



City of Portland Bureau of Development Services

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PERMANENT ADMINISTRATIVE RULE

July 10, 2018

RELATING TO
Title 33.272 Major Public Trails

FOR INFORMATION CONTACT
BDS Land Use Services (503) 823-7526

TITLE: Determination of Rough Proportionality for Major Public Trail Requirements

AUTHORITY:

The Bureau of Development Services (BDS) has the authority for application, implementation and enforcement of the provisions of Planning and Zoning Regulations, Title 33. Under Section 3.30.040 A, the Director of BDS has the authority to adopt written policies and procedures for the enforcement of applicable Code provisions and laws.

Section 33.272.020.A of Title 33 (Zoning Code) authorizes the Bureau of Development Services to develop and maintain Administrative Rules establishing a formula for making a determination of rough proportionality.

CITATION:

3.30.010 Duties of the Bureau of Development Services.

The Bureau of Development Services shall be responsible for:

- B.** The application and enforcement of the provisions of Planning and Zoning Regulations, Title 33 as delegated by the Director of the Bureau of Planning and Sustainability.

FINDINGS:

1. Portland City Code Section 3.30.045 delegates the authority to adopt and administer administrative rules appropriate to perform the duties of the Bureau of Development Services set forth in Section 3.30.010 and prescribes procedures for administrative rulemaking. Portland City Code Section 33.272.020 also authorizes the Bureau of Development Services to develop and maintain an administrative rule establishing a clear and objective formula for determining rough proportionality as it applies to sites designated with a major public trail.

2. The Bureau of Planning and Sustainability developed a draft rule as part of the Central City 2035 Plan, effective July 9, 2018, and with review and input by the Bureau of Development Services.
3. In accordance with Section 3.30.045, BDS published a notice of public hearing in *The Oregonian* (May 25, May 26, and May 30, 2018) and in *The Daily Journal of Commerce* (May 25, May 28, and May 30, 2018). BDS completed required notice to the Office of Neighborhood Involvement on May 29, 2018. BDS posted notice of the hearing and made the draft rule available on the BDS website on May 25, 2018. BDS mailed direct notice to affected property owners on May 24, 2018. BDS then held a public hearing to receive comments on the draft administrative rule on June 27, 2018 and held the record open until June 27, 2018. Four written and three oral comments were received on the proposed rule. Minor changes of clarification were made to the rule after the public hearing. The effective date is more than 30 days after the last date of the required notices.

CONCLUSION:

As provided in Portland City Code Sections 3.30.040 and 33.272.020, and following the procedures in Section 3.30.045, the Director of the Bureau of Development Services hereby adopts the Administrative Rule.

EFFECTIVE: [Rebecca Esau] , July 10, 2018
Rebecca Esau, Director

Administrative Rule

Determination of Rough Proportionality for Major Public Trail Requirements

I. Purpose and Intent

This rule describes a formula that the Bureau of Development Services (BDS) will use to make a determination of rough proportionality in the application of Chapter 33.272, Major Public Trails. The intent of the formula is to detail the impact on the trail system from a specific proposed development to determine the extent of the easement and required trail improvements.

II. Background

The zoning code requirements in Chapter 33.272 prompt City staff to ask an applicant in a land use review or a building permit process to grant an easement and construct trail improvements that are related to (roughly proportional to) the impact of the applicant's development. Granting an easement will be required when new development or redevelopment occurs on property that has a major public trail designation on the Official Zoning Maps, and when that development or redevelopment will increase the use of the existing trail facilities or increase the need for new trail facilities. The City of Portland desires to formalize a methodology that it uses to determine rough proportionality. The standards of this Administrative Rule determine the easement length required and construction required for the major public trail.

III. Process for Assessing Rough Proportionality

The following steps will be used to evaluate development proposals on properties that include a major public trail designation on the Official Zoning Maps. The steps will result in a determination of whether meeting the major public trail standards is roughly proportional to the impact of proposed development.

Fractional Numbers: Fractional numbers round up or down after each calculation.

- When the calculation determines a number, truncate to two numbers past the decimal point and round up to the next whole number if the fraction is .50 or above; round down if the fraction is less than .50 (e.g. $108.75=109$).
- When the calculation determines a percentage, truncate the calculation to four numbers past the decimal point and round to the third decimal point, up if the last number is 5 or above; down if the number is 4 or below. (e.g. $349/1500=.2326=.233=22.3\%$).
- For the final calculation to determine proportionality, truncate to three numbers past the decimal point and round to the second decimal point, up if the last number is 5 or above; down if the number is 4 or below (e.g. $2.080=2.08$)

1) Determine the Impact

The impact of a proposed development on the major public trail system is the percentage of total bicyclist and pedestrian trips along a trail segment that will be generated as a result of a proposed development. In cases where the proposed development is in addition to existing development to be maintained, the analysis applies only to the additional development. This number is determined by dividing the number of trips to and from the site that will be made by bicyclists and pedestrians (**A**) by the total bicyclist/pedestrian trips using the segment (**B**).

Formula: $A / B = \text{Percent of Impact (I)}$

A equals: The total number of additional expected daily bicyclist/pedestrian trips to and from the site. Using Attachment A, multiply the bicyclist/pedestrian trip rate by size of the proposed development for each land use within the site.¹

B equals: The estimated number of daily bicyclist/pedestrian trips projected to use the major public trail system segment (based on City trail survey data).²

2) Determine the Percent of Easement Length

The percent of easement length is the percentage of average bicycle and pedestrian trip length that the length of the trail designation on the development site represents. The trail designation is represented by the trail stars on the Official Zoning Maps.

Formula: $C / D = \text{Percent of Easement Length (E)}$

C equals: The length of major public trail designation on the site

D equals: The weighted average length of bicyclist and pedestrian trips³

3) Determine Proportionality

The finding of rough proportionality, or Relative Impact, is determined by dividing the Percent of Impact (I) by the Percent of Easement Length (E). The extent of major public trail improvements that will be required as a result of a proposed development is based on the resulting Relative Impact, as indicated in the table below.

Formula: $I / E = \text{Relative Impact (R)}$

I equals: The Percent of Impact (I)

E equals: The Percent of Easement length¹

Relative Impact (R)	Result
If the Relative Impact is 0.66 or greater, (R)≥0.66	Meeting the trail requirements <u>is</u> roughly proportional. Major public trail easement and construction of trail is required.
If the Relative Impact is less than 0.66, but greater than 0.33, 0.66>(R)>0.33	Granting an easement for the trail <u>is</u> roughly proportional, but construction of the trail is not roughly proportional. Major public trail easement is required, but construction of the trail is not required.
If the Relative Impact is 0.33 or less, (R)≤0.33	Meeting the trail requirements <u>is not</u> proportional. Major public trail easement and construction of trail are not required. .

Example: Determine the rough proportionality for a fictional 3-story mid-rise development on a site in South Waterfront containing 211 residential units, a 15,000 square foot health club, and a 5,000 square foot restaurant. Per the Zoning Map, the length of the major trail through the site is 650 feet.

Step 1. Determine Percent of Impact (I):

(A) = 363 total average daily bicyclist/pedestrian trips based on rates listed in Attachment A, Rough Proportionality Formula Total Trips Table.

211 dwellings x 0.72 daily bike/ped trips per unit = 152 trips
15 KSF x 7.25 daily bike/ped trips per 1,000 sq. ft. = 109 trips
5 KSF x 17.61 daily bike/ped trips per 1,000 sq. ft. = 88 trips

(B) = 1,500 average daily trips along the trail segment, based on Attachment B, Bicyclist/Pedestrian Daily Trips Map (the segment is in the Central City)

(I) = A / B
(I) = 349 / 1500
(I) = **0.233**

When multiplied by 100, impact represents a 23.3% change in bicyclist/pedestrian trips within the segment.

The proportion of new trips on the updated total bicyclist/pedestrian trips in the segment is 0.195 (349/1849), representing 18.9% of updated total trips within the segment.

Step 2. Determine Percent of Easement Length (E):

(C) = 650' (length of trail designation on the site)
(D) = 5,800' (weighted average distance of a bicyclist and pedestrian trip)

(E) = C / D
(E) = 650 / 5800
(E) = **0.112**

When multiplied by 100, easement length needed for the trail on the site is 11.2% of the average length of a bicyclist and pedestrian trip.

Step 3. Determine Proportionality (R):

(R) = I / E
(R) = 0.233 / .112
(R) = **2.08**

The value of the relative impact exceeds 0.66. Therefore, granting an easement and construction of the trail is roughly proportional and all trail requirements must be met.

IV. Disputes

The applicant may dispute the number used for the total number of average daily bicyclist and pedestrian trips to and from the site, as determined above in Section III.1), Determine the Impact. The applicant is required to provide an alternate rate study that documents the anticipated number of daily bicycle and pedestrian trips to and from the site, based on local data and conditions. Based on review of the alternate rate study provided by the applicant, the Portland Bureau of Transportation Bureau Director or designee, in consultation with Portland Parks and Recreation, will make a determination of the total number of average daily bicyclist/pedestrian trips to and from the site

The applicant may not dispute other aspects of the rough proportionality determination.

V. Appendix

Attachment A Rough Proportionality for Major Public Trails Formula Total Trips Table

Attachment B Bicyclist and Pedestrian Daily Trips Map

¹ For the rough proportionality formula, the summation of the percentage of trips expected to be made by bicyclists and pedestrians will be set at **21%** of the total number of daily vehicle trips to and from a site. This is based on Portland-specific data from the 2011 Oregon Household Activity Survey, published by Metro.

² The number of bicyclist/pedestrian trips within the public trail system is estimated to be **1,500** daily within the Central City and inner southeast and inner northeast neighborhoods. The number of bicyclist/pedestrian trips within the public trail system is estimated to be **750** daily in the outer neighborhoods. These estimates are based on daily bicyclist traffic counts conducted between 2001 and 2007 at multiple locations along the Willamette River Greenway, the Eastbank Esplanade and the Springwater Corridor. The estimates are also informed by Metro bicyclist and pedestrian trail counts data for locations in Portland.

³ The average length of bicyclist and pedestrian trips is **5,800** feet based on Portland-specific data from the 2011 Oregon Household Activity Survey. The formula for calculating average trip length includes weighting bicyclist and pedestrian trip lengths by their relative proportions.

Since 15% of all trips are pedestrian trips and 6% of trips are bicyclist trips, pedestrian trips are weighted 2.5 times bicyclist trips ($15/6 = 2.5$). The average Portland pedestrian trip length is 0.45 miles and the average Portland bicyclist trip length is 2.72 miles. The average bicyclist/pedestrian trip length is calculated below:

Average length of Portland pedestrian trips x (% of pedestrian trips/% of total bicyclist + pedestrian trips)
+
(Average length of Portland bicyclist trips x (% of bicyclist trips/% of total bicyclist + pedestrian trips).

$0.45 \text{ miles} \times (15/21) + 2.72 \times (6/21) = 1.09857 \text{ miles}$

$5280 \text{ ft/mile} \times 1.09857 \text{ miles} = 5,800 \text{ feet.}$

Attachment A Rough Proportionality for Major Public Trails Formula Total Trips Table

Note that general category rates should only be used if specific categories do not apply. Impact of development land use is calculated as net increase in size (new units).

Land Use (per ITE land use codes)	Size (units)	Average Weekday Vehicle Trips (per ITE)	Average Daily Bike/Ped Trips ²	Notes
Residential Categories				
	Household Living (General)	per Dwelling	2.00	
210	Single Family Residential (1-3 units)	per Dwelling	9.44	1.98
220	Multi-Family Residential (4 or more units)	per Dwelling	7.32	1.54
251	Senior Housing (retirement apartment)	per Dwelling	4.27	0.90
210	Accessory Dwelling Unit (ADU)	per ADU	4.72 ³	0.99
231	Mid-Rise Residential/Mixed Use	per Dwelling	3.44	0.72
	Group Living (General)	per Bed		0.42
253	Assisted Living/Congregate Care	per Dwelling	2.02	0.42
620	Nursing Home	per Bed	3.06	0.64
Commercial Categories				
	Retail Sales and Service (General)	per 1,000 sq. ft.		Applicant will submit a rate, PBOT will evaluate
911	Walk-in Bank (no drive-thru)	per 1,000 sq. ft.	121.30 ⁴	25.47
310	Hotel	per Room	8.36	1.76
320	Motel	per Room	3.35	0.70
444	Movie Theater	per 1,000 sq. ft.	78.09	16.40
492	Health Club	per 1,000 sq. ft.	34.50 ⁶	7.25
931	Restaurant (Quality, standalone)	per 1,000 sq. ft.	83.84	17.61

² Calculated at 21% of average weekday vehicle trips unless otherwise noted. Rate from the 2011 Oregon Household Activity Survey.

³ Per PBOT practice, trip rate per ADU is set at 50% of single-family residential

⁴ Average weekday vehicle trip rate extrapolated from peak hour vehicle trip generation rate in ITE Trip Generation Manual, 10th Edition, using 10 times the PM peak hour of adjacent street traffic.

Land Use (per ITE land use codes)		Size (units)	Average Weekday Vehicle Trips (per ITE)	Average Daily Bike/Ped Trips ²	Notes
934	Drive-Through Restaurant	per 1,000 sq. ft.	470.95	98.90	
820	Shopping Center/Retail (general retail)	per 1,000 sq. ft.	37.75	7.93	
850	Supermarket	per 1,000 sq. ft.	106.78	22.42	
851	Convenience Store (stand-alone)	per 1,000 sq. ft.	762.28	160.08	
815	Discount Store (free-standing)	per 1,000 sq. ft.	53.12	11.16	
840	Car Sales New/Used	per establishment ⁵	27.84	1.00	See note 7.
732	Post Office	per 1,000 sq. ft.	103.94	21.83	
710	Office (General) and Industrial Office	per 1,000 sq. ft.	9.74	2.05	
720	Medical Office/Clinic	per 1,000 sq. ft.	34.80	7.31	
	Quick Vehicle Servicing (General)	per establishment ⁷		1.00	See note 7.
944	Service Station	per vehicle fueling position ⁵	172.01	1.00	See note 7.
947	Car Wash (stand-alone)	per establishment ⁷	108.00	1.00	See note 7.
942	Vehicle Repair	per 1,000 sq. ft. ⁷	35.10	1.00	See note 7.
	Commercial Parking	per long-term bike parking space		1.00	Per 33.266, Table 266-6 ⁶ . See note 8.
151	Self-Service Storage	per unit	1.80	0.38	
	Commercial Outdoor Recreation (General)	per acre		1.15, or per CU requirements	
480	Amusement Park	per acre	53.41	11.22	
481	Zoo	per acre			Applicant will submit a rate, PBOT to evaluate
420	Marina	per Berth	2.41	0.51	
	Major Event Entertainment (General) • If use includes seating (i.e. stadium) • If use does not include seating (i.e. fairgrounds) • If use subject to Conditional Use Review	per seat per acre		.03 per seat, .33 per acre per CU requirements	
452-454	Racetracks	per seat	0.60	0.13	Horse Racetrack
460	Arena	per seat	1.13 ⁷	0.24	

⁵ This use has a disproportionately high number of auto trips, therefore the rate is not based on the ITE Manual, but on best professional judgment of 1 bike/ped visit per day.

⁶ Assumes that all long-term bike parkers arrive and leave during peak hours and that no pedestrian trips are generated.

Land Use (per ITE land use codes)		Size (units)	Average Weekday Vehicle Trips (per ITE)	Average Daily Bike/Ped Trips ²	Notes
Industrial Categories					
	Industrial (General)	per 1,000 sq. ft.		0.83	
140	Manufacturing and Production	per 1,000 sq. ft.	3.93	0.83	
150, 154-157	Warehouse and Freight Movement	per 1,000 sq. ft.	4.42 avg	0.93	
30	Truck Terminal	per 1,000 sq. ft. ⁷	18.9	1.00	See note 7.
130	Industrial Park	per 1,000 sq. ft.	3.37	0.71	
	Railroad Yards			Exempt	Not in SDC table
	Waste-Related			Exempt	Not in SDC table
Institutional Categories					
	Institutional (General)	per 1,000 sq. ft.		.73	Peak rate
	Basic Utility			Exempt	Not in SDC table
	Community Service (General)			0.73	
495	Recreational Community Center	per 1,000 sq. ft.	28.82	6.05	
590	Library	per 1,000 sq. ft.	72.05	15.13	
411	Parks and Open Areas	per Acre	0.78	1.00 ⁷	See note 9.
520/522/530	Schools K-12 (average of 520/522/530)	per 1,000 sq. ft.	17.92	3.76	
540/550	Colleges (average of 540/550)	per Student	1.36	0.68 ⁸	See note 10.
610	Hospitals	per 1,000 sq. ft.	10.72	2.25	
560	Religious Institutions	per 1,000 sq. ft.	6.95	1.46	
565	Daycare	per 1,000 sq. ft.	47.62	10.00	
Other Categories					

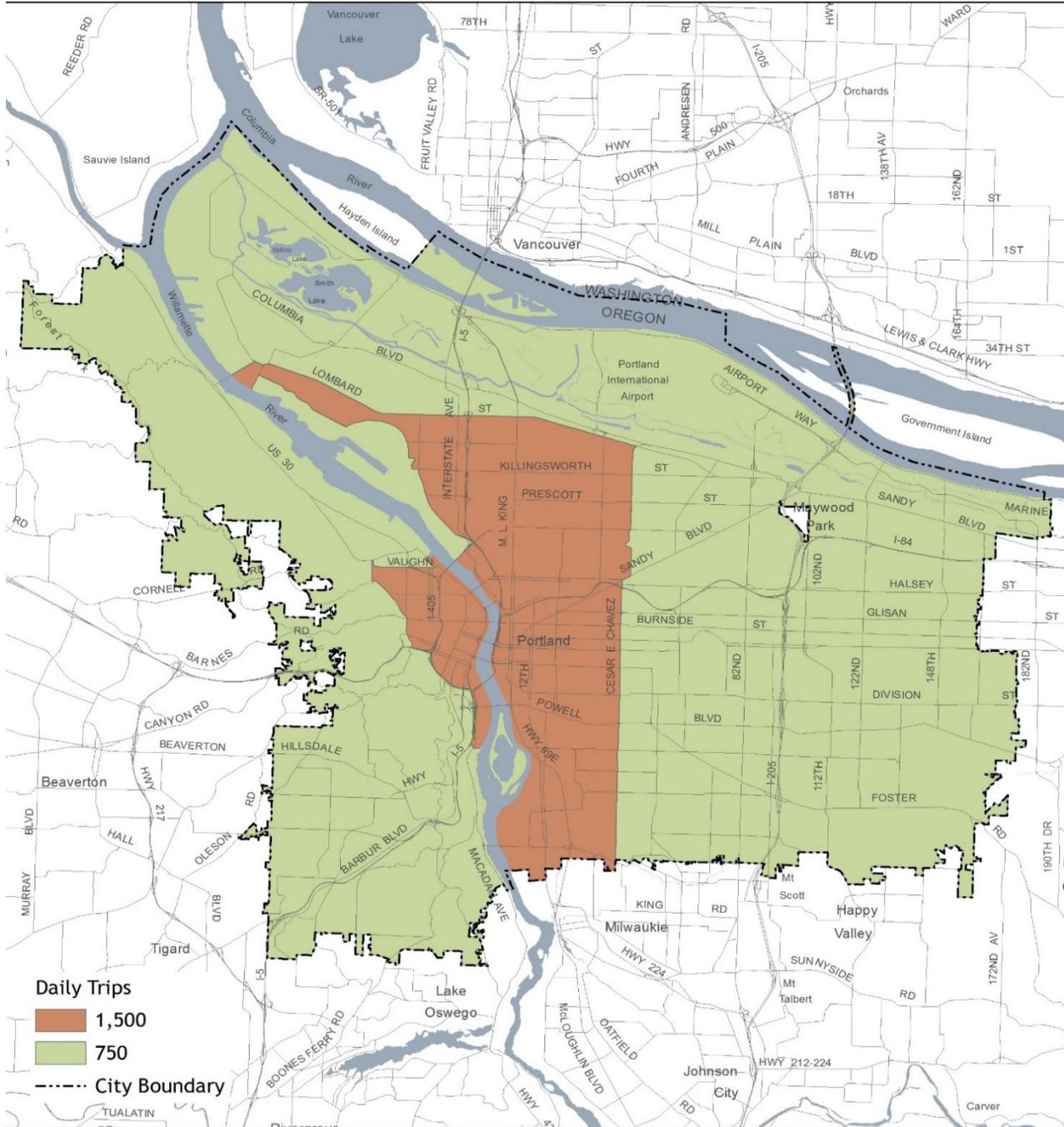
⁷ Parks and Open Areas by nature have a disproportionately high number of bicyclists and pedestrians. The bike/ped rate has been adjusted based on best professional judgment of 1 bike/ped visit per unit per day.

⁸ Colleges have a disproportionately high number of students who walk or ride bikes. The bike/ped rate has been adjusted to be equal to half of the total Average Weekday Trips generated.

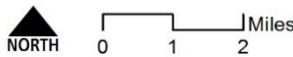
	Land Use (per ITE land use codes)	Size (units)	Average Weekday Vehicle Trips (per ITE)	Average Daily Bike/Ped Trips ²	Notes
	Agriculture			Exempt	Not in SDC table
	Aviation and Surface Passenger Terminals			Per CU requirements	Not in SDC table
571	Detention Facilities	per Bed	0.50 ⁶	Per CU requirements	Not in SDC table See note 6.
	Mining			Exempt	Not in SDC table
	Radio Frequency Transmission Facilities			Exempt	Not in SDC table
	Rail Lines and Utility Corridors			Exempt	Not in SDC table

Attachment B

Bicyclist and Pedestrian Daily Trips



June 20, 2016
 City of Portland, Oregon ||
 Bureau of Planning and Sustainability ||
 Geographic Information Systems



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