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March 22, 2024

SUBJECT: Drive Throughs Zoning Study

TO: Comprehensive and Neighborhood Planning Committee

FROM: Comprehensive and Neighborhood Planning Committee &
Bill Dermody, Principal City Planner

Introduction/Study Purpose

Drive-through sales and services (drive throughs) can negatively impact walkability and active streetscapes, in contrast with [2040 Comprehensive Plan](#) goals and policies (e.g. LU-9: Promote high-quality urban design that supports pedestrian friendliness and a healthy environment, and enhances the public realm; LU-10: Activate streetscapes with active first-floor uses, street trees, public art, outdoor commercial uses and other uses that contribute to a vibrant street life). The following study analyzes drive throughs and potential code amendments to better implement the 2040 Comprehensive Plan.

Background

Drive-through sales and services (drive throughs) have been prominent in the United States since the late-1970s, especially in suburban settings but also in central cities like Saint Paul. They are common, though not universal, features of fast-food restaurants, coffee shops, banks, and pharmacies. In Saint Paul, about 77 of these businesses feature drive throughs, including 36 restaurants, 2 coffee shops, 31 banks, and 8 pharmacies (out of around 640 restaurants (6%), 51 coffee shops (4%), 40 banks (77%), and 17 pharmacies in the city (47%)¹).

¹ Based on staff calculations, March-May 2022. Coffee shops, banks, and pharmacies counted and analyzed via desktop mapping software. Restaurants estimated based on State of Minnesota licenses in St. Paul (751), minus approximately 110 that would not normally be recognized as restaurants, such as entertainment venues (Xcel Center, Fitzgerald Theater, Como Zoo), caterers, hotels/bed & breakfasts, food security service providers (Salvation Army, Battle Creek Head Start, Keystone), senior centers, hospitals, and private employer kitchens. Establishments that emphasize coffee on their website more than food were counted as coffee shops rather than restaurants.

Demand for drive throughs may be growing. In recent years, grocery stores and big-box retail (with or without ancillary pharmacy services) have begun experimenting with drive throughs in suburban locations and one could imagine that format expanding if successful. The Covid-19 pandemic prompted a surge in demand for drive throughs nationwide, especially in the 2nd quarter of 2020 but also with some lasting impact. Restaurants and coffee shop chains that formerly intentionally avoided having drive throughs, such as Chipotle and Starbucks, have incorporated them more often, especially in suburbs. Since March 2020, the City has approved site plans and/or conditional use permits for three new drive throughs (two banks and a coffee shop) and at least five drive through reconstructions or redesigns (all for fast food restaurants). The City also approved the removal of one drive through (coffee shop at Snelling/Marshall).

Problems have been observed with drive throughs, as described below, that deter implementation of City policies.

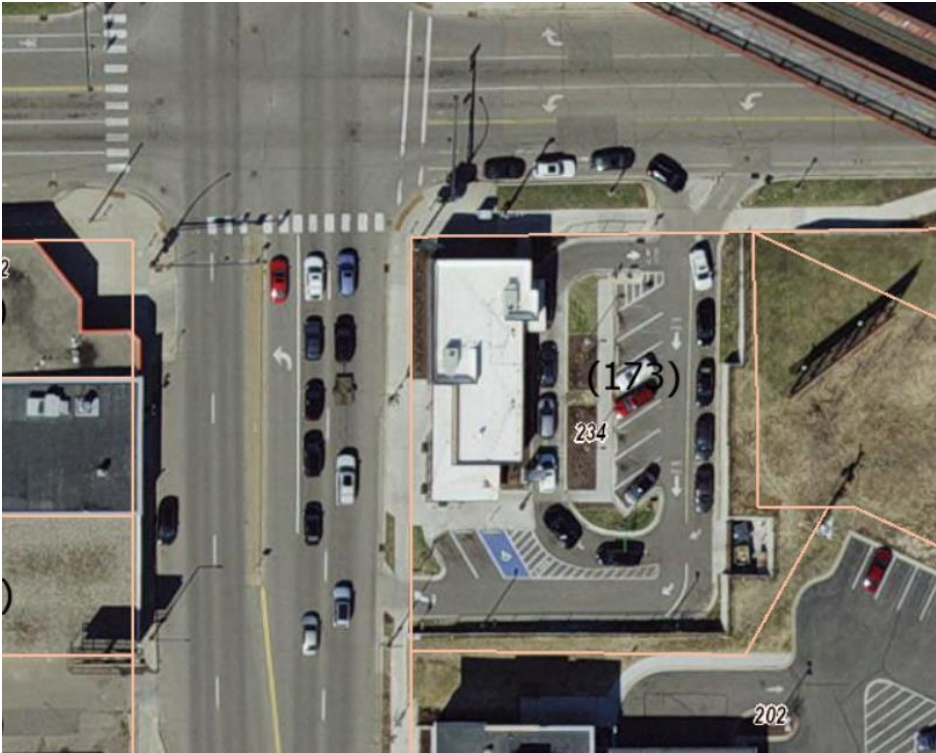
Problems

Drive throughs can present several negative land use and transportation impacts on their surroundings, including: off-site queuing that blocks sidewalks, bike lanes, or traffic lanes; difficult pedestrian access in reaching a business (unsafe or unwelcoming); detracting from pedestrian-oriented streetscape design; pollution from vehicle exhaust; and noise. Also, more broadly, drive throughs contribute to auto-oriented lifestyles and, in turn, more vehicle miles traveled in the city. Each of these impacts is examined below.

Off-Site Queuing

In recent history, the Starbucks coffee shop at the southeast corner of Snelling and Marshall Avenues is a prominent example of vehicles queuing off-site during peak hours and blocking vehicular, bicycle, and pedestrian travel, presenting safety issues to people entering the site or just passing by. Unsafe u-turns and left-turn movements onto Marshall Avenue (despite signage forbidding such movements) were also noted, with the safety impact magnified by the proximity to Snelling Avenue. This drive through opened in 2016 and problems were observed immediately. According to a traffic study provided to the City in 2017, the drive through's peak hour queuing extended up to 12 vehicles (approximately 240 feet), which was more than the stacking provided on-site, leading to overflow of queued cars into the public right of way. Anecdotally, longer queues than that had been observed since then. After a period of attempting to mitigate safety issues by providing traffic control personnel at peak times, the drive through was replaced in 2022 by an outdoor patio to serve dine-in customers. This drive through's queuing experience is not unique.

Figure 1: Starbucks at Snelling and Marshall



Above: 2020 aerial photo of the Starbucks at Snelling and Marshall, with 14 vehicles in the queue. Zoned T2.

The Institute of Transportation Engineers (ITE) does not provide queuing length recommendations, but rather provides guidance for engineers to conduct their own analyses. Thus, there are not universally referenced professional standards for drive through queuing, but there have been many queuing studies completed. Those completed in urban settings are most relevant to this zoning study. [2010 and 2012 counts from the Twin Cities area](#) found maximum queues of 8 vehicles at banks, 10 vehicles at car washes, 16 vehicles at coffee shops, 13 vehicles at fast-food restaurants, and 5 vehicles at pharmacies. A [2022 study of coffee shops and kiosks in Northern California](#) found a maximum queue of 14 vehicles. A [2021 study of coffee shops in Northern California](#) found a maximum queue of 15 vehicles. A [2021 study of several Chick-Fil-A fast-food restaurants near Los Angeles](#) found a maximum queue of 26 vehicles. A 2019 study of a coffee kiosk in Flagstaff, Arizona found a maximum queue of 26 vehicles (surprisingly on Wednesday afternoon; notably near a college campus). A [2015 study of a coffee shop in Seattle](#) found a maximum queue of 13 vehicles (although, notably, the study did not include a Friday morning). A [2014 study of a fast-food restaurant near Washington D.C.](#) found a maximum queue of 14 vehicles.

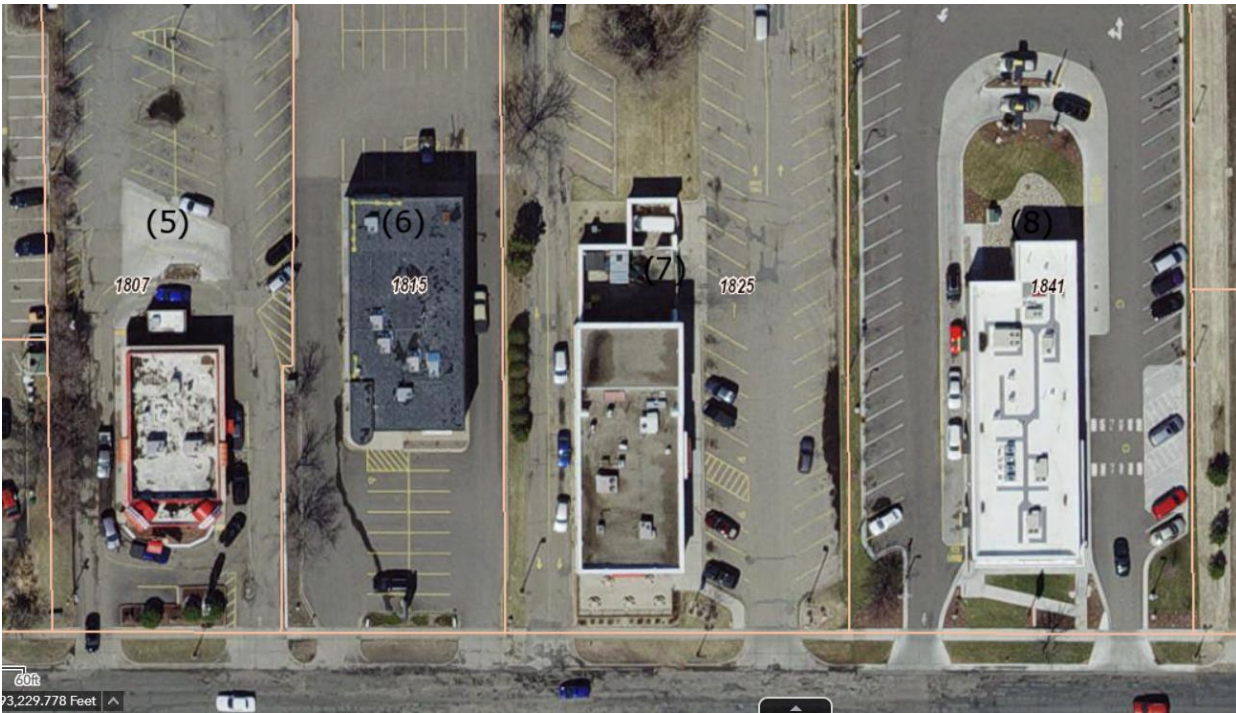
The Zoning Code currently requires that: “Stacking spaces shall be provided for each drive-through lane. Banks, credit unions, and fast-food restaurants shall provide a minimum of four (4) stacking spaces per drive-through lane. Stacking spaces for all other uses shall be determined by the zoning administrator.”

Unsafe Pedestrian Access

Drive throughs can be unsafe to pedestrians accessing the business for several reasons, including the concentration of vehicular turning movements at peak times, multiple crossing points with pedestrians, and driver distraction when they are engaging in other activities. Plus, the amount of space and attention dedicated to a drive through signals that the motor vehicle is the priority transportation mode at this location, which can degrade travel safety for other modes. Safety can be an issue anywhere pedestrians cross vehicular

access and circulation aisles, including in the drive through lanes themselves. Site designs that require pedestrians to cross drive through lanes to access businesses are especially unsafe and unwelcoming.

Figure 2: Drive through uses along Suburban Avenue

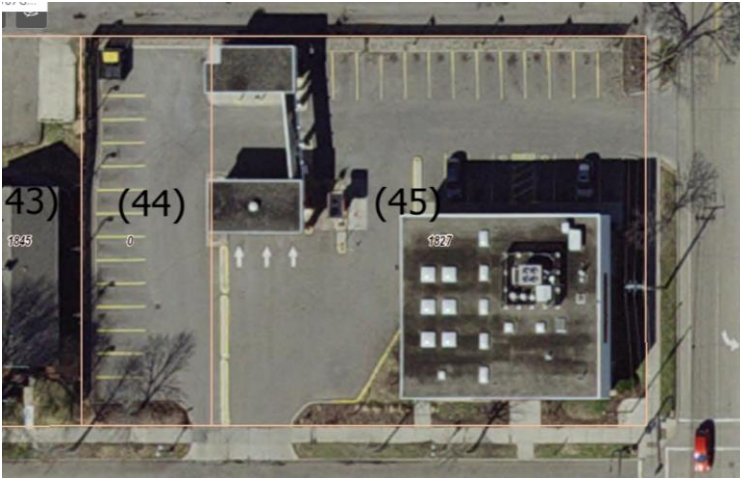


Above: The drive through at 1807 Suburban Ave (leftmost business) requires pedestrians to cross the lanes to access the building, while those two and three lots to the east at 1825 and 1841 Suburban Ave do not. Also, generally, with eight curb cuts in a 470' stretch, this is an example of a non-pedestrian-oriented streetscape. Zoned T2.

Non-Pedestrian-Oriented Streetscape

Sites with drive throughs can have several features that detract from a pedestrian-oriented streetscape, including larger expanses of asphalt to accommodate the additional vehicle circulation, smaller buildings along street frontages (compared to larger buildings that would provide a better sense of enclosure), buildings set back farther from the street to allow more space for vehicle stacking, and additional curb cuts to accommodate the drive through circulation patterns (e.g. an “in” driveway and an exit driveway).

Figure 3: Bank site on Grand Avenue



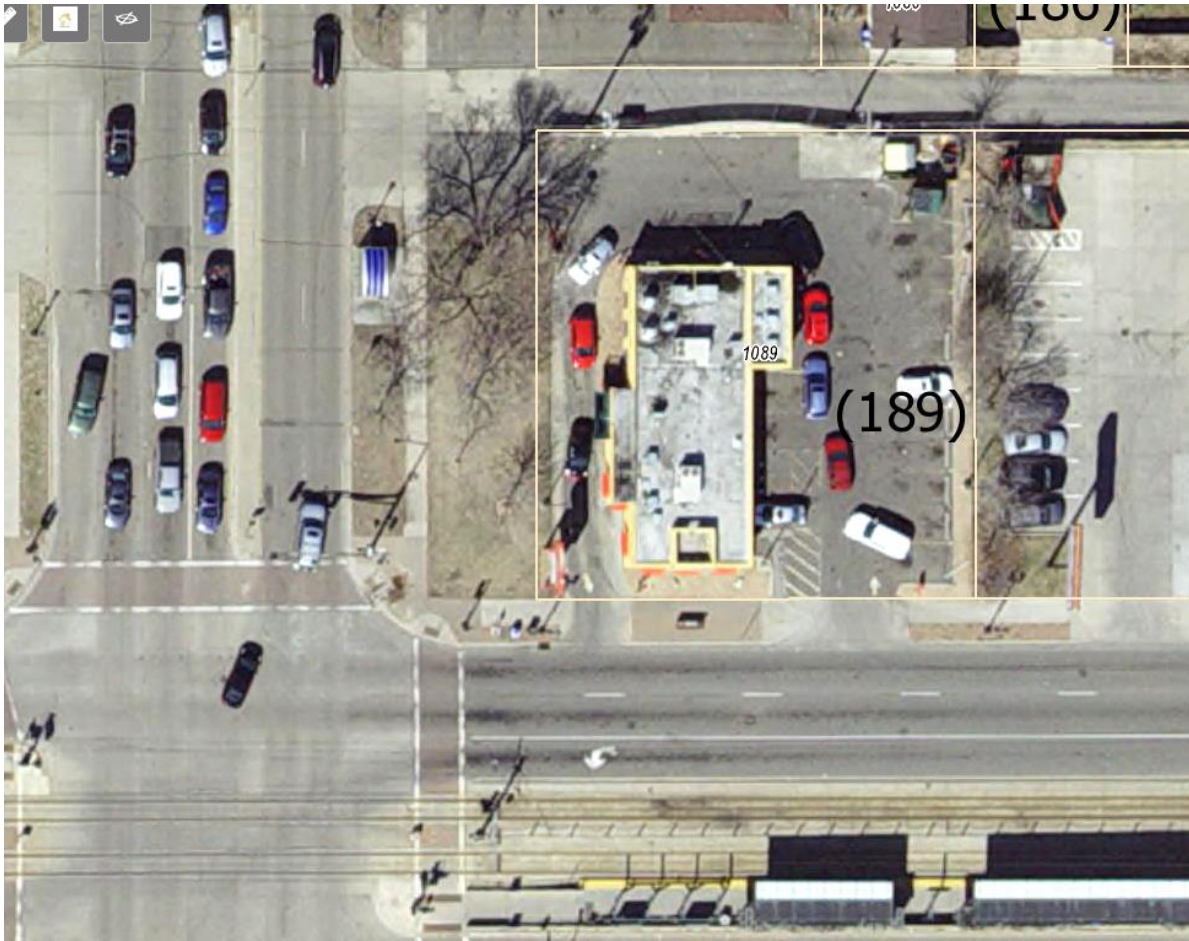
Above: The bank site at 1827 Grand Ave includes a substantial amount of additional pavement to accommodate its drive through operations, beyond what is needed for bank parking. Zoned T2.

Figure 4: Drive through use on Ford Parkway



Above: 1959 Ford Pkwy is designed with additional pavement and a larger front yard setback to accommodate drive through vehicles. Zoned T2.

Figures 5 & 6: Drive through use on University Avenue



Above and below: The frontage of the fast-food restaurant at 1089 University Ave W dedicates about 33 linear feet to the building, 16 feet to perimeter landscaping (not including the parkway right-of-way west of the lot), and 62 feet to driveways and parking. It is adjacent to a light rail station. Zoned T2.



Pollution/ Vehicle Miles Traveled

Drive throughs contribute directly to air pollution via vehicle idling that occurs as customers await service. According to the U.S. Department of Energy and the U.S. Environmental Protection Agency, a small sedan burns about 1/6 gallon of gas per hour and each gallon emits about 8.9 kg of carbon dioxide. So, a drive through serving about 200 small, gasoline-powered sedans per day with each waiting an average of six minutes

would result in about 30 kg of carbon dioxide emissions per day. At a social cost of about \$51/ton of carbon emissions (per the interim estimate of the [Interagency Working Group on Social Cost of Greenhouse Gases, US Government, 2021](#)), such a drive through scenario would have a social cost of about \$615/year for idling. For a fast-food restaurant or coffee shop, these estimates are plausible based on recent transportation analyses submitted to the City during site plan reviews, although they only address the impacts of certain emissions (carbon dioxide, methane and nitrous oxide). Elsewhere, [a 2008 Texas study](#) estimated that closure of a fast-food restaurant’s drive through would result in up to a 67% reduction in nitrous oxide emissions. However, the assumption with any pollution attribution to a drive through is that the idling is replaced with stop in/pick up of goods and that other emissions are not impacted, including that there is not a resulting increase in vehicle miles traveled via delivery services. Recent growth in the use of delivery services casts some doubt on that assumption.

The more significant pollution impact of drive throughs may be indirect: they contribute to more auto-oriented design and lifestyles. That is, negative impacts of drive throughs on pedestrian-oriented streetscapes and density of destinations push people to [own more cars](#) and [drive more](#), which in turn have a much greater – and self-perpetuating – emissions impact than the drive throughs’ direct impact.

Noise

Noise from drive through speakers can negatively impact residential neighbors, particularly when the speakers are close to the property line or the business is open late at night. This issue has not been observed at most drive throughs in Saint Paul. But a fast-food drive through at 565 Snelling Avenue North, whose speaker box is about 65 feet from the nearest residential property line, has generated several noise complaints in recent years. Zoning Code standards for drive throughs include that “(s)peaker box sounds from the drive-through lane shall not be plainly audible so as to unreasonably disturb the peace and quiet of abutting residential property”; although the Zoning Code does not specify a decibel level, Legislative Code Chapter 293 (Noise Regulations) limits noise levels from commercial uses at residential property to 65 dBA during the day and 55 dBA between 10 p.m. and 7 a.m. The drive through at 565 Snelling was inspected and found to be in compliance with the Noise Regulations in August 2013.

Other Cities

Most cities allow drive throughs in at least some zoning districts. Minneapolis, as a notable exception, banned new drive throughs citywide in 2019. Portland, Oregon only allows them in one zoning district and other cities often ban them in certain commercial districts that are more pedestrian- or transit-oriented. The following table shows minimum queue lengths and other drive through regulations in several comparison cities’ zoning codes.

Figure 7: Drive through regulations in select comparison cities

	<u>Min. Distance from Residential</u>	<u>Min. Distance from Intersection</u>	<u>Min. Queuing Distance</u>				<u>Other</u>
			<u>Bank</u>	<u>Pharmacy</u>	<u>Fast-Food</u>	<u>Coffee</u>	
Cleveland	0, but if abutting residential then must	-	5 vehicles	5 vehicles	7 vehicles	7 vehicles	Min. lot size 12,000 square feet

	close 9:30 p.m. to 6 a.m.						
Denver	85' if open 11pm-5:30am	-	Whatever is needed to avoid backing up onto public streets				Not permitted within ¼ mile of a rail station platform
Kansas City	50'	-	80' to first point of services (including menu board)				
Miami	-	-	4 vehicles				
Nashville	-	-	5 vehicles per lane	4 vehicles	5 vehicles	5 vehicles	
Phoenix	-	-	150' for first lane, 100' for add'l	100'	150' per pickup window	100'	Revoked permits in 2019 for a coffee shop's queuing repeatedly spilling into adjacent street
Portland, OR	25'	50'	150' or 80' per lane if multiple lanes				Only permitted in one zoning district
Seattle	-	-	3 to 8 vehicles (depending on context)	Requires a study			Not permitted in pedestrian overlays; also, only permitted in two zoning districts; queue of 10 to 20 for car washes
Saint Paul	60'	60'	4 vehicles	Not specified	Not specified	4 vehicles	Limits # of lanes in T2 district (3 for banks, 1 for others)

Highlighted Recommendations & Analysis

The drive-through sales and service land use was evaluated to determine if the use should remain permitted or conditionally permitted in the same zoning districts as today, or subjected to additional standards for walkability and urban form consistent with the 2040 Comprehensive Plan. The proposed set of code amendments for public comment would further restrict where drive throughs are permitted and enhance certain standards so as to reduce the negative impacts of drive throughs, while still allowing their economic benefits in places where those negative impacts will be less.

- **Eliminate drive throughs as a permitted use in the B4 Central Business District.** The B4 Central Business District was created in 1975 with accommodation of vehicular traffic as a primary concern. In modern times, accommodation of pedestrian traffic has become a much greater concern in downtown. Elimination from B4 is supported by Zoning Code Section 66.444, which states that uses in B4 shall not require frequent vehicular movements across sidewalks. It also says uses in B4 must not create objectionable influences, shall encourage through their character the concentration of similar businesses in continuous retail frontage to mutual benefit of consumers and uses, and shall not impede the normal and orderly development and improvement of surrounding uses. In Policy LU-24, the Comprehensive Plan calls for prioritizing public and private infrastructure investments that improve the public realm to encourage street-level pedestrian activity; continuing to allow drive throughs downtown would run counter to this policy.
- **Limit drive throughs in the T2 Traditional Neighborhood District to those associated with a bank or pharmacy.** Most banks and about half of pharmacies in Saint Paul have a drive through, which indicates that a drive through is a key part of these businesses. Notably, these businesses provide needed goods and services at a neighborhood scale that requires them to be spread throughout the city, with new locations likely to occur in conjunction with recent or future residential development that increases demand for these services, often in areas zoned Traditional Neighborhood such as T2. Also, banks and pharmacies are not known to have created significant negative impacts on surrounding transportation users and neighbors. On the other hand, drive throughs associated with uses like fast-food restaurants or coffee shops are both less necessary to the use in Saint Paul and more likely to have negative impacts on surroundings, especially in a transit- and pedestrian-oriented setting zoned Traditional Neighborhood. Curbside pickup, which has become more prevalent in recent years, provides a reasonable consumption alternative for mobility-limited customers of restaurants and coffee shops.
- **Require additional stacking for drive throughs.** Drive through analyses in Saint Paul and elsewhere have found that stacking needs are typically greater than required by our Zoning Code. Drive through stacking that backs into roadways presents safety issues to pedestrians, bicyclists, and other motorists. Clear requirements for drive-through stacking at coffee shops and pharmacies – currently just left to the Zoning Administrator – would be helpful for all parties. Unlike current code, it is proposed that minimum stacking may be accommodated in the aggregate through multiple drive-through lanes, rather than a minimum per lane.
- **Require direct pedestrian access to businesses with drive throughs that does not require pedestrians to cross drive-through lanes or other vehicular circulation.** Comprehensive Plan Policy LU-9 calls for promoting high-quality urban design that supports pedestrian friendliness and a healthy environment, and enhances the public realm. An amendment to allow pedestrians to directly access a business without crossing drive through lanes (or other on-site traffic) would further the implementation of Policy LU-9.

- **Prohibit drive through lanes and their driveway access points in T2 district within 300 feet of transitway stations.** Applies to both the drive through lanes and where their driveways connect to streets. Transitways include light rail, bus rapid transit, arterial bus rapid transit, and modern streetcar, but not regular route bus. Replaces a similar provision that banned drive throughs in T2 on blocks with light rail stations, and encouraged consolidation of driveways on other blocks near light rail.
- **Delete “coffee kiosk” from the Zoning Code.** Any coffee shop that operates like a coffee kiosk is covered by the drive through regulations. There are no standards and conditions that apply specifically to coffee kiosks, so the separate definition is unnecessary.

Also, it is proposed to introduce a definition and standards for “walk-up service window” (as an accessory use) to ensure that these uses provide safe pedestrian access from adjacent sidewalks.

It is not proposed to eliminate drive throughs citywide at this time, for several reasons including:

- Some businesses like banks and pharmacies rely heavily on drive throughs – most outside of downtown have them. Banks and pharmacies provide valued services to Saint Paul residents in addition to employment and tax base benefits. Also, notably, pharmacies play an important role in public health.
- If the economic benefits of the businesses can be accrued without significant negative impacts, then it would be best to accommodate those businesses in a thoughtful manner so as to best implement a variety of relevant Comprehensive Plan policies as discussed below.

The Comp Plan has several policies relevant to pedestrian-oriented design and vehicle miles traveled, including: Policy LU-9 which calls for promoting high-quality urban design that supports pedestrian friendliness and a healthy environment, and enhances the public realm; Policy T-21 which calls for reducing vehicle miles traveled (VMT) by 40% by 2040 by improving transportation options beyond single-occupant vehicles; and Policy T-22 which calls for shifting mode share towards walking, biking, public transit, carpooling, ridesharing and carsharing in order to reduce the need for car ownership. Allowing any auto-oriented land use in Saint Paul could be interpreted as contrary to these policies.

However, Comp Plan Policy LU-6 calls for fostering equitable and sustainable economic growth by facilitating business attraction and retention, supporting family-sustaining jobs, growing the tax base, and supporting business models that keep more money locally, among other strategies. Drive throughs are business enhancements that grow the tax base and support jobs, including both lower-pay service jobs and more professional and potentially family-sustaining jobs (e.g. pharmacists, bankers, shift managers). To permit drive throughs – and their economic benefits – in locations and with standards that have less negative impact on pedestrian-friendly design and transit-supporting intensity of land uses could be an effective means to implement all of the relevant plan policies. In other words, drive throughs should be designed so as to minimize negative impacts on pedestrian safety and streetscape, and should not be located in the most pedestrian- and transit-oriented parts of the city (existing or planned).

Although businesses with drive throughs are disproportionately more likely to be national chains than are similar businesses that lack drive throughs, many of the national chains have shown the ability to succeed in certain urban settings without drive throughs. Thus, it is uncertain that

banning drive throughs would incentivize local ownership and keeping more money locally, as called for in Comp Plan Policy LU-6.

Public comment may further inform these considerations.

Proposed Amendments

More specifically, the proposed amendments are below (with existing language to be deleted shown by ~~strikeout~~, new language shown by underlining).

Secs. 66.321, 66.421, & 66.521 Principal Uses (consolidated here into single table, including related entries for context)

	T1	T2	T3	T4	OS	B1	BC	B2	B3	B4	B5	IT	I1	I2	I3
Drive-through sales and service, primary and accessory		C			€	€		C	P	P	P	P	P	P	
Coffee kiosk								P	P	P	P	P	P	P	
Coffee shop, tea house	P/C	P/C	P/C	P/C		P/C		P	P	P	P	P	P	P	
Fast food restaurant		P/C	P/C	P/C				P/C	P/C	P	P	P/C	P	P	

Sec. 65.513. - Drive-through sales and services, principal and accessory.

Standards and conditions:

- (a) Drive-through lanes and service windows shall be located to the side or rear of buildings, shall not be located between the principal structure and a public street, and shall be at least sixty (60) feet from the closest point of any residentially zoned property or property occupied with a one-, two-, or multiple-family dwelling.
- (b) Points of vehicular ingress and egress shall be located at least sixty (60) feet from the intersection of two (2) streets and at least sixty (60) feet from abutting residentially zoned property.
- (c) Speaker box sounds from the drive-through lane shall not be plainly audible so as to unreasonably disturb the peace and quiet of abutting residential property.
- (d) A six-foot buffer area with screen planting and an obscuring wall or fence shall be required along any property line adjoining an existing residence or residentially zoned property.
- (e) ~~Stacking spaces shall be provided for each drive-through lane. Banks, credit unions, and fast food restaurants shall provide a minimum of four (4) stacking spaces per drive-through lane. Stacking spaces shall be provided on the site and/or contiguous sites with shared vehicular circulation in the following~~

minimum amounts: six (6) stacking spaces for banks, credit unions, and pharmacies; twelve (12) stacking spaces for fast-food restaurants; and fourteen (14) stacking spaces for coffee shops. The stacking spaces counted towards the minimum may be aggregated from all drive-through lanes if there is more than one, so long as there are at least two (2) stacking spaces per lane. Vehicles are not permitted to stack into sidewalks, trails, bicycle lanes, alleys, or streets; additional stacking beyond the above-listed minimums may be required based on transportation analysis during site plan review. Stacking spaces for all other uses shall be determined by the zoning administrator.

- (f) Pedestrian access to the building shall be provided from abutting streets that do not require crossing drive-through lanes or other vehicular circulation on the site.

Additional conditions in the T2 traditional neighborhood district:

- (fg) There shall be no more than one (1) drive-through lane and no more than two (2) drive-through service windows, with the exception of banks, which may have no more than three (3) drive-through lanes. The drive-through sales and services must be associated with a bank, credit union or pharmacy. Other types of drive-through sales and services are not permitted.
- (gh) The number of curb cuts shall be minimized. In light rail station areas, there shall generally be no more than one (1) curb cut on a block face per drive-through. Drive-through sales and services are prohibited along the entire length of block faces adjacent to light rail transit station platforms. Drive-through lanes and the primary points of vehicular ingress and egress for drive-through customers are not permitted to be within three hundred (300) feet of a light rail transit station, bus rapid transit station, arterial bus rapid transit station, or streetcar station, nor a planned such station associated with a transit project that has been approved to enter project development phase by the Federal Transit Administration or that has a full funding commitment.

Sec. 65.612. Coffee kiosk.

~~A retail food business in a freestanding building that sells coffee, or other beverages, and premade bakery goods from a drive-through window to customers seated in their automobiles for consumption off of the premises and that provides no indoor or outdoor seating.~~

~~Standards and conditions:~~

~~See section 65.513, drive-through sales and services, principal and accessory.~~

Sec. 65.924. – Walk-up service window.

A service window accessory to a food and beverages use that is designed to provide food and/or beverage service to customers approaching the building as pedestrians.

Standards and conditions:

- (a) Dedicated, safe pedestrian access must be provided to the service window from an adjacent public sidewalk.
- (b) Any walk-up service window with pedestrian queuing anticipated in the public right-of-way shall not obstruct normal pedestrian flow in the public right-of-way and shall receive approval from the department of city engineer.
- (c) A walk-up service window may not simultaneously function as a drive-through service window.

Committee Recommendation

Drive-through sales and services were included as a topic in the March 4, 2022 Planning Commission resolution that initiated the Traditional Neighborhood (T) Districts Zoning Study. However, it would add clarity to initiate this zoning study separately since it is moving forward separately.

The Comprehensive and Neighborhood Planning Committee recommends the Saint Paul Planning Commission approve the attached resolution to initiate the Drive Throughs Zoning Study, and release the study for public review and set a public hearing date for June 7, 2024.

Attachments

1. Planning Commission resolution initiating the Drive Throughs Zoning Study
2. Proposed amendments (complete)
3. Implementation analysis
4. Drive throughs in Saint Paul (spreadsheet)
5. Map of existing drive throughs in Saint Paul
6. Draft questions for the community