

DATE: February 9, 2016
TO: Christine Leon
FROM: Nick Popenuk and Mike Wilkerson
SUBJECT: EVALUATION OF THE IMPACT OF PROPOSED LTIC ON HOUSING AFFORDABILITY

The City of Portland is considering the implementation of a Local Transportation Improvement Charge (LTIC). This would be a charge on new development of single-family homes on local streets that are unpaved or under-improved.¹ This charge would provide developers with a new option for satisfying existing City requirements for frontage improvements. The Portland Bureau of Transportation (PBOT) asked ECONorthwest to evaluate if the proposed LTIC would have an impact on housing affordability in the City. **We conclude that the proposed LTIC would not have an impact on housing prices.** This memorandum summarizes our economic evaluation of this issue.

LTIC program overview

The proposed LTIC would be a fee paid by developers when requesting a building permit. Unlike the majority of fees and charges assessed on new construction projects (e.g., SDCs, building permits), LTIC would only apply to a subset of properties in the City—those on unimproved or under-improved local streets in single-family residential zones. The amount of the charge would be based on the linear feet of frontage—e.g., the charge for a property with 50 feet of frontage would be double the charge for a property with 25 feet of frontage. Initially, the amount of the charge is estimated at \$600 per linear foot, based on the City’s average historical cost of street improvements.

Currently, properties on unimproved or under-improved local streets are required to develop their frontage to conform to the City’s adopted standard. Building small, disconnected frontage improvements is costly and time-consuming, including a lengthy design and permitting process. Developers can request an exemption from these frontage improvements through a formal appeals process. The appeals process is time-consuming, and the outcome uncertain.

The LTIC is intended to clarify and expedite this process. It would provide developers with another option for meeting their frontage improvement requirements. Developers would now have the option to pay the LTIC at the time of building permit application. Payment of the LTIC would eliminate further obligation for frontage improvements. It is important to note that payment of the LTIC would be optional—developers would retain the option to build their frontage improvements to conform to City requirements instead of paying the LTIC. However, developers would no longer have the option to appeal the decision on their required frontage improvements.

¹ Whether or not a property is subject to the LTIC would be determined by the presence of curb on the property’s street frontage. Frontages without curb would be considered “under-improved” and subject to the LTIC, while properties with curbs would be exempt.

LTIC impact on housing prices

PBOT is interested in understanding the impact of the proposed LTIC on housing prices in the City. A common hypothesis is that the LTIC would increase the cost of developing a home, which would lead to an increase in the price of that home. We do not find evidence in economic theory to support this hypothesis in regards to the LTIC. **When compared to the City's existing requirements for frontage improvements, the implementation of the LTIC would be unlikely to have any impact on housing prices citywide.** The remainder of this memorandum explains how we arrived at this conclusion.

How price is determined (supply and demand)

The price of housing is determined no differently than any other good or service in a competitive market—it is established at an equilibrium between the quantity demanded and quantity supplied at a given market price. Thus, for the LTIC to have an impact on the price of housing, it would need to affect either the demand for, or the supply of housing in the Portland market.

LTIC impacts on demand

There is no reason to suspect the LTIC would have any impact on housing demand. In other words, the imposition of a fee on some new homes in Portland will not result in a change in the number of buyers looking to purchase homes in the Portland area, nor the amount that those buyers are willing to pay for a given home with a given set of attributes.

Consider the following simple example of two identical homes for sale, of equal appraised value. Assume one of those homes is damaged by a flood, and the seller must spend \$10,000 to repair the damage. That expenditure does not make the home any more valuable than its identical counterpart. The seller cannot increase the sale price by \$10,000 and pass on his cost to prospective buyers. The entire incidence of the cost of repairs is incurred by the seller of the property. In this example, the supply of homes remains unchanged, the demand for homes remains unchanged, therefore the price of the homes remains unchanged as well.

In a scenario where a buyer were willing to accept an increased sales price due to higher developer costs, they would be prevented from doing so in most situations by federal lending standards and mortgage rules. The majority of home sales require a bank loan to finance part—generally 80 percent—of the purchase price (the exception being cash transactions). Loan underwriting standards require that the loan amounts not exceed a given percentage of the fair market value of the home—known as the Loan to Value ratio. To determine the Loan to Value ratio, lenders are required to hire licensed appraisers to provide a valuation of the subject property.

Appraisals identify attributes of the subject property and use comparable homes located nearby with similar attributes to determine the value. The appraised price of the subject property is determined based on the prices of homes with similar attributes that were recently sold. Residential appraisals do not consider the costs of development of the home in question. If one

home has higher development costs than another home (for example, due to payment of the LTIC as opposed to receiving an exemption through an appeals process), it has no bearing in the appraiser's determination of value.

In summation, the idea that increased costs for a seller can simply be passed on as a price increase to a homebuyer is incorrect. The proposed LTIC would not have an impact on the demand for homes. Thus, for the LTIC to have any impact on housing prices, it would need to affect the supply of homes. We investigate this issue in the following section.

LTIC impacts on supply

Costs of production impact the supply curve, and therefore the market price of a good. For example, a developer will build a house on a vacant lot if the anticipated sales price of the home exceeds the anticipated development costs plus an acceptable rate of return on their capital. If the developer's costs increase—for example, from the imposition of a new fee—then it would reduce their profit margin (if the incidence of the fee is completely absorbed by the developer). If a developer is not able to achieve a minimally acceptable projected rate of return, they will not build, and therefore decrease the supply of homes on the market.

To determine the impact of the proposed LTIC on supply, we need to understand the magnitude of any incurred cost, as well as the incidence of the cost (i.e., who ultimately pays) to understand the impact on the market price of housing.

Who pays the cost of development fees?

Fees like the proposed LTIC are charged to developers when they request building permits. Thus, developers are the *initial* payers of the fees, but who *ultimately* absorbs the cost of the fee? There are three potential answers: the buyer of the newly constructed home, the developer, or the original landowner.

Previously, we described the inability of developers to simply pass cost increases on to future homebuyers. Home prices are based on professional appraisals, whereby the cost of other homes in the area with similar amenities are calculated, and ignoring the individual costs of the home in question. Without the constraint provided by appraisals, the law of supply and demand dictates that buyers are not willing to pay more for a home with higher costs, all else equal. Therefore we can eliminate homebuyers as the ultimate payers of fees.

Another line of thinking suggests that increased costs and fees will be paid for by developers, resulting in decreased developer profits. In order for this hypothesis to be validated, it requires an assumption that developers will build homes, regardless of the expected profit margin. Developers however, do not operate with this assumption—they make calculated decisions before investing, weighing the expected sales price of the home against the total costs of development. If a developer is not able to achieve a minimally acceptable projected rate of return, they will not build. In a competitive market place, developer profits are assumed to be near their minimum acceptable rate of return, which means developers would be unwilling to accept higher costs and a lower rate of return. Investment dollars are free to move about from

market to market—there is no regulation requiring funds to be invested in a particular market. Therefore, if minimally acceptable rates of return cannot be achieved commensurate with the risk in a particular location, investment dollars will leave the region.

Because developers are unwilling to accept a lower return (they will simply not build), and they are unable to pass increased costs on to homebuyers, the landowner ultimately bears the cost of increased fees. When developers know that a fee will be imposed on a certain vacant lot at a cost of \$25,000, then the developer will reduce their offering price for that lot by \$25,000 (compared to a previously established market price). Thus, the direct effect of an increased fee is a decrease in land value—put differently, the landowner received the full incidence of the increased fee structure.

Some landowners may be willing to sell their lots at a decreased price, others may not. If a new fee discourages some landowners from selling their land to developers, then that negatively affects the supply of housing, and all else equal, causes an increase in housing prices. **Thus, the important questions to ask are: will the LTIC decrease land values? If so, what is the impact on the supply of homes? And what impact would that have on the price of housing?**

Impact of LTIC on land values

If the LTIC were a new fee, we would expect it to increase developer costs, and therefore decrease land values. The proposed LTIC, however, is not a new cost to developers. Developers are currently required to provide frontage improvements on properties on unimproved streets. Developers already pay the cost of those frontage improvements and the land values reflect these assumed costs.

Frontage improvements impact the financial feasibility of a development in two ways: (1) the cost of the improvements and/or (2) the time value of money associated with design and construction of those improvements, and/or the appeals process. Under the current system, those costs are variable and uncertain to developers, but real nonetheless. The LTIC provides developers another option for paying this cost. It allows developers to meet their obligations for frontage improvements at the time of permit, rather than through the existing process, which can take six to nine months to resolve.

The cost of the LTIC per linear foot is constant, while the cost of frontage improvements is variable based on the size of the project. In some cases the cost of the LTIC will be lower than building frontage improvements, while in other cases the cost will be higher. Developers would have the option of deciding whether to pay the LTIC or build the frontage improvements based on the perceived costs. The choice is at the discretion of the developer; the LTIC does not require developers to pay more for frontage improvements than under the current system. Therefore, in most cases the LTIC is not expected to have an increased cost to developers, nor an associated decrease in land values. There is, however, one exception—properties that previously would have successfully appealed the City’s requirement to build frontage improvements. Under the proposed LTIC, the appeals process would be eliminated. If the LTIC

(or incurred cost of construction) were higher than the time value of money associated with a successful appeals process, there would be an increased cost associated with the LTIC proposal

Impact of the change in appeals process

Under the current system, developers are allowed to appeal the City's decision on required frontage improvements to the Public Works Appeal Panel. If successful, a developer may be found exempt from the requirement to build frontage improvements on their property—though they still incur the costs of going through the appeals process, including the lost time associated with the six to nine months required to reach a verdict. If unsuccessful, the developer is required to build the frontage improvements, and has the added costs of the appeals process.

With the proposed LTIC, developers would no longer have an option to appeal the City's requirements for frontage improvements. The appeals process existed to provide developers an option in situations where it was impractical to build improvements (for example, on streets with steep slopes). While conditions exist that may make it impractical to build frontage improvements on a given property, those same conditions do not present an obstacle to paying the LTIC. The implementation of the LTIC offers another option and therefore eliminates the necessity for the appeals process.

Historically, the City has had between 100 and 200 applications to the Public Works Appeal Panel per year. And of those appeals, approximately 50 are successful, resulting in the City waiving their requirement for frontage improvements. Assuming the cost of paying the LTIC exceeds the cost of going through the appeals process, then the implementation of the LTIC would result in increased costs of development (and a corresponding decrease in land value) for those 50 properties each year.

Impact of the LTIC on the supply of homes

In the previous section, we identified an average of 50 new houses each year that currently receive waivers for street improvements. These 50 cases represent the maximum number of properties that could have decreased land values as a result of the LTIC. The decreased land value due to the imposition of the LTIC may affect the decision-making process of the landowners, potentially causing some landowners to decide not to develop their property. Other landowners may be willing to accept the lower sales price of the land. While we cannot say with certainty how many of these landowners would choose not to develop due to the LTIC, for the sake of our analysis, we assume the maximum of all 50 properties each year would choose not to develop, reducing the supply of housing accordingly.

Impact of the LTIC on housing prices

If the adoption of the LTIC reduces the supply of housing in Portland by 50 units per year, what would be the impact on housing prices? To answer that question, we need to know the price elasticity of supply for homes in the Portland market. The price elasticity of supply describes the relationship between a change in quantity and a change in price for housing in a market. There is an extensive literature estimating the supply elasticity of housing, however very few estimate individual markets—our research did not reveal any estimates conducted for Portland.

A market is considered to be more inelastic if there are supply or regulatory constraints that impact how easily new units are produced in a market. In a more inelastic market, prices are more responsive to changes in supply. Existing studies have estimated the range of price elasticity of supply for housing in the short run to be between -1 and -8, with an average of -2.² If we take the average elasticity of -2 and apply it to the City of Portland with a restricted supply of 50 homes, the market price of homes in Portland in the short run would increase by approximately \$46.³

It should be noted that the \$46 dollar estimate is the maximum impact given the set of assumptions listed above. There would likely be an offset to the number of properties that do not develop by a subset of properties that are more feasible with the proposed LTIC structure. There is an unknown number of homes on unpaved streets that have not developed historically because the cost and uncertainty of frontage improvements. The uncertainty may have prevented landowners and developers from coming to agreement on the value of land. Conversations with developers and real estate professionals have indicated the uncertainty inherent in the current system is a deterrent to development of vacant lots on unimproved or under-improved streets. The improved efficiency and certainty offered by the LTIC could result in realized or perceived decreased costs associated with development on unimproved or under-improved streets. This policy change could result in more property owners deciding to develop their land, thereby increasing the supply of houses. We cannot quantify this potential increase in supply, it is likely more than zero, and could potentially more than offset the negative impact on supply quantified earlier.

Conclusion

Housing prices are determined by the law of supply and demand. The demand for housing is not impacted by the proposed LTIC. Estimating the impact on the supply of housing is varied—however, even in the extreme circumstance, the maximum impact on the price of housing is minimal. In the most likely scenario, the LTIC will not have an impact on the price of housing. Given the public benefits associated with more efficient utilization of resources to complete street improvements, it is a public policy that simplifies the development process and does not have any negative economic impacts associated with its implementation.

2

http://coss.fsu.edu/dmc/sites/coss.fsu.edu.dmc/files/LandUseRegulationAndHousingBubbles_LANDECON_REVISION.pdf

³ Estimating the impact of home prices in the short run yields a static estimate, over time a dynamic estimate should be conducted to completely understand the impact of continued supply restrictions due to a policy change. To calculate the price impacts, we estimated a total supply of 185,000 single family homes in Portland based on RLIS 1Q2015 parcel data and assumed a median sales price of \$344,000 based on Zillow December 2015 data.