

PHED Committee #1
November 16, 2015

MEMORANDUM

November 12, 2015

TO: Planning, Housing, and Economic Development Committee
FROM: Jeff Zyontz,  Senior Legislative Analyst
SUBJECT: Work session 2 -Zoning Text Amendment 15-07, Filling Stations – Use Standards

Background

ZTA content

Zoning Text Amendment (ZTA) 15-07 would increase the distance between large filling stations and sensitive land uses. Currently, under standards approved by the last Council in 2012, a large filling station must locate at least 300 feet from the lot line of property used for:

- 1) a public or private school;
- 2) any park or playground;
- 3) a day care center; or
- 4) any outdoor use categorized as a civic and institutional use or recreational and entertainment use.

ZTA 15-07 would increase that distance to 500 feet and would also add dwelling units and environmental attributes to the list of sensitive land uses from which a minimum distance would be required.

Prior Committee Worksession

On July 20, 2015 the Committee conducted a work session on ZTA 15-07. The staff memorandum for this worksession is attached. The Committee asked for additional information:

- 1) The number and location of existing large filling stations – indicate those that comply with current law and those meeting the ZTA 15-07;
- 2) The environmental protection rules for existing filling stations compared to the rules for new large gas stations;

- 3) The number of filling station with special exception that requested additional pumps or increased number of tanker trucks; and
- 4) Maps showing the location of all filling stations and zones where filling stations are allowed.

Additional Information

Mapping

The Committee asked for maps showing the location of all filling stations and zones where filling stations are allowed. This task was impractical to complete by reproducing paper copies. It would have required a separate map for each area for the County where filling stations are allowed. Thanks to the skill of the Planning Department GIS expert, Chris McGovern, there is now a web based GIS application that shows:

- the location of zones that allow filling stations;
- the location of filling stations;
- the area where the opportunity for large filling station (3.6 million gallons per year or more) are excluded under the current required buffer; and
- where the expansion of existing gas stations and new large filling stations would be excluded under various alternative

Staff will demonstrate this tool at the Committee meeting.

<http://arcg.is/1lrzjdw>

The table indicating the impact of ZTA 15-07 in staffs memorandum for July 20, 2015 did not account for private recreation facilities. The following table indicates the correct acreage impacts.

Filling Station Zones	Total Acres Of zones That allow Filling Stations	Allowable Acres for Large Stations Pre-ZTA	Allowable Acres if 300' buffer applies to more land uses	Allowable Acres If 500' buffer applies to more land uses
CR	2,529	1,909	894	396
CRT	2,547	1,820	451	157
EOF	1,284	1,106	467	208
GR	227	187	132	69
IL	738	565	365	217
IM	1,063	846	454	273
LSC	751	594	243	84
NR	275	183	38	1
Total	9,414	7,210	3,044	1,405

The number and location of existing large filling stations – indicate those that comply with current law and those meeting the ZTA 15-07.

Staff asked gas station industry representatives for information on which current station dispensed 3.6 million gallon of fuel a year. That information was not publicly available. No one was willing to provide a list of stations. As a proxy for those locations, the following identifies 7 Freestate and W Express stations in the County where there is a suspicion that those are the higher volume filling stations in the County. The following summarizes map based information available in the GIS application.

- Freestate 20650 N Fredrick Road
Clear of current buffer would be with a 300 foot buffer of expanded uses
- Freestate 11295 Viers Mill Road
Clear of current buffer would be with a 300 foot buffer of expanded uses
- Freestate 510 Hungerford Drive
Governed by Rockville Zoning
- W Express 10003 Fields Road
Governed by Gaithersburg Zoning

- W Express 100 N Fredrick Road
Governed by Gaithersburg Zoning
- W Express 8441 Snoffers School Road
A portion of the site is in the current buffer; 300 from residential would cover most of the site
- W Express 2204 University Blvd
Clear of current buffer would be with a 300 foot buffer of expanded uses
- W Express 20510 N Fredrick Road
Most of the site is in the current buffer; 300 feet from residential would cover all of the site

The approval of ZTA 15-07 would not change the business of any operating filling station. The ZTA's approval would allow the expansion of existing station (with conditional use approval) up to a station that pump 3.6 million gallons of gasoline a year or more.

The environmental protection rules for existing filling stations compared to the rules for new large gas stations

Stage I vapor recovery systems limit vapor escaping between the tanker trucks and the on-site storage tank. All stations, no matter their age, must have a stage I system in order to get fuel from a tanker trunk. (The connecting hose from all tankers require a receiving connection that includes Stage I vapor recovery.) A station without such a system could not get a fuel delivery.

A Stage II system is designed to recover vapor from fuel dispensing to individual vehicles. Onboard refueling vapor recovery (ORVR) is the recovery of fuel vapors in the vehicle itself. A 2012 EPA ruling found Stage II vapor recovery system to be obsolete due to ORVR. Maryland allows gas stations to phase out their old Stage II vapor recovery systems.

Maryland allows new or modified gasoline dispensing facilities "to be constructed with appropriate new technologies but without Stage II systems." According to the MDE, the definition of such a facility is one that on or after March 6, 2014:

- begins dispensing fuel for the first time;
- excavates below a shear valve or tank pad in order to repair or replace its Stage II system or an underground storage tank;
- installs a new dispenser system manufactured without a Stage II system;
- undergoes a major system modification consisting of the replacement, repair or upgrade of at least 50% of a facility's Stage II vapor recovery system.

Many gas dispensing facilities are decommissioning Stage II vapor recovery as a cost saving measure. In addition to what is allowed when making a major modification, the owner/operators of existing Stage II vapor recovery system may decommission their systems starting in January 2017.

Using Stage II and ORVR together can actually cause the release of vapors, which is exactly what both systems are trying to avoid. When the two systems are used in conjunction, air, not vapors, gets pulled back into the tank. Air expands to a greater volume than vapor, which creates a positive pressure in the tank. This can cause the pressure relief valve to open and release vapors.

The ARID Permeator is a filtering device that attaches to the underground tank vents and prevents large organic compounds from escaping into the air when the tanks vent. It is useful to overcome the problem of a Stage II recovery when there is also ORVR. At least one proposed service station planned to use this system if approved. It is not a required system in Maryland.

The number of filling stations with special exceptions that requested additional pumps or increased number of tanker trucks

Staff identified 189 filling stations in the County, all of those stations are located on the web based map. Stations existing before 1958 did not require special exceptions.¹ The 30 stations in the Cities of Rockville and Gaithersburg also did not require special exceptions.

There have been 60 special exception approvals for filling stations.² Of those approved special exceptions, there are specific limits on the number of fuel pumps in 47 cases. Of the 47 cases, 7 stations are limited to 12 pumps; only 1 station was approved for more than 12 pumps. All other stations had lower limits; 25 station had 8 pumps or fewer.

There were limits on access points for tanker trucks and the hour when a tanker truck may refill on-site tanks; however there have been no limits on the number of tanker trucks to date.

<u>This packet Contains</u>	<u>© Number</u>
ZTA 15-07	1 - 2
July 20 Staff Memorandum	3 - 16

¹ The new Zoning Code, effective November 1, 2014 requires a “condition use”. Under the old code a special exception was required.

² The Board of Appeals Administrator, Katherine Freeman reviewed each of the approvals. Ms. Free announced that she will be retiring effect January 1, 2016. Staff thanks Ms. Freeman for her work on this a matter and hopes that the assignment did not precipitate the retirement announcement.

Zoning Text Amendment No.: 15-07
Concerning: Filling Station – Use
Standards
Draft No. & Date: 1 – 3/18/15
Introduced: March 24, 2015
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**

Lead Sponsor: Councilmember Elrich
Co-sponsors: Councilmembers Riemer, Navarro, Katz, Rice, Hucker, and Berliner

AN AMENDMENT to the Montgomery County Zoning Ordinance to:

- Revise the use standards for large filling stations

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

DIVISION 59.3.5. “Commercial Uses”
Section 59.3.5.13. “Vehicle Service”

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 59.3 is amended as follows:**

2 **DIVISION 59.3.5. Commercial Uses**

3 * * *

4 **Section 3.5.13. Vehicle Service**

5 * * *

6 **C. Filling Station**

7 * * *

8 **2. Use Standards**

9 Where Filling Station is allowed as a conditional use, it may be
10 permitted by the Hearing Examiner under Section 7.3.1, Conditional
11 Use, and the following standards:

12 * * *

13 c. Any Filling Station facility designed to dispense a minimum of
14 3.6 million gallons per year must be located at least [300] 500
15 feet from the lot line of any land with a dwelling unit; public or
16 private school[, or any]; park[,]; playground[,]; day care
17 center[,]; [or] any outdoor use categorized as a [civic and
18 institutional] Civic and Institutional use or a Recreation and
19 Entertainment use; or any wetland, stream, river, flood plain, or
20 environmentally sensitive area.

21
22 **Sec. 2. Effective date.** This ordinance becomes effective 20 days after the
23 date of Council adoption.

24
25 This is a correct copy of Council action.

26

27

28 _____
Linda M. Lauer, Clerk of the Council

MEMORANDUM

July 16, 2015

TO: Planning, Housing, and Economic Development Committee
FROM: Jeff Zyontz, Senior Legislative Analyst
SUBJECT: Zoning Text Amendment 15-07, Filling Stations – Use Standards

Councilmember Elrich is the lead sponsor of Zoning Text Amendment (ZTA) 15-07. Councilmembers Riemer, Navarro, Katz, Rice, Hucker, and Berliner are co-sponsors. The ZTA would increase the distance between large filling stations and sensitive land uses. Currently, under standards approved by the last Council in 2012, a large filling station must locate at least 300 feet from the lot line of property used for:

- 1) a public or private school;
- 2) any park or playground;
- 3) a day care center; or
- 4) any outdoor use categorized as a civic and institutional use or recreational and entertainment use.

ZTA 15-07 would increase that distance to 500 feet and would also add dwelling units and environmental attributes to the list of sensitive land uses from which a minimum distance would be required.

On May 12, 2015, the Council conducted a public hearing on ZTA 15-07. Twenty speakers were heard. The Planning Board recommended against the Council's approval of ZTA 15-07. In the Board's opinion, the conditional use process provides ample opportunity to address concerns unique to a particular site that might warrant increasing the setback beyond 300 feet. The Board did not believe that the increased setback was warranted based on potential adverse health effects. Planning Staff also recommended a setback requirement from residential properties (300 feet). Planning Staff did not recommend a setback from environmentally sensitive areas because the areas are protected from spills by State-required safety equipment and stormwater management. All of the representatives from Costco opposed the ZTA. In particular, Costco representatives see the ZTA as prohibited special legislation with no basis for a 500 foot setback. Individuals who sought inexpensive gasoline also opposed the ZTA. The opposition to the Costco filling station supported the ZTA. Owners of existing filling stations supported ZTA 15-07, but wanted existing stations to be exempt from setback requirements triggered by the expansion of existing stations.

Staff recommendation: If the Council believes that its 2012 requirements for large filling stations were inadequate, add dwelling units and environmental features to the list of uses that require a minimum distance, but do not increase the distance to 500 feet. In the alternative, reduce the number of zones in which a large gas station may be constructed.

What is new since the Council established a 300 foot buffer for new large filling stations in 2012?

Litigation

The Costco application for a large filling station in Wheaton was denied by the Board of Appeals. The Board agreed with the Hearing Examiner's conclusion that the applicant failed to meet its burden of proof that the proposed use would not be a nuisance to the community due to fumes at the proposed location and that the use would not be adverse to the health, safety, or welfare of residents, visitors, or workers. The finding was made after a 2 year process and at great expense to the applicant and nearby residents. The applicant is appealing that decision (and the conclusion of a 262-page Hearing Examiner's report) and seeking a judicial review in Circuit Court. The County Attorney has intervened in the case, at the direction of the Council, to defend the Board of Appeals' decision.

Howard County Task Force recommendations (no action by the Howard County Council)

A Howard County Task Force dealing with the issue of large filling stations recommended increasing the setbacks required for large gas stations. In the opinion of the Task Force, fueling stations should not be sited within 500 feet from any:

- 1) school;
- 2) park;
- 3) playground;
- 4) day care;
- 5) assisted living facility;
- 6) outdoor use categorized as cultural, entertainment, or recreation; or
- 7) wetlands, streams, rivers, flood plains, or environmentally sensitive areas.

The Howard County report cited the EPA's study regarding the proximity of gas stations to nearby health-sensitive facilities (daycare centers, senior centers, schools, playgrounds, houses of worship, etc.) and the California Air Resources Board (CARB) recommendation to "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 or greater)."

The Howard County Council has not taken any action to implement the recommendations of the task force, nor is any action scheduled by the Howard County Council.

New research studies not cited in 2012

Staff could identify only one previously unidentified study that concerned the proximity to gas stations and public health. This study was very narrow in scope. It evaluated the statistical relationship between residential proximity to gasoline service stations and preterm births in singleton live births on the Island of Montreal from 1994 to 2006. The results suggested that there was no clear association between

residential proximity to gasoline service stations in Montreal and preterm birth.¹ Costco's consultant cited a study published in 2015 that found minimal benzene exposure risk from petroleum refineries to nearby populations.² The lifetime exposure to benzene for service station customers created a minimal risk to the majority of users; service station workers had greater risk; however, it was suggested that those risks could be minimized by vapor recovery systems.³ Another study found that fuel stations could be the main sources of volatile organic compound emissions in the city of Shahreza, Iran. The number and volume of refueling in the gas stations influence the emission rates; however, there was no significant difference between the pollutants' concentrations at points 50, 150, and 250 meters away from the stations.⁴

There were more general studies concerning the potential health effects of pollutants that may come from a filling station and associated vehicles.

Short-term exposure of adults to particles with an aerodynamic diameter, nitrogen dioxide, and ground level ozone within current EPS standards was associated with lower lung function.⁵ The study suggested that the general population, not just sensitive populations, may experience respiratory effects from ambient pollution at levels that are considered safe.⁶ Conversely, long-term improvement in air quality was associated with significant positive effects on lung function growth in children.⁷ Running counter to some of this research, a study of asthmatic individuals did not support the hypothesis that exposure to diesel exhaust would enhance inflammatory or allergic type responses; however, the reviewing committee for this study cautioned the reader against extrapolating these findings.⁸ Somewhat counter to that study, people living in zip codes with the highest levels of fine particles were significantly more likely to show signs of narrowing in their carotid arteries, compared to people living in zip codes with the lowest pollution levels.⁹

One paper showed the limitation of older technology gas stations, where the penetration of gasoline through concrete can contaminate underlying soil and ground water.¹⁰ This is part of the argument that replacing existing filling stations with newer stations would be environmentally advantageous.

One study concerned traffic congestion in general and its effects on newborn children of mothers who lived near that congestion. (Supporters of ZTA 15-07 argue that the idling vehicles at a large filling station

¹ Huppé et al., Residential proximity to gasoline service stations and preterm birth, *Environmental Science Pollution Research*, Oct 20, 2013.

² Edokpolo et al., Health Risk Characterization for Benzene in Service Stations and Petroleum Refineries using Human Adverse Response Data, *Toxicology Reports*, 2015.

³ Edokpolo, B, Yu, Q, and D Connell, Health Assessment of Ambient Air Concentrations of Benzene, Toluene, and Xylene (BTX) in Service Station Attendants, *International Journal of Environmental Research and Public Health*, 2015.

⁴ Esmaelnejad et al., Monitoring of Benzene, Toluene, Ethyl Benzene, and Xylene Isomers from Shahzera Gas Stations in 2013, *International Journal of Environmental Health Engineering*, 2015.

⁵ Diesel engines create most small particles; Costco does not sell diesel fuel.

⁶ Rice et al., Short-Term Exposure to Air Pollution and Lung Function in the Farmington Heart Study, *the American Journal of Respiratory and Critical Care Medicine*, vol. 188 (2013).

⁷ Gauderman, et al., Association of Improved Air Quality with Lung Development in Children, *The New England Journal of Medicine*, vol. 372 (2015).

⁸ Allergic Inflammation in the Human Lower Respiratory Tract Affected by Exposure to Diesel Exhaust, *Health Effects Institute* (February 2012).

⁹ Particulate Air Pollution and Carotid Stenosis, *Journal of the American College of Cardiology* (2015).

¹⁰ Hilpert and Breyse, Infiltration and Evaporation of Small Hydrocarbon spills at Gas Stations, *Journal of Contaminant Hydrology* (2014).

make the study relevant.) The study published in the American Economic Journal found a reduction in prematurity and low birth near toll booths that reduced vehicle idling by using E-ZPass systems.¹¹

Air quality generally

The American Lung Association indicates improving air quality in Montgomery County in the 2015 Report Card. The County's former failing grade has improved to a "D" grade for ozone. There were zero red days for either ozone or small particulates. There were 7 orange days for ozone in the reporting year.

The Costco consultant cited 2 studies to claim that ambient air benzene levels in the United States have decreased by more than 90 percent since the 1990's.¹²

New Council

Since the Council established a 300 foot buffer for new large filling stations in 2012, there was an intervening election. Two current Councilmembers were not involved with the approval process of ZTA 12-07.

Has enough changed from 2012 to warrant changing the rules for large gas stations again?

In Staff's opinion, the major change is the applicant and residents' experience with a special exception for a large filling station. It was not pleasant for any participant. New science directly relating to siting large filling stations was not dispositive. The Howard County Task Force report is advisory, but it added information concerning the past history in the State of gasoline spills. New cars, with advanced emission controls and more vehicles that turn engines off when stopped to avoid idling are being purchased in ever-increasing numbers since 2009. New car purchases are now at pre-recession levels. Gasoline sales (based on national statistics) are lower in 2015 than they were in 2012. The American Lung Association's "State of the Air 2015 Report" indicated improving air quality in the metropolitan region and the County in particular.

The number of trucks needed to supply a large gas station has not changed. The potential number of cars that would use a large filling station has not changed. State law regarding large filling stations has not changed in spite of bills to do so.

As a general matter, stable laws are a good thing. They make the world more predictable. Only the Council can make a judgment that the facts and opinions presented warrant a change in law. The following material addresses issues related to specific standards being changed for large filling stations. It need be reviewed only if the Council believes changes are in the public interest.

¹¹ Currie and Walker, Traffic Congestion and Infant Health: Evidence from E-ZPass, 65-90 (2011) originally completed 2009, revised in 2011. This study was not cited in the 2012 staff memorandum for ZTA 12-07.

¹² Croes, B et al., Ambient Trends of Selected Mobile Source Air Toxics in California, 2015 CRC Mobile Air Toxics Workshop, Sacramento, California, February 2015.

Collet, S et al., Session highlights from the 2013 Mobile Source Air Toxics Workshop, EM, Air and Waste Management Association Journal, pps 26- 29, May 2013.

Should dwelling units be added to the list of things from which a buffer is required?

Currently, under standards approved by the last Council in 2012, a large filling station must locate at least 300 feet from the lot line of property used for:

- 1) a public or private school;
- 2) any park or playground;
- 3) a day care center; or
- 4) any outdoor use categorized as a civic and institutional use or recreational and entertainment use.

Other jurisdictions do not include dwelling units as a sensitive land use. Gaithersburg requires a 100-foot setback from residential uses and 300 feet from places of public assembly. The Howard County Task force did not recommend a buffer from dwelling units. Most jurisdictions treat public gathering places and places intended for children's outdoor recreation with greater deference than dwelling units.

There is an argument for including dwellings. People live, sleep, and play in dwellings. People occupy dwelling units for longer durations than public gathering places. Any resident of a dwelling may be young, old, or otherwise have impaired lung function.

There are clearly less people in a dwelling unit than at a church, school, or library. To the extent that health effects are a series of statistical possibilities, the number of individuals who may be subject to health effects increases with the number of people exposed to the problem.

In 2012, the Deputy Director of the Air and Radiation Management Administration said, "the more distance that can be placed between a source and residences and community gathering places is certainly beneficial to minimizing risk." If the duration of exposure is critical in determining risk, then some minimum distance should apply to dwelling units.

There are currently 7,700 acres of land on which a large filling station may apply for a conditional use. If dwellings were added to the list of land uses that require a minimum distance of 300 feet, there would be 6,295 acres of eligible land. If the required buffer were made 500 feet, there would be 1,636 acres in which a large filling station could locate.

Should there be a minimum distance from environmentally sensitive areas for large filling stations?

A major gas spill or leak could pollute a nearby waterway. Large filling stations have an increased volume of tanker trucks and more holding tanks than small stations. That volume increases the possibility of problems. The report of the Howard County Task Force, whose recommendations have not been considered by the Howard County Council, included the following concerning the potential for fuel leaks and spills as justification for recommending a buffer from environmentally sensitive areas:

Large gasoline stations receive, store and distribute large volumes of gasoline. Underground Storage Tanks (UST's) and lines have been improved over the years but are still susceptible to failure or damage that can create leaks/releases of volatile chemicals into the ground. The greater throughputs of these large stations increases both the probability and potential consequences of accidental leaks and spills. Once gasoline leaks into the ground, the gasoline and its chemical constituents can migrate to environmentally sensitive areas through storm sewers, soils, bedrock, groundwater, and surface drainage ways (rills, streams, and rivers).

Large spills can occur during tanker refueling of the gas station's underground storage tanks. The probability of such accidents increases with the number of deliveries. In the example of a proposed 12 million gallon station in Montgomery County (Wheaton Westfield Mail), refueling would occur via tanker truck 4 times per day or nearly 1500 deliveries per year.

As of 2013, Maryland has 7,954 Underground Storage Tanks (UST's). The Maryland Department of the Environment conducts an annual inspection program of all UST's to ensure that they are functioning properly. Of the total number of UST's in Maryland, 71% were found to be compliant, but of that percentage, there were 174 confirmed leaks. These leaks can lead to very dangerous consequences for nearby environmentally sensitive areas.

Leaks from underground storage tanks and piping can occur suddenly in large gushes, or in the more likely scenario, as slow seeps which can go undetected for long periods of time. Large accidental releases of gasoline from gas stations often occur when construction work is being done at the location by contractors. In a case in Jacksonville, MD, a heavy equipment operator accidentally ruptured an underground line. Although alarms went off inside, the contractor did not know, and 23,000 gallons of gasoline leaked into the water table. After receiving an initial report in February 2006 that 15 feet of gasoline was discovered in an onsite monitoring well, located the closest to the same station's tank field. Eight (8) feet of gasoline was observed in a down gradient monitoring well. Detectable concentrations of gasoline constituents were measured several thousands of feet from the gas station. Activated carbon treatment systems were installed at 13 homes and an area bank received an alternate water supply.

Should the minimum distance for large filling station from sensitive land uses be increased to 500 feet?

The Howard County Task force recommended a 500 foot buffer. There are very few land uses in the current code that require a 500 foot buffer from other uses. A farm airstrip has a minimum setback of 1,000 feet from any lot line.¹³ In the RE-2, RE-2C, RE-1, and R-200 zones an Attached Accessory Apartment must be located at least 500 feet from any other Attached or Detached Accessory Apartment.¹⁴

Three hundred feet is a more common criteria in the code. In the RNC, R-90, and R-60 zones, an Attached Accessory Apartment must be located at least 300 feet from any other Attached or Detached Accessory Apartment.¹⁵ A telecommunications tower must be at least 300 feet from any residents.¹⁶ A solid waste transfer station operation must not be located on any part of a floodplain or wetland, or within 300 feet of a stream.¹⁷

Air pollution does not dissipate at a linear rate from the pollution source. As distance increases from the source, the risks go down exponentially from the source and then go asymptotic after 300 feet. The increased buffer would limit the number of places in the County for large filling stations. **Staff would not recommend changing the distance requirement, but would continue to allow the conditional use process to determine if more setback is required.**

¹³ Section 3.2.11.A.2.c.

¹⁴ Section 3.3.3.B.2.c.

¹⁵ Section 3.3.3.B.2.d.

¹⁶ Section 3.5.2.C.2.a.iv.

¹⁷ Section 3.6.9.A.2.k.

All filling stations must be approved as a conditional use.¹⁸ The general conditional use standards allow for case-by-case evaluation of the health and nuisance effects of every gas station.¹⁹ A case-by-case review, however, has not prevented previous Councils from requiring minimum setbacks or buffers, even when the use was subject to approval by special exception.²⁰ Absolute standards represent the Council's judgment on the minimum requirements for the use. It is directive to the applicant. It avoids arguments about what is minimally appropriate being repeated every time the use is before the Board of Appeals. It has the potential to avoid a contest of experts (to the extent that residents can afford experts). Minimum buffer areas do not infringe on the Board of Appeals' discretion to require more than the minimum in order to satisfy other requirements for a special exception; a finding of no adverse health effects would still be necessary.

There are slightly more than 9,400 acres of land in zones that allow a filling station as a conditional use. ZTA 12-07, which required a 300 foot minimum distance from some land uses, limited that area to 7,700 acres. A 500 foot minimum distance, and adding dwellings and environmental areas as sensitive areas, would leave 1,705 acres of land where a large filling station could apply for a conditional use with any prospect of approval.

Should large filling stations be prohibited within a set distance from a Metrorail station?

As introduced, ZTA 15-07 is based on protecting existing land use from a new nearby land use. The Planning Board Chair offered an alternative idea; scarce land near Metrorail stations should be protected from low intensity auto-required development. All filling stations and drive-thrus are uses where a vehicle is required. All of the zones used around Metrorail stations allow these uses. The Chair believes that auto-required land uses are incompatible with the master plan's intent for transit-oriented development.

Staff would suggest a different approach; if the use is not appropriate in a zone, the use should be prohibited. Filling stations are allowed in the CR, CRT, EOF, GR, IL, IM, LSC, and NR zones. Planning staff developed the following table to indicate the number of acres by zone.

¹⁸ A filling station is allowed as a conditional use in CR, CRT, IM, IL, NR, GR, EOF, and LSC zones.

¹⁹ Board of Appeals records indicated that, of the 82 applications submitted for gas stations, 60 were approved; 22 gas station special exception applications were denied or withdrawn. The reason for the denials or withdrawals is identified on their database. The list of gas stations provided by Board of Appeals staff did not include gas stations that were established before 1953.

²⁰ Boarding houses must be 1,000 feet from other boarding houses; airstrips must be 1,000 feet from the property line; adult entertainment businesses must be 750 feet from places where the public gathers (schools, parks, places of worship, etc.); car washes and life care facilities must be 100 feet from a residential property line; animal boarding places must be 75 feet from residential property; abattoirs, grain elevators, milk plants, and wineries must be 75 feet from a property line.

	Total Acres (rounded to the acre)	Acreage where Filling Stations are allowed without ZTA 15-07	Acreage if Dwellings and Natural Features also require a 300 foot buffer	Acreage if all features require a 500 foot buffer
CR	2,637	2,177	904	435
CRT	3,157	2,673	796	287
EOF	971	796	357	192
GR	217	173	107	38
IL	830	666	421	246
IM	778	631	289	148
LSC	387	259	80	56
NR	432	326	91	11
TOTAL	9,409	7,701	3,045	1,413

The Council may generally allow large filling stations in fewer zones than where smaller filling stations are allowed. Clearly, large filling stations should be allowed in industrial zones (IL and IM). Since large filling stations require large market areas, it is least compatible in NR zones. The density desired in CR, CRT, and LSC zones would argue against large filling stations in those zones.

Should any pending special exception applications be allowed to proceed under the rules that applied when the application was submitted?

As a matter of law, the rights of a landowner do not vest in Maryland until a project has footings in the ground, constructed under a validly issued building permit.²¹ Generally, whenever the Council believes that the public interest is served by stopping a development before it gets to pouring footings in the ground, it can do so.

The zoning code includes a grandfathering provision for applications in progress when the new code was effective:

Any development plan, schematic development plan, diagrammatic plan, concept plan, project plan, sketch plan, preliminary plan, record plat, site plan, special exception, variance, or building permit filed or approved before October 30, 2014 must be reviewed under the standards and procedures of the Zoning Ordinance in effect on October 29, 2014.²²

As introduced, ZTA 15-07 would not apply to the Costco application in Wheaton because it was filed before October 29, 2014. The Costco application is the only pending application for a large gas station; it is within 500 feet of detached dwellings. An amendment to ZTA 15-07 that only applied to Costco could be subjected to litigation. If the Council wants newly enacted zoning text changes to apply universally, a change to the grandfather provision in Section 7.7.1 would be in order.

²¹ *County Council for Montgomery County v. District Land Corp.*, 274 Md. 691, (1975); *Yorkdale Corp. v. Powell*, 237 Md. 121 (1964). A legislative change that occurs during ongoing litigation of a land use or zoning case, absent intervening vested rights, shall be applied retrospectively. A court is bound to decide a zoning or land use case according to the law existing at the time the court's decision is rendered, unless vested rights have intervened.

²²Chapter 59, Section 7.7.1.B.1.

How would ZTA 15-07 affect existing gas stations?

If ZTA 15-07 is approved, all existing large filling stations may continue to operate as they exist, without regard to whether the station satisfied the new setback requirements. Any application in the approval process would be allowed to proceed under the standards of the 2014 code, if there were any. Any approved conditional use may be built or rebuilt under the conditions of approval.²³ This is different from some instances where an approved application did not save a landowner in the development process from new rules.²⁴

Information from ZTA 12-07 indicated that there were 7 existing stations that pumped more than 3.6 million gallons a year. Those stations without an approved special exception, or that failed to meet the standards of the new zoning code, are non-conforming.²⁵ Non-conforming uses are legal. They may continue to operate, but may not expand. If the station ceases to operate for more than 6 months, the operation may not resume.

It is true that an existing station that sought to expand so that it could pump more than 3.6 million gallons would have to meet the new setback requirements. Any rationale for applying increased setbacks for large filling stations (increased tanker truck traffic and increased risk of spills) would apply to existing stations as well.

Staff does not recommend allowing the expansion of existing filling stations to pump more than 3.6 million gallons a year unless they satisfy the locational requirement imposed on new large filling stations.

²³ Any structure or site design approved before October 30, 2014 may be implemented by the property owner under the terms of the applicable plan. 59.7.7.1.B.2.

²⁴ ZTA 09-01, which deleted self-storage facilities from the list of permitted uses in the Sandy Spring Overlay zone, excluded a project with an approved preliminary plan. ZTA 09-05, which excluded self-storage from the Burtonsville Overlay zone, did have a grandfathering clause that allowed approved preliminary plans to proceed because of the applicant's expenditures after the approval of the preliminary plan. ZTA 10-15, concerning airstrips in agricultural zones, changed the rules for a pending special exception application.

²⁵ Section 7.7.1.A.1. A legal structure or site design existing on October 30, 2014 that does not meet the zoning standards on or after October 30, 2014 is conforming and may be continued, renovated, repaired, or reconstructed if the floor area, height, and footprint of the structure is not increased, except as provided for in Section 7.7.1.C for structures in Commercial/Residential, Employment or Industrial zones, or Section 7.7.1.D.5 for structures in Residential Detached zones.

Background Information

Filling station approval process

Since 1953, all automobile filling stations (gas stations) in the County require the approval of a special exception.²⁶ In addition to other findings, the general conditions for any conditional use require the Board of Appeals to find that the proposed use:

... will not cause undue harm to the neighborhood as a result of a non-inherent adverse effect alone or the combination of an inherent and a non-inherent adverse effect in any of the following categories:

- i. the use, peaceful enjoyment, economic value or development potential of abutting and confronting properties or the general neighborhood;
- ii. traffic, noise, odors, dust, illumination, or a lack of parking; or
- iii. the health, safety, or welfare of neighboring residents, visitors, or employees.²⁷

All special exceptions (conditional uses under the new zoning code) start with a presumption that the use is a compatible use.²⁸ The uses for which a special exception is required have some deleterious effects on surrounding uses or undeveloped land in the neighborhood and, therefore, are not appropriate to be allowed as uses by right. By making the use a conditional use, the Council determined that this deleterious potential may not be so tangible in every case as to warrant prohibition of the use in the zone; rather, an applicant is given the opportunity to satisfy the Board of Appeals that such potential does not rise to the level of actual incompatibility in the applicant's case.

Every gas station includes fuels pumps, building(s) for employees, traffic from customers, potential queuing, signage, outdoor lighting, fumes from vehicles and gasoline, and underground storage. These are the inherent physical effects of all gas stations. Conditional use applications may not be denied solely because of their inherent effects. Non-inherent effects, those specific to a particular location and operation, alone or in conjunction with inherent adverse effects, could be a sufficient basis to deny a conditional use application.²⁹

Background on large filling stations

The gas station business changed in the early 1990's, when the super station or hypermarket first appeared on the scene. These stations are vastly different from the small town, low volume local gas station. Super stations are high volume, low profit margin creatures.³⁰ They are not just marginally bigger than the

²⁶ Both the current general and specific gas station requirements necessary to approve a gas station are reproduced in the appendix to this memorandum.

²⁷ 59.7.3.1.E.1.g.

²⁸ See *Montgomery County v. Butler*, 417 Md 271 (2010).

²⁹ *Ibid.*

³⁰ *The Economics of Gasoline Retailing: Petroleum Distribution and Retailing Issues in the U.S.* Andrew N. Kleit, PhD, Professor of Energy and Environmental Economics, Pennsylvania State University, December 2003:

Hypermarkets and "super convenience stores" are non-traditional retail outlets that specialize in selling high volumes of gasoline at prices near the wholesale price of gasoline. In general, the retailing strategy for hypermarkets is to attract customers to their stores through a low price of gasoline and a large number of gasoline pumps, and then induce those customers to come inside their stores and buy other products. Firms in this category across the country include Wa-Wa and Sheetz (super-convenience stores) in the Northeast, Costco and Albertson's in the West, and Wal-Mart (the last three all hypermarkets) in various locations across the country. One industry source forecasts that hypermarkets will grow from their 2002 level of 13 percent of the industry to 16 percent in 2005. The rise of

largest gas station in the County; super stations can be 10 times the volume of a small station and more than 3 times the volume of the County's largest stations.³¹ They are a growing segment of gasoline distribution in the nation. There are no such stations now in the County. Super stations can attract more cars and require more tank truck refueling operations than gas stations the County has experienced to date.

Studies cited in the ZTA 12-07 staff memorandum

The health effects of living near gasoline service stations are not well studied. Staff identified 3 studies that seem to be marginally relevant:

A 2004 French study showed an association between acute childhood leukemia and dwellings neighboring auto-repair garages and gas stations, which possibly expose children to benzene. The authors noted that these findings could be due to chance, despite the strength of the association and the duration trend. The authors suggested that their results be confirmed by further investigations.³²

A 2007 study from Greece concluded that gas stations have a significant contribution to ambient benzene concentrations in their vicinity. A risk assessment evaluation was attempted in terms of increased cancer risk due to the presence of a gas station in an area. The results showed an increase of the population risks in the vicinity, ranging from 3% to 21% in comparison to the population in the rest of the town.³³

A Spanish research study in 2010 showed that a "minimum" distance of 50 meters should be maintained between gas stations and housing, and 100 meters for "especially vulnerable" facilities such as hospitals, health centers, schools and homes of elderly persons. Ideally, the 100 meter distance should be respected in plans for building new houses, in the opinion of one of the authors.³⁴

These studies were conducted under the emission standards régimes of foreign governments. Costco's consultant noted that the benzene concentration of the fuel in that report may have been as high as 5 percent (current federal standards are a maximum of .62 percent). There was also an absence of vapor

hypermarkets appears to have begun in the mid-1990s, as hypermarketers advanced the one-step shopping concept. At around that same time, federal regulations required refiners to change the environmental specifications of their "base" gasoline to a relatively uniform standard. This made the "base" gasoline sold by unbranded firms more competitive, and such firms were better able to provide product comparable to that sold in branded outlets. This, in turn, increased the ability of unbranded retail outlets to sell gasoline to consumers.

³¹ Board of Appeals records indicate that there are 60 gas stations in the County. These records do not include gas stations that existed before 1953. Staff was informed by a gasoline retailer's representative that 95 percent of the gas stations in the County sell less than 2.5 million gallons per year. Only 7 stations in the County have ever pumped more than 3.6 million gallons per year. Super stations can easily pump more than 12 million gallons per year. According to the California Environmental Protection Agency's California Air Resources Board (CARB), 96 percent of gas stations in the country pump less than 2.4 million gallons a year. Of the remaining 4 percent, the average volume was 3.6 million gallons per year.

³² Steffen C, et al., Acute childhood leukaemia and environmental exposure to potential sources of benzene and other hydrocarbons; a case-control study, *Occup Environ Med.* 2004 Sep;61(9):773-8 (2004).

³³ Karakitsios SP et al., Contribution to ambient benzene concentrations in the vicinity of petrol stations: estimation of the associated health risks, *Atmospheric Environment* 41(9):1889-1902 (2007).

³⁴ Morales Terres IM et al., Assessing impact of petrol stations on their immediate surroundings, *Journal of Environmental Management* 91:2754-2762 (2010).

recovery systems in these older studies. These studies do not relate their findings to the size of the gas station.³⁵

In 2005, the California Environmental Protection Agency's California Air Resources Board recommended that local authorities "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." (These regulations inspired the screening standards in the EPA School Siting Guidelines.) The Agency found that the health risks increased with the volume of gas pump and decreased rapidly with distance.³⁶ The report also states that, to determine actual risk, a site specific analysis would be required. A chart in the table concerning filling stations showed a sharp decline in air pollution health risk for a 3.6 million gallon per year station at 200 feet from a station; a far less dramatic drop between 200 and 300 feet; and almost no change in risk between 300 and 500 feet.

There was testimony at the Council's 2015 hearing to suggest that this study was obsolete given new air quality protection requirements since 2001 (the date data was compiled in the report). Since that date, there have been additional controls for gasoline delivery, pumps, and vehicles. Staff confirmed that the 2005 report is still in use in California.

In October 2011, the Environmental Protection Agency issued School Siting Guidelines that called for a detailed screening of sites that were within 1,000 feet of a large (3.6 million gallons or more per year) gas station. The guidelines were based upon a review of standards across the country, particularly California, and zeitgeist. There is not a scientific study to say that 1,000 feet is a critical number above which impacts have not been detected. The guidelines state that the screening distance is "intended to assist with the initial screening of candidate locations but is not a substitute for case and site specific evaluation of potential hazards."³⁷

The EPA recommended the School Siting Guidelines for a variety of sensitive land uses involving children:

While the guidelines are primarily intended to be used by LEAs in evaluating and selecting locations for K-12 schools, EPA believes that the recommendations in the guidelines represent a set of best practices that may inform and improve the evaluation and selection of locations for a wide range of settings where children spend time. However, EPA recognizes that there are many differences across the types of child-occupied facilities. For example most K-12 schools generally have a clearly identifiable central authority and significant (though not necessarily plentiful) resources, while many child care centers are small businesses with extremely limited resources and subject primarily to state licensing authorities. Nevertheless, the siting criteria considerations (see Section 4), environmental review process (see Section 5) and public involvement (see Section 3) practices recommended within the School Siting Guidelines may be applied, with appropriate adaptation, to a wide range of school related institutions.³⁸

³⁵ Staff credits Susan Mabie for doing web research in search of the scientific studies cited.

³⁶ A station pumping 3.6 million gallons of gas would create health problems for 10 out of a million people if they lived within 50 feet of the station. That number would rise to 25 out of a million if the station pumped 9 million gallons a year.

³⁷ School Siting Guidelines, EPA (2011), page 53.

³⁸ Ibid, page 137.

State permitting requirements

Maryland's Air and Radiation Management Administration issues permits for gas stations. The permits are issued if the gas station employs the proper vapor recovery and gas leak monitoring systems. Maryland concerns are limited to assuring that the best equipment technology available is being deployed. There is no absolute emission limit; the equipment required does not change with the size (amount of gas sold) at a station. Permits are issued without regard to land uses around the station or the proximity of those land uses. The Administration requires evidence that the proposed station complies with local zoning requirements. In all other respects, zoning is beyond the Administration's jurisdiction. The issuance of a permit does not mean that there are no health risks from gas vapors or idling cars. The Administration staff believes that health risks increase with higher concentrations of toxins and the duration of exposure.³⁹ They further observe that the concentration of airborne toxins decreases as the distance from the source of toxins increases. This conversation with staff from the Maryland Department of the Environment was reinforced by a letter from the Deputy Director of the Air and Radiation Management Administration, who said, "the more distance that can be placed between a source and residences and community gathering places is certainly beneficial to minimizing risk."⁴⁰

The standards for the separation of gas stations in other jurisdictions

In Sacramento County, California, if there are any vacant or unoccupied automobile service stations within a half-mile radius of a proposed gas station site and, if the deciding body finds that the area suffers from an overconcentration of gas stations, then the application for a conditional use permit must be denied.⁴¹

There are stringent minimum distance standards concerning gas stations in Oakland, New Jersey. In that Bergen County borough, the lot line of a gas station must be at least 400 feet from the lot line of a public or private school, playground or athletic field, place of worship, hospital, library, theater, or fire station, and 1,000 feet from the lot line of any other gasoline service station.⁴²

In Prince George's County, a gas station must be located at least 300 feet from any lot on which a school, outdoor playground, library, or hospital is located, in addition to its review as a special exception.⁴³

In the City of Gaithersburg, a gas station pump must be at least 100 feet from a residential building in the C-1 zone⁴⁴ but at least 300 from the entrance to a public or parochial school, playground, library, or hospital in the C-3 zone.⁴⁵

The City-County Council of Indianapolis barred all gas stations from light retail zones and allowed them only in industrial zones. A zoning text amendment was proposed to make the moratorium permanent.⁴⁶

³⁹ Conversation with Karen Irons, Air Management Administration staff, on July 3, 2012. Although Administration staff believes that a buffer around a gas station that expands with the size of a gas station is a good idea in general, they are not in a position to defend any particular distance requirement.

⁴⁰ Ibid. letter to Larry Silverman, July 10, 2012.

⁴¹ 340-26. Location Near Automobile Service Stations No Longer in Operation.

⁴² Code of the Borough of Oakland, Land Use, Chapter 59.

⁴³ Prince George's County Zoning Ordinance, §27-358.

⁴⁴ Code – City of Gaithersburg §24-113.

⁴⁵ Op. cit., §24-134(a).

⁴⁶ Associated Press, May 23, 2015.

In one small town in Dutchess County, New York, gasoline filling stations may not be constructed or approved within 700 feet of a historic site, church, school or hospital, or at a site and with a design that would significantly impact a scenic viewshed.⁴⁷

In the Borough of Berlin in Camden County, New Jersey, no license for a gas station can be issued if any part of the principal building of such gasoline station is to be installed, constructed, maintained or operated within a radius of 300 feet of the nearest part of any building constituting a public or private school, a hospital, a church, a theater, a post office building, a municipal hall or other place of public assemblage.⁴⁸

In Commerce, Georgia, a property on which a gasoline service station is located must be at least 100 feet from any residential zoning district or any property containing a school, public playground, church, hospital, public library, or an institution for children or dependents.⁴⁹

Staunton, Virginia requires a minimum of 50 feet between a gas station and any residentially zoned property.⁵⁰

This Packet Contains
ZTA 15-07

© number
1 – 2

F:\Land Use\ZTAS\ZYONTZ\2015 ZTAs\ZTA 15-07 Filling Stations\ZTA 15-07 PHED July 20.docx

⁴⁷ Town of Pawling, Chapter 215 Zoning.

⁴⁸ Chapter 182, Gasoline Service Stations.

⁴⁹ Commerce Georgia Municipal Code Chapter 4.15.

⁵⁰ 18.145.010 Service station regulations.