



**5-4079-01-P1**

# **RIGHT-OF-WAY COST ESTIMATING TOOL USER MANUAL**

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*TxDOT Project 5-4079: Implementation of ROW Acquisition Cost  
Estimating Planning Tool*

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## **Tool Introduction**

This document is the user manual for the Right-of-Way (ROW) Acquisition Cost Estimating Planning Tool developed to help appraisers evaluate and analyze ROW acquisition costs. This tool is an interface between a set of regression equations and the users. It can also help manage the ROW takings information database. Once this software is installed on a computer, it allows the user to input the data collected from properties from different projects and then to see the analysis results and the estimated cost of any given property.

### **1.1 System Requirements**

This application was written on the excel platform using Visual Basic for Application (VBA), a programming language. Excel is the most widely used spreadsheet program and VBA is a powerful language that can implement a wide variety of tasks in Excel. So any computer running Microsoft Office is capable of using this tool. The only thing to be done before using it is to have a copy of this tool anywhere on the user's computer.

### **1.2 Programming Structure**

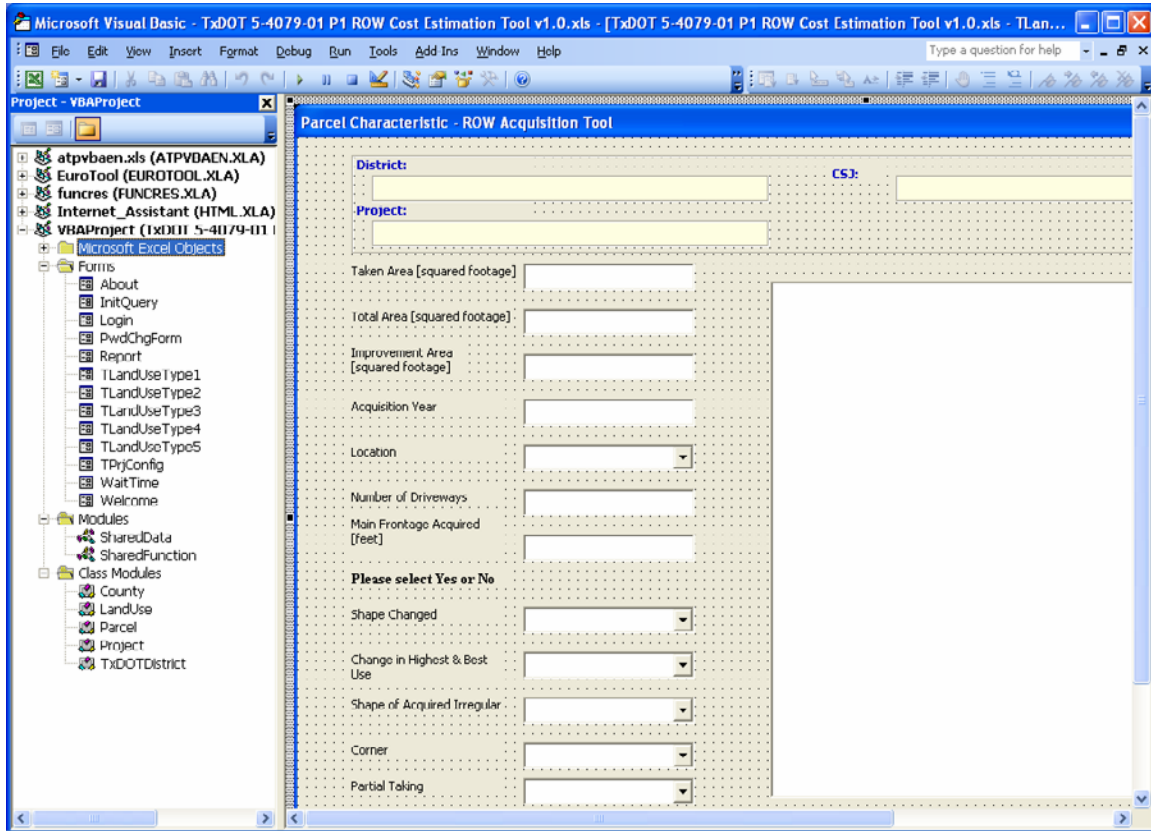
In this tool, all the user input will be stored in worksheets within the workbook in which the tool is based. The tool contains a total of 12 worksheets as showed in Fig. 1-1. They are Parcel, Project, LandUse, TxDOTDistrict, County, Sheet1\_backup, Sheet1, ROWIS, Report, Parcel\_Print and HPI.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
	OID Project CSJ	LandUse	County	ParcelNumber	Owner	Taken area feet square	Total area feet square	Acquisition Year	Corpus Christi	Houston	San Antonio	Fort Worth	Austin	Arlene	El Paso	Bryan	Waco	NUM
1	1	1 0015-07-068	1	103	1 unknown	356342.464	7879471.392	2004	0	0	0	0	0	0	0	0	0	0
2	2	1 0015-07-068	20	103	2 unknown	448101.72	463565.52	2004	0	0	0	0	0	0	0	0	0	0
3	3	1 0015-07-068	20	103	3 unknown	138390.12	230868	2004	0	0	0	0	0	0	0	0	0	0
4	4	1 0015-07-068	22	103	5 unknown	1	3	2004	0	0	0	0	0	0	0	0	0	0
5	5	1 0015-07-068	15	103	7 unknown	1873.08	2325581.28	2004	0	0	0	0	0	0	0	0	0	0
6	6	2 0015-14-117	2	103	4 unknown	14549.04	110424.6	2005	0	0	0	0	0	0	0	0	0	0
7	7	2 0015-14-117	2	103	6 unknown	62900.64	62900.64	2005	0	0	0	0	0	0	0	0	0	0
8	8	2 0015-14-117	2	103	7 unknown	87.12	43429.32	2004	0	0	0	0	0	0	0	0	0	0
9	9	2 0015-14-117	2	103	9 unknown	4051.08	38245.68	2005	0	0	0	0	0	0	0	0	0	0
10	10	2 0015-14-117	2	103	10 unknown	18905.04	88078.32	2005	0	0	0	0	0	0	0	0	0	0
11	11	2 0015-14-117	17	103	16 unknown	9408.96	9841.0752	2005	0	0	0	0	0	0	0	0	0	0
12	12	2 0015-14-117	2	103	45 unknown	1785.96	52315.56	2004	0	0	0	0	0	0	0	0	0	0
13	13	2 0015-14-117	2	103	47 unknown	1481.04	71089.92	2005	0	0	0	0	0	0	0	0	0	0
14	14	2 0015-14-117	2	103	53 unknown	3310.56	61680.96	2005	0	0	0	0	0	0	0	0	0	0
15	15	3 0049-02-014	14	106	4 unknown	113952.96	497280.96	2004	0	0	0	0	0	0	0	0	0	0
16	16	3 0049-02-014	14	106	5 unknown	66864.6	274210.2	2004	0	0	0	0	0	0	0	0	0	0
17	17	4 0049-03-057	11	106	4 unknown	31363.2	179510.76	2002	0	0	0	0	0	0	0	0	0	0
18	18	4 0049-03-057	11	106	19 unknown	43952.04	239580	2003	0	0	0	0	0	0	0	0	0	0
19	19	5 0049-04-056	1	106	1 unknown	8015.04	108901742.4	2005	0	0	0	0	0	0	0	0	0	0
20	20	5 0049-04-056	15	106	2 unknown	2526.48	30492	2005	0	0	0	0	0	0	0	0	0	0
21	21	5 0049-04-056	15	106	3 unknown	2221.56	30492	2005	0	0	0	0	0	0	0	0	0	0
22	22	5 0049-04-056	15	106	4 unknown	3223.44	60984	2005	0	0	0	0	0	0	0	0	0	0
23	23	5 0049-04-056	15	106	5 unknown	3005.64	60984	2005	0	0	0	0	0	0	0	0	0	0
24	24	5 0049-04-056	15	106	6 unknown	3833.28	60984	2005	0	0	0	0	0	0	0	0	0	0
25	25	5 0049-04-056	1	106	11 unknown	21387.96	32013115.2	2005	0	0	0	0	0	0	0	0	0	0
26	26	5 0049-04-056	15	106	14 unknown	52968.96	795971.88	2005	0	0	0	0	0	0	0	0	0	0
27	27	5 0049-04-056	15	106	15 unknown	14244.12	699138	2005	0	0	0	0	0	0	0	0	0	0
28	28	5 0049-04-056	15	106	16 unknown	33976.8	1322254217	2005	0	0	0	0	0	0	0	0	0	0
29	29	5 0049-04-056	1	106	17 unknown	79322.76	5598244.08	2005	0	0	0	0	0	0	0	0	0	0
30	30	5 0049-04-056	1	106	22 unknown	23130.36	1855656	2004	0	0	0	0	0	0	0	0	0	0
31	31	6 0055-04-027	1	105	10 unknown	217.8	226860.48	2004	0	0	0	0	0	0	0	0	0	0
32	32	6 0055-04-027	15	105	11 unknown	17946.72	11092771.8	2004	0	0	0	0	0	0	0	0	0	0
33	33	6 0055-04-027	1	105	12 unknown	2003.76	152242.2	2004	0	0	0	0	0	0	0	0	0	0
34	34	6 0055-04-027	1	105	13 unknown	6141.96	4580334	2004	0	0	0	0	0	0	0	0	0	0
35	35	6 0055-04-027	1	105	14 unknown	2134.44	13137129.72	2004	0	0	0	0	0	0	0	0	0	0
36	36	6 0055-04-027	1	105	15 unknown	28793.16	12695126.4	2004	0	0	0	0	0	0	0	0	0	0
37	37	6 0055-04-027	1	105	16 unknown	31313.888	7068489.6	2004	0	0	0	0	0	0	0	0	0	0
38	38	7 0121-03-053	21	108	46 unknown	1399.308352	26371.58047	2001	0	0	0	0	0	0	0	0	0	0
39	39	7 0121-03-053	21	108	47 unknown	968.7519357	11302.10592	2001	0	0	0	0	0	0	0	0	0	0
40	40	7 0121-03-053	21	108	48 unknown	538.1955198	13239.60979	2001	0	0	0	0	0	0	0	0	0	0
41	41	7 0121-03-053	21	108	49 unknown	861.1128317	861.2958317	2003	0	0	0	0	0	0	0	0	0	0
42	42	8 0209-07-037	2	110	2 unknown	392.04	344516.04	2004	0	0	0	0	0	0	0	0	0	0
43	43	8 0209-07-037	11	110	11 unknown	81196	124494	2004	0	0	0	0	0	0	0	0	0	0
44	44	8 0209-07-037	11	110	14 unknown	10629	15290	2004	0	0	0	0	0	0	0	0	0	0
45	45	8 0209-07-037	11	110	16 unknown	11761	14680	2004	0	0	0	0	0	0	0	0	0	0
46	46	8 0209-07-037	11	110	17 unknown	109927	109928.314	2004	0	0	0	0	0	0	0	0	0	0

**Figure 1-1 Worksheets in this Tool**

Within the Parcel worksheet, each row represents a single parcel, while columns contain all the characteristics of the parcel that the user has entered, such as the location and parcel number. The estimated costs of parcels that have been calculated are also included in this worksheet. The OID column is used to identify each parcel in the program and is meaningless for the user. Detailed explanations of the characteristics are provided in Appendix B. The Project worksheet provides information about the parcels within in a given project; each row represents one project, each column gives the name, ROW CSJ, estimation costs, etc. The LandUse gives a parcel's twenty-two possible land use types. The TxDOTDistrict worksheet provides information about the districts including the name, DistrictNumber and password. The passwords were written in a white-colored font and are initially all set to be 'abc.' How to use these passwords will be explained in next chapter. The County worksheet provides the names of each Texas county, its population density, and the district to which it belongs. The Sheet1\_backup and Sheet1 worksheets are only for programming purposes. The ROWIS worksheet contains information about over 10,000 historical ROW records used to provide the most similar cost and average cost to a new parcel later in the tool. The Report worksheet is the final estimation result formatted for the printout. It summarizes the results in a table. The Parcel\_print worksheet provides information of newly input parcels that can be directly printed. In the HPI worksheet conveys each year's Housing Price Index.

The code was written in 13 Userforms, 2 Modules and 5 Class Modules as shown in Fig. 1-2.



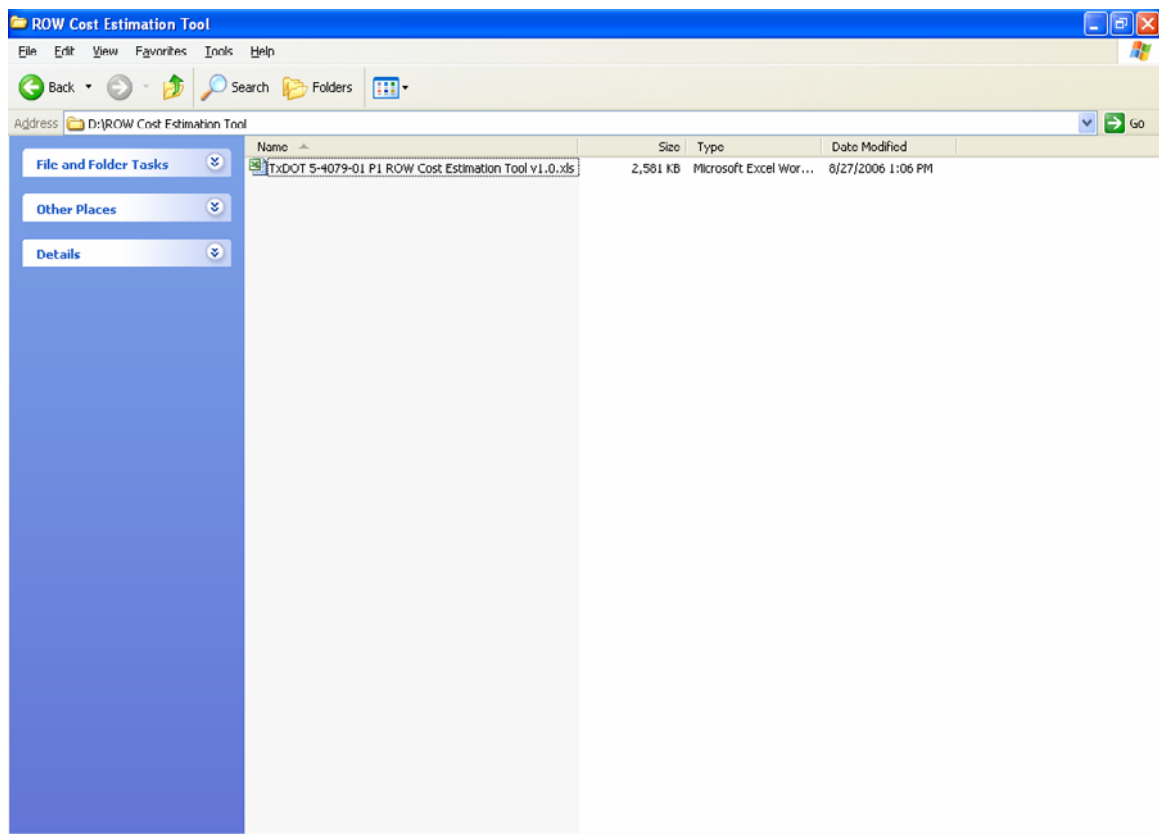
**Figure 1-2 Programming Structure**

## Using the Cost Estimating Tool

This chapter describes how to use the ROW Cost Estimating Tool from the user's perspective. Step by step instructions are given for all the processes. A project consisting of nine parcels in the Bryan district is used throughout this example.

### 1.3 Before running the tool - Security Level

The first step is to find the location of the tool file as shown in Fig. 1-3.



**Figure 1-3 Location of the Tool**

By double clicking on "TxDOT 5-4079-01 P1 ROW Cost Estimation Tool v1.0.xls" a Welcome page will automatically pop up (Fig. 1-4)

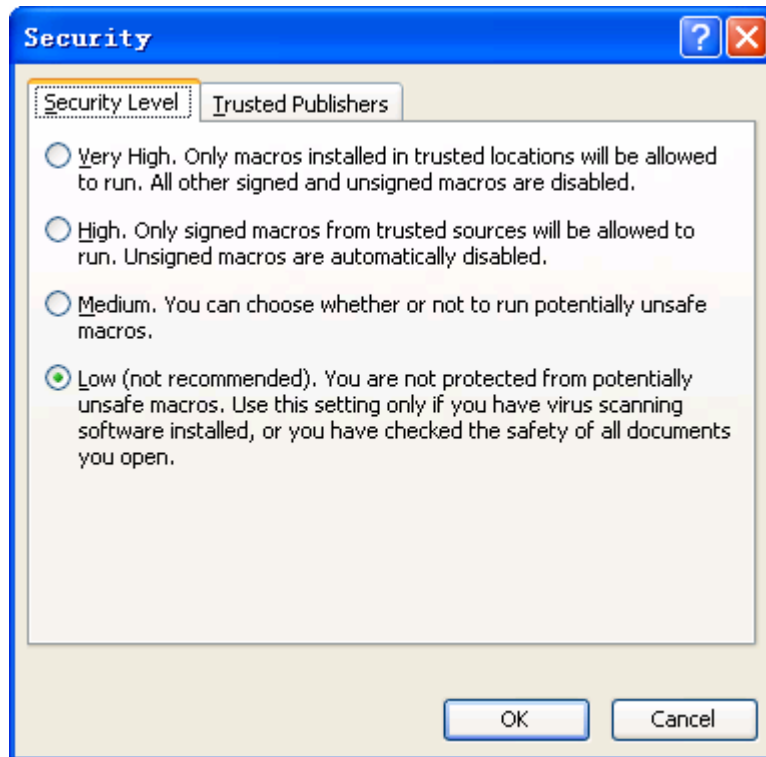


**Figure 1-4 Welcome Page**

Some users may not be able to see this Welcome page the first time due to the high Macro Security Level in their Excel configuration. If the user happens to see the pop-up in Fig. 1-5 instead of the Welcome page in Fig. 1-4, the application settings will have to be changed. This is done by clicking OK in the pop-up, going to the tool bar, and selecting Tool → Macro → Security. The Security Level should then be changed to Low (Fig. 1-6). By exiting the Excel (File→Exit) and then double clicking on the “TxDOT 5-4079-01 P1 ROW Cost Estimation Tool v1.0.xls”, the user will see the Welcome page (Fig. 1-4)



**Figure 1-5 Security Pop-up**



**Figure 1-6 Security Resetting**

## **1.4 Logging on to the Estimation Tool**

There are three buttons in the Welcome page (Fig 1-4). By clicking on 'Exit' the user will close the program and the worksheets used in this tool will be displayed. Clicking on 'About This Research' will provide some details about this implementation project. Clicking the "Start Estimate" button will allow the user to start the process. Once the user clicks the "Start Estimate" button another window will pop up (Fig. 1-7) asking the user to input the District ID and Password.



**History of Project Estimation Records - ROW Acquisition Tool**

**Project Estimates in This District**

District Information

District:  District Number:

District Code:  Password:

Please Select One of the Following Project Estimates to Continue:

--	--	--	--

**Login ROW Acquisition Tool**

District ID:

Password:

**Figure 1-7 Login Page**

Each district's ID is the 'DistrictNumber' column found in the TxDOTDistrict worksheet (See also Appendix A). Each district's password has been set to be 'abc' initially. The user can change the password directly in the password cell of the corresponding district in the TxDOTDistrict worksheet or change it in the next page of the tool. In this example, enter the district of Bryan's ID: 17, the password 'abc', and then click login. A new page titled 'History of Project Estimation Records' will then pop up (Fig. 1-8).

History of Project Estimation Records ROW Acquisition Tool

### Project Estimates in This District

District Information

District:  District Number:

District Code:  Password:

Please Select One of the Following Project Estimates to Continue:

Project Name	Project C63	Estimate Date	Number of Parcels
47	0049-06-068	9/8/2006 1:0:0 AM	5
48	0050-01-065	9/9/2006 1:0:0 AM	9
49	0050-02-087	9/10/2006 1:0:0 AM	31
50	0116-02-038	9/11/2006 1:0:0 AM	1
51	0117-01-036	9/12/2006 1:0:0 AM	3
52	0185-04-043	9/13/2006 1:0:0 AM	22
53	0212-02-032	9/14/2006 1:0:0 AM	6
54	0212-03-041	9/15/2006 1:0:0 AM	4
55	0540-00-002	9/16/2006 1:0:0 AM	11
56	0675-06-083	9/17/2006 1:0:0 AM	2
57	1316-01-040	9/18/2006 1:0:0 AM	4

Previous Page   Retrieve This Estimate   New Estimate   Delete This Estimate

**Figure 1-8 History of Project Estimation Records Page**

## 1.5 New Estimate

In this page, there are four buttons from which the user can select. The first is the 'Previous Page' button, which will take the user back to the 'Welcome' page. This button is useful in case the user wants to switch to another district. If the user wants to retrieve an estimate that has already been entered into the tool, select the project by clicking on its Project Name until it becomes highlighted in blue, and click the 'Retrieve This Estimate' button. In this example, some projects have already been created from historical ROW acquisitions. If the user wants to delete a project that has already been entered into the tool, select the project and click on the 'Delete This Estimate' button. In this example, we chose to create a new estimate, which can be done by clicking the 'New Estimate' button prompting a new page to pop up (Fig. 1-9).



Project Configuration - ROW Acquisition Tool

### Project Configuration

Project Information

TxDOT District:

Dryan

Project Name:

48

Project CSI:

0050

-

01

-

065

Date of Estimate:

2006

September

9

01:00 AM

Now

Project Description

BS 6-R (Texas Avenue) - Widened to six lanes with a raised center median

Please Input Information of the Parcel to Be Acquired:

Parcel Number:

17

Owner:

unknown

County:

Land Use Type:

Create

Delete

List of Parcels Included in This Project:

Parcel Number	Land Use Type	Owner
3	Ecclesiastical	unknown
9	Retail Store	unknown
13	Retail Store	unknown
17	Retail Store	unknown
22	Retail Store	unknown
30	Retail Store	unknown
39	Retail Store	unknown
49	Residential	unknown
56	Ecclesiastical	unknown

Previous Page: District Projects Information

Exit

Next Page: Parcel Characteristics

Figure 1-10 Project Configuration Page

Once the user has finished adding the parcels pertaining to a project, click on the ‘Next Page: Parcel Characteristics’ button to proceed with the cost estimating process (Fig. 1-11).

**Characteristics of This Parcel**

District: bryan CSJ: UUSU-01-065

Project: 48

Taken Area [squared footage]: 6673.6244457432

Total Area [squared footage]: 43055.64158544

Improvement Area [squared footage]: 0

Acquisition Year: 2002

Location: Bryan

Number of Driveways: 1

Main Frontage Acquired [feet]: 208

Please select Yes or No

Shape Changed: Yes

Change in Highest & Best Use: No

Shape of Acquired Irregular: Yes

Corner: No

Partial Taking: Yes

Parcel Number	Land Use Type	Owner	County
0	Ecclesiastical	unkown	Brazos
9	Retail Store	unkown	Brazos
13	Retail Store	unkown	Brazos
17	Retail Store	unkown	Brazos
22	Retail Store	unkown	Brazos
30	Retail Store	unkown	Brazos
39	Retail Store	unkown	Brazos
49	Residential	unkown	Brazos
56	Ecclesiastical	unkown	Brazos

Previous Page: Project Configuration Exit Next Page

**Figure 1-11 Characteristics of Parcel Page**

## 1.7 Parcel Characteristics

In this page (Fig. 1-11), the user is to input the parcel data required for calculating the cost estimation. Detailed descriptions of the variables required can be found in Appendix B. Once the user finishes the data input for the first parcel then click the 'Next Page' parcel proceed to the next parcel in question (Fig. 1-12).

**Characteristics of This Parcel**

District: Bryan CSJ: U05U-01-065

Project: 48

Taken Area [squared footage]: 027.64

Total Area [squared footage]: 65775.6

Improvement Area [squared footage]: 0

Acquisition Year: 2003

Location: Bryan

Number of Driveways: 1

Main Frontage Acquired [feet]: 87

**Please select Yes or No**

Shape Changed: No

Change in Highest & Best Use: No

Shape of Acquired Irregular: Yes

Corner: Yes

Partial Taking: Yes

**Parcels:**

Parcel Number	Land Use Type	Owner	County
5	Ecclesiastical	unkown	Brazos
9	Retail Store	unkown	Brazos
13	Retail Store	unkown	Brazos
17	Retail Store	unkown	Brazos
22	Retail Store	unkown	Brazos
30	Retail Store	unkown	Brazos
39	Retail Store	unkown	Brazos
49	Residential	unkown	Brazos
56	Ecclesiastical	unkown	Brazos

Previous Page Exit Next Page

**Figure 1-12 Characteristics of Parcel Page**

## 1.8 Estimation Report

When the user reaches the last parcel input page (Fig. 1-13), click the 'Next Page: Summary Report of This Estimate' button to see the estimation report of this project (Fig. 1-15).

**Characteristics of This Parcel**

District:  CSJ:

Project:

Taken Area [squared footage]

Total Area [squared footage]

Improvement Area [squared footage]

Acquisition Year

Location

Number of Driveways

Main Frontage Acquired [feet]

Please select Yes or No

Shape Changed

Change in Highest & Best Use

Shape of Acquired Irregular

Corner

Partial Taking

**Parcels:**

Parcel Number	Land Use Type	Owner	County
0	Ecclesiastical	unknown	Brazos
9	Retail Store	unknown	Brazos
13	Retail Store	unknown	Brazos
17	Retail Store	unknown	Brazos
22	Retail Store	unknown	Brazos
30	Retail Store	unknown	Brazos
39	Retail Store	unknown	Brazos
49	Residential	unknown	Brazos
56	Ecclesiastical	unknown	Brazos

Previous Page Exit Next Page: Summary Report of This Estimate

Figure 1-13 Characteristics of Parcel Page (last parcel in the project)

Since the calculation process normally takes several minutes, or even longer if more parcels are in the current project, a waiting page will pop up (Fig. 1-14) to show the possible remaining time before the final report.



**Figure 1-14 Waiting Page**



**Report ROW Acquisition Tool**

Project Name: 46 ROW CSJ: 0050-01-065 Project Description: ES 6-R (Texas Avenue) - Widen to six lanes with a raised center median

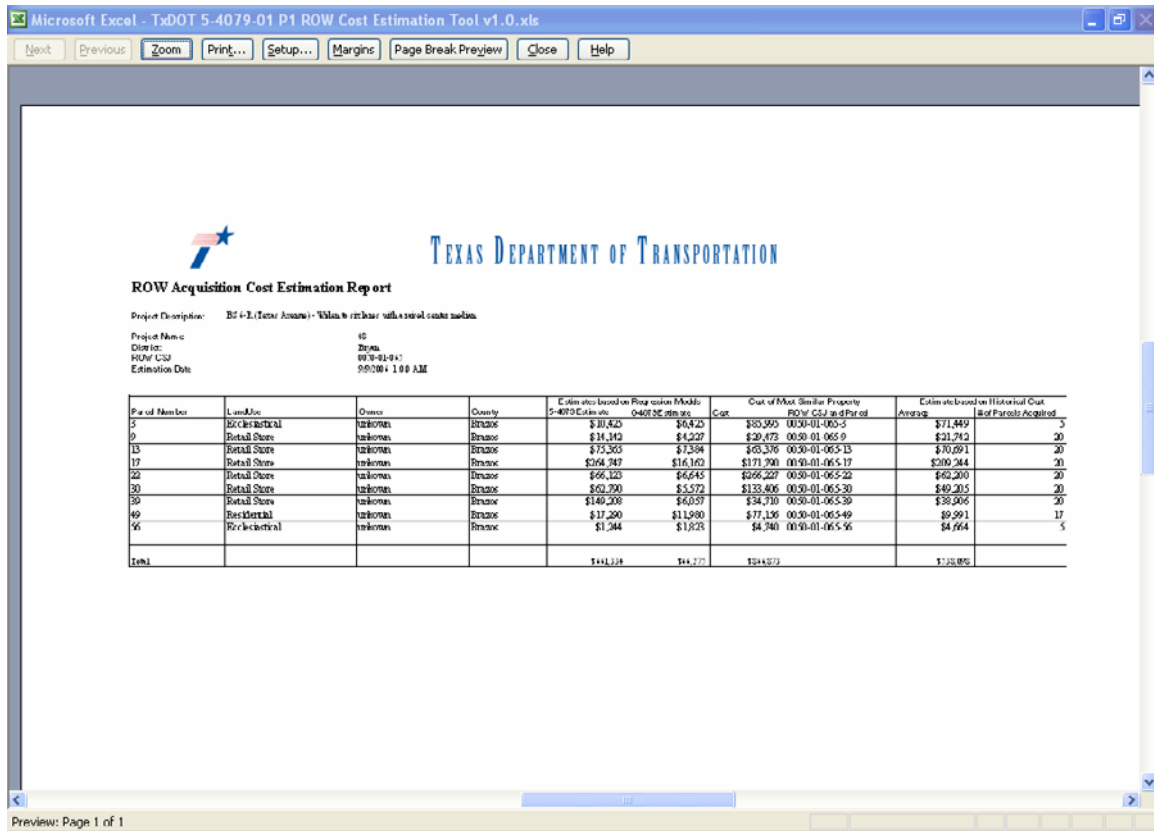
District: Bryan Date of Estimate: 9/9/2006 1:00 AM

Parcel Number	Land Use	Owner	County	Estimates Based on Regression		Cost of Most Similar Property		Estimate based on Historical Cost	
				5-4079 Estimate	8-4079 Estimate	Cost ROW CSJ and Parcel Number	Average	# of Parcel Acquired	
3	Ecclesiastical	unknown	Brazos	\$10,425	\$6,425	\$85,995	0050-01-065-3	\$71,449	5
9	Retail Store	unknown	Brazos	\$14,142	\$4,227	\$29,473	0050-01-065-9	\$21,742	20
13	Retail Store	unknown	Brazos	\$75,365	\$7,384	\$63,376	0050-01-065-13	\$70,691	20
17	Retail Store	unknown	Brazos	\$264,747	\$16,162	\$171,790	0050-01-065-17	\$209,244	20
22	Retail Store	unknown	Brazos	\$66,123	\$6,645	\$266,227	0050-01-065-22	\$62,208	20
30	Retail Store	unknown	Brazos	\$62,790	\$5,577	\$133,406	0050-01-065-30	\$49,205	20
39	Retail Store	unknown	Brazos	\$149,200	\$6,057	\$34,710	0050-01-065-39	\$30,906	20
49	Residential	unknown	Brazos	\$17,290	\$11,980	\$77,156	0050-01-065-49	\$9,991	17
56	Ecclesiastical	unknown	Brazos	\$1,241	\$1,823	\$1,740	0050 01 065 56	\$1,664	5
Total				\$661,334	\$66,275	\$666,873		\$538,098	

Back Exit Print Report Print Parcel Information

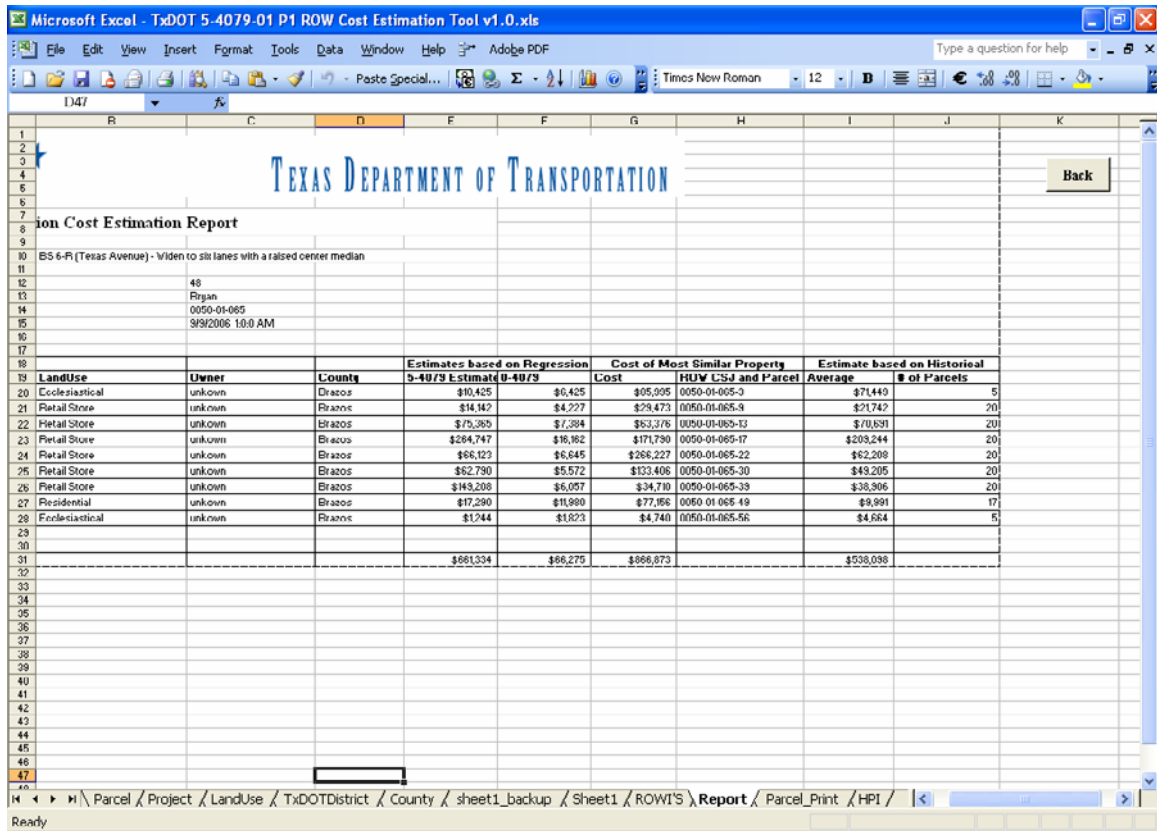
**Figure 1-15 Estimation Report Page**

On the Report page, there are four cost estimate results for each parcel as well as for the whole project. Two of the cost estimates are based on regression models, one is based on historical costs, and the last is based on the adjusted cost of historical acquisitions with similar properties to the parcel in question. Clicking the 'Back' button will take the user back to the characteristics of the parcel page. The option to print the report, which can be done by clicking the 'Print Report' button, is also available (Fig. 1-16). The data entered by the user can be reviewed by clicking the 'Print Parcel Information' button, which will print the data entered for all the parcels within the project (Fig. 1-17). The 'Exit' button allows the user to close the cost estimating process. To go back to the tool from the printable worksheets, click the 'Back' button on the right upper part of the report worksheet (Fig. 1-18).



**Figure 1-16 Print the Report**





**Figure 1-18 Back Button**

## Future Update

The estimates require the use of two variables, which will need to be updated annually. These two variables are the Housing Price Index (HPI) and the population density. For the HPI variable, future years' value can be added after the existing ones in the HPI worksheet (Fig. 1-19). If the code cannot find the current year's HPI, it will automatically assume it to be 1.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Year	HPI												
2	1995	1.041												
3	1996	1.015												
4	1997	1.03												
5	1998	1.049												
6	1999	1.065												
7	2000	1.076												
8	2001	1.056												
9	2002	1.0345												
10	2003	1.0236												
11	2004	1.0385												
12	2005	1.0549												
13	2006	1												
14	2007	1												
15	2008	1												
16	2009	1												
17	2010	1												
18	2011	1												
19	2012	1												
20	2013	1												
21	2014	1												
22	2015	1												
23	2016	1												
24														
25														
26														
27														

**Figure 1-19 HPI Worksheet**

If the population densities change in the future, the user should also update the figure in the County worksheet in column D (Fig. 1-20).

	A	B	C	D	E	F	G	H	I	J
1	OID	toDistrict	Name	pop	OID					
2	1	1	Delta	19.2	1					
3	2	1	Fannin	35	2					
4	3	1	Franklin	33.1	3					
5	4	1	Grayson	118.5	4					
6	5	1	Grayson	118.5	5					
7	6	1	Hopkins	40.8	6					
8	7	1	Hunt	91.1	7					
9	8	1	Lamar	52.9	8					
10	9	1	Rains	39.4	9					
11	10	1	Red River	13.6	10					
12	11	2	Erath	30	11					
13	12	2	Hood	98	12					
14	13	2	Jack	4	13					
15	14	2	Johnson	174	14					
16	15	2	Palo Pinto	28	15					
17	16	2	Parker	266	16					
18	17	2	Somervell	36	17					
19	18	2	Tarrant	1675	18					
20	19	2	Wise	54	19					
21	20	3	Archer	9.7	20					
22	21	3	Baylor	4.7	21					
23	22	3	Clay	10	22					
24	23	3	Cooke	41.6	23					
25	24	3	Montague	20.5	24					
26	25	3	Throckmorton	2	25					
27	26	3	Wichita	209.8	26					
28	27	2	Wichita	15.1	27					

**Figure 1-20 County Worksheet**

Moreover, if more ROW records are available in the future, they can be added to the end of the ROWIS worksheet (Fig. 1-21), which is the pool for the most similar cost and average cost estimates. In the ROWIS worksheet, each row stands for one record. In order to be consistent with the existing data, each characteristic of the new records must be input exactly into the corresponding columns, e.g., county's name must be put in column 'I'.

	A	B	C	D	E	F	G	H	I
	District	ROW CSJ Nbr	Component	Property Usage	Taken area squared feet	Remaining Area squared feet	Status Date	Total Cost	COUNTY
11758	FTW	8665-02-002	15	Vacant Acreage	92357.303	156802.7351	10/16/2001	\$5,775.00	TARRANT
11759	FTW	8665-02-002	16	Vacant Acreage	4281.639793	116.77855	5/17/2000	\$7,450.00	TARRANT
11760	FTW	8665-02-002	17	Vacant Acreage	301.966934	23.78623	10/17/2001	\$400.00	TARRANT
11761	FTW	8665-02-002	18	Vacant Acreage	384443.597	421952.652	10/17/2001	\$40,850.00	TARRANT
11762	FTW	8665-02-002	19	Vacant Acreage	17437.53484	26156.30226	10/17/2001	\$5,675.00	TARRANT
11763	FTW	8665-02-002	20	Vacant Acreage	34013.95685	56618.16868	10/17/2001	\$11,050.00	TARRANT
11764	FTW	8665-02-002	21	Vacant Acreage	3552.090451	126368.3081	10/17/2001	\$1,400.00	TARRANT
11765	FTW	8665-02-002	22	Vacant Acreage	4591.614193	228066.7107	10/17/2001	\$2,400.00	TARRANT
11766	FTW	8665-02-002	23	Vacant Acreage	5709.87251	68135.55281	10/17/2001	\$18,100.00	TARRANT
11767	FTW	8665-02-002	24	Vacant Acreage	16038.22649	522695.4888	5/4/2000	\$17,300.00	TARRANT
11768	FTW	8665-02-002	25	Vacant Acreage	553.950084	18717.41668	7/12/1999	\$500.00	TARRANT
11769	FTW	8665-02-002	26	Commercial	5357.541562	35151.02162	6/7/1999	\$3,900.00	TARRANT
11770	FTW	8665-02-002	27	Vacant Acreage	12325.05981	95897.88872	8/14/2001	\$19,900.00	TARRANT
11771	FTW	8665-02-002	28	Vacant Acreage	1.022485	1.29156	10/17/2001	\$10,900.00	TARRANT
11772	FTW	8665-02-002	29	Vacant Acreage	2809.143	2.04497	10/17/2001	\$700.00	TARRANT
11773	FTW	8665-02-002	30	Vacant Acreage	2395.800748	3.917732	10/17/2001	\$3,900.00	TARRANT
11774	FTW	8665-02-002	31	Vacant Acreage	33669.15025	47830.772	10/17/2001	\$12,800.00	TARRANT
11775	FTW	8665-02-002	32	Vacant Acreage	538.1955198	4085980.386	8/14/2001	\$1,700.00	TARRANT
11776	FTW	8665-02-002	33	Vacant Acreage	3121.534015	457358.5527	10/17/2001	\$3,600.00	TARRANT
11777	FTW	8665-02-002	34	Vacant Acreage	11409.74502	4187161.144	10/17/2001	\$10,300.00	TARRANT
11778	FTW	8665-02-002	35	Vacant Acreage	318073.5522	4277577.992	10/17/2001	\$286,300.00	TARRANT
11779	FTW	8665-02-002	36	Vacant Acreage	1044.915092	25.002449	5/4/2000	\$1,000.00	TARRANT
11780	FTW	8665-02-002	37	Vacant Acreage	104056.1997	19.997654	5/4/2000	\$78,000.00	TARRANT
11781	FTW	8665-02-002	38	Vacant Acreage	7753.34231	103097.2809	10/17/2001	\$2,900.00	TARRANT
11782	FTW	8665-02-002	39	Vacant Acreage	1796.55996	21.74126	10/17/2001	\$15,050.00	TARRANT
11783	FTW	8665-02-002	15TE	Vacant Acreage	5704.87251	156830.1745	6/7/1999	\$25.00	TARRANT
11784	FTW	8665-02-002	5A	Vacant Acreage	4090.285951	17437.53484	5/4/2000	\$1,600.00	TARRANT
11785	FTW	8665-02-002	5B	Vacant Acreage	3013.894911	30461.86642	5/4/2000	\$1,200.00	TARRANT
11786	FTW	8665-02-002	6A	Vacant Acreage	40041.74667	1228377.451	10/16/2001	\$36,000.00	TARRANT
11787	FTW	8665-02-002	6B	Vacant Acreage	17437.53484	174267.7093	10/16/2001	\$15,800.00	TARRANT
11788									
11789									
11790									
11791									
11792									
11793									
11794									
11795									
11796									
11797									
11798									
11799									
11800									
11801									
11802									
11803									

Figure 1-21 ROWIS Worksheet





### Appendix A: Table of Districts' IDs

OID	Name	ShortName	DistrictNumber	Initial Password
1	Paris	PAR	1	abc
2	Fort Worth	FTW	2	abc
3	Wichita Falls	WFS	3	abc
4	Amarillo	AMA	4	abc
5	Lubbock	LBB	5	abc
6	Odessa	ODA	6	abc
7	San Angelo	SJT	7	abc
8	Abilene	ABL	8	abc
9	Waco	WAC	9	abc
10	Tyler	TYL	10	abc
11	Lufkin	LFK	11	abc
12	Houston	HOU	12	abc
13	Yoakum	YKM	13	abc
14	Austin	AUS	14	abc
15	San Antonio	SAT	15	abc
16	Corpus Christi	CHP	16	abc
17	Bryan	BRY	17	abc
18	Dallas	DAL	18	abc
19	Atlanta	ATL	19	abc
20	Beaumont	BMT	20	abc
21	Pharr	PHR	21	abc
22	Laredo	LRD	22	abc
23	Brownwood	BWD	23	abc
24	El Paso	ELP	24	abc
25	Childress	CHS	25	abc



## Appendix B: Table of Variables

Variable Name	Explanation
Taken Area	Area of the land acquired
Total Area	Total land area of this parcel
Improvement Area	Area of the improvement of this parcel
Acquisition Year	Year in which parcel is acquired
Number of Driveways	Number of driveways of this parcel
Main Frontage Acquired	Frontage acquired in the main side
Shape Changed	If the shape of the land of this parcel was changed by acquisition, select Yes.
Change in Highest & Best Use	If the Highest & Best Use of this parcel was changed by acquisition, select Yes.
Shape of Acquired Irregular	If the shape of the acquired land is Irregular, select Yes.
Corner	If this parcel is located at the corner, select Yes
Partial Taking	If this acquisition only takes part of the whole property, select Yes.
Corpus Christi, Houston, San Antonio, Fort Worth, Austin, Abilene, EL Paso, Bryan, Waco and Wichita Falls	Location
HPI	Cumulative Housing Price Index to current year
5-0479 Estimate	Estimation result from regression equations developed in project 5-0479.
4-0479 Estimate	Estimation result from regression equations developed in project 0-0479.
Cost of Most Similar Property	Adjusted cost of historical acquisitions with similar properties to the parcel in question
Estimate based on Historical Cost	Estimate cost by using the historical data