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**LEGAL ADVERTISEMENT
PORTLAND PLANNING BOARD**

The Portland Planning Board will hold a meeting on Thursday, September 20, 2018, Council Chambers, 2nd Floor, City Hall, 389 Congress Street. Public comments will be taken for each item on the agenda during the estimated allotted time and written comments should be submitted to planningboard@portlandmaine.gov

Evening Workshop - 7:00 p.m.

- i. Impact Fee Ordinance, Proposed Ordinance Amendment, City of Portland, Applicant.
(estimated time 7 to 8:30 p.m.) The Planning Board will meet for an update on the City's *Impact Fee Study*. The meeting will include a presentation on maximum supportable impact fee calculations and draft impact fee ordinance language.

SEAN DUNDON , CHAIR - PORTLAND PLANNING BOARD

CITY OF PORTLAND, MAINE

PLANNING BOARD



Sean Dundon, Chair
Brandon Mazer, Vice Chair
David Eaton
David Silk
Austin Smith
Maggie Stanley
Lisa Whited

AGENDA

PORTLAND PLANNING BOARD MEETING

The Portland Planning Board will hold a meeting on **THURSDAY, SEPTEMBER 20, 2018**, Council Chambers, 2nd Floor, City Hall, 389 Congress Street. **Public comments will be taken for each item on the agenda during the estimated allotted time and written comments should be submitted to planningboard@portlandmaine.gov**

EVENING WORKSHOP - 7:00 p.m. (Note change in time)

- i. Impact Fee Ordinance, Proposed Ordinance Amendment, City of Portland, Applicant. (estimated time 7 to 8:30 p.m.) The Planning Board will meet for an update on the City's *Impact Fee Study*. The meeting will include a presentation on maximum supportable impact fee calculations and draft impact fee ordinance language.

THERE IS NO PUBLIC HEARING PORTION OF THIS MEETING

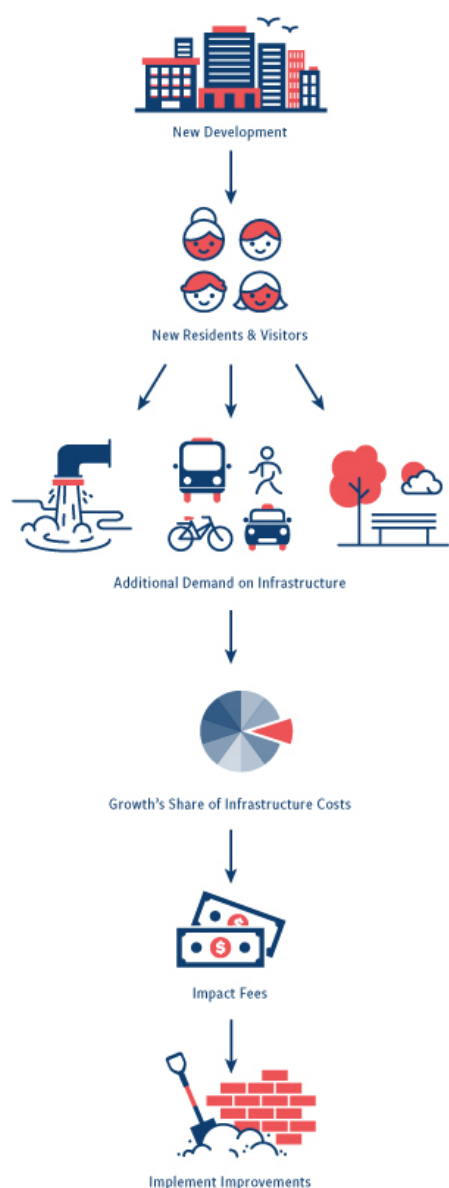


MEMORANDUM

PLANNING AND URBAN DEVELOPMENT DEPARTMENT

PLANNING DIVISION

To: Planning Board
From: Nell Donaldson, Senior Planner
Date: September 14, 2018
Re: Impact Fee Study Update
Meeting Date: September 20, 2018



I. INTRODUCTION

Earlier this year, the city's Planning Division, with the assistance of the Department of Public Works and the Department of Parks, Recreation, and Facilities, began the process of developing an impact fee study for the city. The intent of the study is to explore the potential for three municipal impact fees, for parks and recreation facilities, transportation, and wastewater, as a means of establishing a predictable, transparent, and equitable system for mitigating the impacts of development as it occurs in Portland over the next 10 years.

Planning Division staff met with Planning Board to introduce the *Impact Fee Study* in May of this year. That workshop included an overview of impact fees, a discussion on the ways that the city currently addresses mitigation of development impacts, and a brief synopsis of the scope of work for the study. The purpose of this second workshop is to provide an update on the study, present a set of preliminary maximum defensible fee calculations, share draft ordinance language, and gather feedback prior to returning to the Planning Board for a public hearing.

2. BACKGROUND ON IMPACT FEES

A. What are impact fees?

Impact fees are charges paid by new development to fund the cost of providing municipal facilities to serve that development. This idea is premised on the concept that when development occurs, it can bring many benefits, but it also affects the existing infrastructure around it by adding more cars, bikes, and pedestrians to the streets, increasing sewer and stormwater flows into city systems, and infusing additional visitors into the city's parks and open spaces. In turn, these facilities require additional capital investment. As a result of this thinking, impact fees are widely used throughout the United States. Impact fees have been used in some communities in the United States for the past 50+ years.

Figure 1: Impact fee process

Table 1: Sample of Maine Communities with Impact Fees

	Transportation	Sewer/Water	Open Space/Recreation	Fire/EMS	Schools
Brewer	●	●			
Brunswick		●	●		
Freeport	●				
Gorham		●	●		
Lewiston	●	●			
Pownal			●	●	
Saco		●	●	●	
Scarborough	●				●
Windham	●		●		
York		●			●

B. Where are impact fees?

Although impact fees are particularly common in U.S. states that have experienced rapid population growth in the west and south, they are found in the majority of states nationwide. Concord and Manchester, NH have impact fees, as does Burlington, VT. In Maine, the legislature laid the foundation for impact fees with the Comprehensive Planning and Land Use Regulation Act of 1987. In the time since, communities across the state, mostly in southern Maine, have developed and implemented impact fee ordinances (*Table 1*).

C. How may impact fees be used?

The uses of impact fees vary widely, depending on state enabling legislation, but in all cases impact fees *may only be used on capital projects to construct, expand, or replace infrastructure required to serve new development*. In Maine, impact fees may be used for transportation projects, public safety facilities, sewer and water systems, parks and open space, and school improvements. *Impact fees may not be used to pay for operations or maintenance, and may not be used to address existing deficiencies in these systems.*

3. MAXIMUM DEFENSIBLE FEE CALCULATIONS

Regardless of where impact fees are used, courts have established that there must be a rational nexus and rough proportionality between the type and scale of development and the fee imposed. Per guidance from the former Maine State Planning Office, “the expansion of the facility and/or service must be necessary and must be caused by the development; the fees charged must be based on the costs of the new facility/service apportioned to the new development; and the fees must benefit those who pay” (*Maine State Planning Office, 4*). Given these standards, in order for impact fees to be charged, a community must conduct an analysis that identifies growth-related infrastructure costs and apportions those costs to projected development, often by development type, on a square foot, unit, or per trip basis.

The City of Portland’s *Impact Fee Study* is meant to provide such an analysis. To date, the study has included the following work:

- A. Development of population, employment, and land use assumptions.* The first step of the study involved the development of 10-year growth projections (i.e. the projected change in population, employees, trips, and wastewater flows for which impacts could potentially be assessed) (*Attachment 1*). This step included the collection of background data on population, employment, land use, and wastewater flows in the city, a review of trends, and a survey of data from other sources (e.g. estimates from GPCOG, PACTS).
- B. Determination of capital facility needs and current levels of service.* The second step of the study involved the collection of data necessary to identify capital costs associated with projected growth:

- The Department of Parks, Recreation, and Facilities provided an inventory of current parks, trails, and recreation facilities, and identified replacement costs for each. This inventory was used to calculate existing level of service for parks and recreation facilities on a per capita and per job basis.
 - Based on the city's existing Capital Improvement Plan (CIP) requests, the Department of Public Works generated a list of capacity-building capital transportation projects, including multi-modal and signal projects. All projects were selected based on their ability to expand the city's network capacity to accommodate new growth. Because the city's transportation network is largely built out, very few of the selected projects represent traditional methods of expanding network capacity (e.g. adding lanes or extending roads into greenfield sites); instead, the transportation projects are generally targeted at expanding capacity through technological innovation (e.g. signal work) or multi-modal investment (e.g. reconnecting the street grid, improving intersection function, reworking major arterials as complete streets). DPW staff then determined the proportion of these capital projects attributable to future growth, based on project location and project type. Given the volume of the transportation projects, projects were subsequently categorized as high-, medium-, and low-readiness.
 - Because the city's wastewater system is also largely built-out, much like the transportation system, the growth-related wastewater capital projects selected by staff were chosen based on their ability to create capacity not by expanding the system, but by freeing up capacity within it. This means that the capital list includes projects like the city's inflow and infiltration program, which is designed to eliminate inefficiencies in the city's existing system and thereby expand capacity to accommodate future demand, and several CSO projects, which are designed to eliminate combined sewer overflows and thereby create capacity for additional wastewater flow. As with transportation projects, following the selection of capital projects, DPW staff determined the proportion of wastewater projects attributable to future growth, based on project location and type.
- C. *Development of maximum defensible fee calculations.* In the third step of the study, different commonly-used impact fee methodologies were reviewed for suitability with respect to the three impact fee categories under consideration. Subsequently, maximum defensible fee calculations were developed:
- The existing parks and recreation inventory, replacement cost figures, and growth factors from the demographic analysis were combined to calculate maximum defensible parks fees for residential and non-residential land uses. This fee is based on an incremental expansion model, which is premised on the concept that, as growth occurs, it pays the increment required to maintain existing levels of service for parks and recreation facilities.
 - Transportation fees were calculated using a plan-based approach. The share of high-readiness capital projects that could be attributed to growth was allocated across projected increases in person trips associated with population and employment projections, resulting in maximum defensible transportation fees for both residential and non-residential land uses.
 - Likewise, for the wastewater fee calculations, a plan-based approach was used. Again, the share of capital project costs that could be attributed to growth was apportioned over projected increases in wastewater flows, resulting in maximum defensible wastewater fee calculations based on meter size.
- D. *Stakeholder outreach.* In late July, these initial maximum supportable fee calculations were shared with the study's stakeholder group, consisting of neighborhood representatives, developers, and representatives of organizations with a stake in economic development in the community more broadly. This group reviewed the calculations and provided valuable feedback on methodology, assumptions, and the level of the maximum defensible fee calculations.
- E. *Revisions to maximum defensible fee calculations.* In response to these comments, DPW, Parks and Recreation, and Planning staff met to discuss ways in which to respond to comments and modify

assumptions to develop a revised set of fees. As a product of these discussions, several changes were made to the assumptions, including:

- Adding non-residential uses to the parks fee
- Eliminating parks vehicles and recreation facilities for which the city is unlikely to expand capacity in the future
- Modifying assumptions regarding future MaineDOT/federal funding
- Modifying city/growth shares for some transportation capital projects
- Broadening land use categories on the transportation fee
- Modifying the wastewater fee to include a credit for future stormwater and wastewater fees that will cover existing debt service

The resulting fee calculations are those presented here (*Attachment 2*). These revised fee calculations are significantly lower than the calculations prepared in the early summer and originally presented to the stakeholder group. This means that the fees will not go as far as those initially calculated in terms of covering growth-related infrastructure costs in the city. As a result, the City will need to look to the General Fund and other sources to cover a larger portion of these costs.

- F. Analysis of maximum defensible fee calculations.* In addition to gathering feedback on the revised maximum supportable fee calculations from the Planning Board and the City Council, staff has shared the revised fee calculations with the stakeholder group and offered to meet with members of the group to review and discuss. Staff has also engaged a third party to assess the potential impact of the fee calculations on various development types. Last, the impact fee consultant has begun an analysis to examine the effect of the maximum supportable fee calculations on housing affordability within the city.

4. DRAFT ORDINANCE

In order to collect impact fees, municipalities must have enacted a council-adopted ordinance that meets a series of requirements established by state statute. These requirements include the provision of language to address the relationship between fees and growth's share of infrastructure costs, the treatment of revenues generated from impact fees, timely use of impact fees, and refunds (*Title 30-A MRSA §4354*). Staff has used the state statute, impact fee ordinances from communities in Maine and nationwide, and guidance from the former State Planning Office to develop draft ordinance language to accompany the fee calculations (*Attachment 3*). This ordinance language addresses not only the technical requirements of the statute but issues critical to the administration of impact fees:

- A. Applicability.* The draft ordinance is written such that any development on a site that generates an increase in impact would be subject to impact fees. This would include new development, additions to existing buildings which result in net new residential units, non-residential square footage, or wastewater meters, and changes of use which result in a net increase in impact per the impact fee schedule.
- B. Impact fee schedule and basic guidelines for the calculation of the fee.* The draft ordinance includes language designed to clarify methods for calculating fees for mixed-use development, redevelopment, additions, and changes of use.
- C. Provisions for the modification of the fee amount.* The draft ordinance has been written to allow the Planning Board, based on a property-owner's application, to grant a credit against required impact fees for any infrastructure improvements made by a developer which are part of or equivalent to the projects for which impact fees are being collected. Likewise, the draft ordinance includes language allowing the Planning Board to modify or waive impact fees for developers that can prove that a proposed use will have no or significantly-diminished demands on the capital facilities for which impact fees are being collected.

- D. *Waivers for affordable housing.* The draft ordinance includes a reference to Division 30, which provides for fee reductions for affordable housing developments. Under the draft ordinance, the existing fee reductions granted in Division 30 would apply to impact fees. The concept of this waiver is a direct response to feedback expressing concerns regarding the effects of impact fees on the production of affordable housing. Guidance from the SPO suggests that fee waivers can be justified so long as there is a sound public policy basis and the fee is made whole by the municipality using funds from an alternate source.
- E. *Administration of funds.* Lastly, the draft ordinance language also addresses the timing of impact fee collection, accounting procedures, and procedure for refunds as necessary.

The draft ordinance has been reviewed by Corporation Counsel. It is anticipated that Corporation Counsel will continue to review future drafts as they are revised.

At the May Planning Board workshop, Board members raised questions about the administration of an impact fee system. In order to begin planning around the logistics of calculating, collecting, accounting for, and expending potential fees, staff has begun discussions with both the Finance Department and the Department of Permitting and Inspections. It is anticipated that the city's new software system, as it is improved, will help to streamline this process.

5. COMPARISON WITH THE CURRENT SYSTEM

At previous meetings on the *Impact Fee Study*, Planning Board members also raised questions about the city's current system for collecting mitigation for projects that have impacts on municipal infrastructure. The City of Portland's existing site plan ordinance allows the city to require mitigation "so as to be consistent with City Council approved master plans and facilities plans and with off-premises infrastructure, including but not limited to sewer and stormwater, streets, trails, pedestrian and bicycle network, environmental management or other public facilities" (*City of Portland Land Use Code 14-526(c)1.a*). Further, the city's *Technical Manual* requires that developments that generate more than 100 passenger car equivalents obtain a Traffic Movement Permit (TMP) under the city's delegated review authority. The issuance of a TMP includes a "summary of findings and recommendations for improvements and other impact mitigation measures" (*City of Portland Technical Manual, 2*). Under these regulations, the city negotiates mitigation on a case-by-case basis predicated on an analysis of impacts identified through the site plan or subdivision review process.

As a product of this process, in some cases, developers make in-kind physical improvements, upgrading a traffic light or installing pedestrian signalheads and ramps at a nearby intersection. In other cases, developers are required to make financial infrastructure contributions proportionate to their impacts. These contributions are held in separate "infrastructure accounts" until they can be drawn down to pay for the improvement identified through the review process. For reference, data shows that, as mitigation of impacts for site plans approved between May of 2013 and May of 2018, the Planning Board and/or the Planning Authority required infrastructure contributions totaling just over \$1 million. It should be noted that this figure does not include in-kind work completed by developers and some substantial contributions yet to come, including that from the Portland Company redevelopment. The majority of these infrastructure contributions are associated with transportation infrastructure investments, although the city has also collected contributions for the purposes of public art and parks over the past five years.

Our current system for collecting mitigation has some significant weaknesses:

- It involves a negotiated process that creates uncertainty for developers, neighbors, and the City. This negotiation process takes additional time, and also involves expenditures that could otherwise be put directly into mitigation.
- The staff audit of infrastructure contributions over the past five years indicates that the City is not adequately planning for growth. Projects are generally not fully mitigating their impacts and allowing the City's plan for growth to be implemented in a timely fashion. As a result, the backlog of needed infrastructure projects increases without a financial plan to adequately fund the work.

6. IMPACT FEES WITHIN A BROADER CITY FINANCE FRAMEWORK

Last, at previous meetings, staff has received questions about how impact fees would relate to the City's broader municipal finance framework. Brendan O'Connell, the City's Finance Director, and Chris Huff, the City's Assessor, have provided a joint memo to answer these questions (*Attachment 4*).

7. QUESTIONS FOR THE BOARD TO CONSIDER

1. Does the Board have any comments or questions concerning the procedures for administering the fee as framed in the draft ordinance?
2. Does the Board have any comments or questions specific to the revised maximum defensible fee calculations?

8. NEXT STEPS

1. Presentation to City Council at workshop on 9/24/18;
2. Completion of analysis and revisions to fee calculations and draft ordinance as necessary;
3. Planning Board and Council hearings

9. ATTACHMENTS

1. Demographic Data and Development Projections for Impact Fee Study, Tischler Bise, 6/5/18
2. Revised Preliminary Maximum Defensible Fee Calculations, TischlerBise, 9/12/18
3. Draft Impact Fee Ordinance, 9/13/18
4. Impact Fee – Questions and Answers from Finance Director & Assessor, 8/12/18

MEMORANDUM

TO: Helen Donaldson, City of Portland, Planning and Urban Development

FROM: Carson Bise, AICP, TischlerBise
Colin McAweeney, TischlerBise

DATE: June 5, 2018

RE: **DRAFT** Demographic Data and Development Projections for Impact Fee Study

As part of our Work Scope, TischlerBise has prepared documentation on demographic data and development projections that will be used in the Impact Fee Study for Transportation, Parks and Open Space, and Wastewater. The data estimates and projections are used in the study's calculations and to illustrate the possible future pace of service demands on the City's infrastructure. Furthermore, the memo demonstrates the history of development and base year development levels in Portland. The base year assumptions are used in the impact fee calculations to determine current levels of service.

The factors provide assumptions for the final impact fee model and, once finalized, this memo will become part of the final report and/or model documentation.

This memo includes discussion and findings on:

- Household/ Housing Unit Population
- Current population and housing unit estimates
- Residential projections
- Current employment and nonresidential floor area estimates
- Nonresidential projections
- Current and projected person vehicle trips
- Current and projected wastewater flows

Note: calculations throughout this technical memo are based on an analysis conducted using Excel software. Results are discussed in the memo using one-and two-digit places (in most cases), which represent rounded figures. However, the analysis itself uses figures carried to their ultimate decimal places; therefore, the sums and products generated in the analysis may not equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to the rounding of figures shown, not in the analysis).

POPULATION AND HOUSING CHARACTERISTICS

Impact fees often use per capita standards and persons per housing unit or persons per household to derive proportionate share fee amounts. Housing types have varying household sizes and, consequently, a varying demand on City infrastructure and services. Thus, it is important to differentiate between housing types and size.

When persons per housing unit (PPHU) is used in the fee calculations, infrastructure standards are derived using year-round population. In contrast, when persons per household (PPHH) is used in the fee calculations, the fee methodology assumes all housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. From the Maine Office of Tourism, the Greater Portland and Casco Bay region saw 5.4 million visitors in 2016. As a result, it is not just permanent residents occupying housing units in Portland. In response, City infrastructure and operating service levels are sized to accommodate not just permanent residents, but seasonal residents, seasonal workers, and visitors as well. Thus, TischlerBise recommends that fees for residential development in the City of Portland be imposed according to the persons per household (PPHH).

Persons per household (PPHH) will be held constant over the projection period since the study represents a “snapshot approach” of current levels of service and costs. Based on household characteristics, TischlerBise recommends using two housing unit categories for the impact fee study: (1) Single Family and (2) Multifamily. “Single family/Duplex” units include single family detached, single family attached, duplexes, and mobile homes, as defined in the City’s land use code. Multifamily units include structures with more than 2 units. Figure 1 shows the US Census, American Community Survey 2016 5-Year Estimates data for the City of Portland. Single family/Duplex units have a household size of 2.38 persons per unit and multifamily units have a household size of 1.59 persons per unit.

Additionally, single family/duplex units have a vacancy rate of 9.8 percent and are 70 percent of the housing stock in Portland. Multifamily units have a vacancy rate of 9.4 percent and are 30 percent of the housing stock in Portland.

Figure 1. Persons per Household

Type of Structure	Persons	House-holds	Persons per Household	Housing Units	Persons per Housing Unit	Housing Mix	Vacancy Rate
Single Family/Duplex Unit ¹	50,010	21,052	2.38	23,338	2.14	69.8%	9.8%
Multifamily Unit ²	14,542	9,149	1.59	10,098	1.44	30.2%	9.4%
Total	64,552	30,201	2.14	33,436	1.93		9.7%

Source: TischlerBise analysis; U.S. Census Bureau, 2012-2016 American Community Survey, 5-Year Estimates

[1] Includes detached, attached, duplexes, and mobile home units.

[2] Includes structures with more than 2 units.

BASE YEAR POPULATION AND HOUSING UNITS

Permanent Residents

Along with the population estimate for residents in single family and multifamily units, the American Community Survey provides population estimates for those residing in group quarters (i.e. student housing and military residents). Found in Figure 2, the household population and group quarters are considered the City's permanent population. In 2016 it is estimated that the permanent population was 66,627.

Figure 2. Permanent Population, 2016

Type of Structure	Persons	%
Single Family/Duplex Unit	50,010	75.1%
Multifamily Unit	14,542	21.8%
Group Quarters	2,075	3.1%
Total	66,627	100.0%

Source: U.S. Census Bureau, 2012-2016 American Community Survey, 5-Year Estimates

In the recently published *Portland's Plan 2030*, several population growth scenarios, modeled by the Greater Portland Council of Governments (GPCOG), are played out. The comprehensive plan shows that a medium-level growth scenario would result in a 2030 population of 71,374. Using this projection for the impact fee study, by 2030 the City of Portland is forecasted to have a permanent population of 71,374. To estimate the City's population in the interim years, a straight-line approach is used. Figure 3 illustrates the growth in permanent population. In the base year, 2018, there is estimated to be 67,305 permanent residents in Portland.

Figure 3. Base Year Permanent Population

	5-Year Increments							Total Increase
	2016	2017	Base Year 2018	2019	2020	2025	2030	
Permanent Population	66,627	66,966	67,305	67,644	67,983	69,679	71,374	4,747
Percent Increase		0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	7.1%

Source: U.S. Census Bureau, 2012-2016 American Community Survey, 5-Year Estimates; City of Portland Planning Department; TischlerBise analysis

Seasonal Residents

As mentioned, the impact fee study will be using a peak population of Portland because of the large tourism industry. It is assumed that City infrastructure and services are sized to serve a peak population not just the permanent population. In this case, two additional populations need to be calculated: seasonal and visitor. The seasonal population includes residents who have second homes in Portland and the seasonal labor influx during peak tourism months. The visitor population includes overnight and day visitors.

To calculate the seasonal population, the study assumes full occupancy of the housing units in the city. From the US Census data, in 2016, there were 2,286 vacant single family/duplex homes and 949 vacant multifamily homes. The seasonal population is calculated by multiplying the units by the corresponding the persons per household factor (PPHH). In 2016, there was a seasonal population of 6,950.

Figure 4. Seasonal Population, 2016

Type of Structure	Vacant Units	Persons per Household	Seasonal Population
Single Family/Duplex Unit ¹	2,286	2.38	5,441
Multifamily Unit ²	949	1.59	1,509
Total	3,235	2.15	6,950

Source: TischlerBise analysis; U.S. Census Bureau, 2012-2016

American Community Survey, 5-Year Estimates

[1] Includes detached, attached, duplexes, and mobile home units.

[2] Includes structures with more than 2 units.

Seasonal Visitors

The visitor population for Portland is found by first analyzing the state and regional totals. In 2016, there were 41.2 million visitors to Maine. The majority of the visitors came in the summer, resulting in the average daily number of visitors in the summer being 185 percent of the annual average.

Figure 5. State of Maine Visitor Totals, 2016

Season	Total Visitors	Average Daily Visitors	Percent of Annual Ave.
Winter	5,615,670	46,156	41%
Summer	25,328,066	208,176	185%
Fall	10,230,660	84,088	75%
Total	41,174,396	112,807	100%

Source: Maine Office of Tourism, 2016 Calendar Year Annual Report

According to the Maine Office of Tourism (MOT), there were 5,360,000 visitors (overnight and day visitors) to the Greater Portland and Casco Bay Region in 2016. Results of the MOT's visitor survey indicate that the Portland's Waterfront was the top attraction for 33 percent of overnight visitors and for 30 percent of day visitors. The study will use a conservative method and use these percentages to allocate the regional visitor total to the City of Portland.

In Figure 6, the City of Portland's daily peak visitor population is calculated. The estimated total of overnight visitors to Portland is 745,800. The estimated total of day visitors to Portland is 930,000. As a result, the total annual visitors to the City of Portland is 1,675,800, or an average of 4,591 per day. Found above, during the summer statewide, the visitor population spikes to 185 percent of the annual average. This factor is applied to the City's average to calculate the daily peak season visitor total. As a result, in 2016, it is estimated that the City of Portland's daily peak season visitor population was 8,473.

Figure 6. City of Portland Peak Season Visitor Population, 2016

Overnight Visitors to Region	2,260,000
City's Proportion of Region	33%
Overnight Visitors to Portland	745,800
Day Visitors to Region	3,100,000
City's Proportion of Region	30%
Day Visitors to Portland	930,000
Total Annual Visitors to Portland	1,675,800
Average Daily Visitors	4,591
Peak Season Multiplier	185%
Daily Peak Season Visitor Total	8,473

Source: Maine Office of Tourism, 2016;
TischlerBise Analysis

The study assumes that the visitor population will have a positive relationship and follow the permanent population's growth. From 2016 to 2018 there is a 1.02 percent increase in permanent population in Portland; this is applied to the visitor population to calculate the base year total. It is assumed that during the peak seasonal period the City's seasonal population (seasonal residents and workers) occupies the vacant housing units. As a result, the seasonal population is calculated based on housing growth, described in the next section of the report. In 2018, it is estimated that the peak population for the City of Portland is 83,250.

Figure 7. Base Year Peak Population

	2016	2017	Base Year 2018
Peak Population			
Permanent	66,627	66,966	67,305
Seasonal	6,950	7,168	7,386
Visitor	8,473	8,516	8,559
Total	82,049	82,650	83,250

Source: TischlerBise analysis

Base Year Housing Stock

To understand the housing growth in the City of Portland, the building permit data from the last five years is collected in Figure 8. Over the past 5 years there has been an increase of 1,435 housing units in Portland and, on average, there have been 33 single family/duplex and 254 multifamily housing units constructed annually. It is assumed this trend will continue and the averages are used to project housing development in the City of Portland.

Figure 8. Permitted Housing Units

Housing Type	2013	2014	2015	2016	2017	Total	Average
Single Family/Duplex	26	53	23	38	26	166	33
Multifamily	168	97	187	611	206	1,269	254
Total	194	150	210	649	232	1,435	287

Source: City of Portland Planning Department

By examining parcel data provided by the City with a GIS (Geographic Information System) software, the base year housing stock is estimated in Figure 9. In total, 56 percent of the housing in the City of Portland is single family/duplex and 44 percent multifamily. Consistent with the City's land use code, single family units include single family detached, single family attached, duplexes, and mobile homes. Multifamily units include structures with 3 or more units.

Figure 9. Base Year Housing Stock (Housing Units)

Housing Type	Base Year 2018	%
Single Family/Duplex	21,047	56%
Multifamily	16,575	44%
Total	37,622	100%

Source: City of Portland GIS Data

POPULATION AND HOUSING UNIT PROJECTIONS

Illustrated in Figure 10, by using the projections from *Portland's Plan 2030* for permanent population, a growth of 3,391 residents is projected by 2028. The seasonal population is assumed to grow with housing development. The vacancy rates found in Figure 1 are assumed to hold through the projection period and the seasonal population is found by combining the estimated vacant units with the corresponding PPHH factor. Lastly, to project the daily peak visitor population growth, the annual percent increase in permanent population is applied. Overall, there is a peak population increase of 4,279. Of the total population in 2028, 81 percent is permanent, 9 percent is seasonal, and 10 percent is visitor population.

To project the housing unit growth in Portland, the five-year annual average of building permits is used (see Figure 8). Over the ten-year projection period, the housing stock in the city is estimated to increase by 2,870 units (88 percent multifamily units).

Figure 10. City of Portland Annual Residential Development Projections

	Base Year 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total Increase
Peak Population												
Permanent	67,305	67,644	67,983	68,322	68,661	69,001	69,340	69,679	70,018	70,357	70,696	3,391
Seasonal	7,386	7,432	7,478	7,523	7,569	7,615	7,660	7,706	7,752	7,797	7,843	457
Visitor	8,559	8,602	8,645	8,688	8,731	8,775	8,818	8,861	8,904	8,947	8,990	431
Total	83,250	83,678	84,106	84,534	84,962	85,390	85,818	86,246	86,673	87,101	87,529	4,279
Housing Unit												
Single Family/Duplex	21,047	21,080	21,113	21,147	21,180	21,213	21,246	21,279	21,313	21,346	21,379	332
Multifamily	16,575	16,829	17,083	17,336	17,590	17,844	18,098	18,352	18,605	18,859	19,113	2,538
Total	37,622	37,909	38,196	38,483	38,770	39,057	39,344	39,631	39,918	40,205	40,492	2,870

Source: Portland's Plan 2030; TischlerBise analysis

CURRENT EMPLOYMENT AND NONRESIDENTIAL FLOOR AREA

The impact fee study will include nonresidential development as well. According to the U.S. Census Bureau's web application, OnTheMap, there were 65,203 jobs in Portland in 2015. The education, health care, and social assistance services accounted for the largest percentage of the total (26.2 percent).

Figure 11. Employment by Industry Sector, 2015

Industry Sector	Employment	%
Agriculture, forestry, fishing and hunting, and mining	18	0.0%
Utilities	395	0.6%
Construction	2,015	3.1%
Manufacturing	2,714	4.2%
Wholesale trade	2,478	3.8%
Retail trade	5,302	8.1%
Transportation and warehousing, and utilities	2,065	3.2%
Information	1,529	2.3%
Finance and insurance, and real estate and rental and leasing	8,114	12.4%
Professional, scientific, mgmt. , admin., and waste mgmt. services	11,893	18.2%
Educational services, and health care and social assistance	17,057	26.2%
Arts, entertainment, recreation, accommodation, and food services	7,354	11.3%
Other services, except public administration	2,475	3.8%
Public administration	1,794	2.8%
Total	65,203	100.0%

Source: U.S. Census Bureau, OnTheMap 2015

The fourteen industry sectors in Figure 11 have been compiled into four industries: retail, office, industrial, and institutional. The City of Portland's employment is pretty well dispersed between the industries, with the institutional and office industries accounting for the highest percentages of employment, Figure 12.

Figure 12. Employment by Industry, 2015

Industry	Jobs	%
Retail	12,656	19%
Office	24,011	37%
Industrial	9,685	15%
Institutional	18,851	29%
Total	65,203	100%

Source: U.S. Census Bureau, OnTheMap 2015

Since the breakdown is for 2015, a projection is necessary to estimate the job totals for the base year. To estimate the current employment in the City of Portland, employment projections from Portland Area Comprehensive Transportation System (PACTS) are used. Based on employment projections at the Traffic Analysis Zone (TAZ) level, PACTS forecast an employment increase of 27.5 percent from 2014 to 2040. The annual percent increase of the PACTS projection is used to calculate the employment growth in Figure 13. The breakdown by industry in Figure 12 is then applied to total increase to calculate the growth in each industry. In the base year, it is estimated that there are 67,270 jobs in Portland.

Figure 13. Base Year Employment

	2015	2016	2017	Base Year 2018
Employment				
Retail	12,656	12,790	12,923	13,057
Office	24,011	24,265	24,518	24,772
Industrial	9,685	9,787	9,890	9,992
Institution	18,851	19,050	19,249	19,449
Total	65,203	65,892	66,581	67,270

Source: Portland Area Comprehensive Transportation System (PACTS); TischlerBise analysis

Base year nonresidential floor area for the retail, office, industrial, and institutional industry sectors are calculated with GIS parcel data provided by City staff. In Figure 14, there is a total of 35.3 million square feet of nonresidential floor area in Portland in 2018, with all sectors accounting for at least 20 percent. Additionally, the figure lists the City's land use categories used to determine the floor area of each industry.

Figure 14. Base Year Nonresidential Floor Area

Industry	Nonresidential Sq. Ft.	%	Land Use Categories
Retail	9,816,540	28%	Multiuse Commercial, Retail & Personal Services
Office	9,317,766	26%	Office & Business Services, Communications, Commercial Condos
Industrial	7,224,665	20%	Manufacturing & Constr., Multiuse Ind., Transport., Warehouse, Wholesale
Institutional	8,909,498	25%	Charitable, Government, Scientific Inst., Religious, Other Exempt by Law
Total	35,268,468	100%	

Source: City of Portland GIS data

NONRESIDENTIAL FLOOR AREA AND EMPLOYMENT PROJECTIONS

To project nonresidential floor area, square feet per employee factors from the Institute for Transportation Engineer's Trip Generation (2017) are used. To estimate the factor for retail, the shopping center factor is used, for office the general office factor is used, for industrial the manufacturing factor is used, and for institutional the hospital factor is used (Figure 16).

Figure 15. Institute of Transportation Engineers Nonresidential Land Use Factors

ITE Code	Land Use	Demand Unit	Emp Per Dmd Unit	Sq Ft Per Emp
110	Light Industrial	1,000 Sq Ft	1.63	615
130	Industrial Park	1,000 Sq Ft	1.16	864
140	Manufacturing	1,000 Sq Ft	1.59	628
150	Warehousing	1,000 Sq Ft	0.34	2,902
254	Assisted Living	bed	0.61	na
320	Motel	room	0.13	na
520	Elementary School	1,000 Sq Ft	0.93	1,076
530	High School	1,000 Sq Ft	0.63	1,581
540	Community College	student	0.08	na
550	University/College	student	0.18	na
565	Day Care	student	0.19	na
610	Hospital	1,000 Sq Ft	2.83	354
620	Nursing Home	1,000 Sq Ft	2.28	438
710	General Office (avg size)	1,000 Sq Ft	2.97	337
760	Research & Dev Center	1,000 Sq Ft	3.42	292
770	Business Park	1,000 Sq Ft	3.08	325
820	Shopping Center (avg size)	1,000 Sq Ft	2.34	427

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017)

Found in Figure 17, job growth over the next ten years is projected to follow PACTS' annual percentage increase forecast. In total, 6,890 new jobs are projected by 2028. Each industry sector is projected to have an increase over 1,000 jobs, with office topping the four with an increase of 2,537 jobs.

To project floor area, the square foot per job factors are applied to the corresponding job totals. Over the next ten years, it is projected that there will be a growth of 2.8 million nonresidential square feet in the City of Portland. The office and institutional industries are projected to have the largest increases in floor area, both over 700,000 square feet.

Figure 16. Employment and Nonresidential Floor Area Projections

Industry	Base Year 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total Increase
Employment												
Retail	13,057	13,191	13,325	13,458	13,592	13,726	13,860	13,993	14,127	14,261	14,395	1,337
Office	24,772	25,026	25,280	25,533	25,787	26,041	26,295	26,548	26,802	27,056	27,309	2,537
Industrial	9,992	10,094	10,197	10,299	10,401	10,504	10,606	10,708	10,811	10,913	11,015	1,023
Institution	19,449	19,648	19,847	20,046	20,245	20,445	20,644	20,843	21,042	21,241	21,441	1,992
Total	67,270	67,959	68,648	69,337	70,026	70,715	71,404	72,093	72,782	73,471	74,160	6,890
Nonresidential Floor Area (1,000 sq. ft.)												
Retail	9,817	9,874	9,931	9,988	10,045	10,102	10,159	10,216	10,273	10,330	10,387	571
Office	9,318	9,403	9,489	9,574	9,660	9,745	9,830	9,916	10,001	10,087	10,172	854
Industrial	7,225	7,289	7,353	7,418	7,482	7,546	7,611	7,675	7,739	7,804	7,868	643
Institution	8,909	8,980	9,050	9,121	9,191	9,262	9,332	9,402	9,473	9,543	9,614	704
Total	35,268	35,546	35,823	36,100	36,378	36,655	36,932	37,209	37,487	37,764	38,041	2,773

Source: Portland Area Comprehensive Transportation System (PACTS); City of Portland; TischlerBise analysis

PERSON TRIP GENERATION

Portland is a unique community with residents and workers using varying modes to travel. In general, an impact fee study calculates future developments' impact on the City's transportation infrastructure. In suburban, greenfield communities that concentrate on roadway expansion to accommodate new vehicles, a development's impact is best estimated by calculating the new vehicle trips or vehicle miles traveled (VMT) generated by the development. However, based on the urban environment and residents' travel behaviors, a multimodal approach is necessary for the City of Portland. This is also consistent with the capital improvements identified in the City's Capital Improvement Plan. As such, the multimodal approach will calculate the daily person trips generated by the varying development types in the study. To encompass the varying modes of travel used in Portland, the methodology includes persons per vehicle trip, transit trip, and non-motorized trips.

Person Trip Methodology

According to the Institute of Transportation Engineers (ITE), there are several elements necessary to calculate person trips. The following equation is provided in the ITE's Trip Generation Handbook (2017):

$$\text{Person trips} = [(\text{vehicle occupancy}) \times (\text{vehicle trips})] + \text{transit trips} + \text{walk trips} + \text{bike trips}$$

To create a more streamlined approach, this study uses "non-motorized trips" as the sum of walk trip and bike trips. The Trip Generation Handbook outlines the general approach to calculating person trips (further detail of methodology used is described in following sections):

1. **Estimate vehicle trips generated by development type.**
 - a. This study uses the vehicle trip rates found in ITE's Trip Generation Manual (2017).

2. Determine mode share and vehicle occupancy.

- Trip survey data from the National Household Transportation Survey (2017) is used to calculate needed factors.

3. Convert vehicle trips to person trips.

- This conversion calculates the total person trips by combining the vehicle trip mode share and vehicle occupancy.

4. Calculate the estimated person trips by mode.

- The mode share split is applied to the total person trip rate to calculate the specific person trip rate for vehicle, transit, and non-motorized trips per land use.

Residential Vehicle Trips

A customized vehicle trip rate is calculated for the single family and multifamily units in the City of Portland. In Figure 18, the most recent data from the American Community Survey is inputted into equations provided by the ITE to calculate the vehicle trip ends per housing unit factor. A single family/duplex unit is estimated to generate 7.6 trip ends on an average weekday and a multifamily unit is estimated to generate 3.6 trip ends on an average weekday.

Figure 17. Customized Residential Vehicle Trip End Rates

	Vehicles Available (1)	Households (2)			Vehicles per Household by Tenure
		Single Family/Duplex	Multifamily Units	Total HHs	
Owner-occupied	23,000	12,312	680	12,992	1.77
Renter-occupied	17,976	8,740	8,469	17,209	1.04
TOTAL	40,976	21,052	9,149	30,201	1.36
Housing Units (6) =>		23,338	10,098	33,436	
Persons per Housing Unit =>		2.14	1.44	1.93	

	Persons (3)	Trip Ends (4)	Vehicles by Type of Housing	Trip Ends (5)	Average Trip Ends	Trip Ends per Housing Unit
Single Family/Duplex	50,010	154,055	30,926	202,330	178,192	7.60
Multifamily	14,542	33,220	10,050	39,892	36,556	3.60
TOTAL	64,552	187,275	40,976	242,222	214,748	6.40

(1) Vehicles available by tenure from Table B25046, 2012-2016 American Community Survey 5-Year Estimates.

(2) Households by tenure and units in structure from Table B25032, American Community Survey, 2012-2016.

(3) Persons by units in structure from Table B25033, American Community Survey, 2012-2016.

(4) Vehicle trips ends based on persons using formulas from [Trip Generation](#) (ITE 2017). For single family housing (ITE 210), the fitted curve equation is $\text{EXP}(0.89 \cdot \text{LN}(\text{persons}) + 1.72)$. To approximate the average population of the ITE studies, persons were divided by 286 and the equation result multiplied by 286. For multifamily housing (ITE 221), the fitted curve equation is $(2.29 \cdot \text{persons}) - 81.02$.

(5) Vehicle trip ends based on vehicles available using formulas from [Trip Generation](#) (ITE 2017). For single family housing (ITE 210), the fitted curve equation is $\text{EXP}(0.99 \cdot \text{LN}(\text{vehicles}) + 1.93)$. To approximate the average number of vehicles in the ITE studies, vehicles available were divided by 485 and the equation result multiplied by 485. For multifamily housing (ITE 220), the fitted curve equation is $(3.94 \cdot \text{vehicles}) + 293.58$ (ITE 2012).

(6) Housing units from Table B25024, American Community Survey, 2012-2016.

Nonresidential Vehicle Trips

Vehicle trip generation for nonresidential land uses are calculated by using ITE's average daily trip end rates found in their recently published 10th edition of Trip Generation. To estimate the trip generation in Portland, the weekday trip end per 1,000 square feet factors highlighted in Figure 19 are used. To estimate the trip generation for retail the shopping center factor is used, for office the general office factor is used, for industrial the manufacturing factor is used, and for institutional the hospital factor is used.

Figure 18. Institute of Transportation Engineers Nonresidential Land Use Factors

ITE Code	Land Use	Demand Unit	Wkdy Trip Ends Per Dmd Unit	Wkdy Trip Ends Per Employee
110	Light Industrial	1,000 Sq Ft	4.96	3.05
130	Industrial Park	1,000 Sq Ft	3.37	2.91
140	Manufacturing	1,000 Sq Ft	3.93	2.47
150	Warehousing	1,000 Sq Ft	1.74	5.05
254	Assisted Living	bed	2.60	4.24
320	Motel	room	3.35	25.17
520	Elementary School	1,000 Sq Ft	19.52	21.00
530	High School	1,000 Sq Ft	14.07	22.25
540	Community College	student	1.15	14.61
550	University/College	student	1.56	8.89
565	Day Care	student	4.09	21.38
610	Hospital	1,000 Sq Ft	10.72	3.79
620	Nursing Home	1,000 Sq Ft	6.64	2.91
710	General Office (avg size)	1,000 Sq Ft	9.74	3.28
760	Research & Dev Center	1,000 Sq Ft	11.26	3.29
770	Business Park	1,000 Sq Ft	12.44	4.04
820	Shopping Center (avg size)	1,000 Sq Ft	37.75	16.11

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017)

Mode Share and Vehicle Occupancy

Data from the National Household Travel Survey (NHTS) is used to approximate the percentage split of total person trips by transportation modes in the City of Portland. NHTS has been conducting stratified, random surveys for nearly 50 years with the aim to understand the modes and purposes of travel in the US. For this study, the most recent survey, 2017, is refined to create a database of survey responses that is both from similar cities to Portland and statistically significant. Initially, the national database of responses is refined by location and population, the results are limited to New England metropolitan statistical areas (ME, NH, VT, CT, MA, RI) with less than 1 million residents. The City of Portland is within the Portland-South Portland-Biddeford, Maine metropolitan statistical area that had a population of 523,874 in 2016 (US Census American Community Survey, 2016). The database is further filtered to only include responses from urban areas and urban clusters. Lastly, only responses for trips on weekdays are included. As a result, there are 2,656 NHTS responses in the database that are used to approximate the mode splits and vehicle occupancy.

Data from NHTS indicates the purpose of a trip which allows for the mode share and vehicle occupancy to be calculated for residential and nonresidential land uses separately. It is assumed that trips for residential and nonresidential purposes have different characteristics, so by calculating separately the analysis results in more accurate trip factors. There are 1,447 survey responses that are attributed to residential and 1,209 responses attributed to nonresidential land uses. Both databases are well within a 95 percent confidence level with a confidence interval (margin of error) of less than 3.¹

The transportation mode split for residential purpose trips is listed in Figure 20. Of the 1,447 total trips, 86 percent are by vehicle, 1 percent transit, and 13 percent non-motorized. Additionally, during the vehicle trips there were 1,877 passengers, resulting in an average vehicle occupancy of 1.51 passengers per vehicle trip.

Figure 19. Residential Purpose Person Trips by Mode

Mode	Trips	%
Vehicle	1,246	86%
Transit	18	1%
Non-Motorized	183	13%
Total	1,447	100%

Source: National Household Travel Survey, 2017; TischlerBise analysis

The transportation mode split for nonresidential purpose trips is listed in Figure 21. Of the 1,209 total trips, 82 percent are by vehicle, 2 percent transit, and 16 percent non-motorized. Additionally, during the vehicle trips there were 1,669 passengers, resulting in an average vehicle occupancy of 1.69 passengers per vehicle trip.

Figure 20. Nonresidential Purpose Person Trips by Mode

Mode	Trips	%
Vehicle	989	82%
Transit	22	2%
Non-Motorized	198	16%
Total	1,209	100%

Source: National Household Travel Survey, 2017; TischlerBise analysis

¹ A confidence level expresses the certainty that the true mean of the population falls within the confidence interval, the margin of error of the results.

Vehicle Trip Ends to Find Total Person Trip Ends

The total person trip end rate for each land use can be calculated using the vehicle trip end rate, vehicle occupancy rate, and vehicle mode share. The following formula to calculate vehicle trip ends is provided in the ITE's Trip Generation Handbook (2017):

$$\text{Vehicle trip ends} = [(\text{person trip ends} \times (\text{vehicle mode share})) / (\text{vehicle occupancy})]$$

This is rearranged to calculate total person trips:

$$\text{Person trip ends} = [(\text{vehicle trip ends}) \times (\text{vehicle occupancy})] / (\text{vehicle mode share})$$

By inputting the vehicle trip rate, vehicle occupancy, and vehicle mode share factors found in earlier sections, the daily person trip rate for each land use is found. For example, the daily vehicle trip rate for a single family/duplex housing unit is 7.60 (Figure 18), the vehicle occupancy is 1.51, and the vehicle mode share is 86 percent (Figure 20). By inputting these factors into the formula, a daily person trip end rate of 13.34 is calculated $([7.60 \text{ vehicle trips} \times 1.51 \text{ occupancy rate}] / [86\% \text{ vehicle mode share}] = 13.34)$. Figure 22 lists the calculated daily person trip end rate for each land use.

Figure 21. Daily Person Trip End Rate by Land Use

Development Type	Daily Vehicle Trip Ends	Vehicle Occupancy Rate	Vehicle Mode Share	Daily Person Trip Ends
Single Family/Duplex	7.60	1.51	86%	13.34
Multifamily	3.60	1.51	86%	6.32
Retail	37.75	1.69	82%	77.80
Office	9.74	1.69	82%	20.07
Industrial	3.93	1.69	82%	8.10
Institutional	10.72	1.69	82%	22.09

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); National Household Travel Survey data, 2017; TischlerBise analysis

Residential Trips Adjustment Factors

A person trip end is the out-bound or in-bound leg of a trip. As a result, so to not double count trips, a standard 50 percent adjustment is applied to trip ends to calculate a person trip. For example, the out-bound trip from a person's home to work is attributed to the housing unit and the trip from work back home is attributed to the employer.

However, an additional adjustment is necessary to capture residents' work bound trips that are outside of the City. The trip adjustment factor includes two components. According to the NHTS (2009), home-based work trips are typically 31 percent of out-bound trips (which are 50 percent of all trip ends). Also, utilizing the most recent data from the Census Bureau's web application "OnTheMap", 49 percent of the

City of Portland's workers travel outside the city for work. In combination, these factors account for 8 percent of additional production trips ($0.50 \times .31 \times 0.49 = 0.08$). Shown in, the total adjustment factor for residential housing units includes attraction trips (50 percent of trip ends) plus the journey-to-work commuting adjustment (8 percent of production trips) for a total of 58 percent.

Figure 22. Trip Adjustment Factor for Commuters out of the City

Employed Portland Residents (2015)	35,405
Portland Residents Working in the City (2015)	17,958
Portland Residents Commuting Outside of the City for Work	17,447
Percent Commuting out of the City	49%
Additional Production Trips	8%
Standard Trip Adjustment Factor	50%
Residential Trip Adjustment Factor	58%

Source: U.S. Census, OnTheMap Application, 2015

To calculate nonresidential trips, the standard 50 percent adjustment is applied to office, industrial, and institutional. A lower trip adjustment factor is used for retail uses because this type of development attracts person trips while they pass-by. Pass-by trips do not generate further traffic as it is only a stop on a trip for ultimately a different purpose. For example, when someone stops at a convenience store on their way home from work, the convenience store is not their primary destination.

Person Trips by Mode

In Figure 24, the trip adjustment factor and mode share are applied to the person trip end rate of each land use to calculate the person trips. For example, for single family/duplex housing units the trip adjustment factor is 58 percent and the vehicle mode share is 86 percent, resulting in a daily person trip rate of 6.66 for the vehicle mode ($13.34 \text{ person trip ends} \times 0.58 \text{ trip adjustment factor} \times 0.86 \text{ vehicle mode share} = 6.66 \text{ person trips}$).

Figure 23. Person Trips by Mode

Development Type	Person Trip Ends	Trip Adjustment Factor	Person Trips/Unit			
			Total	Vehicle	Transit	Non-motorized
Single Family/Duplex	13.34	58%	7.74	6.66	0.08	1.01
Multifamily	6.32	58%	3.67	3.16	0.04	0.48
Retail	77.80	38%	29.56	24.24	0.59	4.73
Office	20.07	50%	10.04	8.23	0.20	1.61
Industrial	8.10	50%	4.05	3.32	0.08	0.65
Institutional	22.09	50%	11.05	9.06	0.22	1.77

Source: [Trip Generation](#), Institute of Transportation Engineers, 10th Edition (2017); National Household Travel Survey data, 2017; TischlerBise analysis

Note: Trip rates are shown per housing unit for residential land uses and per 1,000 square feet of floor area for nonresidential land uses.

VEHICLE TRIP PROJECTION

The base year person trip totals and trip projections are calculated by combining the person trip factors and the residential and nonresidential assumptions for housing stock and floor area. Found in Figure 25, in the base year, residential land uses generate 223,734 person trips (30 percent) and nonresidential land uses generate 511,437 person trips (70 percent) in the City of Portland. Through 2028, there will be an increase of 47,721 daily person trips in Portland with retail, multifamily, and office development being the three largest contributors to the increase.

In the base year, 83 percent of the person trips are by vehicle, 2 percent is by transit, and 15 percent is by non-motorized modes. The majority of the person trip increase over the 10-year projection period is from vehicles as well.

Figure 24. Total Daily Vehicle Trip Projections

	Base Year 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total Increase
Residential Person Trips												
Single Family/Duplex	162,904	163,161	163,418	163,675	163,932	164,189	164,446	164,703	164,960	165,216	165,473	2,570
Multifamily	60,830	61,762	62,693	63,625	64,556	65,487	66,419	67,350	68,282	69,213	70,145	9,314
Subtotal	223,734	224,922	226,111	227,299	228,488	229,676	230,865	232,053	233,241	234,430	235,618	11,884
Nonresidential Person Trips												
Retail	290,177	291,864	293,551	295,238	296,925	298,612	300,299	301,987	303,674	305,361	307,048	16,871
Office	93,550	94,408	95,266	96,124	96,982	97,840	98,698	99,555	100,413	101,271	102,129	8,579
Industrial	29,260	29,520	29,781	30,041	30,302	30,562	30,823	31,083	31,344	31,604	31,865	2,605
Institutional	98,450	99,228	100,006	100,785	101,563	102,341	103,119	103,897	104,676	105,454	106,232	7,782
Subtotal	511,437	515,021	518,604	522,188	525,772	529,356	532,939	536,523	540,107	543,690	547,274	35,837
Grand Total Person Trips	735,171	739,943	744,715	749,487	754,260	759,032	763,804	768,576	773,348	778,120	782,892	47,721

Person Trips by Transportation Mode

Total Vehicle Person Trips	611,790	615,750	619,711	623,672	627,632	631,593	635,554	639,514	643,475	647,436	651,396	39,607
Total Transit Person Trips	12,466	12,550	12,633	12,717	12,800	12,884	12,967	13,051	13,135	13,218	13,302	836
Total Non-Motorized Trips	110,915	111,643	112,371	113,099	113,827	114,555	115,283	116,011	116,738	117,466	118,194	7,279
Grand Total Person Trips	735,171	739,943	744,715	749,487	754,260	759,032	763,804	768,576	773,348	778,120	782,892	47,721

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); National Household Travel Survey data, 2017; TischlerBise analysis

BASE YEAR WASTEWATER USAGE

Water and sewer account data has been provided by the Portland Water District (PWD) and the City's Department of Public Works. Within the database, residential, commercial, industrial, and institutional wastewater usage is calculated. Additionally, with account data, the wastewater usage of an Equivalent Residential Unit (ERU) is calculated as well. The ERU is the estimate of the daily average wastewater usage from a household with a water meter that is 5/8 inches. In the impact fee calculation, a capacity ratio factor is applied when calculating the wastewater usage and resulting impact fee for developments with larger meters.

Base Year Estimates

Shown in Figure 26, on average there is a total of 5.7 million gallons per day of wastewater flowing through the City's sewer system from these four development types. The majority of the wastewater flows from residential development, but commercial development creates a significant demand as well.

Figure 25. City of Portland Daily Wastewater Usage, 2018

Development Type	Base Year (gals/day)	%
Residential	2,933,364	52%
Commercial	1,998,656	35%
Industrial	542,244	10%
Institutional	187,205	3%
Total	5,661,470	100%

Source: City of Portland Public Works
Department

Equivalent Residential Unit

The wastewater component of the impact fee study will use the wastewater flow calculated for residential units that have a water meter of 5/8 inches to represent the Equivalent Residential Unit (ERU). To calculate the ERU, the wastewater account database is filtered by active residential accounts that use the City's sewer system. Additionally, the database is further limited by only year-round accounts. These accounts are occupied households that reside in Portland permanently. Year-round accounts are approximated by accounts that have activity every month. Illustrated in Figure 27, there is an average of 61 hundred cubic feet (HCF) of wastewater per year from a year-round active residential account flowing into the City's sewer system. That equates to an average of 126 gallons per day, rounded.

Figure 26. Equivalent Residential Unit

Meter Size (inches)	Total Water (HCF)	Active Accounts	Annual Average per Account (HCF)	Annual Average (gallons)	Daily Average (gallons)
5/8	866,230	14,134	61	45,846	126

Source: City of Portland Public Works Department; TischlerBise analysis

Note: Provided data measured wastewater totals in hundred cubic feet (HCF), equal to 748.05 gallons

WASTEWATER PROJECTIONS

To project wastewater flows, it is assumed that the average consumptions will stay constant. As a result, the wastewater from residential accounts will increase at the same rate as the projected housing units and wastewater from nonresidential accounts will increase at the same rate as the projected growth in floor area for the respective industry. Over the next ten years, a total increase of 500,000 gallons per day is projected. Residential and commercial land uses account for the majority of the projected increase.

Figure 27. Wastewater Projections, Million Gallons Per Day (MGD)

Development Type	Base Year 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total Increase
Residential	2.93	2.96	2.98	3.00	3.02	3.05	3.07	3.09	3.11	3.13	3.16	0.22
Commercial	2.00	2.02	2.04	2.06	2.08	2.10	2.12	2.14	2.16	2.18	2.20	0.20
Industrial	0.54	0.55	0.55	0.56	0.56	0.57	0.58	0.58	0.59	0.59	0.60	0.06
Institutional	0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.20	0.20	0.20	0.21	0.02
Total	5.66	5.71	5.76	5.81	5.86	5.91	5.96	6.01	6.06	6.11	6.16	0.50

Source: City of Portland Public Works Department; TischlerBise analysis

Impact Fee Study Overview

REVISED PRELIMINARY MAXIMUM DEFENSIBLE FEE CALCULATIONS

City of Portland, ME

September 12, 2018



TischlerBise
FISCAL | ECONOMIC | PLANNING

City of Portland Impact Fee Study

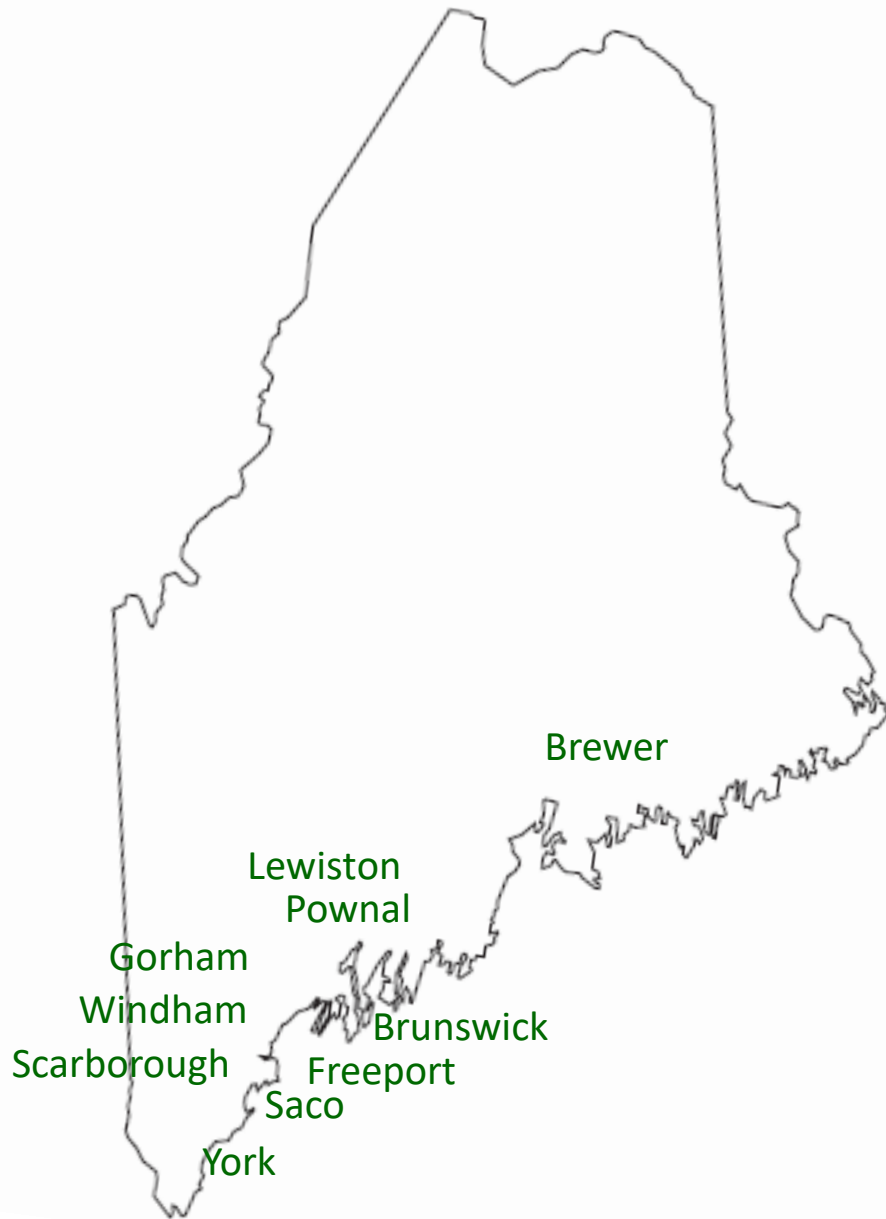
- Impact Fee Fundamentals
- Changes Made Based on Comments of 1st Draft Fees
- Parks & Recreation
- Transportation
- Wastewater

Impact Fee Fundamentals

- One-time payment for growth-related infrastructure, usually collected at the time buildings permits are issued
- Can't be used for operations, maintenance, or replacement
- Not a tax but more like a contractual arrangement to build infrastructure, with three requirements:
 - Need (system improvements, not project-level improvements)
 - Benefit
 - Short range expenditures
 - Geographic service areas and/or benefit districts
 - Proportionate
- Compared to negotiated agreements, streamlines approval process with known costs (predictability)

Impact Fee Fundamentals

- 0 In Maine, authorized under the Comprehensive Planning and Land Use Regulation Act of 1987, Title 30-A MRSA, Section 4354



Changes Since 1st Draft

○ Parks & Recreation

- Incremental expansion methodology has been expanded to include nonresidential demand on facilities.
 - Workers use Parks & Recreation facilities during breaks and lunch.
- The vehicle component was removed.
- Adjusted facilities included in the level of service calculations.

Development Type	Parks & Rec 1st Draft	Parks & Rec Revised Draft	Increase/ Decrease
Residential (per housing unit)			
Single Family/Duplex	\$2,442	\$1,126	(\$1,316)
Multifamily	\$1,631	\$752	(\$879)
Nonresidential (per 1,000 square feet)			
Retail & Service	-	\$534	\$534
Office	-	\$677	\$677
Industrial	-	\$363	\$363
Institutional	-	\$645	\$645
Accommodation (per hotel room)			
Hotel	\$1,898	\$875	(\$1,023)

Changes Since 1st Draft

0 Transportation

- 0 Revised methodology to include five nonresidential land use categories.
- 0 Adjusted the multimodal projects included in the plan-based methodology.

Development Type	Transportation 1st Draft	Transportation Revised Draft	Increase/ Decrease
Residential (per housing unit)			
Single Family/Duplex	\$3,698	\$2,159	(\$1,539)
Multifamily	\$1,752	\$1,023	(\$729)
Nonresidential (per 1,000 square feet)			
Hospital	\$5,280	-	-
Congregated Care/Assisted Living	\$2,065	-	-
School	\$9,615	-	-
Place of Assembly	\$3,422	-	-
Retail & Personal Services	\$14,132	-	-
Recreational	\$14,197	-	-
Office	\$4,797	-	-
Industrial	\$2,443	-	-
Industrial Transportation	\$691	-	-
Retail & Service	-	\$8,248	-
Office	-	\$2,800	-
Industrial	-	\$1,130	-
Institutional	-	\$3,082	-
Accommodation (per hotel room)			
Hotel	\$4,118	\$2,404	(\$1,714)

Changes Since 1st Draft

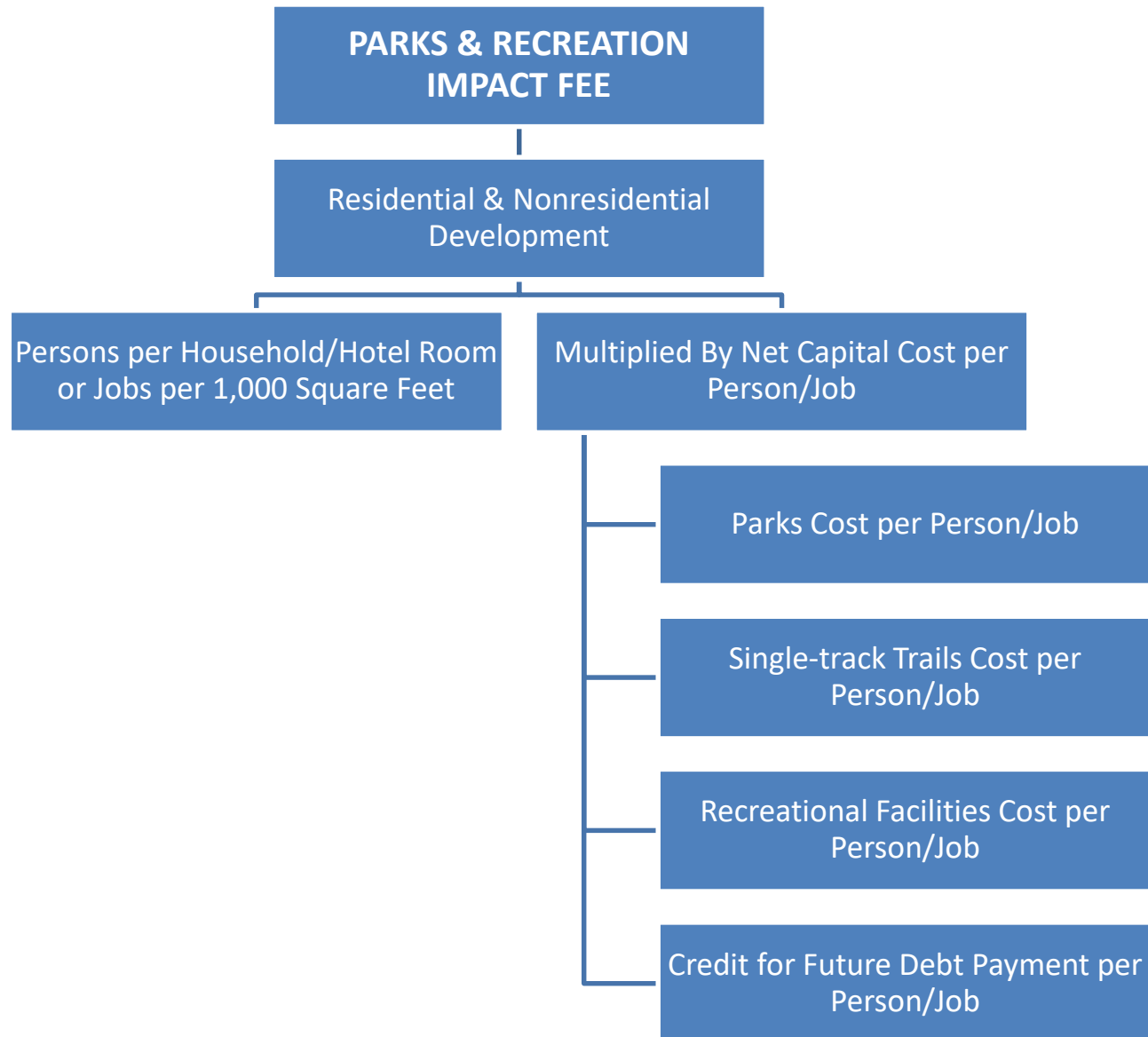
0 Wastewater

- 0 Included additional projects into future debt payments, increasing the Debt Service Credit.

Meter Size (inches)	Wastewater 1st Draft	Wastewater Revised Draft	Increase/ Decrease
All Development (per meter)			
5/8	\$2,069	\$1,886	(\$183)
3/4	\$3,104	\$2,829	(\$275)
1	\$5,173	\$4,715	(\$458)
1.5	\$10,345	\$9,430	(\$915)
2	\$16,552	\$15,088	(\$1,464)
3	\$33,104	\$30,176	(\$2,928)
6	\$103,450	\$94,300	(\$9,150)
8	\$165,520	\$150,880	(\$14,640)

Parks & Rec Impact Fee Analysis

o Consumption-Based/Incremental Expansion Methodology



Parks & Rec Impact Fee Analysis

o Park Component – Existing Level of Service & Cost per Demand Unit

	Acres	Athletic Field	Baseball Field	Basketball Courts	Community Gardens	Dog Park Area	Base/Softball Fields	Pickleball Courts
City of Portland Total	316.3	5.0	11.0	10.0	8.0	2.0	2.0	4.0
Average Replacement Cost	\$59,172	\$350,000	\$175,000	\$45,000	\$30,000	\$50,000	\$175,000	\$45,000
Replacement Cost Subtotal	\$18,716,104	\$1,750,000	\$1,925,000	\$450,000	\$240,000	\$100,000	\$350,000	\$180,000

	Picnic Tables	Playgrounds	Pools	Skate Park	Softball Fields	Splashpads	Tennis Courts	Volleyball Courts
City of Portland Total	22.0	18.0	1.0	1.0	4.0	5.0	15.0	2.0
Average Replacement Cost	\$750	\$175,000	\$2,000,000	\$350,000	\$175,000	\$30,000	\$45,000	\$45,000
Replacement Cost Subtotal	\$16,500	\$3,150,000	\$2,000,000	\$350,000	\$700,000	\$150,000	\$675,000	\$90,000

Land Replacement Cost	\$18,716,104
Improvement Replacement Cost	\$12,126,500
Total Replacement Cost	\$30,842,604

Total Park Acres	316.3
Total Replacement Cost	\$30,842,604
Replacement Cost per Park Acre	\$97,511

Source: City of Portland Parks and Recreation; Assessor's Office

Residential Level-of-Service (LOS) Standard

Share of Impact Days	72%
Share of Park Acres	227.7
2018 Peak Population	83,250
LOS: Acre per 1,000 Persons	2.74

Nonresidential Level-of-Service (LOS) Standard

Share of Impact Days	28%
Share of Park Acres	88.6
2018 Jobs	67,270
LOS: Acre per 1,000 Jobs	1.32

Share of Impact Days calculation found in Appendix.

Cost Analysis

Replacement Cost per Acre	\$97,511
LOS: Acre per 1,000 Persons	2.74
Replacement Cost Per Capita	\$267

Cost Analysis

Replacement Cost per Acre	\$97,511
LOS: Acre per 1,000 Jobs	1.32
Replacement Cost Per Job	\$129

Parks & Rec Impact Fee Analysis

- o Single-Track Trail Component – Existing Level of Service & Cost per Demand Unit

Trail	Single-Track Trail (miles)
Citywide Passive Trails	36.2
Total	36.2

Source: City of Portland Parks and Recreation

Residential Level-of-Service (LOS) Standard

Share of Impact Days	72%
Share of Trail Miles	26.1
2018 Peak Population	83,250
LOS: Miles per 1,000 Persons	0.31

Nonresidential Level-of-Service (LOS) Standard

Share of Impact Days	28%
Share of Trail Miles	10.1
2018 Jobs	67,270
LOS: Miles per 1,000 Jobs	0.15

Cost Analysis

Costs per mile	\$15,000
LOS: Miles per 1,000 Persons	0.31
Replacement Cost per Person	\$5

Cost Analysis

Costs per mile	\$15,000
LOS: Miles per 1,000 Jobs	0.15
Replacement Cost per Job	\$2

Parks & Rec Impact Fee Analysis

- o Recreational Facility Component – Existing Level of Service & Cost per Demand Unit

Recreational Facilities	Square Feet	Replacement Cost
East End Community Center	23,500	\$5,875,000
Peaks Island Community Center	2,000	\$550,000
Portland Ice Arena	29,273	\$3,125,896
Reiche Community Center	25,000	\$8,750,000
Riverton Community Center	31,500	\$11,970,000
Total	111,273	\$30,270,896

Source: City of Portland Parks and Recreation

Residential Level-of-Service (LOS) Standard

Share of Impact Days	72%
Share of Rec. Square Feet	80,117
2018 Peak Population	83,250
LOS: Square Feet per Person	0.96

Cost Analysis

Costs per Square Foot	\$272
LOS: Square Feet per Person	0.96
Replacement Cost per Person	\$261

Nonresidential Level-of-Service (LOS) Standard

Share of Impact Days	28%
Share of Rec. Square Feet	31,156
2018 Jobs	67,270
LOS: Miles per 1,000 Jobs	0.46

Cost Analysis

Costs per Square Foot	\$272
LOS: Miles per 1,000 Jobs	0.46
Replacement Cost per Job	\$125

Parks & Rec Impact Fee Analysis

- o Credit for Future Debt Payment Component
 - o To avoid future growth double paying for Parks & Rec facilities, a credit is necessary for future debt payments.

Residential Credit

Fiscal Year	Payment	Projected Population	Payment/Capita
Base Year	\$617,060	83,250	\$7.41
2019	\$715,720	83,678	\$8.55
2020	\$676,719	84,106	\$8.05
2021	\$628,339	84,534	\$7.43
2022	\$606,452	84,962	\$7.14
2023	\$554,947	85,390	\$6.50
2024	\$478,117	85,818	\$5.57
2025	\$461,771	86,246	\$5.35
2026	\$434,672	86,673	\$5.02
2027	\$386,672	87,101	\$4.44
2028	\$364,280	87,529	\$4.16
Total	\$5,924,749		\$69.62
		Discount Rate	3.00%
		Total Credit	\$60

Source: City of Portland Finance Department

Nonresidential Credit

Fiscal Year	Payment	Projected Jobs	Payment/Job
Base Year	\$239,968	67,270	\$3.57
2019	\$278,336	67,959	\$4.10
2020	\$263,169	68,648	\$3.83
2021	\$244,354	69,337	\$3.52
2022	\$235,842	70,026	\$3.37
2023	\$215,813	70,715	\$3.05
2024	\$185,935	71,404	\$2.60
2025	\$179,578	72,093	\$2.49
2026	\$169,039	72,782	\$2.32
2027	\$150,372	73,471	\$2.05
2028	\$141,665	74,160	\$1.91
Total	\$2,304,071		\$32.81
		Discount Rate	3.00%
		Total Credit	\$28

Source: City of Portland Finance Department

Parks & Rec Impact Fee Analysis

o Maximum Defensible Fee

Fee Component	Cost per Person	Cost per Job
Parks	\$267	\$129
Single-Track Trails	\$5	\$2
Rec. Facilities	\$261	\$125
Debt Service Credit	(\$60)	(\$28)
TOTAL	\$473	\$228

Residential (per housing unit)

Type of Unit	Persons per Household	Maximum Defensible Fee
Single Family/Duplex	2.38	\$1,126
Multifamily	1.59	\$752

Nonresidential (per 1,000 square feet)

Type of Unit	Jobs per 1,000 Square Feet	Maximum Defensible Fee
Retail & Service	2.34	\$534
Office	2.97	\$677
Industrial	1.59	\$363
Institutional	2.83	\$645

Nonresidential (per room)

Type of Unit	Persons per Room	Maximum Defensible Fee
Hotel	1.85	\$875

Parks & Rec Impact Fee Analysis

o Parks & Recreation Fee Revenue

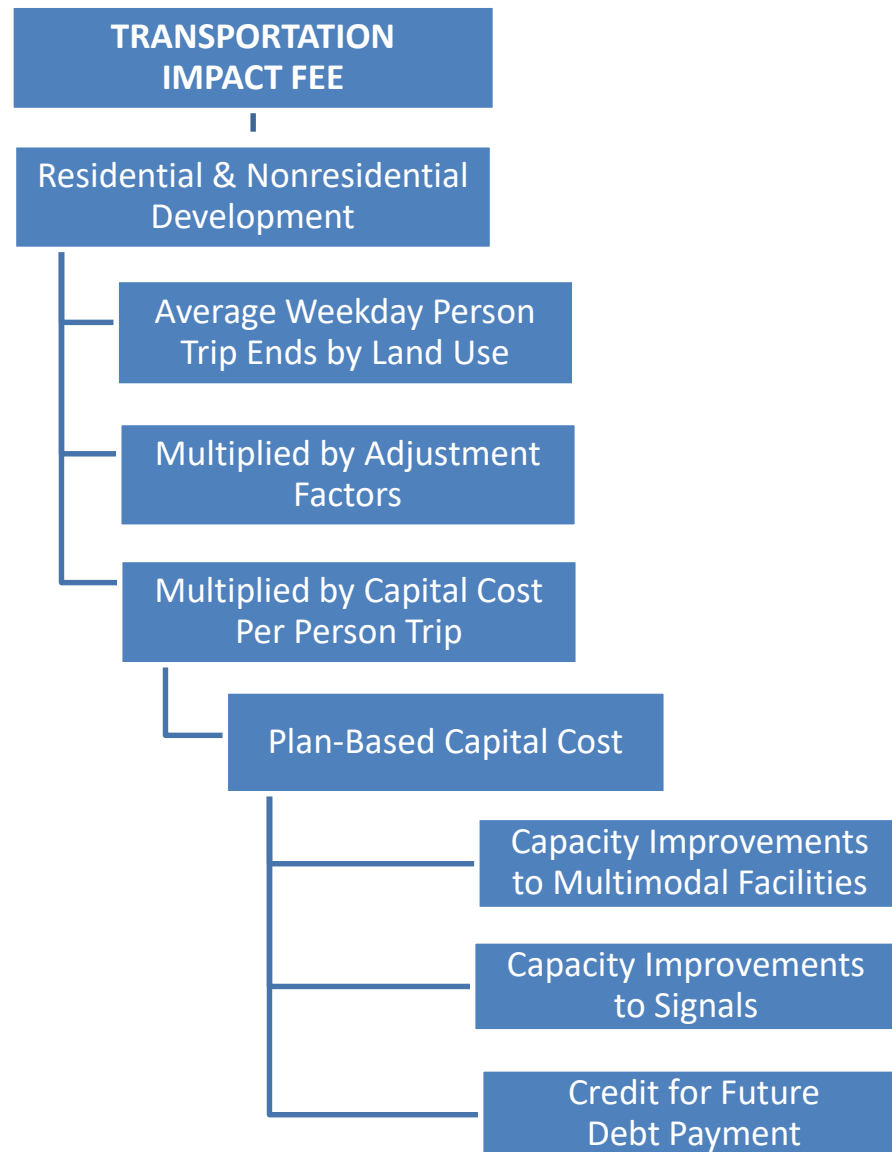
	Total Cost to Maintain LOS	Cost Attributable to Growth
Parks	\$1,950,220	\$1,950,220
Single-Track Trails	\$34,500	\$34,500
Rec Facilities	\$1,979,344	\$1,979,344
Total Expenditures	\$3,964,064	\$3,964,064

Projected Development Impact Fee Revenue

		Capital Cost per Person \$473	Capital Cost per Job \$228
Year		Population	Jobs
Base	2018	83,250	67,270
Year 1	2019	83,678	67,959
Year 2	2020	84,106	68,648
Year 3	2021	84,534	69,337
Year 4	2022	84,962	70,026
Year 5	2023	85,390	70,715
Year 6	2024	85,818	71,404
Year 7	2025	86,246	72,093
Year 8	2026	86,673	72,782
Year 9	2027	87,101	73,471
Year 10	2028	87,529	74,160
Ten-Year Increase		4,279	6,890
Projected Revenue =>		\$2,023,810	\$1,570,948
Projected Revenue =>			\$3,594,757
Total Expenditures =>			\$3,964,064
General Fund's Share =>			\$369,307

Transportation Impact Fee Analysis

o Plan-Based Methodology – Person Trips



Transportation Impact Fee Analysis

o Multimodal Component – High Readiness Projects

Project	Readiness	Length of Project (linear feet)	Total City Cost	Growth's Share	Growth's Cost
W. Commercial Street Path	High	5,000	\$750,000	50%	\$375,000
Thames Street	High	1,200	\$1,450,000	25%	\$362,500
Franklin Street: I-295 to Somerset	High	700	\$4,050,000	75%	\$3,037,500
Congress Square Intersection Construction	High	650	\$1,300,000	25%	\$325,000
Marginal Way: Hanover to Plowman	High	5,600	\$1,000,000	25%	\$250,000
Kennebec Street Realignment at Forest Avenue	High	450	\$500,000	50%	\$250,000
Somerset Street	High	1,800	\$1,500,000	50%	\$750,000
Forest Avenue (Morrill's Corner Intersections)	High	1,600	\$2,280,000	50%	\$1,140,000
Brighton Avenue	High	13,000	\$1,100,000	25%	\$275,000
Washington Avenue Rehabilitation	High	1,500	\$2,000,000	25%	\$500,000
TOTAL		31,500	\$15,930,000		\$7,265,000

Growth's Cost of Transportation Projects	\$7,265,000
10-Year Increase in Average Daily Person Trips	47,721
Capital Cost per Trip	\$152

Transportation Impact Fee Analysis

o Signal Component – High Readiness Projects

Project	Readiness	Total Cost	Growth's Share	Growth's Cost
Modernize Signal Systems	High	\$9,375,000	75%	\$7,031,250
Arterial Street Crossings	High	\$2,000,000	50%	\$1,000,000
TOTAL		\$11,375,000		\$8,031,250

Growth's Cost of Transportation Projects	\$8,031,250
10-Year Increase in Average Daily Person Trips	47,721
Capital Cost per Trip	\$168

Transportation Impact Fee Analysis

- o Credit for Future Debt Payment Component
- o To avoid future growth double paying for Transportation facilities, a credit is necessary for future debt payments.

Fiscal Year	Payment	Projected Ave. Daily Person Trips	Payment/ Person Trip
Base Year	\$3,751,763	735,171	\$5.10
2019	\$4,314,139	739,943	\$5.83
2020	\$4,060,134	744,715	\$5.45
2021	\$3,772,123	749,487	\$5.03
2022	\$3,633,359	754,260	\$4.82
2023	\$3,323,658	759,032	\$4.38
2024	\$2,916,044	763,804	\$3.82
2025	\$2,815,726	768,576	\$3.66
2026	\$2,591,944	773,348	\$3.35
2027	\$2,374,976	778,120	\$3.05
2028	\$2,147,023	782,892	\$2.74
Total	\$35,700,889		\$47.24
		Discount Rate	3.00%
		Total Credit	\$41.00

Transportation Impact Fee Analysis

- o Maximum Defensible Fee – **High Readiness only**

Input Variables	Cost per Trip for Multimodal Projects =>		\$152
	Cost per Trip for Signals =>		\$168
	Debt Service Credit per Trip =>		(\$41)
	Capital Cost per Person Trip		\$279
Development Type	Avg Wkdy Person Trip Ends	Trip Rate Adjustment	Maximum Defensible Fee
Residential (per housing unit)			
Single Family/Duplex	13.34	58%	\$2,159
Multifamily	6.32	58%	\$1,023
Nonresidential (per 1,000 square feet of floor area)			
Retail & Service	77.80	38%	\$8,248
Office	20.07	50%	\$2,800
Industrial	8.10	50%	\$1,130
Institutional	22.09	50%	\$3,082
Nonresidential (per room)			
Hotel/Motel	17.23	50%	\$2,404

Transportation Impact Fee Analysis

o Transportation Impact Fee Revenue

	Total Cost	Cost Attributable to Growth
Multimodal Projects	\$15,930,000	\$7,265,000
Signals	\$11,375,000	\$8,031,250
Total Expenditures	\$27,305,000	\$15,296,250

Projected Transportation Impact Fee Revenue

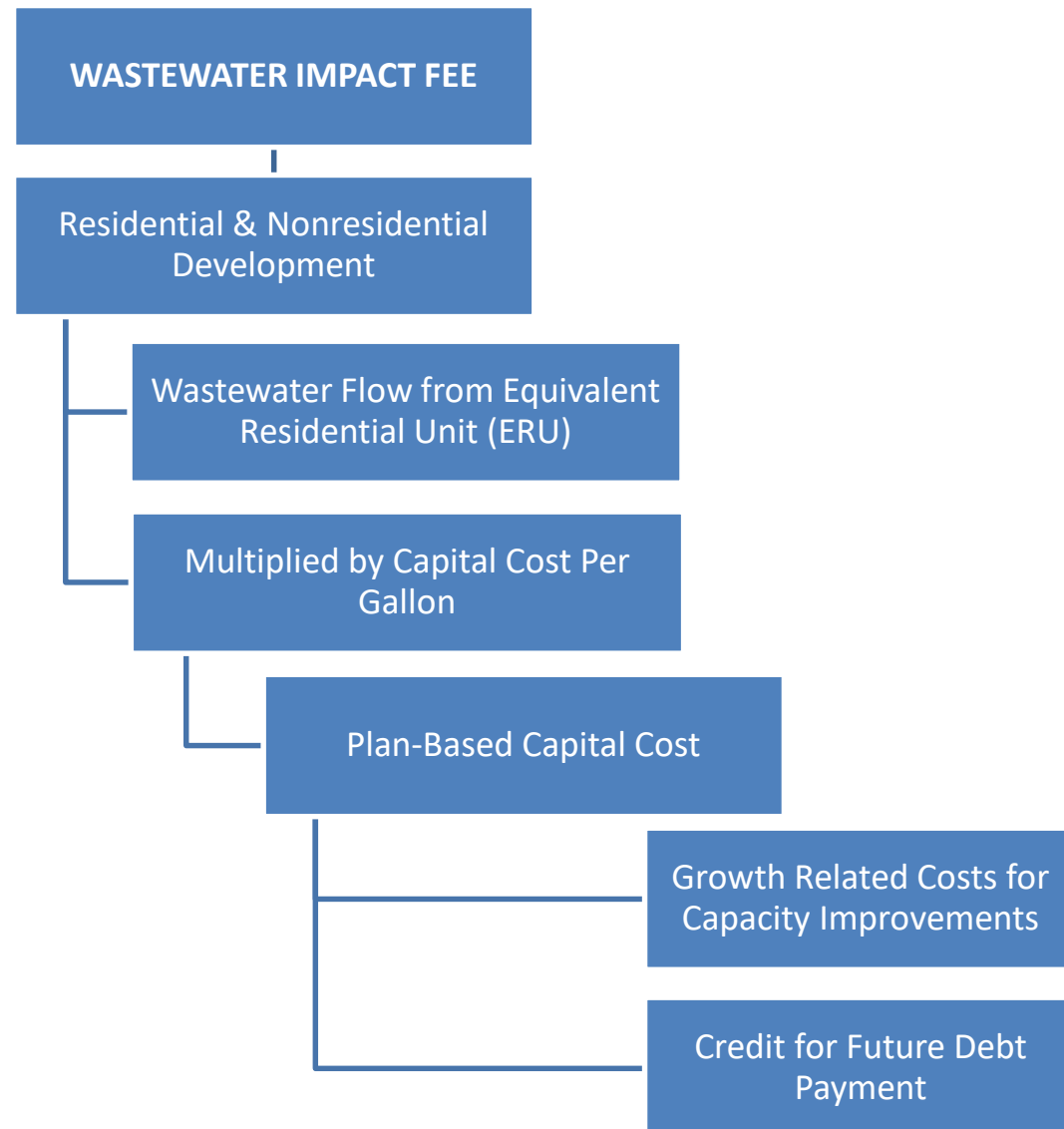
		Single Family	Multifamily	Retail & Service	Office	Industrial	Institutional
Year		Housing Units	Housing Units	1,000 Sq. Ft.	1,000 Sq. Ft.	1,000 Sq. Ft.	1,000 Sq. Ft.
Base	2018	21,047	16,575	9,817	9,318	7,225	8,909
Year 1	2019	21,080	16,829	9,874	9,403	7,289	8,980
Year 2	2020	21,113	17,083	9,931	9,489	7,353	9,050
Year 3	2021	21,147	17,336	9,988	9,574	7,418	9,121
Year 4	2022	21,180	17,590	10,045	9,660	7,482	9,191
Year 5	2023	21,213	17,844	10,102	9,745	7,546	9,262
Year 6	2024	21,246	18,098	10,159	9,830	7,611	9,332
Year 7	2025	21,279	18,352	10,216	9,916	7,675	9,402
Year 8	2026	21,313	18,605	10,273	10,001	7,739	9,473
Year 9	2027	21,346	18,859	10,330	10,087	7,804	9,543
Year 10	2028	21,379	19,113	10,387	10,172	7,868	9,614
Ten-Year Increase		332	2,538	571	854	643	704
Transportation Impact Fee		\$2,159	\$1,023	\$8,248	\$2,800	\$1,130	\$3,082
Revenue Subtotal		\$716,788	\$2,596,374	\$4,709,608	\$2,391,200	\$726,590	\$2,169,728

Source: TischlerBise analysis

Projected Revenue => **\$13,310,288**
 Total Expenditures => **\$15,296,250**
 General Fund's Share => **\$1,985,962**

Wastewater Impact Fee Analysis

o Plan-Based Methodology



Wastewater Impact Fee Analysis

o Sewer & Stormwater Component – Future Wastewater Projects

Project Title	Total	Growth's Share	Growth's Cost
CSO - Close CSO #42	\$2,000,000	10%	\$200,000
CSO - Mackworth Street and Ocean Avenue Sewer Separation Project	\$6,850,000	10%	\$685,000
CSO - Dartmouth Street Sewer Separation Project	\$2,520,000	10%	\$252,000
CMOM - Inflow and Infiltration Program	\$4,050,000	50%	\$2,025,000
CMOM - Pump Station Rehabilitation	\$3,350,000	25%	\$837,500
Eastern Waterfront Sewer / Stormwater Extension & Outfall (Thames St)	\$1,025,000	85%	\$871,250
Franklin Street Storm Drain	\$5,300,000	75%	\$3,975,000
Warren Ave Storm Drain - 517 Warren Ave to 659 Warren Ave	\$990,000	10%	\$99,000
TOTAL	\$26,085,000		\$8,944,750

Growth's Cost of Wastewater Projects	\$8,944,750
10-Year Increase in Wastewater Flow (gallons)	403,049
Capital Cost per Gallon	\$22.19

Wastewater Impact Fee Analysis

- o Credit for Future Debt Payment Component
 - o To avoid future growth double paying for wastewater facilities, a credit is necessary for future debt payments on past sewer and stormwater projects.

Fiscal Year	Payment	Projected Wastewater Flow (gals)	Payment/ Gallon
Base Year	\$4,984,702	5,661,470	\$0.88
2019	\$5,301,355	5,701,775	\$0.93
2020	\$5,185,898	5,742,080	\$0.90
2021	\$5,039,052	5,782,385	\$0.87
2022	\$4,943,283	5,822,690	\$0.85
2023	\$4,435,393	5,862,995	\$0.76
2024	\$4,084,329	5,903,299	\$0.69
2025	\$4,023,542	5,943,604	\$0.68
2026	\$3,924,669	5,983,909	\$0.66
2027	\$3,833,159	6,024,214	\$0.64
2028	\$3,671,719	6,064,519	\$0.61
Total	\$49,427,101		\$8.47
		Discount Rate	3.00%
		Total Credit	\$7.22

Wastewater Impact Fee Analysis

o Maximum Defensible Fee

Growth Capital Cost per Gallon =>		\$22.19
Debt Service Credit per Gallon =>		(\$7.22)
Capital Cost per Gallon of Capacity =>		\$14.97
Max Daily Gallons per ERU =>		126
Meter Size (inches)	Capacity Ratio	Maximum Defensible Fee
All Development (per meter)		
5/8	1.00	\$1,886
3/4	1.50	\$2,829
1	2.50	\$4,715
1.5	5.00	\$9,430
2	8.00	\$15,088
3	16.00	\$30,176
6	50.00	\$94,300
8	80.00	\$150,880

Source: American Water Works Association, Principles of Water Rates, Fees, and Charges, M1, 7th ed., 2017;
TischlerBise analysis

Wastewater Impact Fee Analysis

o Wastewater Impact Fee Revenue

	Total Cost	Cost Attributable to Growth
Wastewater Facilities	\$26,085,000	\$8,944,750
Total Expenditures	\$26,085,000	\$8,944,750

Projected Wastewater Impact Fee Revenue

		Residential	Nonresidential
Year		Population	Jobs
Base	2018	83,250	67,270
Year 1	2019	83,678	67,959
Year 2	2020	84,106	68,648
Year 3	2021	84,534	69,337
Year 4	2022	84,962	70,026
Year 5	2023	85,390	70,715
Year 6	2024	85,818	71,404
Year 7	2025	86,246	72,093
Year 8	2026	86,673	72,782
Year 9	2027	87,101	73,471
Year 10	2028	87,529	74,160
Ten-Year Increase		4,279	6,890
Water Demand, per Pop./Job		35.2	40.6
Cost per Gallon		\$14.97	\$14.97
Revenue Subtotal		\$2,254,793	\$4,187,618

Source: TischlerBise analysis

Projected Revenue =>	\$6,442,411
Total Expenditures =>	\$8,944,750
General Fund's Share =>	\$2,502,339

Comments/Questions

Comparables

- o Impact fees from comparable communities compared to Portland's Maximum Defensible Fee

Development Type	Maximum Supportable Fee	Burlington, VT	Concord, NH	Freeport, ME	Bozeman, MT	Boulder, CO	Eugene, OR	National Averages (2015)*
Parks and Recreation (per housing unit/hotel room/1,000 square feet)								
Single Family/Duplex	\$1,126	\$1,486	\$1,094	-	-	\$5,603	\$4,246	\$2,812
Multifamily	\$752	\$743	\$664	-	-	\$3,936	\$2,686	\$2,099
Retail	\$534	\$418	-	-	-	-	\$413	n/a
Office	\$677	\$418	-	-	-	-	\$1,134	n/a
Industrial	\$363	\$422	-	-	-	-	\$694	n/a
Institutional	\$645	\$418	-	-	-	-	\$1,134	n/a
Hotel	\$875	\$418	-	-	-	-	\$1,697	n/a
Transportation (per housing unit/hotel room/1,000 square feet)								
Single Family/Duplex	\$2,159	\$386	\$2,110	\$1,500 for the first 2,500 GFA plus \$300 for each additional 250 GFA. Not exceeding \$30,000.	\$4,497	\$216	\$2,113	\$3,256
Multifamily	\$1,023	\$196	\$1,450		\$3,053	\$149	\$1,226	\$2,201
Retail	\$8,248	\$736	\$3,330		\$10,476	\$540	\$5,093	\$5,605
Office	\$2,800	\$676	\$1,700		\$4,535	\$220	\$3,212	\$3,403
Industrial	\$1,130	\$262	\$1,090		\$2,866	\$140	\$2,050	\$2,063
Institutional	\$3,082	\$676	\$2,207		\$5,435	\$180	\$1,965	n/a
Hotel	\$2,404	\$676	\$1,817		\$2,315	\$168	\$1,268	n/a
Wastewater (per meter)								
Single Family/Duplex	\$1,886	-	-	-	\$775	-	\$2,396	\$3,694
Multifamily	\$2,829	-	-	-	\$1,545	-	\$2,040	\$1,777
Retail	\$4,715	-	-	-	\$3,556	-	\$683	\$663
Office	\$4,715	-	-	-	\$3,556	-	\$1,036	\$640
Industrial	\$4,715	-	-	-	\$3,556	-	\$687	\$642
Institutional	\$4,715	-	-	-	\$3,556	-	\$2,163	n/a
Hotel	\$4,715	-	-	-	\$3,556	-	\$2,817	n/a

*Source: [National Impact Fee Survey: 2015](#), Duncan Associates, November, 2015

Note: Single family units are assumed to be 2,000 square feet and multifamily units to be 1,000 square feet. A 5/8 inch meter is shown for single family development, 3/4 inch for multifamily development, and a 1 inch meter is shown for nonresidential development, however, the wastewater fee will be assessed based on the development's meter size. To estimate general transportation fees for Scarborough, ME the PM peak hour trip generation rates from [Trip Generation](#), Institute of Transportation Engineers, 10th Edition (2017) are used.

Not shown in the figure are the additional impact fees the comparable communities assess including school, fire, and police.

Appendix

- o Share of Impact Days Calculation
 - o The calculation multiplies the number of peak season residents (permanent, seasonal, and visitors) and inflow commuters by the number of days within the City of Portland.
 - o Local workers are included within the total for residents.

Residents and Inflow Commuters in 2015

Residents	Inflow Commuters	Cumulative Impact Days per Year			Cost Allocation for Parks	
		Residential ¹	Nonresidential ²	Total	Residential	Nonresidential
82,049	47,245	29,948,016	11,811,250	41,759,266	72%	28%

1. Days per Year = 365

2. Days per Year = 250 (5 Days per Week x 50 Weeks per Year)

Source: U.S. Census Bureau, OnTheMap 6.1.1 Application and LEHD Origin-Destination Employment Statistics.

Appendix

- o Residential Development Projections
 - o To capture the full demand on City facilities, projections include seasonal and visitor populations
 - o The seasonal population is considered those that have a second home in Portland
 - o The visitor population includes overnight and day visitors to the City

	Base Year 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total Increase
Peak Population												
Permanent	67,305	67,644	67,983	68,322	68,661	69,001	69,340	69,679	70,018	70,357	70,696	3,391
Seasonal	7,386	7,432	7,478	7,523	7,569	7,615	7,660	7,706	7,752	7,797	7,843	457
Visitor	8,559	8,602	8,645	8,688	8,731	8,775	8,818	8,861	8,904	8,947	8,990	431
Total	83,250	83,678	84,106	84,534	84,962	85,390	85,818	86,246	86,673	87,101	87,529	4,279
Housing Unit												
Single Family/Duplex	21,047	21,080	21,113	21,147	21,180	21,213	21,246	21,279	21,313	21,346	21,379	332
Multifamily	16,575	16,829	17,083	17,336	17,590	17,844	18,098	18,352	18,605	18,859	19,113	2,538
Total	37,622	37,909	38,196	38,483	38,770	39,057	39,344	39,631	39,918	40,205	40,492	2,870

Source: Portland's Plan 2030; TischlerBise analysis

Appendix

o Nonresidential Development Projections

Industry	Base Year 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total Increase
Employment												
Retail	13,057	13,191	13,325	13,458	13,592	13,726	13,860	13,993	14,127	14,261	14,395	1,337
Office	24,772	25,026	25,280	25,533	25,787	26,041	26,295	26,548	26,802	27,056	27,309	2,537
Industrial	9,992	10,094	10,197	10,299	10,401	10,504	10,606	10,708	10,811	10,913	11,015	1,023
Institution	19,449	19,648	19,847	20,046	20,245	20,445	20,644	20,843	21,042	21,241	21,441	1,992
Total	67,270	67,959	68,648	69,337	70,026	70,715	71,404	72,093	72,782	73,471	74,160	6,890
Nonresidential Floor Area (1,000 sq. ft.)												
Retail	9,817	9,874	9,931	9,988	10,045	10,102	10,159	10,216	10,273	10,330	10,387	571
Office	9,318	9,403	9,489	9,574	9,660	9,745	9,830	9,916	10,001	10,087	10,172	854
Industrial	7,225	7,289	7,353	7,418	7,482	7,546	7,611	7,675	7,739	7,804	7,868	643
Institution	8,909	8,980	9,050	9,121	9,191	9,262	9,332	9,402	9,473	9,543	9,614	704
Total	35,268	35,546	35,823	36,100	36,378	36,655	36,932	37,209	37,487	37,764	38,041	2,773

Source: Portland Area Comprehensive Transportation System (PACTS); City of Portland; TischlerBise analysis

Appendix

o Projected Average Daily Person Trips

	Base Year 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total Increase
Residential Person Trips												
Single Family/Duplex	162,904	163,161	163,418	163,675	163,932	164,189	164,446	164,703	164,960	165,216	165,473	2,570
Multifamily	60,830	61,762	62,693	63,625	64,556	65,487	66,419	67,350	68,282	69,213	70,145	9,314
Subtotal	223,734	224,922	226,111	227,299	228,488	229,676	230,865	232,053	233,241	234,430	235,618	11,884
Nonresidential Person Trips												
Retail	290,177	291,864	293,551	295,238	296,925	298,612	300,299	301,987	303,674	305,361	307,048	16,871
Office	93,550	94,408	95,266	96,124	96,982	97,840	98,698	99,555	100,413	101,271	102,129	8,579
Industrial	29,260	29,520	29,781	30,041	30,302	30,562	30,823	31,083	31,344	31,604	31,865	2,605
Institutional	98,450	99,228	100,006	100,785	101,563	102,341	103,119	103,897	104,676	105,454	106,232	7,782
Subtotal	511,437	515,021	518,604	522,188	525,772	529,356	532,939	536,523	540,107	543,690	547,274	35,837
Grand Total Person Trips	735,171	739,943	744,715	749,487	754,260	759,032	763,804	768,576	773,348	778,120	782,892	47,721

Person Trips by Transportation Mode

Total Vehicle Person Trips	611,790	615,750	619,711	623,672	627,632	631,593	635,554	639,514	643,475	647,436	651,396	39,607
Total Transit Person Trips	12,466	12,550	12,633	12,717	12,800	12,884	12,967	13,051	13,135	13,218	13,302	836
Total Non-Motorized Trips	110,915	111,643	112,371	113,099	113,827	114,555	115,283	116,011	116,738	117,466	118,194	7,279
Grand Total Person Trips	735,171	739,943	744,715	749,487	754,260	759,032	763,804	768,576	773,348	778,120	782,892	47,721

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); National Household Travel Survey data, 2017; TischlerBise analysis

Appendix

o Average Daily Person Trips by Development Type

Development Type	Person Trip Ends	Trip Adjustment Factor	Person Trips/Unit			
			Total	Vehicle	Transit	Non-motorized
Single Family/Duplex	13.34	58%	7.74	6.66	0.08	1.01
Multifamily	6.32	58%	3.67	3.16	0.04	0.48
Retail	77.80	38%	29.56	24.24	0.59	4.73
Office	20.07	50%	10.04	8.23	0.20	1.61
Industrial	8.10	50%	4.05	3.32	0.08	0.65
Institutional	22.09	50%	11.05	9.06	0.23	1.76
Hotel	17.23	50%	8.62	7.07	0.17	1.38

Source: Trip Generation, Institute of Transportation Engineers, 10th Edition (2017); National Household Travel Survey data, 2017; TischlerBise analysis

Note: Trip rates are shown per housing unit for residential land uses and per 1,000 square feet of floor area for nonresidential land uses, except Hotel is shown per hotel room.

Appendix

o Water Meter Capacity by Size

Meter Size (inches)	Meter Capacity	Capacity Ratio
5/8	20	1.00
3/4	30	1.50
1	50	2.50
1 1/2	100	5.00
2	160	8.00
3	320	16.00
6	1,000	50.00
8	1,600	80.00

Capacity ratios are based on meter capacity standards published by American Water Works Association, *Principles of Water Rates, Fees, and Charges, M1*, 7th ed., 2017

City of Portland Impact Fee Ordinance
9/13/18 DRAFT

1. Authority

This ordinance is enacted pursuant to the authority of 30-A M.R.S.A. § 4354 and 30-A M.R.S.A. § 3001.

2. Purpose

The purpose of these impact fee provisions is to ensure that new development in the City of Portland bears a proportional or reasonably-related share of the cost of new, expanded, or replacement infrastructure necessary to service that development through: 1) the payment of impact fees dedicated to funding improvements made necessary by development, or 2) the construction of improvements as provided for herein.

3. Applicability

The following shall be subject to impact fees:

1. Any new building or addition to existing buildings which results in net new residential dwelling units, non-residential building square footage, or water/wastewater meters, and
2. Any change of use which results in a net increase in impact fee per Section 5F.

4. Impact Fee Schedules¹

Table of Parks & Recreation Facilities Impact Fees

Land Use Type	Unit of Measure	Impact Fee
Single-family/Two-family	per unit	
Multi-family (3+ units)	per unit	
Retail/Service	per 1,000 SF gross floor area	
Office	per 1,000 SF gross floor area	
Industrial	per 1,000 SF gross floor area	
Institutional	per 1,000 SF gross floor area	
Hotel/Motel	per room	

Table of Transportation Impact Fees

Land Use Type	Unit of Measure	Impact Fee
Single-family/Two-family	per unit	
Multi-family (3+ units)	per unit	
Retail/Service	per 1,000 SF gross floor area	
Office	per 1,000 SF gross floor area	
Industrial	per 1,000 SF gross floor area	
Institutional	per 1,000 SF gross floor area	
Hotel/Motel	per room	

¹ Land use types included in the impact fee schedule correspond to those in the city's most recent *Impact Fee Study*.

Table of Wastewater Impact Fees

Meter Size	Capacity Ratio	Impact Fee
5/8 inches	1.00	
3/4 inches	1.50	
1 inch	2.50	
1 1/2 inches	5.00	
2 inches	8.00	
3 inches	16.00	
6 inches	50.00	
8 inches	80.00	

5. Calculation of Impact Fee

Impact fees shall be calculated as follows:

- A. Impact fees shall be calculated based on the impact fee schedule in effect at the time of submittal of a complete application for a building permit.
- B. **Determination of Use:** The determination of the applicable land use category in the impact fee schedule shall be made by the [Department of Permitting and Inspections] with reference to the City of Portland's most recent *Impact Fee Study*. If the proposed development is of a type not listed in the impact fee schedule, then the impact fees applicable to the most nearly comparable type of land use listed in the impact fee schedule shall be used.
- C. **Mixed-Use Development:** In the event there is more than one principal use within a building, impact fees will be calculated separately for each principal use.
- D. **Redevelopment:** In calculating the impact fee for new development that involves the full or partial demolition of a building housing an existing, legally established use or uses, such new development shall be credited with an amount equal to the fee that would have been charged to the use or uses which occupied the structure at the time of demolition permit. If the impact fee calculation for the post-development condition is greater than the credit, the applicant shall pay the difference. If the impact fee calculation for the post-development condition is less than the credit, then the applicant shall not be required to pay an impact fee. The City shall not grant credits for demolitions not associated with new development or demolitions for which a permit was issued more than 12 months prior to the complete application for a building permit.
- E. **Building Additions:** In calculating the impact fee for building additions, each developed property shall be credited with an amount equal to the fee that would have been charged to the existing use at the time of the addition of floor area. If the impact fee calculation for the post-development condition is greater than the credit, the applicant shall pay the difference. If the impact fee calculation for the post-development condition is less than the credit, then the applicant shall not be required to pay an impact fee.
- F. **Changes of Use:** In calculating the impact fee for changes of use, each developed property shall be credited with an amount equal to the fee that would have been charged to the existing use at the time of application for building permit. If the impact fee calculation for the proposed use is greater than the credit, the applicant shall pay the difference. If the impact fee calculation for the proposed use is less than the credit, then the applicant shall not be required to pay an impact fee. The City shall not grant credits for uses which have been discontinued for a period of 12 months or more prior to the complete application for a building permit.

6. Annual Adjustment of Impact Fee

To account for inflation, there shall be an automatic annual increase in the impact fee schedule reflected in this ordinance every January 1 based on the change in the construction cost index as published by *Engineering News Record*. The fee adjustment shall be calculated by dividing the index amount published on January 1 of the current year by the index amount published on January 1, 2018 [XXXX] and multiplying the resulting ratio by each fee amount. Adjusted fees shall be made available for public reference.

7. Modification of Impact Fees

The Planning Board may by formal vote waive the payment of a required impact fee, in whole or in part, in the following instances:

- A. Any site plan, subdivision, or building permit applicant may formally request a credit against impact fees otherwise due, up to but not exceeding the full obligation of impact fees to be paid pursuant to the provisions of this chapter, in the following instances:
 - a. The developer or property owner who would otherwise be responsible for the payment of the impact fee voluntarily agrees to make infrastructure improvements for which the impact fee would be collected or an equivalent improvement approved by the Planning Board, or
 - b. The developer or property owner is required, as part of a development approval by the City or a state or federal agency, to make or to pay for infrastructure improvements for which the impact fee would be collected or an equivalent improvement approved by the Planning Board.

Credit amounts shall be determined based on plans, details, and cost estimates for the proposed infrastructure improvements for which the credit is requested. Such plans, details, and cost estimates shall be prepared by a licensed professional engineer and submitted at the time of site plan or building permit application. On-site improvements required under subdivision or site plan regulations shall not be considered eligible under this section.

- B. Any site plan, subdivision, or building permit applicant may formally request a modification of impact fees, up to but not exceeding the full obligation of impact fees to be paid pursuant to the provisions of this chapter, where documentation is provided to demonstrate that a proposed use will impose no or substantially-reduced demands on capital facilities for which impact fees have been adopted. Such documentation shall be prepared by a licensed professional engineer and include an analysis of the demand for capital facilities generated by the proposed use based on industry standards and the most recent *Impact Fee Study*. Documentation shall be submitted at the time of site plan or building permit application.

8. Affordable Housing Waiver

Any residential development including low-income or workforce housing units and qualifying as an eligible project under Division 30 shall be eligible for a reduction of fees in accordance with *Section 14-486*.

9. Collection of Impact Fee

The City of Portland shall not issue any certificate of occupancy required under the Land Use Code until the applicant has paid any impact fees required by this ordinance.

10. Segregation of Impact Fees from General Revenues

Impact fees collected pursuant to this ordinance shall be maintained in separate, non-lapsing impact fee accounts for each of the facilities for which impact fees are assessed, and shall be segregated from the City's general revenues. These accounts shall be dedicated for funding of the improvements for which the fee is collected, as determined through the City's most recent *Impact Fee Study*. Funds from these accounts shall be

distributed to City departments, upon authorization by the City's Finance Department, solely for the purpose of capital projects identified in the City of Portland's most recent *Impact Fee Study*.

11. Use of Impact Fees

Impact fees collected by the City pursuant to this ordinance may be used only for financing facility improvements which the City Council, through the City of Portland's most recent *Impact Fee Study*, has determined are made necessary by new development. The City Council has determined that fees imposed by schedules in this ordinance are reasonably related to the demands created by new development. Impact fees collected pursuant to this ordinance shall be used exclusively for capital improvements, and the City of Portland shall expend funds collected from impact fees solely for the purposes for which they were collected.

12. Refund of Unused Impact Fees

Impact fees collected pursuant to this ordinance shall be used by the City according to the timeline specified in the City of Portland's most recent *Impact Fee Study* for the completion of specific capital improvements, but in no event later than ten years after the date upon which the impact fee was collected. Any impact fees which are not so used and any impact fees collected which exceed the City's actual costs of implementing the infrastructure improvements for which such fees were collected shall be refunded. Refunds shall be paid to the owner of record of the property for which the impact fee was collected, determined as of the date the refund is made.

13. Review and Revision

The impact fees established in this ordinance are based upon the best estimates of the costs of the construction of the facilities for which the fees are collected as determined through the City's most recent *Impact Fee Study*. The Council may, by amendments to this ordinance, change the amounts of the impact fees from time to time as warranted by new information or changed circumstances.

**MEMORANDUM**

DISTRIBUTE TO: Members of the Economic Development Committee

FROM: Brendan T. O'Connell - Finance Director
Chris Huff - Assessor

DATE: August 12, 2018

SUBJECT: **Impact Fee - Questions and Answers from Finance Director & Assessor**

Several questions have been passed along from the Planning and Urban Development Department on behalf of residents and businesses in regards to impact fees, the existing tax levy and City budget, property valuation growth and the upcoming revaluation, and building permit fees and stormwater service charges. This memo is intended to summarize responses to many of the frequently asked questions ("FAQ").

Frequently Asked Impact Fee Questions for Finance and Assessors

1. I read the FY19 budget includes \$100M of new estimated valuation and I know property values continue to grow. Why are my impact fees necessary during a time when there is so much new value in the City of Portland? Isn't the existing growth enough to cover all City needs?
2. Will the upcoming revaluation help alleviate budget pressure and provide more tax dollars for City needs?
3. Building permit fees were increased recently. Wasn't this increase intended to fund some of the same things impact fees are intended to fund (i.e. growth related infrastructure)?
4. What about the Stormwater Service Charge? Was that created in response to growth-related infrastructure needs?

Question 1: I read the FY19 budget includes \$100M of new estimated valuation and I know property values continue to grow. Why are my impact fees necessary during a time when there is so much new value in the City of Portland? Isn't the existing growth enough to cover all City needs?

Property valuation has grown by \$100 million in the current year due to significant new projects breaking ground and continues our upward trajectory in overall valuation. This \$100 million of new property valuation creates an additional approximately \$1,133,000 in tax revenue for municipal use. While this may seem like a significant amount, it represents only a 0.128% overall increase to our FY18 valuation of approximately \$7.8 billion, and can only fund a fraction of the cost increases and budget challenges we face in FY19, many of which are outside of City control. These include the increases in Cumberland County tax (\$381k), increases in pension obligation bond debt service (\$872k and increasing by around \$1M annually through 2026), contractually obligated union compensation increases (approximately \$3.2M) and health insurance cost increases (\$2M). As you can see, the increase in valuation can only fund a fraction of the cost increases that are outside of City control.

Question 2: Will the upcoming revaluation help alleviate budget pressure and provide more tax dollars for the City needs?

Staff Response: No – the revaluation has no impact on total funds collected for the budget. Each year the City Manager will recommend a budget, calling for the required amount of tax dollars to be levied on property owners. The revaluation will have no impact on the dollar amount levied – the total amount of tax dollars required for City / School operations will be the same both before and after the revaluation. The revaluation will only impact how the dollars levied are split between City taxpayers. In general about 1/3 of the residents will pay more after the revaluation, 1/3 of the residents will pay the same amount, and 1/3 of the residents will pay less, but in total the amount of tax dollars collected will remain the same. When property values rise overall as a result of the revaluation, the mil rate will see a corresponding drop. For example, if total City property value increased 25% during the revaluation from \$8B to \$10B as a result of the revaluation (i.e. adjusting property values to their just values) the mil rate would then see a corresponding 25% percentage decrease.

EXAMPLE:

Pre-City Revaluation:

Total City Valuation: \$8,000,000,000

Mil Rate: \$20.00

*Total Tax Levy Needed for City/School Operations: \$160,000,000 ($\$8,000,000,000 / 1000 * \20.00)*

Post-City Revaluation:

Total City Valuation: \$10,000,000,000

Mil Rate: \$16.00 (drops because we still only need a tax levy of \$160,000,000)

*Total Tax Levy Needed for City/School Operations: \$160,000,000 ($\$10,000,000,000 / 1000 * \16.00)*

Question 3: Building permit fees were increased recently. Wasn't this increase intended to fund some of the same things impact fees are intended to fund (i.e. growth related infrastructure)?

Staff Response: In 2017 a separate Permitting & Inspections Department was created. The new Department was created in direct response to the 2016 City Council goal to create a more efficient permitting process, including online functionality. This new Department including significant levels new staff and a new Department Head, a new software system (EnerGov) and new policies and procedures, was funded by an increase in Building Permit fees. No part of the previous increase in building permit fees was intended to fund growth-related infrastructure. Additionally, there are no excess building permit revenues available to address growth-related infrastructure.

Question 4: What about the [Stormwater Service Charge](#)? Was that created in response to growth-related infrastructure needs?

Staff Response: No. The Stormwater Service Charge was created to fund and implement projects related to the Department of Environmental Protection ("DEP") mandate for combined sewer overflow requirements. Instituting a stormwater charge more fairly and equitably distributes costs among the users of the sewer and stormwater systems rather than putting the burden entirely on sewer users. Stormwater service charges will raise approximately \$7M towards the DEP mandate in FY19. The City estimates between \$20M and \$30M will be spent annually over the next 5-10 years to address the DEP mandate (revenues from both sewer fees and stormwater service charges will support this effort). There will be no excess of either Stormwater Service Charges or Sewer Fees to address growth related infrastructure needs.

PORTLAND IMPACT FEE STUDY

CITY OF PORTLAND PLANNING DIVISION

September 18, 2018

I. Study Objectives & Assumptions



DRAFT

- The City of Portland engaged Colliers to evaluate the impact of the proposed schedule of impact fees (“Fees”) upon development in Portland
- Colliers prepared financials for several typical projects types: Multifamily, office, hotel, industrial, and retail
- Colliers analyzed each projects’ return with and without the proposed impact fees
- Colliers applied the Maximum Supportable Fee as determined by TischlerBise

II. Executive Summary

- The proposed fees will have minimal impact upon financial returns across a range of product types, reducing them (IRR and ROI) by less than 1%
- The fees are less than 2.5 percent of total development costs
- The proposed impact fees may be less than or greater than the actual, ad-hoc fees paid by some developments in the past
- Formalizing the fee schedule adds predictability, certainty, and may possibly shorten the permitting time for projects reducing costs
 - For example: One month of escalation of construction costs on a \$15m project is \$62,500/month
- This analysis does NOT account for costs incurred by developers related to design review, compliance with other City of Portland ordinances and/or policies (other than inclusionary zoning), or delays in the permitting process

II. Executive Summary

PORTLAND IMPACT FEE ANALYSIS

SUMMARY
9/20/2018

DRAFT

	Multifamily Rental	Multifamily Condominium	Downtown Hotel	Suburban Airport Hotel	Office + Retail	Industrial	Shopping Center
# of Residential Units	75 Units	50 Units					
# of Hotel Room Keys			150 Keys	200 Keys			
Office GSF					50,000 GSF		
Retail GSF					7,500 GSF		105,000 GSF
Industrial GSF						50,000 GSF	
Surface Parking GSF	24,375 GSF			65,000 GSF		16,250 GSF	325,000 GSF
Structured Parking GSF		16,250 GSF					
Development GSF (ex. Parking)	67,500 GSF	55,000 GSF	52,500 GSF	70,000 GSF	57,500 GSF	50,000 GSF	105,000 GSF

Total Development Cost (Without Impact Fee)	\$21,133,704	\$21,703,206	\$22,765,606	\$27,256,344	\$20,132,086	\$10,171,438	\$39,873,038
\$/Unit/Key/GFA (Without Impact Fee)	\$281,782.72/ Unit	\$434,064.12/ Unit	\$151,770.71/ Key	\$136,281.72/ Key	\$354.55/GSF	\$205.22/GSF	\$388.81/GSF

Estimated Impact Fee to Developer	\$163,301	\$118,926	\$522,026	\$685,976	\$254,803	\$89,738	\$952,286
Percent of TDC	0.77%	0.55%	2.29%	2.52%	1.27%	0.88%	2.39%

IRR (Without Impact Fee)	9.55%	11.60%	10.19%	10.95%	15.31%	9.04%	10.38%
IRR (With Impact Fee)	9.38%	11.39%	9.63%	10.33%	14.91%	8.84%	9.83%
Difference in IRR	0.17%	0.21%	0.56%	0.62%	0.40%	0.20%	0.55%

ROI (Without Impact Fee)	4.18%	33.17%	5.85%	6.46%	9.72%	5.38%	6.27%
ROI (With Impact Fee)	4.11%	32.43%	5.50%	6.01%	9.26%	5.26%	5.86%
Difference in ROI	0.07%	0.74%	0.35%	0.45%	0.47%	0.12%	0.41%

9/20/2018



Helen Donaldson <hcd@portlandmaine.gov>

Impact fees for parking garages?

Christian MilNeil <c.neal.milneil@gmail.com>

Wed, Sep 19, 2018 at 3:55 PM

To: hcd@portlandmaine.gov

Cc: Jeff Levine <jlevine@portlandmaine.gov>, planningboard@portlandmaine.gov

Thanks Nell, I understand where you are coming from w/r/t not charging impact fees to new parking garages, but I don't agree with the reasoning.

Parking garages are a land use and they are almost always subsidized – and subsidies for automobile use naturally generate more automobile trips.

We know intuitively and by observation that a 7-11 surrounded by a big, free parking lot generates more car traffic than a Rosemont Market, even though the square footages are roughly the same and the buildings' uses, from a zoning standpoint, are identical. The Bangor Savings Bank branch on Middle Street is the same land use as the Bangor Savings Bank branch on outer Brighton Avenue, but the Old Port location has virtually no impact to traffic because there is no parking there and it's been designed for walk-in traffic; the Brighton location does have a traffic impact because it's designed to privilege access for motorists. We drive to the Maine Mall because it's surrounded by parking lots, and we walk to Reny's because parking is scarce on Congress Street and the pedestrian and transit connections are excellent.

The planning department needs to bear in mind that impact fees have an important function beyond financing infrastructure projects: ideally, they could also offer a financial incentive for developers to reduce the impact of their projects; to build fewer parking lots and more transit-oriented, walkable neighborhoods where cars don't get used as much.

In its current form, the proposed ordinance will make smart growth even more expensive, and more development will go out to Westbrook and Scarborough instead, and we'll end up back at square one, with increasing traffic and none of the money we need to deal with it.

So, instead of assuming that every housing development is going to generate car traffic with a one-size-fits-all approach we have here, we could have a tiered system of impact fees such that a car-oriented development with lots of parking pays more, and a transit-oriented development that gives its tenants bus passes pays less (or not at all), and thus give developers a financial incentive to build more of the latter.

The city already acknowledges, through its transportation demand management policies, that developers can and do reduce their traffic impacts with project design and property management strategies; the prior use of TDM plans undermines the city's argument that traffic impacts are a blind function of land use multiplied by the dreary transportation mode shares of our status quo. In fact, developers' TDM plans themselves could be used as a better proxy for a development's traffic impacts, since the TDM plans explicitly set a developer's expectations for how their tenants will travel, and how much they will subsidize parking.

From a political point of view, a lot of Portlanders are upset about how much parking garage construction is happening right now downtown. It's a clear, visible demonstration of how the city and landlords are willing to spend lots of money to subsidize private parking, even as the city's public streets strain under increasing traffic congestion. This is a clear "tragedy of the commons" situation – every new parking space makes driving slightly more convenient for one motorist but incrementally increases congestion for everyone else – that demands a stronger public policy response. Impact fees would be a good place to start: a financial nudge to encourage developers to internalize the broader traffic impacts of their parking management decisions.

I'd appreciate it if you could share this message with the planning board as public comment tomorrow; I may try to attend the meeting in person as well.

A couple of other more technical points:

- Figure 24 in the memo seems to assume that the mode share for transit, walking and biking will remain constant (and miserably low) through 2028. Don't we have city goals that say we want more transit market share, and less motor vehicle use over time? Isn't shifting mode share the point of many of these infrastructure projects we want to fund? It's discouraging to see a city planning document assume failure in those ambitions, which some of us

consider pretty important!

- Mode share estimates in Table 19 seem to come from the FHWA's Household Travel Survey (<https://nhts.ornl.gov/>). We should be skeptical of those figures; that survey has a very small sample size (only 250 respondents from the entire state of Maine – [source](#)) that likely discounts Portland's uniquely high transit service and walkability relative to other small cities.

The U.S. Census Bureau's American Community Survey, by contrast, surveyed 15,423 households in Maine in its 2017 survey, so it's much, much more robust. The ACS estimates that Portland's citywide transit mode share for commuting trips is 3.2% – twice as high as TischlerBise's assumed mode share, and transit ridership is growing.

- Furthermore, we know from Census tract-level estimates that mode share also varies by neighborhood, significantly. Bayside (in Census Tract 6) has a transit mode share of 9.9% and a walk/bike share of 40% for commuting trips. By the logic of this memo, a project located in Bayside should pay a significantly lower impact fee than a project located in Riverton if we use the more reliable, more statistically robust ACS data.

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