

# **EXHIBIT D**

## MEMORANDUM

Date: December 4, 2018 (Updated)

To: Ketil Freeman, Seattle City Council Central Staff

From: Rebecca Schwartzman & Kendra Breiland, Fehr & Peers

**Subject: Calculation of Existing System Value for Use in Seattle's Transportation Impact Fee Proposal**

SE15-0415

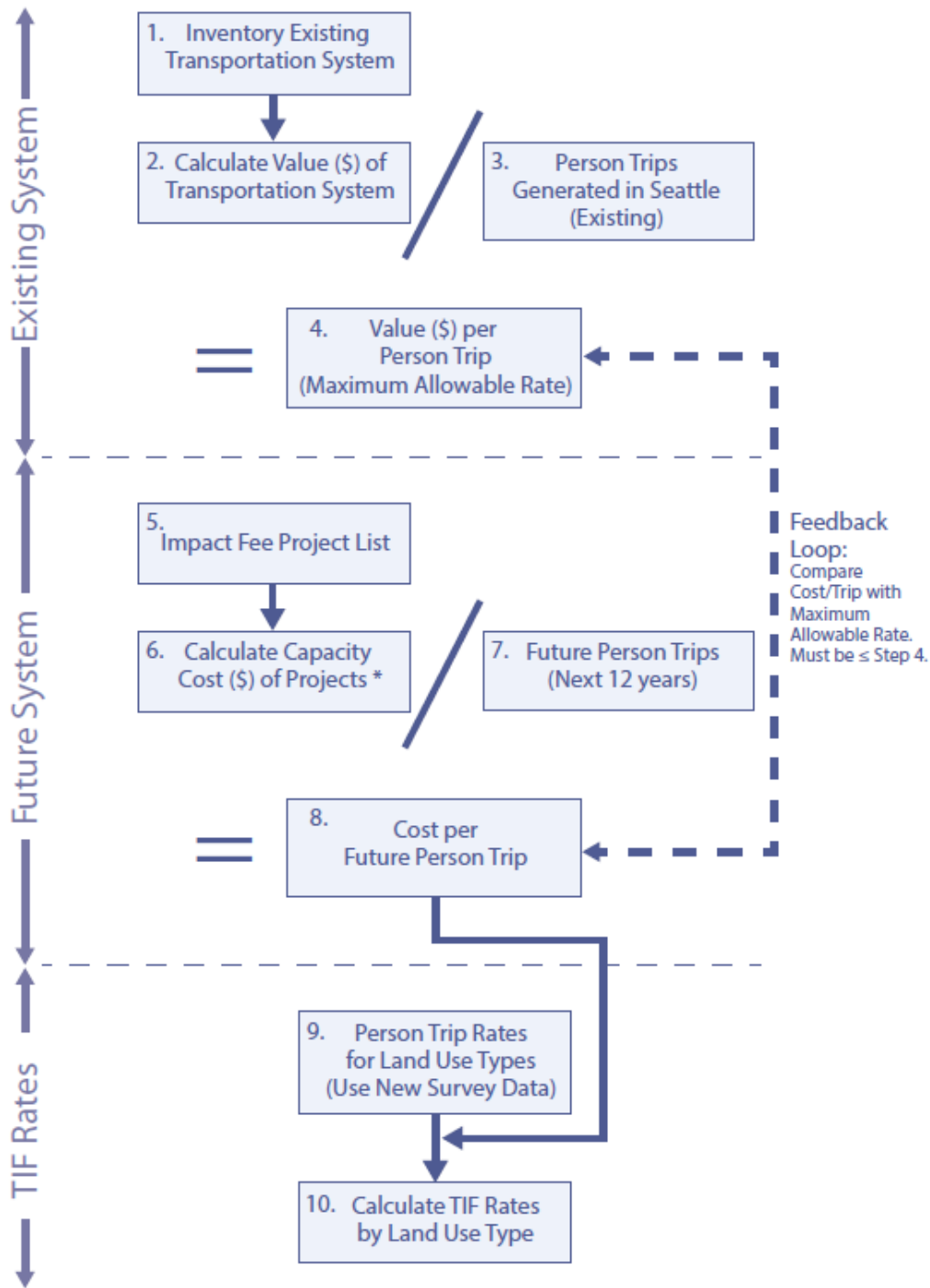
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Fehr & Peers has been working with Council Central Staff to develop a proposal for the City of Seattle to implement a transportation impact fee (TIF) program. One important aspect of this program will be establishing how the City accounts for existing deficiencies. One approach that the City may want to consider, which has been implemented in Portland, Oregon and Oakland, California, is determining the system value per trip of Seattle's existing transportation system. This is an alternative method to determining existing deficiencies which states that the City cannot charge development impact fees that exceed the value (on a cost per trip basis) of the system that is on the ground today (also normalized to a per trip basis). This memo provides specific details on two key calculations:

- **Existing system value per person trip**, which is calculated by summing the existing value of the transportation system and dividing it by the existing number of person trips per PM peak hour.
- **Future system transportation impact fee cost per person trip**, which is based on the total impact fee eligible components of the TIF project list, divided by forecast growth in PM peak hour person trips over the next 12 years.

**Figure 1** on the next page summarizes the proposed approach, with details provided below. Note that the two main calculations described in this memo are the maximum allowable impact fee per person trip (Steps 1-4) and recommended impact fee per person trip (Steps 5-8).

**Figure 1: TIF Rate Calculation Flow Chart**



\* Subtract any previously committed revenue sources

## EXISTING SYSTEM VALUE TIF RATE

This rate is calculated by summing the value of the City's existing transportation system and dividing it by the existing number of person trips per PM peak hour, as shown in Steps 1-4 in **Figure 1**. The resulting rate will be considered the maximum allowable TIF rate per PM peak hour person trip, even if the value is lower than the rate calculated using the future (12-year) project list and trip growth.

The inventory of the existing transportation system was based on the Seattle Department of Transportation's *Asset Management: Seattle Status and Condition Report from 2015*. This report includes an inventory of the existing transportation system, along with the replacement value and condition for each facility type. The following facilities were included in the calculation of the transportation system value:

- Pavement (arterials only)
- Pedestrian System
- Structures
- Signals
- Streetcars
- Street Signs
- Pavement Markings
- Right-of-Way (ROW)

The value of the existing transportation system was calculated by adding the infrastructure value and ROW value. The ROW value was calculated using King County Assessor data from 2017 to establish the value of commercial and residential land. Using this methodology, we estimate Seattle's total land value at roughly \$44.9 billion. Personal communications with the SDOT Traffic Engineer, Dongho Chang, indicated that approximately 28% of the City's land is ROW and 40% of that ROW is made up of arterials. This establishes a total arterial ROW value of approximately \$5 billion.

The value of the existing transportation system was calculated to be \$17.4 billion, as itemized in **Appendix A**. This value includes applicable ROW value.

The City of Seattle travel demand model provided the basis for the existing year PM peak hour person trips. The travel demand model provides 2015, 2027, and 2035 PM peak hour person trip estimates. As of 2015, the City of Seattle generates approximately 643,668 person trips during the PM peak hour.

Dividing the \$17.4 billion by the 643,668 PM peak hour person trips results in a system value of \$27,047 per PM peak hour person trip. This rate can be considered the maximum allowable TIF rate.

## FUTURE SYSTEM TIF RATE

The future system TIF rate is calculated by summing the eligible costs of the recommended TIF project list and dividing it by the forecast number of new person trips added to Seattle's transportation system over the next 12 years – the expected timespan of Seattle's impact fee program (see Steps 5-8 in **Figure 1**).

The City of Seattle travel demand model was used to estimate growth in PM peak hour person trips over the next 12 years. Over that period, it is expected that Seattle will see PM peak hour person trips grow by around 85,100 trips.



### Appendix A: Existing System Value

Facility	Quantity	Measurement	unit cost	Replacement Value	Include for Impact Fees	Deficiency	Value for Impact Fees
<b>Pavement</b>							
Arterial	1,547	lane mile	\$ 3,023,917	\$ 4,678,000,000	\$ 4,678,000,000		\$ 4,678,000,000
<b>Total</b>	<b>1,547</b>			<b>\$ 4,678,000,000</b>	<b>\$ 4,678,000,000</b>	<b>\$ -</b>	<b>\$ 4,678,000,000</b>
<b>Pedestrian System</b>							
Sidewalks	13,915	block faces	\$ 158,212	\$ 2,201,473,286	\$ 2,201,473,286		\$ 2,201,473,286
Stairways	212		\$ 124,951	\$ 26,517,746	\$ 26,517,746		\$ 26,517,746
Marked Crosswalks	2,234		\$ 1,008	\$ 2,251,507	\$ 2,251,507		\$ 2,251,507
<b>Total</b>				<b>\$ 2,230,242,539</b>	<b>\$ 2,230,242,539</b>	<b>\$ -</b>	<b>\$ 2,230,242,539</b>
<b>Bicycle Network</b>							
Bikeways							
<b>Structures</b>							
Bridges	117		\$ 35,145,299	\$ 4,112,000,000	\$ 4,112,000,000		\$ 4,112,000,000
Retaining Walls	582		\$ 1,551,718	\$ 903,100,000	\$ 903,100,000		\$ 903,100,000
Guardrails	772	units	\$ 9,715	\$ 7,500,000	\$ 7,500,000		\$ 7,500,000
Elevator	1		\$ 1,500,000	\$ 1,500,000	\$ 1,500,000		\$ 1,500,000
Tunnel	1		\$ 74,000	\$ 74,000	\$ 74,000		\$ 74,000
<b>Total</b>				<b>\$ 5,024,174,000</b>	<b>\$ 5,024,174,000</b>	<b>\$ -</b>	<b>\$ 5,024,174,000</b>
<b>Signals</b>							
Signals	1,071		\$ 262,465	\$ 281,100,000	\$ 281,100,000		\$ 281,100,000
Communications Network	150	miles	\$ 500,000	\$ 75,000,000	\$ 75,000,000		\$ 75,000,000
Network Hubs	14		\$ 64,286	\$ 900,000	\$ 900,000		\$ 900,000
<b>Total</b>				<b>\$ 281,100,000</b>	<b>\$ 281,100,000</b>	<b>\$ -</b>	<b>\$ 281,100,000</b>
<b>Streetcar</b>							
Streetcar	2	Lines	\$ 51,500,000	\$ 103,000,000	\$ 103,000,000		\$ 103,000,000
<b>Total</b>				<b>\$ 103,000,000</b>	<b>\$ 103,000,000</b>	<b>\$ -</b>	<b>\$ 103,000,000</b>
<b>Street Signs</b>							
Street Signs	70,985		Varies (\$250-\$3,500)	26,135,458	26,135,458		\$ 26,135,458
<b>Total</b>				<b>\$ 26,135,458</b>	<b>\$ 26,135,458</b>	<b>\$ -</b>	<b>\$ 26,135,458</b>
<b>Pavement Markings</b>							
Pavement Markings				\$ 1,917,122	\$ 1,917,122		\$ 1,917,122
<b>Total</b>				<b>\$ 1,917,122</b>	<b>\$ 1,917,122</b>	<b>\$ -</b>	<b>\$ 1,917,122</b>
<b>Total Infrastructure</b>				<b>\$ 12,382,519,118.61</b>	<b>\$ 12,382,519,118.61</b>	<b>\$ -</b>	<b>\$ 12,382,519,118.61</b>
<b>Total Right-of-Way</b>						<b>0%</b>	<b>\$ 5,026,936,600</b>
<b>TOTAL SYSTEM VALUE</b>				<b>\$ 12,382,519,119</b>	<b>\$ 12,382,519,119</b>	<b>\$ -</b>	<b>\$ 17,409,455,719</b>
					Existing PM Peak Hr Person Trip Ends		643,668
					Cost/PM Person Peak Hr Trip Ends	\$	27,047

# FEHR & PEERS