Overlay Zone₂, the following additional
73 standards apply for new development:

- 74 (A) Car wash is prohibited.
- 75 (B) Pump canopies must not exceed 35 feet in height.
- 76 (C) Any structure approved for the use must not exceed the scale
77 and bulk of existing commercial structures in the village.

78
79 **Sec. 2. Effective date.** This ordinance becomes effective 20 days after the
80 date of Council adoption.

81

82 This is a correct copy of Council action.

83

84 _____

85 Linda M. Lauer, Clerk of the Council

Exhibit 6: Screening Potential Environmental, Public Health and Safety Hazards

IMPORTANT: This table is intended to assist with the initial screening of candidate locations but is NOT a substitute for case- and site-specific evaluation of potential risks and hazards. It is intended to be used in conjunction with the example Environmental Review Process (see Section 5) and Evaluating Impacts of Nearby Sources of Air Pollution (see Section 6). For more information on typical environmental hazards that may be encountered during the school siting process, see the Quick Guide to Environmental Issues in Section 8). Existing applicable federal, state, tribal or local statutes, ordinances, codes or regulations take precedence over the recommendations contained in this table. Users should check with state, tribal and local authorities for applicable requirements or other recommendations.

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Onsite buildings or structures (including all leased space)	<ul style="list-style-type: none"> All onsite or adjacent buildings/structures slated for reuse, renovation or demolition. 	<ul style="list-style-type: none"> Legacy contaminants in existing structures including lead and other heavy metals, asbestos, PCBs, vapor intrusion/(VOCs), mold, radon, pesticides, pests For existing school buildings, chemicals from laboratory, art, shop, drama, maintenance, cleaning, grounds Structure may not meet current building codes (e.g., for seismic activity) 	<ul style="list-style-type: none"> All onsite structures slated for demolition, reuse or renovation 	<ul style="list-style-type: none"> Evaluate for the presence of hazardous materials or conditions. Age, location, condition and type of structure, and the history of use are critical factors to consider in assessing potential risks. Identify all potential hazards and remediate as appropriate. 	<ul style="list-style-type: none"> Lead Heavy Metals Asbestos PCBs Vapor Intrusion/(VOCs) Mold Radon Mercury Pesticides Air Pollution Risk Assessment

⁵¹ See the Resources page of the guidelines website for links related to the topics listed under the 'Additional Information.' (www.epa.gov/schools/siting/resources)

School Siting Guidelines

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
<ul style="list-style-type: none"> High-traffic roads and highways 	<ul style="list-style-type: none"> High-traffic roads or truck traffic. 	<ul style="list-style-type: none"> Air pollution Noise Accidental releases/spills of hazardous chemicals Pedestrian and bike safety 	<ul style="list-style-type: none"> Identify and evaluate all high-traffic roads and highways within ~½ mile Roads farther away with a high likelihood of accidental releases should also be considered 	<ul style="list-style-type: none"> In general, air pollutant concentrations will be highest closer to the source, decreasing with distance from the road. Many factors affect the magnitude and extent of impacts, so the potential variables and mitigation options described in Exhibit 5 should be evaluated. Consider additional mitigation strategies for locations near high-traffic roads. Also, consider potential adverse consequences related to inability of students to walk/bike to school, etc. 	<ul style="list-style-type: none"> Roads Air Pollution Noise Risk Assessment Water
<ul style="list-style-type: none"> Distribution centers, bus terminals, bus garages and truck-stops 	<ul style="list-style-type: none"> Facilities with more than 100 trucks/buses per day, or more than 40 refrigerated trucks per day. 	<ul style="list-style-type: none"> Air pollution, including diesel emissions Soil contamination Ground water contamination Surface water contamination Vapor intrusion Heavy truck or bus traffic 	<ul style="list-style-type: none"> Identify and evaluate all major distribution centers within ~½ mile Centers farther away with a high likelihood of accidental releases should also be considered 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. 	<ul style="list-style-type: none"> Risk Assessment Maps and Mapping Vapor Intrusion/ (VOCs)

School Siting Guidelines

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Gas stations and other fuel dispensing facilities	<ul style="list-style-type: none"> Large gas station dispense more than 3.6 million gallons per year. 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Vapor intrusion into structures Heavy vehicular traffic 	<ul style="list-style-type: none"> Identify and evaluate gas stations and other fuel dispensing facilities within ~1,000 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with state, tribal and local authorities for applicable requirements. Evaluate for spills, leaking underground storage tanks, potential air emissions. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping Underground Storage Tanks Vapor Intrusion/ (VOCs)
Dry cleaners	<ul style="list-style-type: none"> Facilities using perchloroethylene or similarly toxic chemicals. 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Vapor intrusion into structures 	<ul style="list-style-type: none"> Identify and evaluate dry cleaning operations within ~1,000 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with state, tribal and local authorities for applicable requirements. Consult with local environmental agencies to determine locations with high concentrations. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping Vapor Intrusion/ (VOCs)

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Other area/small sources	<ul style="list-style-type: none"> Auto body shops, furniture manufacturing and repair, wood product manufacturing or processing; printing, electronics and chip manufacturing; charbroilers, commercial sterilization, back-up generators; small neighborhood metal platers 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Surface water contamination Odors Vapor intrusion into structures 	<ul style="list-style-type: none"> Identify and evaluate other small sources within ~1,000 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with local health and/or environmental agencies to determine locations with high concentrations. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping
Large agricultural growing operations	<ul style="list-style-type: none"> Operations employing aerial pesticide spraying 	<ul style="list-style-type: none"> Air pollution (from volatilization and drift) Soil contamination Ground water contamination Surface water contamination 	<ul style="list-style-type: none"> Identify and evaluate all large agricultural growing operations within ~3 miles 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. 	<ul style="list-style-type: none"> Air Pollution Risk Assessment Maps and Mapping Water
Large concentrated animal feeding operations	<ul style="list-style-type: none"> Animal feeding operations 	<ul style="list-style-type: none"> Air pollution Soil contamination Ground water contamination Surface water contamination Odors 	<ul style="list-style-type: none"> Identify and evaluate all animal feeding operations within ~1 – 3 miles 	<ul style="list-style-type: none"> Evaluate on a case- and site-specific basis. See Exhibit 5 for potential variables and mitigation options. Consult with local health and/or environmental agencies to determine locations with high concentrations. 	<ul style="list-style-type: none"> Concentrated Animal Feeding Operations Air Pollution Risk Assessment Maps and Mapping Water

School Siting Guidelines

Feature/Land Use	Description	Potential Hazard(s)	Recommendations		Additional Information ⁵¹
			Screening Perimeter	Evaluation	
Power lines	<ul style="list-style-type: none"> High voltage power lines more than 50 KV. 	<ul style="list-style-type: none"> Exposure to electromagnetic fields Safety concerns if power lines fall 	<ul style="list-style-type: none"> Identify and evaluate all high voltage power lines within ~500 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Consult with state, tribal and/or local authorities for requirements. Variable, depending on voltage and if lines are above ground or below ground. 	<ul style="list-style-type: none"> Power Lines Electromagnetic Fields
Cellular phone towers	<ul style="list-style-type: none"> All cellular phone towers and antennas. 	<ul style="list-style-type: none"> Exposure to electromagnetic fields Fall distance of towers 	<ul style="list-style-type: none"> Identify and evaluate cell towers within ~200 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> Review and apply Federal Communications Commission regulatory guidance. 	<ul style="list-style-type: none"> Electromagnetic Fields
Hazardous material pipelines	<ul style="list-style-type: none"> Oil pipelines, high pressure natural gas pipelines, chemical pipelines, high pressure water lines. 	<ul style="list-style-type: none"> Soil contamination Ground water contamination Accidental release/spills of hazardous materials Fire/heat from flammable fuels Flooding/erosion from water Explosion hazard 	<ul style="list-style-type: none"> Identify and evaluate hazardous material pipelines within ~1,500 feet of prospective school locations Applies to both onsite as well as adjacent or nearby locations 	<ul style="list-style-type: none"> No hazardous pipelines on site (except natural gas serving school). 	<ul style="list-style-type: none"> Pipelines Maps and Mapping Water

Table 1-1
Recommendations on Siting New Sensitive Land Uses
Such As Residences, Schools, Daycare Centers, Playgrounds, or Medical
Facilities*

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	<ul style="list-style-type: none"> • Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

***Notes:**

- These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

- Recommendations are based primarily on data showing that the air pollution exposures addressed here (i.e., localized) can be reduced as much as 80% with the recommended separation.
- The relative risk for these categories varies greatly (see Table 1-2). To determine the actual risk near a particular facility, a site-specific analysis would be required. Risk from diesel PM will decrease over time as cleaner technology phases in.
- These recommendations are designed to fill a gap where information about existing facilities may not be readily available and are not designed to substitute for more specific information if it exists. The recommended distances take into account other factors in addition to available health risk data (see individual category descriptions).
- Site-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses.
- This table does not imply that mixed residential and commercial development in general is incompatible. Rather it focuses on known problems like dry cleaners using perchloroethylene that can be addressed with reasonable preventative actions.
- A summary of the basis for the distance recommendations can be found in Table 1-2.

Table 1-2

Summary of Basis for Advisory Recommendations

Source Category	Range of Relative Cancer Risk ^{1,2}	Summary of Basis for Advisory Recommendations
Freeways and High-Traffic Roads	300 – 1,700	<ul style="list-style-type: none"> In traffic-related studies, the additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70% drop off in particulate pollution levels at 500 feet.
Distribution Centers ³	Up to 500	<ul style="list-style-type: none"> Because ARB regulations will restrict truck idling at distribution centers, transport refrigeration unit (TRU) operations are the largest onsite diesel PM emission source followed by truck travel in and out of distribution centers. Based on ARB and South Coast District emissions and modeling analyses, we estimate an 80 percent drop-off in pollutant concentrations at approximately 1,000 feet from a distribution center.
Rail Yards	Up to 500	<ul style="list-style-type: none"> The air quality modeling conducted for the Roseville Rail Yard Study predicted the highest impact is within 1,000 feet of the Yard, and is associated with service and maintenance activities. The next highest impact is between a half to one mile of the Yard, depending on wind direction and intensity.
Ports	Studies underway	<ul style="list-style-type: none"> ARB will evaluate the impacts of ports and develop a new comprehensive plan that will describe the steps needed to reduce public health impacts from port and rail activities in California. In the interim, a general advisory is appropriate based on the magnitude of diesel PM emissions associated with ports.
Refineries	Under 10	<ul style="list-style-type: none"> Risk assessments conducted at California refineries show risks from air toxics to be under 10 chances of cancer per million.⁴ Distance recommendations were based on the amount and potentially hazardous nature of many of the pollutants released as part of the refinery process, particularly during non-routine emissions releases.
Chrome Platers	10-100	<ul style="list-style-type: none"> ARB modeling and monitoring studies show localized risk of hexavalent chromium diminishing significantly at 300 feet. There are data limitations in both the modeling and monitoring studies. These include variability of plating activities and uncertainty of emissions such as fugitive dust. Hexavalent chromium is one of the most potent toxic air contaminants. Considering these factors, a distance of 1,000 feet was used as a precautionary measure.
Dry Cleaners Using Perchloroethylene (perc)	15-150	<ul style="list-style-type: none"> Local air district studies indicate that individual cancer risk can be reduced by as much as 75 percent by establishing a 300 foot separation between a sensitive land use and a one-machine per dry cleaning operation. For larger operations (2 machines or more), a separation of 500 feet can reduce risk by over 85 percent.

Source Category	Range of Relative Cancer Risk ^{1,2}	Summary of Basis for Advisory Recommendations
Gasoline Dispensing Facilities (GDF) ⁵	<p>Typical GDF: Less than 10</p> <p>Large GDF: Between Less than 10 and 120</p>	<ul style="list-style-type: none"> Based on the CAPCOA Gasoline Service Station Industry-wide Risk Assessment Guidelines, most typical GDFs (less than 3.6 million gallons per year) have a risk of less than 10 at 50 feet under urban air dispersion conditions. Over the last few years, there has been a growing number of extremely large GDFs with sales over 3.6 and as high as 19 million gallons per year. Under rural air dispersion conditions, these large GDFs can pose a larger risk at a greater distance.

¹For cancer health effects, risk is expressed as an estimate of the increased chances of getting cancer due to facility emissions over a 70-year lifetime. This increase in risk is expressed as chances in a million (e.g., 10 chances in a million).

²The estimated cancer risks are a function of the proximity to the specific category and were calculated independent of the regional health risk from air pollution. For example, the estimated regional cancer risk from air toxics in the Los Angeles region (South Coast Air Basin) is approximately 1,000 in a million.

³Analysis based on refrigerator trucks.

⁴Although risk assessments performed by refineries indicate they represent a low cancer risk, there is limited data on non-cancer effects of pollutants that are emitted from these facilities. Refineries are also a source of non-routine emissions and odors.

⁵A typical GDF in California dispenses under 3.6 million gallons of gasoline per year. The cancer risk for this size facility is likely to be less than 10 in a million at the fence line under urban air dispersion conditions.

A large GDF has fuel throughputs that can range from 3.6 to 19 million gallons of gasoline per year. The upper end of the risk range (i.e., 120 in a million) represents a hypothetical worst case scenario for an extremely large GDF under rural air dispersion conditions.

Recommendation

- Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines provide 500 feet. For operations with 3 or more machines, consult with the local air district.
- Do not site new sensitive land uses in the same building with perc dry cleaning operations.

References

- *Proposed Amended Rule 1421 – Control of Perchloroethylene Emissions from Dry Cleaning Systems*, Final Staff Report. South Coast AQMD. (October 2002)
- *Air Toxic Control Measure for Emissions of Perchloroethylene from Dry Cleaning Operations*. ARB (1994)
(<http://www.arb.ca.gov/toxics/atcm/percatcm.htm>)
- “An Assessment of Tetrachloroethylene in Human Breast Milk”, Judith Schreiber, New York State Department of Health – Bureau of Toxic Substance Assessment, Journal of Exposure Analysis and Environmental Epidemiology, Vol.2, Suppl.2, pp. 15-26, 1992.
- *Draft Air Toxics “Hot Spots” Program Perchloroethylene Dry Cleaner Industry-wide Risk Assessment Guidelines*. (CAPCOA (November 2002)
- *Final Environmental Assessment for Proposed Amended Rule 1421 – Control of Perchloroethylene Emissions from Dry Cleaning Systems*. South Coast AQMD. (October 18, 2002)

Gasoline Dispensing Facilities

Refueling at gasoline dispensing facilities releases benzene into the air. Benzene is a potent carcinogen and is one of the highest risk air pollutants regulated by ARB. Motor vehicles and motor vehicle-related activity account for over 90 percent of benzene emissions in California. While gasoline-dispensing facilities account for a small part of total benzene emissions, near source exposures for large facilities can be significant.

Since 1990, benzene in the air has been reduced by over 75 percent statewide, primarily due to the implementation of emissions controls on motor vehicle vapor recovery equipment at gas stations, and a reduction in benzene levels in gasoline. However, benzene levels are still significant. In urban areas, average benzene exposure is equivalent to about 50 in one million.

Gasoline dispensing facilities tend to be located in areas close to residential and shopping areas. Benzene emissions from the largest gas stations may result in near source health risk beyond the regional background and district health risk thresholds. The emergence of very high gasoline throughput at large retail or

wholesale outlets makes this a concern as these types of outlets are projected to account for an increasing market share in the next few years.

Key Health Findings

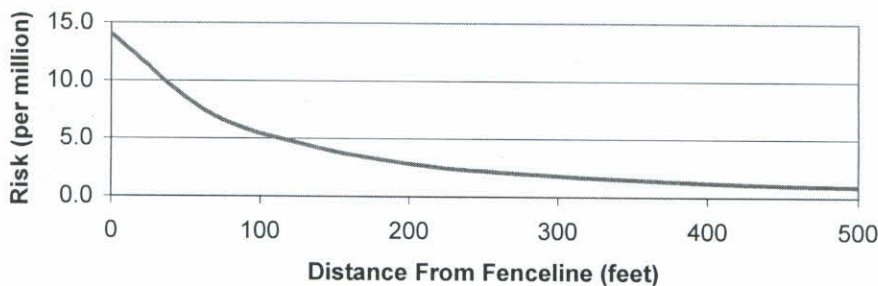
Benzene is a human carcinogen identified by ARB as a toxic air contaminant. Benzene also can cause non-cancer health effects above a certain level of exposure. Brief inhalation exposure to high concentrations can cause central nervous system depression. Acute effects include central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness. It is unlikely that the public would be exposed to levels of benzene from gasoline dispensing facilities high enough to cause these non-cancer health effects.

Distance Related Findings

A well-maintained vapor recovery system can decrease emissions of benzene by more than 90% compared with an uncontrolled facility. Almost all facilities have emission control systems. Air quality modeling of the health risks from gasoline dispensing facilities indicate that the impact from the facilities decreases rapidly as the distance from the facility increases.

Statistics reported in the ARB's staff reports on Enhanced Vapor Recovery released in 2000 and 2002, indicated that almost 96 percent of the gasoline dispensing facilities had a throughput less than 2.4 million gallons per year. The remaining four percent, or approximately 450 facilities, had throughputs exceeding 2.4 million gallons per year. For these stations, the average gasoline throughput was 3.6 million gallons per year.

**Figure 1-6
Gasoline Dispensing Facility Health Risk
for 3,600,000 gal/yr throughput**



As shown in Figure 1-6, the risk levels for a gasoline dispensing facility with a throughput of 3.6 million gallons per year is about 10 in one million at a distance of 50 feet from the fenceline. However, as the throughput increases, the potential risk increases.

As mentioned above, air pollution levels in the immediate vicinity of large gasoline dispensing facilities may be higher than the surrounding area (although tailpipe emissions from motor vehicles dominates the health impacts). Very large gasoline dispensing facilities located at large wholesale and discount centers may dispense nine million gallons of gasoline per year or more. At nine million gallons, the potential risk could be around 25 in one million at 50 feet, dropping to about five in one million at 300 feet. Some facilities have throughputs as high as 19 million gallons.

Recommendation

- Avoid siting new sensitive land uses within 300 feet of a large gasoline dispensing facility (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

References

- *Gasoline Service Station Industry-wide Risk Assessment Guidelines*. California Air Pollution Control Officers Association (December 1997 and revised November 1, 2001)
- *Staff Report on Enhanced Vapor Recovery*. ARB (February 4, 2000)
- *The California Almanac of Emissions and Air Quality*. ARB (2004)
- *Staff Report on Enhanced Vapor Recovery Technology Review*. ARB (October 2002)

Other Facility Types that Emit Air Pollutants of Concern

In addition to source specific recommendations, Table 1-3 includes a list of other industrial sources that could pose a significant health risk to nearby sensitive individuals depending on a number of factors. These factors include the amount of pollutant emitted and its toxicity, the distance to nearby individuals, and the type of emission controls in place. Since these types of facilities are subject to air permits from local air districts, facility specific information should be obtained where there are questions about siting a sensitive land use close to an industrial facility.

Potential Sources of Odor and Dust Complaints

Odors and dust from commercial activities are the most common sources of air pollution complaints and concerns from the public. Land use planning and permitting processes should consider the potential impacts of odor and dust on surrounding land uses, and provide for adequate separation between odor and dust sources. As with other types of air pollution, a number of factors need to be considered when determining an adequate distance or mitigation to avoid odor or

ATTACHMENT 3

PARCEL LANDUSE WITHIN 300FT OF GAS STATION	
LANDUSE	NUMBER OF PARCELS
Agricultural Reserve	11
Agriculture	7
Cooperative	1
Cultural	6
Industrial	97
Institutional/Community Facility	106
Multi-Family High Rise	47
Multi-Family Low to Mid Rise	97
Office High Rise	50
Office Low to Mid Rise	252
Open Space/Recreation	110
Other	44
Parking and Transportation	117
Parks	60
Research and Development	2
Retail	1,003
Single Family Attached	584
Single Family Detached	1,112
Utility	19
Vacant	320
Warehouse	71

PARCEL LANDUSE WITHIN 1,000FT OF GAS STATION	
LANDUSE	NUMBER OF PARCELS
Agricultural Reserve	35
Agriculture	28
Cooperative	2
Cultural	20
Industrial	221
Institutional/Community Facility	301
Multi-Family High Rise	111
Multi-Family Low to Mid Rise	399
Office High Rise	132
Office Low to Mid Rise	659
Open Space/Recreation	654
Other	176
Parking and Transportation	295
Parks	264
Research and Development	5
Retail	1,667
Single Family Attached	5,657
Single Family Detached	10,698
Utility	47
Vacant	1,087
Warehouse	235

PLACES WITHIN 300FT OF GAS STATION	
TYPE	AMOUNT
Athletic Courts	9
Business Park	4
Cemetery	2
Fire Station	9
HHS Facility	2
Library	3
Liquor Store	6
Lodging	10
MARC Train Station	1
MC Government	7
Metro Stations	1
Park And Ride Lots	2
Park Facilities	9
Parking Garages And Lots	9
Places Of Worship	12
Police Facilities	5
Polling Place	2
Post Office	13
Private School	7
Recreation Centers	3
Regional Services Centers	2
Shopping Center	42

PLACES WITHIN 1,000FT OF GAS STATION	
TYPE	AMOUNT
Athletic Courts	113
Business Park	50
Cemetery	16
College Or University	1
Elementary Schools	10
Fire Station	17
HHS Facility	4
High Schools	2
Library	9
Liquor Store	19
Lodging	21
MARC Train Station	4
MC Government	39
Metro Stations	5
Middle Schools	5
Park And Ride Lots	7
Park Facilities	42
Parking Garages And Lots	37
Places Of Worship	77
Police Facilities	17
Polling Place	23
Post Office	27

Private School	49
Recreation Centers	7
Regional Services Centers	8
Senior Center	3
Shopping Center	121
Special Schools	2
Swimming Pools	2
YMCA	1