



21370 SW Langer Farms Pkwy
Suite 142, Sherwood, OR 97140

Technical Memorandum

To: Mike Reynolds, Stayton Veterinary Hospital
Jeff Brubaker, Stayton Veterinary Hospital

From: Michael Ard, PE

Date: February 16, 2023

Re: 190 E. Pine Street – Zone Change Analysis

This memorandum is written to provide information and analysis related to a proposed zone change for the property located at 190 E Pine Street in Stayton, Oregon. The subject property is currently zoned “MD” Medium Density Residential and is proposed to be rezoned to “CG” Commercial General, thereby matching the zoning of all other properties on the block. The purpose of the zone change is to facilitate a future expansion of the existing Stayton Veterinary Hospital which is located immediately south of the subject property.

In order to assess the potential transportation impacts of the proposed zone change, an estimate of the trips generated under the “reasonable worst case development scenario” was prepared for the existing and proposed zoning. The potential change in trips thereby represents the maximum increase in traffic which could be attributed to the proposed zone change.

EXISTING ZONING - TRIP GENERATION

Under the existing MD zoning, the subject property can currently be developed with up to 12 dwelling units per acre. Based on the subject property’s size of 0.29 acres (12,600 sf), a maximum of 3 dwelling units could be constructed on the subject property. Since the minimum lot size permitted in the zone is 7,000 square feet, it was assumed that the three dwellings would take the form of a tri-plex on the property.

A trip generation estimate for the existing zoning was prepared using data from the *Trip Generation Manual, 11th Edition*, published by the Institute of Transportation Engineers. The trip rates used were for land use code 215, *Single-Family Attached Housing* and are based on the number of dwelling units.

The daily and peak-hour trip volumes projected under the existing zoning are detailed in Table 1 below. A detailed trip generation worksheet is also included in the attached technical appendix.

Table 1 - Existing Zoning "Reasonable Worst Case Development Scenario"

	AM Peak Hour			PM Peak Hour			Daily Total
	In	Out	Total	In	Out	Total	
3 Attached Dwelling Units	0	1	1	1	1	2	22



PROPOSED ZONING - TRIP GENERATION

Under the proposed CG zoning, the subject property could be developed with a wide variety of commercial uses, including retail stores, a gas station, offices (including medical and dental offices), a fitness center, a hotel, an eating and drinking establishment, and an auto repair facility. Based on an examination of the permitted uses and assuming that any future building on the subject property could reasonably occupy up to 25 percent of the land area, the land use resulting in the highest trip generation was determined to be a 3,150 square foot convenience store.

The trip generation estimate for the proposed zoning was again prepared using data from the *Trip Generation Manual, 11th Edition*, published by the Institute of Transportation Engineers. The trip rates used were for land use code 851, *Convenience Store* and are based on the gross floor area of the store.

It should be noted that convenience stores attract pass-by trips. Pass-by trips occur when drivers patronize a business while traveling along the adjacent roadway. Since the driver would travel on the adjacent roadway regardless of whether they stopped at the convenience store, these trips are not considered as “new trips” on the transportation system. Accordingly, the trip estimate must be adjusted to discount the pass-by trips. Based on ITE data, it is estimated that 51 percent of the site trips will be pass-by trips.

The daily and peak-hour trip volumes projected under the proposed zoning are detailed in Table 2 below. A detailed trip generation worksheet is also included in the attached technical appendix.

Table 2 - Proposed Zoning "Reasonable Worst Case Development Scenario"

	AM Peak Hour			PM Peak Hour			Daily Total
	In	Out	Total	In	Out	Total	
3,150 sf Convenience Store	99	98	197	79	76	155	2402
- 51% Pass-By Trips	-50	-50	-100	-39	-39	-78	-1226
Net Site Trips	49	48	97	40	37	77	1,176

EXISTING VERSUS PROPOSED ZONING - TRIP GENERATION COMPARISON

Based on the analysis of the two reasonable worst case development scenarios, the potential increase in site trips resulting from the proposed zone change is detailed in Table 3 on the following page.



Table 3 - Net Change in Trip Generation

	AM Peak Hour			PM Peak Hour			Daily Total
	In	Out	Total	In	Out	Total	
Proposed Zoning Site Trips	49	48	97	40	37	77	1,176
- Existing Zoning Site Trips	0	-1	-1	-1	-1	-2	-22
Net Change In Site Trips	49	47	96	39	36	75	1,154

In general, zone changes which result in 400 or more added daily trips are deemed likely to have a significant impact of the transportation system and require a more detailed analysis of future conditions at the planning horizon in order to identify any capacity or safety problems and facilitate identification of appropriate mitigation measures. Based on the analysis, the proposed zone change could result in significant impacts to the surrounding transportation system under the reasonable worst case development scenario, with 96 added trips during the morning peak hour, 75 added trips during the evening peak hour, and 1,154 added daily trips.

Although an impact of the magnitude described above could have significant impacts on the surrounding transportation system in the City of Stayton, it is noted that the purpose of the zone change is to accommodate a veterinary hospital expansion. This anticipated site use would generate traffic volumes far lower than those analyzed above. Accordingly, a supplemental trip generation estimate was prepared for the likely development scenario.

The trip generation estimate for the veterinary hospital expansion was again prepared using data from the *Trip Generation Manual, 11th Edition*, published by the Institute of Transportation Engineers. The trip rates used were for land use code 640, *Animal Hospital/Veterinary Clinic* and are based on the gross floor area of the potential building expansion. It is expected that the building expansion may be in the range of 6,000 to 8,000 square feet by using the existing properties on the northwest corner of the block for parking.

Table 4 - Anticipated Development Scenario

	AM Peak Hour			PM Peak Hour			Daily Total
	In	Out	Total	In	Out	Total	
8,000 sf (Max.) Veterinary Hospital	19	10	29	11	17	28	172

Based on the analysis, site trips associated with the actual development anticipated on the subject property would not result in a significant impact on the surrounding transportation system and would not require analysis of conditions at the 20-year planning horizon. Accordingly, it may be appropriate to limit future development within the subject property to ensure that the zone change does not significantly affect transportation facilities as defined under Oregon’s Transportation Planning Rule.



TRANSPORTATION PLANNING RULE ANALYSIS

In order to allow the proposed zone change on the subject property, the City of Stayton must find that the requirements of Oregon's Transportation Planning Rule (OAR 660-012-0060) are met. This rule provides guidance regarding whether and how the transportation impacts of a plan amendment must be mitigated. The relevant portions of the Transportation Planning Rule are quoted below, along with responses specific to the proposed zone change.

660-012-0060

Plan and Land Use Regulation Amendments

(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

No changes are proposed to the functional classification of existing or planned transportation facilities.

(b) Change standards implementing a functional classification system; or

No changes are proposed to the standards implementing the functional classification system.

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

Under the reasonable worst case development scenario, the proposed zone change would result in 96 added trips during the morning peak hour, 75 added trips during the evening peak hour, and an increase of 1,154 daily trips. It is anticipated that traffic increases of this magnitude may result in a significant



effect as measured at the planning horizon. Accordingly, some form of mitigation is required in order to approve the zone change application. Acceptable mitigation measures are described in OAR 660-012-0060(2).

(2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.

Several potential mitigation options are then described under sub-sections (a) through (e). In this instance, mitigation is proposed pursuant to sub-section (d), which reads:

(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.

One mechanism to ensure that future development under the proposed zoning does not result in a significant impact on surrounding transportation facilities is to apply a trip cap to the subject property. Based on the analysis, a trip cap limiting future development within the subject property to 200 or fewer average daily trips would ensure that the proposed zone change does not significantly affect the surrounding transportation system while allowing sufficient capacity for the anticipated veterinary hospital.

It should be noted that although this Transportation Planning Rule analysis is sufficient to address the impacts of the proposed zone change on the city's long-range planning (including the adopted Transportation System Plan), it is likely that a detailed traffic study will still be needed prior to approval of a specific development plan for the site. This future analysis will ensure that the site plan is adequate to provide safe and efficient access, and that any potential safety or operational concerns associated with actual development within the site are addressed in a way that is responsive and proportionate to the actual impact of the specific development plan proposed.



CONCLUSIONS

Based on the analysis, the proposed zone change from MD to CG zoning could result in significant impacts to the surrounding transportation system if future commercial development is unrestricted within the property at 190 E Pine Street. Accordingly, a trip cap of 200 average daily trips is proposed in conjunction with the proposed zone change. This trip cap is sufficient to ensure that the zone change will not result in a significant effect as defined under Oregon's Transportation Planning Rule. No other mitigations are recommended in conjunction with the proposed zone change.

If you have any questions regarding this analysis, please feel free to contact me via email at mike.ard@gmail.com or via phone at 503-862-6960.



Appendix

Trip Generation Calculation Worksheet



Land Use Description: Single-Family Attached Housing
ITE Land Use Code: 215
Independent Variable: Dwelling Units
Quantity: 3 Dwelling Units
Setting: General Urban/Suburban and Rural

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic

Trip Rate: 0.48 trips per dwelling unit
Directional Distribution: 31% Entering 69% Exiting

PM Peak Hour of Adjacent Street Traffic

Trip Rate: 0.57 trips per dwelling unit
Directional Distribution: 57% Entering 43% Exiting

Total Weekday Traffic

Trip Rate: 7.2 trips per dwelling unit
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

3 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	0	1	1
PM Peak Hour	1	1	2
Weekday	11	11	22

Trip Generation Calculation Worksheet



Land Use Description: Convenience Store
ITE Land Use Code: 851
Independent Variable: Gross Floor Area
Quantity: 3.15 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic

Trip Rate: 62.54 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

PM Peak Hour of Adjacent Street Traffic

Trip Rate: 49.11 trips per ksf
Directional Distribution: 51% Entering 49% Exiting

Total Weekday Traffic

Trip Rate: 762.28 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

3.15 ksf Convenience Store

	Entering	Exiting	Total
AM Peak Hour	99	98	197
PM Peak Hour	79	76	155
Weekday	1201	1201	2402

Trip Generation Calculation Worksheet



Land Use Description: Animal Hospital/Veterinary Clinic
ITE Land Use Code: 640
Independent Variable: Gross Floor Area
Quantity: 8.000 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic

Trip Rate: 3.64 trips per ksf
Directional Distribution: 67% Entering 33% Exiting

PM Peak Hour of Adjacent Street Traffic

Trip Rate: 3.53 trips per ksf
Directional Distribution: 40% Entering 60% Exiting

Total Weekday Traffic

Trip Rate: 21.50 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

8.000 ksf Animal Hospital/Veterinary Clinic

	Entering	Exiting	Total
AM Peak Hour	19	10	29
PM Peak Hour	11	17	28
Weekday	86	86	172