

AMENDMENT NUMBER Three (3)**CONTRACT NUMBER 30004500****FOR****Local transportation Infrastructure Fee Project**

This Contract was made and entered by and between Economics Consultants Oregon, LTD dba EcoNorthwest, hereinafter called Consultant, and the City of Portland, a municipal corporation of the State of Oregon, by and through its duly authorized representatives, hereinafter called City.

1. Additional work is necessary as described in the Scope of Work, attached hereto and incorporated herein as Exhibit A.1.3.
2. Consideration section (a) is deleted and replaced with the following sentence:
 - (a) City agrees to pay consultant a sum not to exceed \$544,380.00 for accomplishment of the work. This new amount was calculated as follows:

\$ 154,380.00 (Original Contract Amount)
+ \$ 340,000.00 (Amendment #1)
+ \$ 0.00 (Amendment #2)
+ \$50,000.00 (Amendment #3)
= \$544,380.00 (Total Not-to-Exceed Amount)

All other terms and conditions shall remain unchanged and in full force and effect.

CONSULTANT SIGNATURE

This Contract amendment may be signed in two (2) or more counterparts, each of which shall be deemed an original, and which, when taken together, shall constitute one and the same Contract amendment.

The parties agree the City and Consultant may conduct this transaction by electronic means, including the use of electronic signatures.

Consultant Name: Economics Consultants Oregon, LTD dba EcoNorthwest

Address: 222 SW Columbia Blvd., Suite 1600
Portland, OR 97201

Telephone: 503.222.6060

Signature: _____ Date: _____

Name: _____

Title: _____

Contract Number: 30004500

Amendment Number: Three (3)

Contract Title: Local Transportation Infrastructure Fee Project

CITY OF PORTLAND SIGNATURES

By: _____ Date: _____
Elected Official

Approved as to Form:

By: _____ Date: _____
Office of City Attorney

PROPOSAL TO ESTIMATE THE VALUE OF STREET IMPROVEMENTS TO SINGLE-FAMILY HOMEOWNERS

Project Understanding

The Portland Bureau of Transportation (PBOT) is responsible for the maintenance and improvements to city streets. PBOT would like to gain a better understanding of the benefits associated with paving city streets that are currently unpaved. In this scope of work, ECONorthwest (ECONW) proposes a study that can contribute to this goal by estimating the price premium paid by Portland home buyers for a home on a paved street. A positive and statistically significant price premium signals a real benefit from the paving of streets. In economic terms, it would signal that the value of a paved street to housing consumers is capitalized into higher housing prices, and that (1) the estimated price premium is one measure of that value, and (2) the cost to a home owner of paving an unpaved street can be recaptured, at least in part, when the home is eventually sold.

Overview of the Proposed Method

ECONW proposes to estimate part of the benefits of paving streets by using a “hedonic regression model.” These models use economic theory and statistical techniques to estimate the contributions of various “attributes” of a product to that product’s price. In the context of this study, we will model the price of a housing unit as a function of the attributes of that housing unit to understanding the respective value of each attribute. The list of attributes will include structural characteristics, like the number of bedrooms and bathrooms, locational characteristics, like neighborhood and demographics, and (critical to this study) a measure of the quality of roads near the housing unit.

Specifying an appropriate list of attributes allows the statistical model to control for important confounding factors. In other words, the model estimates the contribution of paved streets to housing prices, *holding all else constant*. This allows ECONW to estimate how much value paved streets add to housing prices; that added value is a proxy measure of the benefit they provide to society. ECONW has access to several data sources that can be combined with data from PBOT on pavement quality to estimate the statistical model.

Tasks

The fundamental question for the City is how much value does a fully-improved street frontage contribute to the value of a single-family home? We understand that the City desires the fundamental question to be answered as soon as possible. However, the model we build to answer this question could be used to answer more nuanced questions, or to evaluate different scenarios and conduct sensitivity analysis. Our scope of work and budget is structured to accommodate the City’s immediate needs, with a set of core tasks to be completed within four

weeks, and then a set of optional additional tasks that the City could choose to pursue if it desires more refined analysis on a longer schedule.

Core Tasks

Task 1: Data Construction

This task involves collecting and organizing all data necessary to estimate the hedonic regression model. ECONW will gather data related to housing transactions, structural characteristics, neighborhood characteristics, and demographics. The data will then be spatially associated to data on street pavement quality provided by PBOT.

Task 2: Model Building and Preliminary Findings

ECONW will determine which housing attributes are meaningful predictors of housing prices in the City of Portland. These attributes will then be included in a dataset (Task 1) and a statistical model will be estimated. The model will focus on determining the price impacts on single-family homes, with as current a dataset required to produce accurate results. To obtain enough observations, we expect to need to compile 2 to 3 years of recent sales transactions. The goal of the model is to determine if a statistically significant price impact can be identified. We will present the findings obtained using the initial dataset and determine what (if any) additional model adjustments could be performed (optional Task 3).

Primary questions to be answered in this task:

1. Compared to an unpaved dirt/gravel road, how much value is added to a home with frontage on a street built to the traditional street standard?
2. Compared to an unpaved dirt/gravel road, how much value is added to a home with frontage on a partially-improved street (i.e., paved but no curbs, and therefore no sidewalks and probably no stormwater management)?
3. Does the value of the home affect the findings in Questions 1 and 2 above? In other words, do homes with higher prices have different price impacts than lower price homes (holding everything else constant)?
4. Does the location of the home affect the findings in Questions 1 and 2 above? We will initially model the Neighborhood Analysis Areas to determine if there are different price impacts by location (holding everything else constant). Different geographies can be analyzed as part of Task 3 if smaller units of geography are desired.
5. Does the presence of unimproved streets in the neighborhood of a home (not counting the home's frontage) have a statistically and practically significant effect on the price of the home? We might address this question by looking at, for example, the percentage of streets paved vs unpaved within 1/4 mile of a home.

We would summarize the results of this analysis in a PowerPoint presentation, allowing us to communicate the results as succinctly and clearly to a lay audience. If PBOT needs a working document on the methods we used, we can provide that.

Optional Tasks

Task 3: Scenario and Sensitivity Analysis

After constructing the initial model, we can add additional variables and conduct sensitivity analysis to improve upon the initial results. Additional analyses could increase the life of the dataset to determine if the value premiums associated with paved streets has changed over time or is a stable impact. Alternatively, we could model price impacts on commercial properties, such as apartments or office uses.

Task 4: Final Report

ECONW will compile the results, figures, and tables from the model estimation into an easy to read report. The results of the study will be explained in plain English and the meaning behind the results will be interpreted.

Budget

This project will be billed as time and materials, not to exceed \$50,000. This includes an anticipated \$25,000 for work on the core tasks, and up to an additional \$25,000 should the City choose to pursue optional tasks.

Schedule

For the core tasks, we will construct the dataset and have initial findings to share in a PowerPoint presentation within four weeks of contract execution. The timeline for optional tasks, depends on the specific additional research questions posed by the City, and the specific scenarios evaluated. For the purposes of this scope of work, we estimate these additional tasks could be completed in a period of an additional four weeks.

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HOURS BY TASK				TOTALS		
Labor Expenses			Task Hedonic Analysis	Hours	\$	% of Budget
		\$/Hour				
ECONorthwest						
Senior Project Director	Terry Moore	215	20.00	20.00	\$4,300.00	9%
Director	Michael Wilkerson	185	40.00	40.00	\$7,400.00	15%
Project Manager	Ralph Mastromonaco	175	100.00	100.00	\$17,500.00	35%
Project Manager	Emily Picha	135				
Project Manager	Katherine Macfarlane	115	70.00	70.00	\$8,050.00	16%
Project Manager	Nick Popenuk	120				
Associate	Michelle Anderson	115				
Associate	Marley Buchman	115				
Associate	Lisa Rau	95				
Analyst	Jared Rollier	70				
Analyst	Alex Feldman	70				
Analyst	Tadhg Fendt	75				
Analyst	Margaret Raimann	85	6.00	6.00	\$510.00	1%
Analyst	Virginia Wiltshire-Gordon	70				
Marketing Coordinator	Tina Morgan	75	19.00	19.00	\$1,425.00	3%
Analyst	Ali Danko	65	18.50	18.50	\$1,202.50	2%
Analyst	Angelica True	65	15.00	15.00	\$975.00	2%
Sub-Total			288.5	288.5	\$41,362.50	83%
Tiberius Solutions LLC						
Project Manager	Nick Popenuk	120	18.50	18.50	\$2,220.00	4%
Analyst	Ali Danko	65				
Communitas						
Public Involvement Lead	Deb Meihoff	150	20.00	20.00	\$3,000.00	6%
Sub-Total			38.5	38.5	\$5220.00	10%
Non-Labor Expenses				Expense Totals % of Budget		
DHM Polling/Surveys						
Reproduction/Printing						
Computer/Data Expense						
Meals and Travel						
Total			\$3,417.77		\$3,418.00	7%
Totals by Task				Totals Summary of Expenses		
Total Labor			\$46,583	Labor	\$46,583.00	93%
Direct Expense			\$3,418	Non-Labor	\$3,418.00	7%
Total by Task			\$50,000	Budget	\$50,000.00	100%