# Lump Sum Distribution Workgroup Meeting Notes

**May 24, 2006, 8:30 am – 2:10 pm**

**Thompson Center, Austin, TX**
*Recorded by Carol Court, TTI*

In attendance:

| | | | | | | |
|---|---|---|---|---|---|---|
| Wayne Wells | TxDOT-TPP | | | Nancy Johnson | TxDOT-ROW | |
| Kenneth Petr | TxDOT District Amarillo | | | Mark Longenbaugh | TxDOT District El Paso | |
| Tom Niskala | MPO-Corpus | | | Dan Lamers | MPO-DFW | |
| Dione Albert | TxDOT-DES | | | Chris Evilia | MPO-Waco | |
| Philip Lujan | TxDOT District Beaumont | | | Max Proctor | TxDOT-TPP | |
| Linda Olson | TxDOT-DES | | | Gary Law | TxDOT District Odessa | |
| Brad McCaleb | MPO-Texarkana | | | Jenny Peterman | TxDOT-TPP | |
| Robin Boone | TxDOT District Pharr | | | Montie Wade | TTI | |
| Duane Sullivan | TxDOT-FIN | | | Bill Frawley | TTI | |
| Linda LaSut | MPO-Bryan/CS | | | Jason Crawford | TTI | |
| Gus Cannon | TxDOT-ROW | (AM only) | | Carol Court | TTI | |

**Agenda Discussion – M. Wade/TTI**

Wade welcomed the group at 8:40 am and reviewed the Agenda

- Order is flexible
- Challenges listed on the Agenda Page
- Notes from May 2 Meeting
- Questions

**Recap of May 24, 2006 – M. Wade**

**Right-of-way (ROW) Estimation Procedures – G. Cannon/ROW**

**Presentation:** ***Budgeting for Strategy 102*** (See Appendix A)

- Developed for ROW Administration Meeting less than 60 days ago
- TxDOT FIN and ROW Divisions don't know what preliminary engineering (PE) costs are until after the fact. PE for ROW does not flow through the ROW Division and is a great unknown. These expenditures flow from the Area Engineers Offices.
- Budgeting plays larger part than 5 years ago

- Strategy 102 is 48% of the "Plan It" portion of total TxDOT budget (8.6% of total TxDOT budget)
  - Inside/Outside the Box Spending
  - Strategy 102 Dollars
    - Forecast vs. actual budget allocation creates a huge budgeting problem for ROW administrators.
    - Utility adjustments may take 2 years to complete, condemnations may take a much longer time to resolve
    - There is a 40-50% over-forecast of district ROW costs from his 4-5 year review of trends.
    - In FY05, TxDOT Administration experimented with giving budget amount equal to forecast amount. Expenditures were very close to budget but were attributed much to one project (Katy Freeway).
    - FY06 showed the variance again
    - Gave districts an opportunity to redo biennial forecast, but still left a huge gap between forecast and actual budget allocation

**R. Boone** - Is this over-optimism? **A: G. Cannon** – No, it a lack of knowledge.

- Forecast vs. Budget Allocation
  - Utility adjustment costs are rising very quickly statewide. Cannon expects them to be very high in next 4 to 5 years. Cannon noted in one example the original utility adjustment estimate at $9M, but actual bill showing $50M
  - Expect legislation to respond to this rise.

**R. Boone** - What is the annual ROW budget? **A: G. Cannon** - $480-500M this fiscal year, but in the past the budget was $225M.

What kind of legislation do you anticipate? **A:** Don't know, utilities are a powerful lobbying tool. The introduction of fiber optics, etc. has driven ROW cost up 4-6 times

**R. Boone** - We don't pay for that, do we? **A: G. Cannon** - Yes
**M. Longenbaugh** – Utilities cost along Interstate is all reimbursable.
**M. Proctor** - We don't pay for all of the costs, but those costs are arguable.
**G. Law** - Our construction cost has gone up 60% in the last few months. Labor won't commit to a job, they wait for highest bid.

- Cannon noted that over the last 10 years, construction projects begin with about 20% of ROW in hand, whereas early Interstate-era projects were built with 70-80% of ROW in hand.
- Statewide condemnation rate is less than 15%. In FY05 the condemnation rate increased to 18% due to Katy Freeway project (60% eminent domain rate).
- ROW PE costs hit after they are made and are not part of the ROW budgeting process
- County appraisal district data doesn't reflect true costs of property. True costs are related to damages
- A lot of projects are let with no ROW costs, but that doesn't necessarily reduce budget
- 85% of people we take property from are satisfied with the process

- Katy Freeway skewed the figures, but we were still at less than 20% statewide condemnation rate
- Preliminary Engineering costs are unknown because project administrators don't see costs
- I'm trying to develop a process to track these costs, if that is so, it's not part of the budgeting process
- They can't track value of the land until they finish the appraisal
- Damage to property increases those costs, can increase them significantly

**Presentation:** ***ROW Cost Estimation*** – **G. Cannon** (See Appendix B)
- Demonstrates an electronic model used to forecast costs, using Research Project 0-4079 as an example
- The administrators have to be lucky to estimate ROW costs
- ROW has been a necessary evil in the past
- ROW Information System (ROWIS) is different from Financial Information Management System (FIMS) in that ROWIS provides information down to the parcel and FIMS only goes as far as the project level
- A 12.5% ratio of ROW to Construction costs may be a general rule of thumb for the state; the ratio will increase in urban areas and decrease in rural areas.
- But we don't know how much that will contribute to letting costs
- Our cost accounting system has not been in place long enough to provide historical analysis

**B. Frawley** - Does your research give relationship between areas? **A: G. Cannon** –These models don't take into account the differences in counties. The Transportation Commission looks at each area uniquely and allots funds based on regional differences when going to hearings
- A Commissioners Court can be favorable or not and that impacts overall costs. There is no fact rule as there is in a jury proceeding.
- FIN can't give costs associated with a land parcel acquisition
- I think the cost is between 10-15% of total construction costs, maybe 12.5% is more in line with today's costs
- In reality this is just a number off the shelf, an average to start from

**R. Boone** - How would you apportion a statewide budget among districts? **A: G. Cannon** -
I think 12.5% across the board is where I would start. It will hurt some areas, and it's not the best way to allocate, but it would be most equitable.
**L. Olson** - Don't they base budget on what funds are requested? **A: G. Cannon:** Yes, two spreadsheets are used; what they say they need vs. what they will spend right now (takes off about 5%) compare efficiency of forecast last year. The closer the estimate is, the more money they get. With "inside" and "outside the box" money available, there is less constraint.
**G. Law** - 12.5% of construction costs of those projects that require ROW? **A: G. Cannon** - Yes
**G. Law** - Over a period of time, it will balance out and be enough, some years good, some bad.
**G. Cannon**-Over 18 months, we will see the data coming forward to get this estimation closer
**M. Proctor** - Commission strategic projects do not include ROW, they only include construction costs.

**D. Sullivan** began speaking about Category 2 and 3 PEER

- FIN pulled the list of Control-Section-Jobs (CSJs); ROW Division came up with associated ROW CSJs (Hand-out--See Appendix C)
- 22% of low bid amount for Category 2 project
- Very few category 3 projects let in last 3 years
- 7% on ROW expenses of let amount

**G. Law** - In Metro area, Katy Freeway anomaly is included.
**G. Cannon** - Ideally we need category breakdown per district for a three-year trend. Anything beyond five years is irrelevant
**T. Niskala** – Is a three-year trend enough?
**L. Olson** - ROW cost-to-date may not be accurate because the ROW may not be paid yet.
**M. Longenbaugh** - Forecasting on past history isn't best because of big corridor projects stretched out over multiple years
**G. Cannon** - Estimate parcel by parcel cost through all categories-how good are you at estimating?
**M. Longenbaugh** – For El Paso, it might have been 5%, but in five years it could be 10-15%.
**M. Proctor** - We are looking at only a small percentage being distributed; distribution of regular ROW budgets to districts will continue to happen. This is a distribution of some ROW funds to an MPO for use over a long period of time to plan for a 25-year horizon. Districts are still going to get an annual ROW budget using the same factors that have always been used. Allocation dollars will be subtracted from a district's annual ROW budget.
**G. Law** - They will help MPOs schedule work out over a long range.
**M. Proctor** - It will allow MPOs to acquire corridors in advance and save money in the long run.
**M. Longenbaugh** - It will help the planning, but it won't help much with acquisition.
*The question was asked:* Are we trying to give planning money to MPOs to use for ROW when we actually need to buy the land? That money won't be enough to cover the purchase.
**M. Proctor** – We're giving the MPOs a target sum of dollars to control their own destiny.
**B. Frawley –** I**s** this amount supplemental or taken out of their budget? **A: M. Proctor** – The MPO will be able to control some of those dollars.
**B. McCaleb** – Could these funds be used to purchase access rights? **A: M. Proctor** – Yes.
**R. Boone** – We thought we were talking about the bulk of construction dollars. In the last 5 years, we've been doing a lot of high dollar projects without ROW cost, but that is going to change significantly, so this is reflective.
**M. Proctor** – We're taking into account that you won't be doing as much work anyway because the funds won't be there.
**L. Olson**-Category 2 dollars will be handled like Category 7. Eligible expenditures can be anything
**B. McCaleb** - Can these funds be used to buy ROW costs?
**G. Law** - Total parcel costs are going up.
**G. Cannon** - We could be looking at huge relocation costs for sign relocation (personal property)
**G. Law** - Take the construction funding in the planning horizon as a basis, then back out from this number using 18% ("Plan It" portion of budget) to allocate for PE and ROW costs.
**L. Olson** - The "Build It" strategy is everything except Categories 1, 6, and 8.

**D. Sullivan** -

- The 4th page of the handout lists projects not picked up by PEERs report because they were a work type not monitored.
- PEERS only picks 13 categories of work

**R. Boone** - These are lower-dollar projects too.

- The 5th page of the handout is a summary of construction engineering costs (22%) and PE costs (71%), contracted vs. in-house.
- These figures don't mean a lot because sometimes the ROW was purchased at an earlier time.

**G. Law** –Our first Workgroup challenges are: Issue 1--Decide aggregate amount of money; and Issue 2--Decide how to distribute to MPOs.

- Pie chart – TxDOT "Plan It" budget is 18% of total budget
- On our spreadsheets we know what our horizon costs are for Categories 2 and 3
- Why don't we back up through that? Take 18% of that cost and decide how to distribute it.

**G. Cannon** - Put pie chart back up for review. (See Appendix A)
**G. Law** - We have one unknown, but we know that the total portion of the budget is 18%;

- We know construction is 34%;
- We know the total construction budget of the projects we are looking at;
- This covers all 12 categories (except 1, 6 and 8);

**T. Niskala** - Define what portion of the total fund goes into this distribution.
**M. Wade** - If your combined PE and ROW pot is 18%, then your ROW distribution is 10%. The 18% includes salary costs, etc., more dollars than we need for ROW and PE
**G. Law** - Over the time of a project, the funding will be prioritized for different costs. We just need to find a funding stream
**M. Proctor** - We just need to allocate a percentage of dollars to be determined how to spend.
**R. Boone** - If we know PE is about 10% of cost and ROW is about 12.5%, then if MPO gets $1M, they should get 22.5% in ROW and PE dollars.
**M. Proctor** - The figure we use really doesn't matter, it's just a percentage and the MPO will still have access to the rest of the dollars
**G. Law** - 2% difference of $77M is $1.5M to be divided between all the districts
**R. Boone** - That 18% is hard to explain, it is more commonly understood that PE is 10%, and ROW is 12.5%.
**D. Lamers** – *Attempted to relate a ROW+PE/Construction ratio using the strategy 102 (8.6% of total disbursement), related to "Build It" (34% of total disbursements).*
**G. Law** – Strategy 102 is 8.6% of the total Department budget. It is included in the 18% "Plan It" budget.
**D. Lamers** - 48% of the "Plan It" budget is for ROW
**M. Wade** - Is construction engineering included? What if it is done by consulting? **A: All** - Agreed that comes out of construction dollars
**M. Wade** - If so, then my conversation with Dallas brings us back to approximately 18%
**M. Proctor** - Solution? **A: R. Boone** - I recommend 22%

**M. Wade** - How do we justify this? **A: R. Boone** - 10% PE (consultant) and 12% ROW

***Suggested "Rule of Thumb" formula for LS Disbursement:***
*10% PE (consulting)*
*12% ROW*
*22% of Construction Dollars*

**M. Proctor** - The purpose is to give MPOs control and responsibility of spending/planning
**D. Lamers** – I suggest raising ROW to 15%
**R. Boone** - we could make it 7% and 15%

**PE and Total Project Costs and Forecasts – L. Olson/DES**

- We can't provide our numbers to everyone until the end of June

**M. Longenbaugh** - These percentages are not going to cover everything anyway.
**L. Olson** - This is only going to give us a snapshot, but will not be totally useful.
**B. McCaleb** - One of the main purposes behind this is not how much money goes to each area, but rather giving the MPOs more say in what projects are put in the stream, set a timeline and allow for bringing everyone to the table and working together.
**M. Proctor** - And give the MPOs more responsibility
**M. Wade** - Once this is established, there won't be a huge pot of money for MPOs to go back and draw from. You will all have to live with this distribution.
**B. Frawley** – I suggest we break while we try to chart an example

Break

**B. Frawley / J. Crawford / TTI**
Programming and Scheduling Spreadsheet – Category 2
Calculations on Board:

(Pie Chart)
8.6/34 ≈ 25%

10% PE (consulting)
12% ROW
22% of Construction $$

Assumption – No construction dollars

**TMAs**

| | | |
|---|---|---|
| $10B / 15 Years | Construction Cost per Year | $667M |
| Category 2 | ROW (%) | x .12 |
| Construction | ROW = | $80M |

$80M / 8 TMAs = $10M / Year ROW / TMA $

(@ $19M / Year Combined PE & ROW LS Distribution)

**Non-TMAs**

| | | |
|---|---|---|
| $1.7B / 15 Years Category 3 Construction | Construction Cost per Year | $110M |
| | ROW (%) | x .12 |
| | ROW = | $13M |

$13M / 17 MPOs = $764,000 / Year ROW / MPO $

(@ $1.2M / Year PE & ROW LS Distribution)

**J. Crawford -** explained aggregate peer group scoring among TMAs
**G. Law** - Purpose of TMMP and TUMP is to show how big the gap is (hypothetical)

- This Workgroup is working with actual dollars and developing a distribution percentage
- This provides a management tool for our current projected dollars

TMA Breakdown using the proposed percentages
Discussion:

- Conceptual, not specific by numbers
- Non-TMAs

**R. Boone** - With respect to Brownsville and Harlingen, can all dollars be used county-wide if they want? Are they restricted to their planning area boundary? **A: M. Proctor** - San Antonio elected to use some of their money outside their area, so it is possible, if they choose.
**B. McCaleb** – You can use it if you can prove the benefit.
**M. Proctor** - They can use it however they wish.

LUNCH

**Review of Questions – Crawford** (See Appendix D – Questions)
**L. LaSut** - What kind of downward spiral begins now that surplus has been spent? **A: M. Proctor** - We hope feds stop this from happening. That is basis for this action.
If this doesn't happen we may not have any funds to distribute any way.
**M. Wade** - The Category 2 and 3 funds come from? **A: M. Proctor** - Out of ROW and PE dollars funds
Discussion / Answers to Questions

1. We are charged with determining how much to allocate (22%)
2. Not known and doesn't influence what we're deciding
3. FIN back page of handout has that information (includes Texas Turnpike expenditures)
4. **M. Longenbaugh** – Complexity. You could task orient to outsource, combination of ROW and PE consultants
   **G. Law** - Local support effects level of PE necessary more support means less PE needed
   **R. Boone** - Concurred
5. **N. Johnson** – Location. If ROW is needed for project, letting schedule, utilities, /relocation, rural characteristics

**M. Wade** - The only reason we would care is if it within a category and makes something more expensive

6. NA
7. NA
8. If construction costs are 65/10/25 for categories 2, 3 and 4.
9. NA
10. Definitions of PS&E and PE. Does our purpose involve both or one? Only consulting dollars as long as its consulting/professional services.
    **G. Law** - Consultant selection will follow department selection process. The MPOs are not managing consultants, so department is. All rules would be in place and utilized. MPOs only decide how much money is set aside the money.
    **M**. **Wade** - You can suggest that as a workgroup. That this is not a change of responsibility for anything other than where the funds go and prioritizing and approval
    *The comment was made* - If I don't have the depth of staff to handle all this, could I partner with a consultant who the MPO hires?
    **G. Law** - I see a struggle saying the MPO has money allocated and they disperse.
    **M. Proctor** - It's a matter of balancing your manpower
    **D. Lamers** – What if MPO gave you so much money to get projects going, and district has no more time left to do other work?
    **G. Law** - No rules needed to regulate the process so the process still follows district guidelines?
    **R. Boone** – You can get the county and city to do ROW acquisition and reimburse them.
    **T. Niskala** - In some cases you can follow local procurement practices.
    **M. Proctor** - That's why this process will help. The MPO will be helping district plan for the long range.
11. **L. Olson** - Currently the security limits the screens the MPOs can access. If we recommend it, we can have them look at this. When we have completed the new screens, I can see the need for MPOs to have access.
    **W. Wells** - We can make a separate effort for MPOs
12. 65/10/25 split is administrative decision that has been adjusted twice. This is relatively fair and does coincidentally reflect population
13. Answered previously under 10-follow TxDOT guidelines and rules
14. **M. Longenbaugh** - You have to have professional engineering overseeing consultants, MPOs may not have the capability. If the city could do that, then district could oversee
    **M. Proctor** - City could not be reimbursed from these funds
    **B. McCaleb** - If MPO has engineer on staff, we don't have to expend funds and PE funds could be used for ROW or consultant costs
    **G**. **Law** - We would capture that as an in-kind service and they might want to bill district, but they could not be paid.
    **M. Longenbaugh** - This is the difference between planning and implementing
    **D. Lamers** - We have engineers on staff and we cooperate with the district. The rules haven't changed because we can do this now

**G**. **Law** - I just want to make sure people don't see this as a funding mechanism to get reimbursed
**N. Johnson** – In our ROW agreements, normally the State prepares a map and we give it to locals
**M. Longenbaugh** - If it's a category, on-system project, region would decide priority
15. **M. Proctor** - I-69 will be handled differently from all others--example: statewide effort to widen I-35 will be the same, but some areas that fall within an MPO would have to be covered by the MPO if it is expanded beyond the original plan (12- instead of 8-lane)
**D. Lamers** - I have a problem with that if the traffic is generated locally
**M. Proctor** - This is being done due to local traffic and is not a state connectivity project there is not other place to fund it.
**B. McCaleb** - I can see there might be a problem in the future when there aren't enough funds
**D. Lamers** - All the ROW etc., come out of small local pot?
**M. Proctor** - This can be supplemented by the district if that's what you work out.

No other questions

**Review of May 2 Notes - All**
No comments

**Additional TTI Research – B. Frawley / J. Crawford**

Research report-Project 4079 excerpt (portions) – **J. Crawford** (See Appendix E)
Thought this would be helpful. Demonstrates diversity between areas / questions and answers from each area interviewed. Invite you to take it with you and review.

Research review results (second handout packet) – **J. Crawford** (See Appendix F)
ROW 12.5% of project costs
TxDOT in Lubbock - Summed up, the cost of ROW was approximately 60% (not clear)
Cost/benefits report – 12-person jury for eminent domain. Gus spoke about this
Virginia transportation research report – 90% of forecasting was insufficient
CTR-accurate ROW cost estimation keys and challenges

Population density (distributed with May 2 notes) -- **B. Frawley**
This is not really a relative issue. Researched other areas for assistance, such as the Real Estate Center at A&M and they had nothing useful to our purposes. Urban Land Institute (ULI) Library hasn't revealed anything either.

**M. Wade** - We recommend flow process to take what you have reached and come up with a process incorporating the comments. Set up a meeting sometime in July.

**Continuing Discussion**

*It was noted that the workgroup timeline set the allocation process for July. It was generally agreed that the comments from this meeting could be distributed and reviewed by email and another meeting scheduled for sometime after the middle of July.*
**M. Proctor** - Any dissenting opinions?
**D. Sullivan** – 12% ROW is too low and 10% PE too high, but 22% overall is good. I can justify a higher ROW, but maybe not PE
**T. Niskala** - It's fine as long as the actual use is flexible
**M. Proctor** - We can put a suggestion out that this be reviewed every five years and see if the percentages need to be adjusted
**M. Wade** - History shows 11% is average for ROW
**M. Proctor** - We're planning for a 25-year period and that's much different from a 3-year window
**D. Sullivan** - I just want to be able to explain the percentages
**M. Wade** - We used historical trend
**M. Proctor** - This is just a target and we can suggest this be reviewed in five years after we track these costs closely
**L. LaSut** - If overall numbers are a little different, then why don't we use Duane's numbers?
*It was noted that* - Those numbers are skewed
**L. LaSut** - But there is always a project that causes skewing
**M. Wade** - We're looking at percentages, and bigger projects cause bigger ROW costs. Linda and Max do you feel the new accounting system will allow us to track these costs closely enough to keep this alive?
**G. Law** - When will this new TxDOT-DES accounting program be fielded?
**L. Olson** - We're planning to go out in the field and train.
**G. Law** - If we revisited this in five years, we'll have plenty of data to draw on. **L. Olson** Agreed.
**T. Niskala** - Current datasets will be much more relevant than historical data.
**M. Proctor** - It will all be proportional and any errors they come up with we will deal with later
**K. Petr** - Knowing other pots are there makes a big difference
**M. Proctor** - Yes they can go back to the district and negotiate, but the drive is to give MPOs responsibility in spending these funds. The pot may be there, but don't depend on receiving anything extra out of that.
**G. Law** - These dollars are not enough to make huge allocations and cause me to use all my staff time managing.
**M. Proctor** - You have to make sure the MPO understands their responsibility to coordinate with district and allocating their money. If they mismanage their money, they may not be given any more funds. The district has a voice in this process. Once again, this depends greatly on the relationship between the MPO and the District
**D. Sullivan** - I need some help figuring out how to track all this
**L. Olson** - Within TxDOT we can come up with a process to track this.
**G. Law** - This is going to be very time-consuming for all of us in the first year or two.
**R. Boone** - Isn't there flexibility in how I want to spend these funds?
**G. Law** - That's the internal process, the inside-the-box spending.

# APPENDIX A

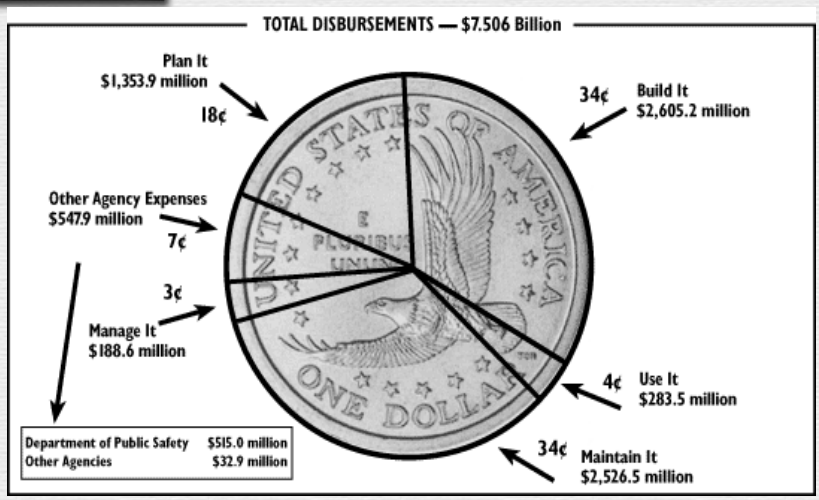
Right of Way Administrator's Meeting

Austin, Texas March 15, 2006

# "Budgeting for Strategy 102"

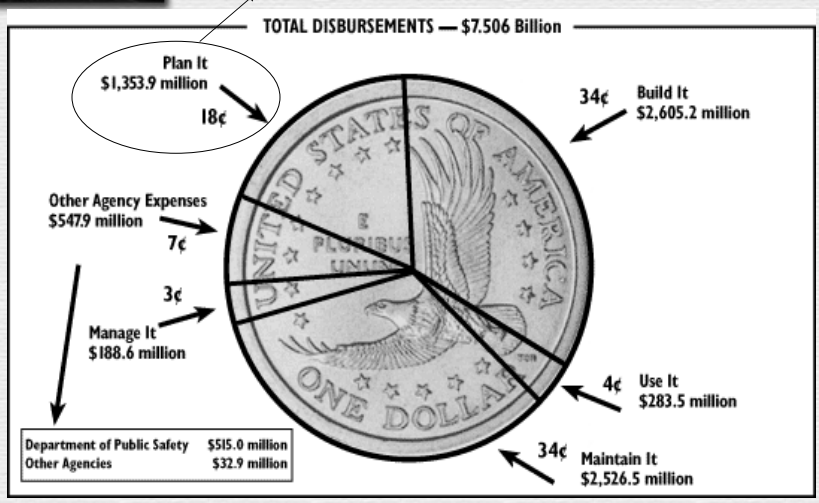
Gus Cannon, SR/WA, CTPM

## The Budget Big Picture



# How Much for Strategy 102

Strategy 102 = 48% of "Plan It" or 8.6 cents of each dollar disbursed




# Budget Performance Measures

❑ In addition to the Strategic Plan, the Legislative Appropriations Request (LAR) is also prepared and presented in even years and requires establishing performance targets for all budget related measures corresponding to the level of funding requested for each strategy with information for 5 years.

- 1-yr of actual expenditures (from last FY)
- 1-yr of projected expenditures (est. amt. based on current FY budget)
- 1-yr budgeted (from the following FY budget)
- 2-FY's requested (request for the next biennium)

# Inside/Outside the Budget Box

**101, 105, 106, 107, 108, 109, 110**

ROW ⟷ CST

**Strategy 102** **Strategy 103**

**601**
**602**
**603**
**604**

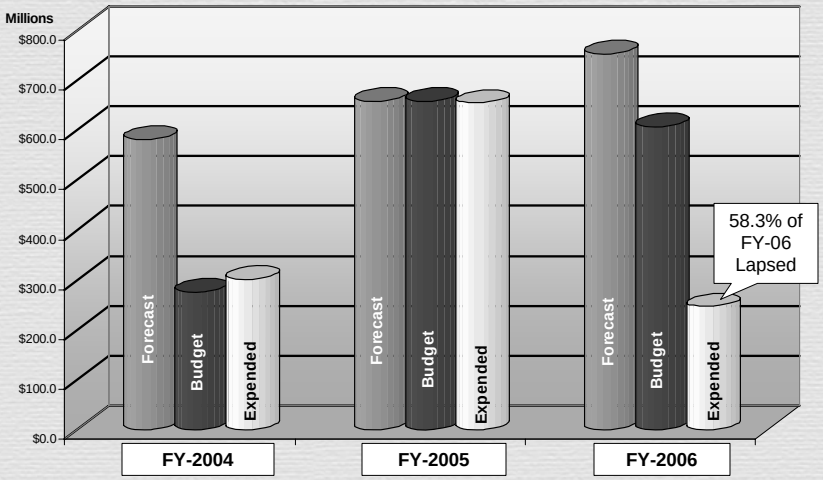
**115**
**116**
**301**

Contract Routine/Prev Maintenance

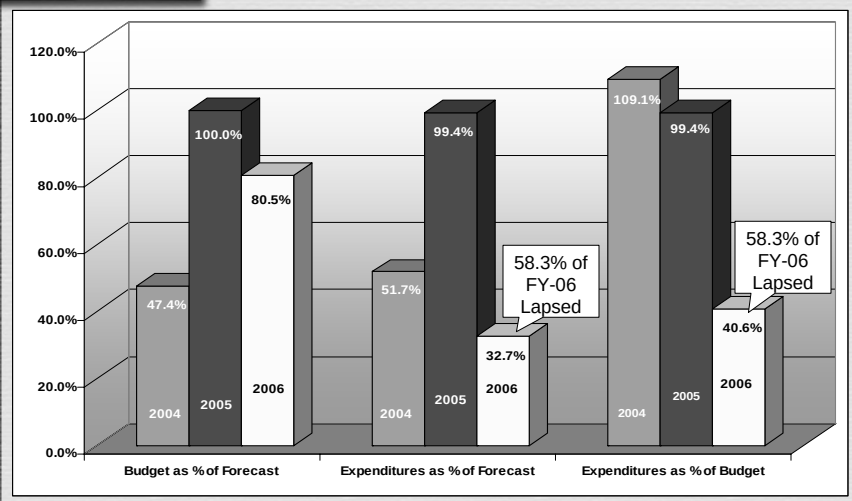
**Strategy 104/144**

- All Transfers between Strategies **OUTSIDE** the box are Okay!
- All transfers between Strategies **INSIDE** the box are Okay!
- All transfers from any Strategy **OUTSIDE** the box to any Strategy **INSIDE** are Okay!
- Any transfer from **INSIDE** the box to **OUTSIDE** is NOT OKAY!

# Strategy 102 in $'s



# Forecast –Vs- Budget Allocation




# Statewide looks okay, but…

***FY-2005*** Forecasting performance seemed to be almost perfect as expenditures reached 99.4% of the amount forecasted. Except…

The Houston District had a remarkable year with expenditures reaching $365.9 million which accounted for well over one-half of the entire statewide Strategy 102 expenditures. If you this variable from the statistical population, the statewide Forecast Performance drops from 99.4% to 56.7%.

***FY-2006*** In April, each district will have the opportunity to revise Strategy 102 forecasts for the remaining period of FY-2006.

# APPENDIX B

Project No. 0-4079

# Right-of-Way Cost Estimation

PC & PD: John Campbell & Gus Cannon
(ROW Division)

RS: Kara M. Kockelman (UT Austin)

Other researchers: Dr. James Jarrett
& GSRs: Jared Heiner & Shadi Hakimi

## Overview

- Background
- DOTs' Survey Results
- Cost Models
- Cost Estimation Tool
- Best Acquisition Practices
- Influential Laws for State Condemnation Rates
- Condemnation Rates

## The ROW Acquisition Process…

- Key element of construction projects
- Costly & time-consuming
- Socially sensitive
- State DOTs desire:
  - Better cost estimation procedures
  - More efficient acquisition strategies
  - More effective aquisition laws

## Surveys of ROW Administrators: In-state & out-of-state

- **Issues vary** by district type & size (e.g., urban vs. rural)
- Estimate accuracy directly related to **plan detail**
- **Damages, utility** relocations, **time constraints** & time **lapses** result in mis-prediction
- Most **states** working to:
  - Reduce incidence of condemnation
  - Improve cost estimation via valuation models
  - Reduce ROW costs
  - Preserve corridor ROW

# Cost Estimation: 3 Data Sets

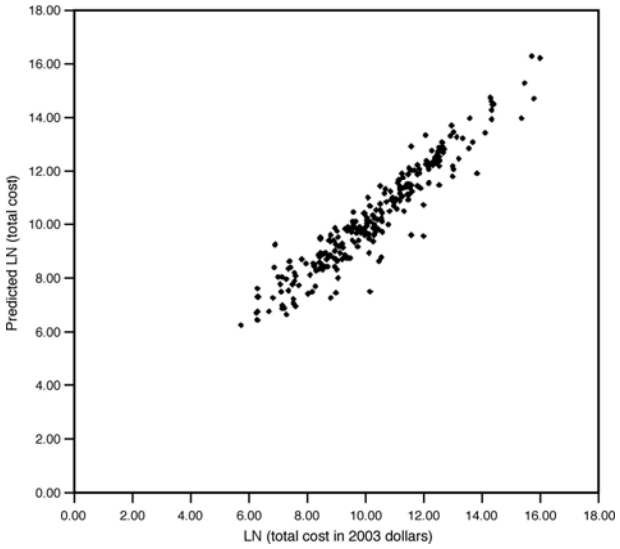
- 6 Texas Corridors: Costs of **Partial** & Whole Takings, n=285, $R^2$=.91
- TCAD: Whole **Commercial** Property Sales & Asking Prices, n=1,353, $R^2$=.86
- CoStar: Whole Commercial Property Sales in Texas's **4 major metro regions**, n=10,987, $R^2$=.60

# Texas Corridor Model

y=ln(acquisition cost)

| Variables | Coefficient | Std. Coef. | Variables | Coefficient | Std. Coef. |
|---|---|---|---|---|---|
| (Constant) | 2.73786 | | *LANDSF*FTWORTH* | 0.12397 | **0.1731** |
| *LANDSF* | - | - | *LANDSF*HOUSTON* | 0.3329 | **0.5822** |
| *LANDSF*CORNER* | 0.02105 | 0.0422 | *LANDSF*SAN ANTONIO* | 0.40861 | **0.5443** |
| *LANDSF*TIMETREND* | 0.49643 | **0.3612** | *IMPSF* | 0.72522 | **1.319 (!)** |
| *LANDSF*vacant* | 0 | n/a | *IMPSF*TIMETREND* | -0.38778 | -0.836 |
| *LANDSF*AGRI* | -0.04532 | -0.0536 | *IMPSF*BASE USES*[2] | 0 | n/a |
| *LANDSF*SFAM* | 0.08536 | **0.1765** | *IMPSF*RETAIL* | -0.0691 | -0.0716 |
| *LANDSF*MFAM* | 0.07404 | 0.0538 | *IMPSF*SERVICE* | 0.05461 | 0.0328 |
| *LANDSF*RETAIL* | 0.13481 | **0.2176** | *IMpSF*popdensity* | -0.10035 | **-0.3606** |
| *LANDSF*SERVICE* | 0.07239 | 0.0556 | *REMSF* | 0.03095 | 0.0769 |
| *LANDSF*OTHER* | 0.079 | 0.0609 | *REMSF*CHGHBUSE* | -0.04654 | -0.0689 |
| *LANDSF*BASE SITEs*[1] | 0 | n/a | *REMSF*SHAPECHG* | -0.01723 | -0.0232 |
| *LANDSF*ELPASO* | 0.24731 | **0.4545** | *REMSF*FRNTLOSS* | -0.01251 | -0.032 |

# Predicted vs. Actual Costs




# Texas Corridor Model: Example Results

| Land Use | Land Area (Acres) | Built Area (SF) | Location | Remainder (Acre) | Cost ($2004) |
|---|---|---|---|---|---|
| Agri. | 2.71 | - | Abilene | 7.21 | $ 10.7k |
| Agri. | 3.43 | - | Abilene | 0 | $ 15.5k |
| Res. | 0.23 | 1657 | Houston | 0 | $ 270k |
| Res. | 0.54 | 5710 | Corpus Christi | 0 | $ 34.3k |
| Com. | 1.24 | 43500 | Houston | 0 | $1,339k |
| Com. | 1.63 | 55000 | Houston | 0.26 | $ 3,927k |

# TCAD Cost Model

y=Sales Price

| | Coef. | Std. Coef. | | Coef. | Std. Coef. |
|---|---|---|---|---|---|
| (Constant) | 126,169 | | *IMPSF*LGOFFICE* | 43.13 | **0.3216** |
| *LANDSF* | -4.678E-4 | -0.0517 | *IMPSF*smwarehs* | -28.39 | -0.0221 |
| *landSF*nwarea* | 0 | n/a | *IMPSF*lgwarehs* | -104.0 | **-0.1054** |
| *landSF*searea* | 14.53 | **0.2927** | *IMPSF*NWarea* | 0 | n/a |
| *landSF*SwAREA* | 2.635 | 0.0187 | *IMPSF*NEAREA* | -24.71 | -0.0597 |
| *IMPSF* | 70.29 | **0.5327** | *IMPSF*SEAREA* | -65.78 | -0.12 |
| *IMPSF*condition* | 7.292 | 0.0505 | *impsf2* | | |
| *IMPSF*LISTPRICE* | 17.67 | 0.0227 | *IMPSF2*APARTMT* | 0 | n/a |
| *IMPSF*TIMETREND* | 12.13 | **0.1045** | *IMPSF2*convstore* | -0.0113 | -0.0189 |
| *IMPSF*APARTMT* | 0 | n/a | *IMPSF2*lgwarehs* | 0.002393 | 0.039 |
| *IMPSF*HIRISE* | 113.9 | 0.0433 | *IMPSF2*hotel* | 2.403E-4 | 0.027 |

# TCAD Cost Model: Example Results

| **Land Use** | **Land Area (Acres)** | **Built Area (SF)** | **Location** | **Cost ($2004)** |
|---|---|---|---|---|
| Retail | 0.051 | 700 | Austin | $ 228k |
| Office | 0.574 | 4500 | Austin | $ 762k |
| Restaurant | 0.046 | 600 | Austin | $ 214k |
| Conv. Store | 0.034 | 400 | Austin | $ 185k |

# CoStar Cost Model

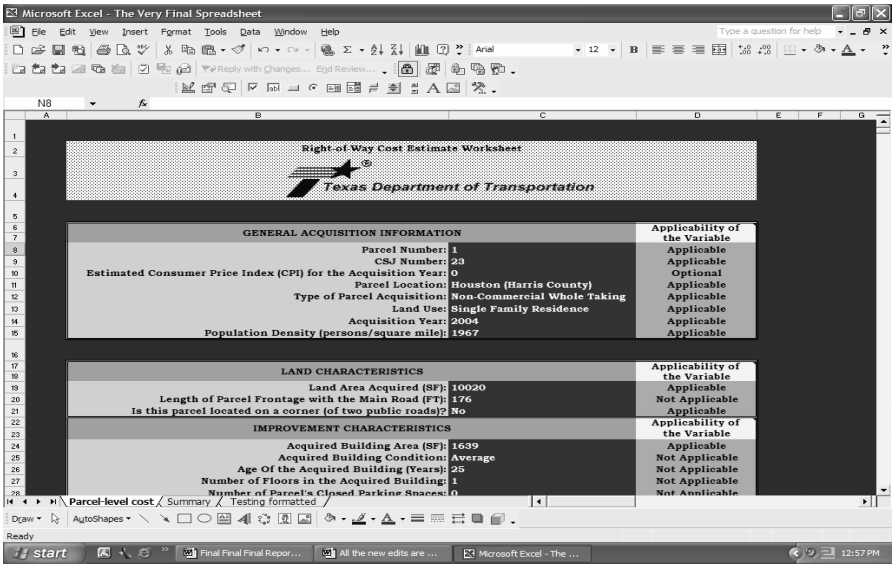
y=Sales Price

| | | | | | |
|---|---|---|---|---|---|
| (Constant) | 538,440 | | *IMPSF*IMPAGE* | -0.6854 | **-0.2667** |
| *LANDSF* | 0.5541 | **0.4408** | *IMPSF*IMPCOND* | 9.228 | **0.3986** |
| *LANDSF*FRONTAGE* | -4.411E-05 | -0.0544 | *IMPSF*NUMFLOORS* | 2.079 | **0.1232** |
| *LANDSF*base uses*[1] | 0 | n/a | *IMPSF*HOTEL* | 39.09 | 0.0481 |
| *LANDSF*COMRCL* | 0.1482 | 0.0801 | *IMPSF*base uses*[1] | 0 | n/a |
| *LANDSF*HOTEL* | -12.21 | -0.032 | *IMPSF*INDSTRL* | -13.85 | **-0.112** |
| *LANDSF*indstrl* | 0.2556 | 0.0223 | *IMPSF*OFFICE* | 14.97 | 0.0704 |
| *LANDSF*MOBILE* | 1.0782 | 0.0353 | *IMPSF*RETAIL* | -13.89 | -0.0627 |
| *LANDSF*RETAIL* | 5.625 | **0.1068** | *IMPSF*SPECIAL* | 36.62 | 0.0773 |
| *LANDSF*SPECIAL* | -1.7 | -0.0344 | *IMPSF*BEXAR* | -8.839 | -0.0173 |
| *LANDSF*BEXAR* | -0.3483 | -0.0329 | *IMPSF*COLLIN* | 15.35 | 0.0388 |
| *LANDSF*COLLIN* | 0.6327 | 0.0626 | *impsf*Fort Bend* | 9.308 | 0.0186 |
| *LANDSF*BASE AREAS*[2] | 0 | n/a | *IMPSF*BASE AREAS*[2] | 0 | n/a |
| *LANDSF*DENTON* | 0.7403 | 0.0514 | *IMPSF*HARRIS* | -4.932 | -0.0364 |
| *LANDSF*FORTBEND* | -0.344 | -0.0784 | *IMPSF*TARRANT* | -5.274 | -0.0286 |
| *LANDSF*MONTGMRY* | -0.5359 | -0.1587 | *IMPSF*TRAVIS* | 16.12 | 0.055 |
| *LANDSF*TRAVIS* | -0.2555 | -0.0613 | *IMPSF*WILLIAMSON* | 14.49 | 0.0245 |
| *LANDSF*WILLIAMSn* | -0.5083 | **-0.3099** | *PRKCOVER* | 6026 | 0.0771 |
| *IMPSF* | 21.16 | **0.281** | *UNCONFIRMED* | 206405 | 0.0162 |

# CoStar Model: Example Results

| Land Use | Land Area (Acres) | Frontage (Ft) | Built Area (SF) | Build. Cond. | #Floors | Location | Cost |
|---|---|---|---|---|---|---|---|
| Retail | 0.230 | 200 | 2400 | Good | 1 | Houston | $ 720k |
| Office | 1.033 | 400 | 5000 | Good | 5 | Houston | $ 955k |
| Retail | 0.190 | 100 | 1000 | Good | 1 | Dallas | $ 657k |
| Office | 0.450 | 500 | 5500 | Good | 10 | Dallas | $ 1,080k |
| Retail | 0.360 | 100 | 2300 | Average | 1 | El Paso | $ 190k |
| Office | 1.250 | 500 | 3100 | Good | 6 | El Paso | $ 596k |

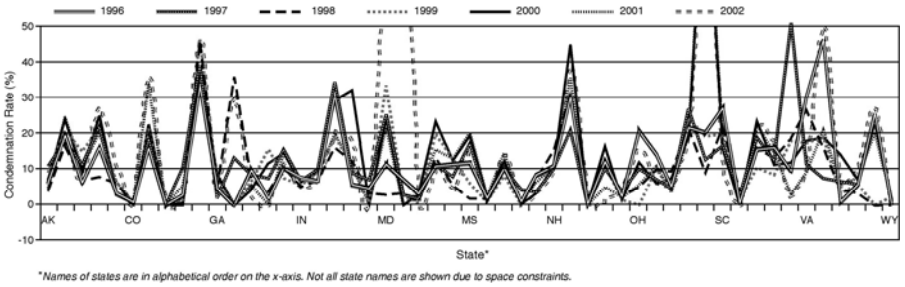
# Cost Estimation Tool




# Cost Estimation: Test of Concept

| **Land Use** | **Location or Other Specifics** | **Absolute % Misprediction** (Averaged across Properties) |
|---|---|---|
| Vacant & Agricultural | Rural & Urban Areas | 28% |
| Vacant & Agricultural | Metropolitan Areas | 40% |
| Residential | No Building Acquired | 20% |
| Residential | Building Acquired | 28% |
| Commercial | Austin | 26% |
| Commercial | San Antonio | 47% |
| Commercial | Dallas | 31% |
| Commercial | Houston | 31% |

# Comparison of State Condemnation Rates




*Names of states are in alphabetical order on the x-axis. Not all state names are shown due to space constraints.

# ROW Laws vs. Condemnation Rates

| | **Condemnation Rates** | | | | |
|---|---|---|---|---|---|
| **Key Policies/Laws** | **20%-50%** | **14%-20%** | **8%-14%** | **5%-8%** | **0%-5%** |
| **Allow taking of uneconomic remnants?** | **89%** | 78% | 50% | 70% | 12% |
| **Allow "quick taking"?** | **50%** | 23% | 32% | 12% | 81% |
| **Require state to pay owner a portion of litigation costs?** | 15% | **21%** | 6% | 18% | 9% |
| **Appraisal waiver limit up to $10,000?** | 10% | 2% | **12%** | 8% | 11% |
| **Require proof of efforts to reach agreement through negotiation?** | 18% | 25% | 26% | 51% | **76%** |
| **Allow land consolidation?** | 34% | 37% | 45% | 52% | **70%** |

| | Condemnation Rate | | | | |
|---|---|---|---|---|---|
| **Key Policies/Laws** | **20%-50%** | **14%-20%** | **8%-14%** | **5%-8%** | **0%-5%** |
| **Provide comprehensive & detailed laws on compensable items?** | 10% | 15% | 24% | 36% | **51%** |
| **Mandate early public involvement?** | 25% | 31% | 35% | 40% | **46%** |
| **Require sharing appraisal with property owners?** | 23% | 27% | 37% | 43% | **54%** |
| **Encourage & facilitate meditation?** | 30% | 41% | 47% | 54% | **74%** |
| **Allow > 30 days to petition against compensation offer?** | 22% | 24% | 32% | 40% | **44%** |
| **Allow early taking?** | 4% | 16% | 25% | 20% | **31%** |
| **Allow land exchange?** | 2% | 6% | 9% | 10% | **12%** |

# Most Influential ROW Laws

- States with lowest condemnation rates:
  - Allow early taking of land, land consolidation, & land exchange techniques,
  - Mandate early public involvement,
  - Require that appraisal details be reported to property owners,
  - Emphasize negotiation & mediation before filing for condemnation proceedings,
  - Provide comprehensive & detailed laws regarding compensable items.

# Condemnation Rates

- Condemnation Rates by State
- Comparison of Condemnation Rates Across the States

| | Coeff. | t-Statistics | p-value |
|---|---|---|---|
| Constant | -2.244 | -3.932 | 0 |
| %land owned by the federal government | -0.013 | -3.145 | 0.026 |
| %population registered to vote as republicans | 0.0196 | 2.345 | 0.066 |
| %population with a college degree or higher | 0.3294 | 1.978 | 0.105 |
| %population residing in urban areas | 0.5611 | 3.234 | 0.023 |
| Rural highway mileage per capita | -0.232 | -3.725 | 0.014 |

# APPENDIX C

# Category 2 and 3
## CSJs Included in the Preliminary Engineering Efficiency Report
### May 2003 - April 2006

| DD | District Name | County | CSJ | ROW CSJ | Category | Low Bid & Misc | Consultant PE | % | ROW Exp as of 4/30/06 | % | Let Date (MMYY) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Fort Worth | Tarrant | 0081-12-020 | 0081-12-036 | 2 | 3,017,711 | 0 | 0.0% | | 0.0% | 07/03 |
| 2 | Fort Worth | Tarrant | 0081-12-031 | | 2 | 5,500,540 | 0 | 0.0% | | 0.0% | 07/03 |
| 2 | Fort Worth | Tarrant | 2266-02-096 | 2266-02-115 | 2 | 20,407,888 | 32,703 | 0.2% | 0 | 0.0% | 08/03 |
| 2 | Fort Worth | Tarrant | 8648-02-011 | 8648-02-012 | 2/10 | 9,884,182 | 8,676 | 0.1% | 14,209,252 | 143.8% | 07/04 |
| 3 | Wichita Falls | Wichita | 0044-01-080 | | 3 | 24,711,869 | 0 | 0.0% | | 0.0% | 08/05 |
| 3 | Wichita Falls | Wichita | 0156-04-092 | | 3 | 13,676,155 | 0 | 0.0% | | 0.0% | 08/05 |
| 5 | Lubbock | Lubbock | 0380-01-049 | | 2 | 22,226,014 | 1,034,620 | 4.7% | | 0.0% | 09/04 |
| 5 | Lubbock | Lubbock | 0380-01-064 | | 2/12/7 | 136,239,326 | 3,862,495 | 2.8% | | 0.0% | 12/04 |
| 5 | Lubbock | Lubbock | 0783-01-080 | | 2 | 14,285,839 | 0 | 0.0% | | 0.0% | 09/04 |
| 5 | Lubbock | Lubbock | 0905-06-045 | | 2 | 9,854,213 | 704,044 | 7.1% | | 0.0% | 10/03 |
| 9 | Waco | Bell | 0184-04-025 | 0184-04-042 | 3 | 30,816,746 | 1,582,672 | 5.1% | 2,549,785 | 8.3% | 07/05 |
| 10 | Tyler | Gregg | 1763-03-031 | 1763-03-036 | 3 | 4,147,924 | 40,738 | 1.0% | 108,331 | 2.6% | 08/04 |
| 12 | Houston | Fort Bend | 0027-12-110 | 0027-12-115 | 12/2/5 | 102,508,931 | 166,663 | 0.2% | 2,663,654 | 2.6% | 06/04 |
| 12 | Houston | Fort Bend | 0027-12-121 | 0027-12-124 | 11/5/10/2 | 45,142,442 | 0 | 0.0% | 4,950 | 0.0% | 01/06 |
| 12 | Houston | Harris | 0050-06-068 | | 2 | 18,633,188 | 78,600 | 0.4% | | 0.0% | 07/05 |
| 12 | Houston | Harris | 0050-06-069 | | 2 | 13,721,136 | 0 | 0.0% | | 0.0% | 07/05 |
| 12 | Houston | Fort Bend | 0089-09-064 | | 10/7/2 | 39,699,626 | 788,974 | 2.0% | | 0.0% | 06/05 |
| 12 | Houston | Montgomery | 0110-04-164 | 0110-04-171 | 2/5 | 39,213,067 | 113,507 | 0.3% | 0 | 0.0% | 06/04 |
| 12 | Houston | Montgomery | 0177-05-055 | 0177-05-079 | 2/1 | 65,278,219 | 288,755 | 0.4% | 3,891,590 | 6.0% | 09/04 |
| 12 | Houston | Brazoria | 0179-01-028 | 0179-01-040 | 2 | 12,122,644 | 1,234,840 | 10.2% | 10,394,117 | 85.7% | 01/04 |
| 12 | Houston | Brazoria | 0179-02-063 | | 2 | 10,232,559 | 810,411 | 7.9% | | 0.0% | 12/03 |
| 12 | Houston | Brazoria | 0179-02-068 | | 2 | 38,904,679 | 1,723,849 | 4.4% | | 0.0% | 02/04 |
| 12 | Houston | Brazoria | 0179-03-024 | | 2 | 26,933,293 | 607,709 | 2.3% | | 0.0% | 03/04 |
| 12 | Houston | Brazoria | 0179-05-001 | | 2 | 3,737,639 | 0 | 0.0% | | 0.0% | 02/04 |
| 12 | Houston | Brazoria | 0188-07-004 | | 2 | 2,410,629 | 0 | 0.0% | | 0.0% | 02/04 |
| 12 | Houston | Fort Bend | 0192-01-050 | 0192-01-081 | 2 | 13,561,131 | 874,911 | 6.5% | 275,624 | 2.0% | 08/04 |
| 12 | Houston | Fort Bend | 0192-01-082 | | 2 | 8,278,659 | 58,685 | 0.7% | | 0.0% | 11/03 |
| 12 | Houston | Harris | 0271-06-090 | 0271-06-100 | 2/7 | 87,361,184 | 4,086,603 | 4.7% | 4,425,246 | 5.1% | 07/03 |
| 12 | Houston | Harris | 0271-07-245 | 0271-07-237 | 2/5 | 168,766,538 | 9,083,397 | 5.4% | 117,931,106 | 69.9% | 02/05 |
| 12 | Houston | Harris | 0271-07-247 | 0271-07-264 | 2/5 | 203,140,413 | 9,558,897 | 4.7% | 81,973,795 | 40.4% | 01/05 |
| 12 | Houston | Harris | 0271-07-248 | 0271-07-237 | 2/5 | 242,449,787 | 13,319,119 | 5.5% | 117,877,106 | 48.6% | 07/04 |
| 12 | Houston | Harris | 0271-07-249 | 0271-07-262 | 2/5 | 138,226,129 | 5,664,528 | 4.1% | 47,141,319 | 34.1% | 03/05 |
| 12 | Houston | Harris | 0271-07-254 | 0271-07-261 | 2/7/5 | 88,293,304 | 4,516,677 | 5.1% | 136,431,261 | 154.5% | 12/04 |
| 12 | Houston | Galveston | 0389-11-032 | 0389-11-053 | 11/2/1 | 16,197,854 | 86,704 | 0.5% | | 0.0% | 05/03 |
| 12 | Houston | Harris | 0500-03-475 | 0500-03-510 | 2 | 58,232,680 | 117,179 | 0.2% | 6,305,590 | 10.8% | 09/05 |
| 12 | Houston | Brazoria | 0598-02-019 | | 2/1 | 26,397,638 | 1,009,995 | 3.8% | | 0.0% | 06/04 |
| 12 | Houston | Harris | 0720-03-084 | | 2/10/1 | 55,584,150 | 959,577 | 1.7% | | 0.0% | 06/05 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | Houston | Brazoria | 0912-31-120 | | 2 | 5,947,268 | 416,096 | 7.0% | | 0.0% | 01/05 |
| 12 | Houston | Harris | 0912-71-657 | 0912-71-790 | 10/2 | 15,426,761 | 0 | 0.0% | 78,440 | 0.5% | 02/06 |
| 12 | Houston | Galveston | 0976-03-049 | | 2 | 15,989,325 | 1,295,359 | 8.1% | | 0.0% | 06/05 |
| 12 | Houston | Galveston | 0976-05-014 | | 2 | 8,247,800 | 82,937 | 1.0% | | 0.0% | 06/05 |
| 12 | Houston | Harris | 0981-01-086 | | 12/2/1/11 | 43,893,725 | 256,206 | 0.6% | | 0.0% | 04/04 |
| 12 | Houston | Brazoria | 1412-02-012 | | 2 | 2,699,218 | 0 | 0.0% | | 0.0% | 02/04 |
| 12 | Houston | Galveston | 1607-02-016 | | 2/1 | 16,334,028 | 254,399 | 1.6% | | 0.0% | 10/04 |
| 14 | Austin | Travis | 3136-01-065 | | 2 | 9,739,593 | 398,836 | 4.1% | | 0.0% | 08/03 |
| 15 | San Antonio | Bexar | 0024-08-110 | | 2/12/1 | 13,191,857 | 710,859 | 5.4% | | 0.0% | 05/03 |
| 15 | San Antonio | Bexar | 0253-04-114 | 0253-04-125 | 2/12 | 84,407,659 | 383,370 | 0.5% | 18,909,592 | 22.4% | 09/05 |
| 15 | San Antonio | Bexar | 0521-04-189 | 0521-04-257 | 2 | 42,029,103 | 2,386,919 | 5.7% | | 0.0% | 01/04 |
| 15 | San Antonio | Bexar | 0521-04-190 | 0521-04-258 | 2 | 81,563,924 | 3,419,394 | 4.2% | 458,894 | 0.6% | 01/05 |
| 15 | San Antonio | Bexar | 0521-04-209 | 0521-04-260 | 2 | 29,002,882 | 1,308,961 | 4.5% | | 0.0% | 09/03 |
| 15 | San Antonio | Bexar | 0521-04-223 | 0521-04-263 | 2 | 169,200,122 | 11,693,143 | 6.9% | 1,472,128 | 0.9% | 10/04 |
| 16 | Corpus Christi | Nueces | 0102-01-081 | | 2 | 21,296,537 | 530,253 | 2.5% | | 0.0% | 08/03 |
| 16 | Corpus Christi | Nueces | 0326-01-030 | | 2/7 | 16,851,750 | 480,797 | 2.9% | | 0.0% | 09/03 |
| 17 | Bryan | Brazos | 0050-02-080 | 0050-02-091 | 12/11/10/3 | 25,681,213 | 0 | 0.0% | | 0.0% | 12/05 |
| 18 | Dallas | Ellis | 0048-04-074 | 0048-04-080 | 2 | 4,228,199 | 220,171 | 5.2% | 0 | 0.0% | 08/04 |
| 18 | Dallas | Collin | 0364-04-037 | 0364-04-034 | 2/12/11/5/7/10 | 97,037,825 | 42,219 | 0.0% | 105,356,187 | 108.6% | 07/04 |
| 18 | Dallas | Collin | 0364-04-038 | | 2/7 | 13,851,919 | 698,070 | 5.0% | | 0.0% | 05/04 |
| 18 | Dallas | Dallas | 0442-02-127 | 0442-02-135 | 2 | 22,162,336 | 1,045,318 | 4.7% | 39,212 | 0.2% | 08/04 |
| 18 | Dallas | Ellis | 0442-03-031 | 0442-03-037 | 2/10 | 40,242,999 | 1,239,365 | 3.1% | 0 | 0.0% | 08/04 |
| 18 | Dallas | Dallas | 1068-04-115 | 1068-04-121 | 2 | 27,988,228 | 1,055,592 | 3.8% | 18,106,377 | 64.7% | 03/06 |
| 18 | Dallas | Dallas | 2374-02-110 | 2374-02-112 | 2/10/7 | 44,963,548 | 0 | 0.0% | 1,093,132 | 2.4% | 10/05 |
| 18 | Dallas | Dallas | 2374-03-054 | 2374-03-062 | 2 | 2,576,368 | 0 | 0.0% | 277,423 | 10.8% | 08/03 |
| 18 | Dallas | Dallas | 2374-03-064 | | 12/2/1/7 | 15,125,529 | 114,942 | 0.8% | | 0.0% | 07/05 |
| 18 | Dallas | Dallas | 2374-04-054 | | 2 | 16,185,499 | 100,570 | 0.6% | 3,525,175 | 21.8% | 06/05 |
| 18 | Dallas | Dallas | 2964-01-024 | | 2/7 | 50,600,041 | 528,013 | 1.0% | | 0.0% | 07/04 |
| 18 | Dallas | Dallas | 2964-01-029 | | 2 | 29,839,015 | 161,467 | 0.5% | | 0.0% | 06/05 |
| 18 | Dallas | Dallas | 2964-01-030 | | 2 | 27,911,833 | 307,626 | 1.1% | | 0.0% | 07/05 |
| 18 | Dallas | Denton | 3547-01-009 | | 2 | 33,517,914 | 1,286,993 | 3.8% | | 0.0% | 10/03 |
| 18 | Dallas | Dallas | 8050-18-042 | 8050-18-038 | 2/10 | 24,956,834 | 390,597 | 1.6% | 1,661,283 | 6.7% | 02/05 |
| 20 | Beaumont | Orange | 0028-09-100 | | 3 | 28,562,061 | 82,604 | 0.3% | | 0.0% | 12/05 |
| 20 | Beaumont | Orange | 0028-11-164 | | 3 | 55,198,945 | 0 | 0.0% | | 0.0% | 12/05 |
| 21 | Pharr | Cameron | 0039-08-087 | | 3 | 38,366,232 | 934,507 | 2.4% | | 0.0% | 07/05 |
| 21 | Pharr | Hidalgo | 0039-18-086 | 0039-18-106 | 2 | 86,039,914 | 3,395,136 | 3.9% | 140,518 | 0.2% | 08/04 |
| 21 | Pharr | Hidalgo | 0039-18-105 | | 2 | 3,695,776 | 0 | 0.0% | | 0.0% | 09/04 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | Pharr | Cameron | 0039-19-042 | 0039-19-056 | 3 | 86,073,292 | 1,292,912 | 1.5% | | 0.0% | 09/04 |
| 21 | Pharr | Cameron | 0039-19-057 | | 3 | 9,115,215 | 0 | 0.0% | | 0.0% | 09/04 |
| 21 | Pharr | Hidalgo | 0255-07-107 | 0255-07-113 | 11/2 | 6,884,415 | 0 | 0.0% | 160,911 | 2.3% | 06/03 |
| 21 | Pharr | Hidalgo | 0255-07-110 | | 2 | 45,948,812 | 1,048,946 | 2.3% | | 0.0% | 03/06 |
| 21 | Pharr | Hidalgo | 0255-08-091 | 0255-08-093 | 2/11 | 47,930,062 | 3,428,598 | 7.2% | 1,793,032 | 3.7% | 10/03 |
| 21 | Pharr | Hidalgo | 0255-08-094 | | 2 | 37,315,843 | 9,999 | 0.0% | | 0.0% | 02/04 |
| 22 | Laredo | Webb | 0018-06-138 | | 3 | 14,672,954 | 521,704 | 3.6% | | 0.0% | 07/05 |
| 22 | Laredo | Webb | 0038-01-033 | | 3 | 19,544,590 | 0 | 0.0% | | 0.0% | 09/05 |
| 22 | Laredo | Webb | 0542-01-039 | | 3 | 26,386,197 | 2,148,608 | 8.1% | | 0.0% | 08/04 |
| 24 | El Paso | El Paso | 0167-01-083 | | 2 | 31,757,424 | 14,449 | 0.0% | | 0.0% | 08/03 |
| 24 | El Paso | El Paso | 2552-03-033 | 2552-03-043 | 2 | 40,895,130 | 806,492 | 2.0% | 403,273 | 1.0% | 06/04 |
| 24 | El Paso | El Paso | 2552-03-041 | | 2/1 | 25,080,923 | 0 | 0.0% | | 0.0% | 06/04 |
| 86 | Texas Turnpike Authority Division | Williamson | 0151-05-081 | | 2 | 32,705,475 | 1,978,250 | 6.0% | | 0.0% | 11/03 |
| 86 | Texas Turnpike Authority Division | Williamson | 0683-06-024 | | 2 | 37,707,206 | 8,568,436 | 22.7% | | 0.0% | 01/04 |
| **Total** | | | | | | 3,546,367,244 | 117,454,641 | | 699,658,303 | | |

| | Low Bid & Misc | Consultant PE | % | ROW Exp as of 4/30/06 | % |
|---|---|---|---|---|---|
| **Category 2** | 3,169,413,851 | 110,850,896 | 3.5% | 697,000,187 | 22.0% |
| **Category 3** | 376,953,393 | 6,603,745 | 1.8% | 2,658,116 | 0.7% |
| **Total** | 3,546,367,244 | 117,454,641 | 3.3% | 699,658,303 | 19.7% |

# CSJs Not Included in the Preliminary Engineering Efficiency Report

May 2003 - April 2006

| DD | District Name | County | CSJ | ROW CSJ | Category | Low Bid & Misc | Consultant PE | % |
|---|---|---|---|---|---|---|---|---|
| 2 | Fort Worth | Tarrant | 0014-02-014 | 0014-02-042 | 2 | 8,064,219 | 5,829 | 0.1% |
| 2 | Fort Worth | Tarrant | 0014-16-231 | 0014-16-253 | 2 | 4,921,928 | 61,643 | 1.3% |
| 6 | Odessa | Midland | 0005-15-056 | | 3 | 498,442 | | 0.0% |
| 9 | Waco | Coryell | 0231-02-045 | | 3 | 296,306 | | 0.0% |
| 9 | Waco | Bell | 0231-03-115 | | 3 | 227,329 | | 0.0% |
| 12 | Houston | Harris | 0271-07-291 | | 2 | 3,423,335 | | 0.0% |
| 14 | Austin | Travis | 0015-13-234 | | 2 | 3,812,727 | 259,329 | 6.8% |
| 14 | Austin | Travis | 0114-01-044 | | 2 | 2,264,833 | 233,240 | 10.3% |
| 15 | San Antonio | Bexar | 0521-04-266 | | 2 | 81,463 | | 0.0% |
| 15 | San Antonio | Bexar | 0521-05-128 | | 2 | 1,836,026 | 136,114 | 7.4% |
| 15 | San Antonio | Bexar | 0521-06-125 | | 2 | 340,947 | | 0.0% |
| 16 | Corpus Christi | San Patricio | 0074-05-086 | | 2 | 450,162 | 172,104 | 38.2% |
| 16 | Corpus Christi | Nueces | 0074-06-194 | | 2 | 1,261,531 | 13,821 | 1.1% |
| 16 | Corpus Christi | Nueces | 0101-06-100 | | 2 | 214,249 | | 0.0% |
| 16 | Corpus Christi | Nueces | 0326-03-087 | | 2 | 195,072 | | 0.0% |
| 16 | Corpus Christi | Nueces | 0617-01-149 | | 2 | 606,152 | 20,974 | 3.5% |
| 18 | Dallas | Dallas | 2374-01-111 | | 2 | 1,142,119 | 114,308 | 10.0% |
| 18 | Dallas | Dallas | 2964-01-034 | | 2 | 9,432,432 | 584,983 | 6.2% |
| 18 | Dallas | Dallas | 8050-18-037 | | 2 | Let by DART | 788 | |
| 24 | El Paso | El Paso | 0167-01-082 | | 2 | 2,377,891 | 1,061,199 | 44.6% |

**TEXAS DEPARTMENT OF TRANSPORTATION**
**Analysis of Preliminary and Construction Engineering Expenditures**
**FY 2005 as of August 31, 2005**

| Cost Category | PE $ | PE % | CE $ | CE % | Total PE & CE $ | Total PE & CE % |
|---|---|---|---|---|---|---|
| **CONTRACTED:** | | | | | | |
| Design | 253,396,380 | 59.37% | 26,348,338 | 13.17% | 279,744,718 | 44.63% |
| Survey | 46,729,219 | 10.95% | 587,803 | 0.29% | 47,317,022 | 7.55% |
| Lab and Core Tests | 2,596,519 | 0.61% | 6,773,277 | 3.39% | 9,369,796 | 1.49% |
| Total Contracted | 302,722,118 | 70.93% | 33,709,418 | 16.85% | 336,431,536 | 53.67% |
| **IN HOUSE COSTS:** | | | | | | |
| In House Labor: | | | | | | |
| Direct | 41,917,054 | 9.82% | 54,446,724 | 27.22% | 96,363,778 | 15.37% |
| Payroll Additive ( .6685) | 28,021,550 | 6.56% | 36,397,635 | 18.20% | 64,419,185 | 10.28% |
| Total In House Labor | 69,938,604 | 16.38% | 90,844,359 | 45.42% | 160,782,963 | 25.65% |
| Res Eng Overhead | 21,910,953 | 5.13% | 30,741,466 | 15.36% | 52,652,419 | 8.39% |
| Equipment Rental | 773,508 | 0.18% | 10,200,572 | 5.10% | 10,974,080 | 1.75% |
| Matls & Supplies | 277,592 | 0.07% | 1,304,387 | 0.65% | 1,581,979 | 0.25% |
| Travel | 63,609 | 0.01% | 136,591 | 0.07% | 200,200 | 0.03% |
| In House Lab & Core Tests | 250,490 | 0.06% | 21,078,147 | 10.53% | 21,328,637 | 3.40% |
| In House Photogram Services | 350,959 | 0.08% | 0 | 0.00% | 350,959 | 0.06% |
| Advertisement | 1,053,695 | 0.25% | 6,233 | 0.01% | 1,059,928 | 0.17% |
| In House Survey | 383,854 | 0.09% | 55,463 | 0.03% | 439,317 | 0.07% |
| Inter Agency Prof Fees | 36,127 | 0.01% | 0 | 0.00% | 36,127 | 0.01% |
| Division Gen & Admin Indirect | 13,381,087 | 3.13% | 6,072,883 | 3.04% | 19,453,970 | 3.10% |
| District Gen & Admin Indirect | 9,347,652 | 2.19% | 4,555,190 | 2.28% | 13,902,842 | 2.22% |
| Other | 6,348,267 | 1.49% | 1,331,282 | 0.66% | 7,679,549 | 1.23% |
| Total In House Costs | 124,116,397 | 29.07% | 166,326,573 | 83.15% | 290,442,970 | 46.33% |
| **Total** | 426,838,515 | 100.00% | 200,035,991 | 100.00% | 626,874,506 | 100.00% |

NOTE: PE = Preliminary Engineering, includes all segment 76 ( construction projects) function codes 1XX in FIMS.
NOTE: CE = Construction Engineering, includes all segment 76 (construction projects) function codes 3XX in FIMS.

## Contracted Preliminary Engineering Cost by District
## Fiscal Year 1996 through Fiscal Year 2005

| DISTRICT | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Abilene | 61,165.89 | 436,159.52 | 1,015,402.10 | 1,234,039.91 | 1,556,408.21 | 2,935,252.87 | 2,024,099.16 | 885,985.31 | 1,403,137.72 | 1,001,437.74 | 12,553,088.43 |
| Amarillo | 37,622.60 | 291,833.62 | 1,357,738.96 | 4,332,814.04 | 2,653,317.53 | 2,600,779.08 | 2,011,157.33 | 1,939,345.96 | 1,656,059.64 | 1,525,018.86 | 18,405,687.62 |
| Atlanta | 569,533.01 | 781,552.99 | 2,994,346.38 | 4,319,810.48 | 3,104,401.87 | 2,979,231.39 | 3,739,353.31 | 3,503,645.79 | 4,021,160.82 | 5,215,664.61 | 31,228,700.65 |
| Austin | 2,603,071.85 | 5,551,191.10 | 8,779,321.89 | 10,738,528.97 | 9,895,955.62 | 13,602,815.34 | 9,628,470.86 | 7,966,070.47 | 8,894,270.38 | 61,873,235.35 | 139,532,931.83 |
| Beaumont | 3,789,470.58 | 3,708,424.94 | 8,499,600.65 | 6,451,580.87 | 5,750,044.87 | 6,256,859.50 | 7,265,181.65 | 4,775,174.47 | 5,526,585.73 | 5,529,291.83 | 57,552,215.09 |
| Brownwood | 157,324.78 | 69,546.42 | 128,544.26 | 532,249.89 | 687,014.45 | 833,198.68 | 278,993.52 | 247,000.86 | 174,066.29 | 299,929.11 | 3,407,868.26 |
| Bryan | 1,152,437.78 | 2,263,436.25 | 3,247,556.83 | 3,871,136.50 | 3,663,958.56 | 4,167,149.11 | 4,091,853.07 | 3,309,186.15 | 2,721,243.43 | 3,921,288.34 | 32,409,246.02 |
| Childress | 62,999.20 | 23,437.90 | 100,297.50 | 586,646.28 | 1,235,973.86 | 1,685,963.04 | 995,763.74 | 1,252,379.68 | 433,213.29 | 993,922.07 | 7,370,596.56 |
| Corpus Christi | 990,298.83 | 1,852,298.06 | 1,906,309.82 | 1,528,984.83 | 1,720,604.79 | 3,641,360.72 | 4,949,923.02 | 4,841,447.99 | 4,749,270.51 | 5,570,443.62 | 31,750,942.19 |
| Dallas | 10,300,618.09 | 10,597,565.27 | 13,891,839.83 | 13,327,957.33 | 12,681,398.38 | 13,102,765.99 | 14,948,670.71 | 20,939,940.14 | 23,272,166.30 | 33,513,259.21 | 166,576,181.25 |
| El Paso | 2,133,652.27 | 4,176,209.82 | 3,109,738.40 | 2,678,682.88 | 3,663,532.88 | 9,663,670.80 | 7,221,750.30 | 5,447,121.44 | 10,340,826.59 | 15,816,924.34 | 64,252,109.72 |
| Ft Worth | 2,530,081.94 | 3,920,585.86 | 3,167,712.94 | 4,730,232.57 | 7,643,665.06 | 14,206,030.25 | 14,989,000.91 | 12,653,890.12 | 10,084,914.59 | 10,887,563.06 | 84,813,677.30 |
| Houston | 12,221,601.96 | 11,449,772.89 | 19,463,435.94 | 15,334,946.49 | 19,122,994.19 | 34,773,661.72 | 47,404,298.11 | 41,546,670.04 | 52,710,856.69 | 42,345,365.62 | 296,373,603.65 |
| Laredo | 1,855,519.13 | 2,396,515.96 | 3,768,784.40 | 6,588,668.38 | 4,035,304.08 | 7,072,083.30 | 5,302,971.24 | 7,757,953.86 | 8,725,093.58 | 9,115,655.29 | 56,618,549.22 |
| Lubbock | 360,199.29 | 391,247.59 | 1,710,437.31 | 4,143,178.21 | 2,485,442.84 | 3,040,186.82 | 4,263,808.89 | 3,720,157.89 | 3,975,036.73 | 3,419,815.06 | 27,509,510.63 |
| Lufkin | 1,115,600.20 | 2,255,585.80 | 4,767,353.94 | 7,474,680.01 | 10,859,525.64 | 8,602,818.22 | 4,376,823.31 | 2,823,373.57 | 4,382,472.54 | 5,770,742.41 | 52,428,975.64 |
| Odessa | 47,804.12 | 186,437.35 | 885,225.54 | 1,794,902.93 | 1,296,470.74 | 1,986,924.21 | 1,119,196.46 | 384,455.51 | 468,961.57 | 1,094,286.05 | 9,264,664.48 |
| Paris | 963,469.32 | 1,799,040.52 | 2,883,503.79 | 4,635,736.91 | 6,892,865.77 | 5,284,367.09 | 3,125,584.64 | 774,654.09 | 1,703,710.95 | 2,905,429.12 | 30,968,362.20 |
| Pharr | 6,320,191.72 | 6,067,890.49 | 2,981,955.18 | 3,825,290.61 | 9,208,219.14 | 12,517,058.91 | 11,096,514.60 | 12,161,617.23 | 10,841,858.65 | 9,572,645.99 | 84,593,242.52 |
| San Angelo | 48,617.50 | 76,767.50 | 505,971.92 | 1,319,644.43 | 1,162,701.28 | 1,072,824.87 | 2,017,972.54 | 846,652.77 | 1,034,948.43 | 2,074,437.83 | 10,160,539.07 |
| San Antonio | 9,614,660.33 | 9,708,198.29 | 7,148,741.81 | 11,326,126.39 | 19,416,556.95 | 26,315,242.45 | 19,955,835.02 | 16,555,660.15 | 17,060,291.23 | 54,031,768.30 | 191,133,080.92 |
| Tyler | 1,056,725.95 | 1,526,610.84 | 2,399,531.05 | 3,388,579.28 | 6,849,897.95 | 6,325,782.52 | 3,518,037.74 | 2,649,874.04 | 2,650,338.36 | 4,506,952.71 | 34,872,330.44 |
| Waco | 1,674,139.88 | 4,200,422.56 | 4,040,912.37 | 3,729,205.40 | 5,048,092.02 | 8,278,811.69 | 10,869,788.18 | 5,421,777.44 | 10,254,793.03 | 12,760,889.04 | 66,278,831.61 |
| Wichita Falls | 30,482.50 | 121,174.97 | 219,041.10 | 565,931.80 | 2,317,640.83 | 1,139,767.52 | 1,298,207.72 | 1,158,650.19 | 1,700,506.82 | 1,871,607.16 | 10,423,010.61 |
| Yoakum | 609,862.83 | 496,255.62 | 1,183,652.72 | 1,494,688.67 | 2,345,425.29 | 1,282,006.74 | 2,110,407.72 | 1,066,863.28 | 2,506,087.86 | 3,293,061.15 | 16,388,311.88 |
| **TOTALS** | **60,307,151.55** | **74,348,162.13** | **100,156,956.63** | **119,954,244.06** | **145,297,412.80** | **193,366,612.83** | **188,603,663.75** | **164,629,548.44** | **191,291,871.73** | **298,910,633.87** | **1,536,866,257.79** |

*Source: Monthly Preliminary Engineering Reports*
*Prepared By: Latrica Good, Accounting Management, Finance Division*
*File Name: D:/My Computer/Excel/District Contracted Preliminary Eng Cost*

## Total Preliminary Engineering Cost by District
## Fiscal Year 1996 through Fiscal Year 2005

| DISTRICT | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Abilene | 1,251,921.14 | 1,738,126.59 | 2,301,831.87 | 2,251,537.30 | 3,224,837.51 | 4,864,325.64 | 4,141,425.28 | 2,945,876.26 | 3,091,417.21 | 2,330,843.78 | 28,142,142.58 |
| Amarillo | 863,999.01 | 1,403,226.04 | 2,490,627.41 | 5,602,366.30 | 4,463,825.31 | 4,268,127.80 | 3,840,879.02 | 3,654,063.88 | 3,157,357.57 | 3,199,037.53 | 32,943,509.87 |
| Atlanta | 1,750,256.99 | 2,141,110.84 | 4,481,128.83 | 6,101,417.90 | 4,894,584.71 | 4,808,160.50 | 5,979,768.24 | 5,367,016.18 | 6,569,293.29 | 7,956,137.97 | 50,048,875.45 |
| Austin | 6,527,821.56 | 9,812,901.96 | 13,729,948.37 | 16,359,560.43 | 15,444,373.79 | 19,432,758.13 | 16,153,479.30 | 14,309,978.91 | 14,719,058.03 | 69,535,394.30 | 196,025,274.78 |
| Beaumont | 5,800,126.16 | 5,762,004.63 | 11,089,478.16 | 8,362,180.60 | 7,982,814.20 | 8,250,704.10 | 9,524,736.63 | 7,216,614.19 | 7,344,882.93 | 7,774,743.86 | 79,108,285.46 |
| Brownwood | 1,259,365.24 | 1,044,808.00 | 1,259,912.98 | 1,695,243.03 | 2,067,970.55 | 1,987,819.31 | 1,430,099.22 | 1,581,043.58 | 1,306,783.00 | 1,627,020.34 | 15,260,065.25 |
| Bryan | 2,214,863.69 | 4,014,225.73 | 6,114,495.32 | 6,620,169.91 | 6,068,272.95 | 7,008,883.25 | 7,397,488.03 | 6,732,715.80 | 5,833,928.26 | 6,706,675.54 | 58,711,718.48 |
| Childress | 446,972.06 | 428,459.43 | 761,604.45 | 1,367,258.01 | 1,977,163.24 | 2,597,870.26 | 1,860,072.20 | 2,199,660.65 | 1,416,999.57 | 1,755,252.67 | 14,811,312.54 |
| Corpus Christi | 3,296,202.65 | 3,699,547.49 | 3,969,230.25 | 3,971,419.06 | 4,903,516.28 | 7,240,923.15 | 8,078,054.60 | 8,264,873.56 | 8,171,645.17 | 9,125,710.25 | 60,721,122.46 |
| Dallas | 19,089,180.23 | 19,112,917.70 | 22,902,588.63 | 22,327,251.55 | 22,103,932.40 | 25,106,027.28 | 28,901,902.56 | 34,976,411.49 | 37,146,887.47 | 46,917,868.07 | 278,584,967.38 |
| El Paso | 4,714,296.93 | 7,287,218.37 | 6,201,599.63 | 5,829,378.13 | 7,512,369.14 | 13,540,501.51 | 11,885,608.48 | 9,862,717.82 | 14,866,446.57 | 20,285,187.16 | 101,985,323.74 |
| Ft Worth | 7,730,968.54 | 9,342,173.98 | 9,712,989.20 | 11,155,842.60 | 14,055,610.11 | 20,855,916.97 | 21,434,102.55 | 20,331,550.48 | 17,776,347.90 | 18,831,733.47 | 151,227,235.80 |
| Houston | 26,350,400.01 | 24,780,484.15 | 34,260,568.02 | 32,409,033.39 | 36,207,971.71 | 53,673,722.58 | 67,291,744.52 | 65,297,160.14 | 74,935,939.25 | 63,212,824.28 | 478,419,848.05 |
| Laredo | 2,722,218.30 | 3,379,013.14 | 5,453,416.30 | 8,197,702.18 | 5,628,691.20 | 9,247,773.98 | 7,227,171.53 | 10,181,741.66 | 11,367,150.85 | 11,479,202.35 | 74,884,081.49 |
| Lubbock | 1,961,361.49 | 1,902,637.97 | 3,316,398.18 | 6,059,047.17 | 4,506,107.86 | 5,160,723.85 | 6,961,353.13 | 5,787,880.56 | 6,653,947.47 | 5,791,411.49 | 48,100,869.17 |
| Lufkin | 2,419,445.98 | 3,951,583.15 | 6,754,898.46 | 9,649,074.13 | 13,525,804.50 | 10,635,422.73 | 6,407,353.38 | 5,233,543.13 | 6,452,442.62 | 7,838,304.13 | 72,867,872.21 |
| Odessa | 1,179,063.43 | 1,368,708.25 | 2,358,530.77 | 2,979,625.26 | 2,825,447.33 | 3,701,749.25 | 2,303,328.57 | 1,892,036.11 | 1,696,395.02 | 2,779,558.95 | 23,084,442.94 |
| Paris | 2,436,561.73 | 3,681,006.96 | 5,268,523.80 | 7,007,597.47 | 9,127,881.75 | 7,476,664.91 | 5,392,030.57 | 2,871,171.68 | 3,820,230.36 | 5,469,900.18 | 52,551,569.41 |
| Pharr | 8,428,232.67 | 8,434,543.94 | 5,520,908.89 | 6,864,445.21 | 12,800,037.98 | 16,187,332.08 | 15,389,783.59 | 16,181,138.96 | 14,452,938.97 | 12,890,499.47 | 117,149,861.76 |
| San Angelo | 1,025,531.09 | 1,170,584.86 | 1,546,475.50 | 2,714,767.57 | 2,337,534.56 | 2,592,830.27 | 3,428,521.71 | 2,042,023.63 | 2,158,909.49 | 3,302,681.18 | 22,319,859.86 |
| San Antonio | 13,787,106.57 | 13,620,969.49 | 11,418,689.34 | 15,942,036.20 | 25,024,784.66 | 31,279,221.02 | 26,031,661.13 | 23,706,609.98 | 24,668,321.89 | 62,428,037.65 | 247,907,437.93 |
| Tyler | 3,087,901.33 | 3,679,053.25 | 4,584,675.42 | 5,954,930.57 | 10,039,916.62 | 9,523,806.86 | 6,925,567.12 | 5,925,862.07 | 5,487,180.99 | 7,558,149.61 | 62,767,043.84 |
| Waco | 3,865,477.99 | 6,701,754.67 | 7,172,376.21 | 6,835,474.78 | 8,349,990.25 | 11,398,703.76 | 14,982,223.32 | 9,841,499.98 | 14,881,421.63 | 17,557,460.23 | 101,586,382.82 |
| Wichita Falls | 1,038,245.20 | 1,397,942.53 | 2,023,495.43 | 2,144,018.31 | 3,869,059.25 | 2,532,265.75 | 3,013,086.11 | 3,225,889.73 | 3,686,607.94 | 3,706,531.92 | 26,637,142.17 |
| Yoakum | 2,043,717.78 | 1,846,491.97 | 3,035,444.97 | 3,200,506.42 | 4,054,230.82 | 3,058,306.69 | 4,044,156.75 | 3,175,559.32 | 4,434,215.38 | 4,919,228.18 | 33,811,858.28 |
| **TOTALS** | **125,291,237.77** | **141,701,495.09** | **177,729,836.39** | **201,601,883.48** | **232,996,728.68** | **286,430,541.63** | **290,025,597.54** | **272,804,639.75** | **296,096,748.83** | **404,979,394.56** | **2,429,658,103.72** |

Note: General and administrative costs are not included in these amounts.

*Source: Monthly Preliminary Engineering Reports*
*Prepared By: Latrica Good, Accounting Management, Finance Division*
*File Name: D:/My Computer/Excel/District Total Preliminary Engineering Cost*

## ROW Expenditures Excluding TxDOT Labor and Indirects

| District | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|
| Abilene | 31,161 | 27,529 | 149,001 | 999,066 | 207,714 | 950,881 | 115,334 | 2,871,141 | 2,107,136 | 1,589,197 |
| Amarillo | 1,905,907 | 860,728 | 741,809 | 350,407 | 109,948 | 101,251 | 206,572 | 351,817 | 961,479 | 218,218 |
| Atlanta | 1,190,077 | 1,583,070 | 1,472,118 | 2,711,213 | 1,559,946 | 2,207,992 | 1,313,114 | 2,856,065 | 2,781,958 | 3,769,813 |
| Austin | 21,284,236 | 31,243,925 | 5,778,906 | 17,161,592 | 15,869,563 | 20,578,047 | 22,511,648 | 10,528,123 | 10,840,170 | 22,698,370 |
| Beaumont | 2,417,415 | 2,198,756 | 3,582,681 | 3,207,282 | 2,014,233 | 1,427,299 | 2,875,973 | 2,047,273 | 4,089,356 | 2,078,377 |
| Brownwood | 492,151 | 955,301 | 1,300,103 | 1,845,525 | 2,322,973 | 1,009,894 | 494,504 | 254,979 | 477,913 | 631,103 |
| Bryan | 350,564 | 1,107,529 | 1,075,361 | 2,114,810 | 1,817,905 | 5,006,513 | 4,491,545 | 6,226,221 | 11,432,735 | 12,185,713 |
| Childress | 2,111 | 238,331 | 105,686 | 251,427 | 516,656 | 159,961 | 2,367,834 | 947,853 | 660,123 | 985,257 |
| Corpus Christi | 2,363,233 | 1,153,606 | 781,632 | 815,765 | 274,056 | 202,019 | 227,356 | 2,294,898 | 2,335,793 | 3,018,215 |
| Dallas | 10,215,466 | 23,165,584 | 6,957,374 | 36,799,650 | 105,415,024 | 87,082,879 | 62,812,663 | 88,043,073 | 36,225,067 | 68,186,033 |
| El Paso | 560,236 | 4,114,336 | 5,548,943 | 2,320,260 | 3,220,139 | 2,845,199 | 2,918,234 | 4,926,031 | 487,468 | 3,779,805 |
| Fort Worth | 17,656,792 | 25,243,474 | 25,486,391 | 28,007,075 | 27,718,515 | 34,313,355 | 14,750,054 | 11,261,979 | 12,253,973 | 42,773,660 |
| Houston | 41,591,972 | 39,099,649 | 43,098,523 | 50,265,469 | 33,107,571 | 32,527,670 | 32,943,226 | 77,559,726 | 106,979,574 | 339,539,604 |
| Laredo | 1,008 | 8,030 | 97,354 | 198,740 | 46,360 | 1,629,182 | 1,816,993 | 2,771,456 | 20,846,278 | (16,826,694) |
| Lubbock | 2,459,935 | 13,238,381 | 16,219,781 | 18,270,491 | 21,379,998 | 19,064,794 | 51,240,764 | 8,904,505 | 3,205,626 | 1,985,158 |
| Lufkin | 609,260 | 1,195,891 | 551,831 | 729,748 | 1,875,555 | 5,172,493 | 5,335,560 | 2,759,553 | 2,367,799 | 2,197,863 |
| Odessa | 65,898 | 7,322 | | | 50,456 | 383,923 | 31,410 | 19,741 | | 19,259 |
| Paris | 18,981 | 164,569 | 533,435 | 999,435 | 2,253,919 | 1,293,753 | 234,264 | 1,120,472 | 2,965,536 | 1,855,034 |
| Pharr | 2,517,053 | 677,302 | 3,110,013 | 7,868,236 | 5,976,262 | 2,731,021 | 5,040,595 | 5,763,799 | 12,529,915 | 13,961,911 |
| San Angelo | 257,441 | 90,302 | 174,607 | 228,785 | 155,688 | 562,910 | 485,879 | 95,877 | 4,304 | 156,181 |
| San Antonio | 8,569,913 | 3,330,182 | 7,857,777 | 7,729,163 | 6,973,974 | 9,343,071 | 21,167,337 | 9,223,149 | 27,244,160 | 32,094,232 |
| Tyler | 2,923,777 | 2,295,794 | 1,003,527 | 1,518,432 | 4,533,016 | 7,921,067 | 2,971,783 | 7,840,184 | 4,538,180 | 9,727,006 |
| Waco | 2,098,357 | 2,507,206 | 2,553,789 | 3,086,112 | 3,887,255 | 3,429,104 | 3,450,044 | 4,739,614 | 7,279,509 | 28,999,912 |
| Wichita Falls | 3,100 | 268,991 | 405,486 | 659,152 | 246,718 | 870,391 | 1,567,691 | 1,306,539 | 2,099,294 | 4,420,716 |
| Yoakum | 1,376,463 | 3,290,754 | 4,137,268 | 7,202,879 | 1,963,536 | 3,846,176 | 2,195,236 | 1,586,732 | 3,289,026 | 2,074,139 |
| Total District | 120,962,505 | 158,066,542 | 132,723,395 | 195,340,714 | 243,496,980 | 244,660,846 | 243,565,616 | 256,300,799 | 278,002,374 | 582,118,082 |
| | | | | | | | | | | |
| **Division** | | | | | | | | | | |
| Right of Way | 1,894 | 19,469 | 41,103 | 12,134 | 35,900 | 34,606 | 49,134 | 23,372 | 1,669 | 32,554 |
| Texas Turnpike Authority | | | | | | 1,791,113 | 12,675,143 | 126,295,218 | 108,278,263 | 164,145,842 |
| Total Division | 1,894 | 19,469 | 41,103 | 12,134 | 35,900 | 1,825,718 | 12,724,276 | 126,318,590 | 108,279,932 | 164,178,396 |
| ***Grand Total*** | 120,964,398 | 158,086,011 | 132,764,498 | 195,352,848 | 243,532,880 | 246,486,564 | 256,289,893 | 382,619,389 | 386,282,306 | 746,296,478 |

Prepared by Silvia Morales, FIN/ACCT 5-23-06

# APPENDIX D

## Questions received since the first Lump Sum Distribution Workgroup meeting May 2.

1. Is the workgroup charged with determining the total size of both the PE and ROW funding? or only the size of one piece (Category 2 and 3)?

2. What is the amount of consultant PE expenditures outside of Categories 2, 3, and 4?

3. What are the historical expenditures of PE and ROW by district for the previous 10 years?

4. What factors make one project's PE greater than another?

5. What factors make one project's ROW greater than another?

6. How big is the total pie for both PE and ROW?

7. How big should the Category 2/3/4 slice of the PE and ROW be?

8. How should these slices be divided between Categories 2, 3, and 4?

9. Within each category, how should allocations be made between MPOs?

10. On pages 1 & 2 the definitions of PS&E and PE are provided. On page 2 Montie introduces the task as recommendation of distribution of ROW and PE funding to MPOs and TxDOT Districts…My question is does our purpose involve distribution of funds for PE or for PS&E or for both PE and PS&E?

11. On page 5 Olson, L/Wells, W. mentioned DCIS in a statement. The Texarkana MPO has access to some DCIS screens but I was wondering if all MPOs do or will have access and will training be available for its use?

12. On page 5 under *Discussion-Review of funding formulas & application* Montie presents a table of STP Breakdown for Construction. Is population the basis for these percentages, is some other single basis or is it a combination of factors?

13. At our Technical Committee meeting today one of our members asked if the MPO staff will be selecting the consultants for PE work and managing the contract? Will the MPO staff be selecting and managing ROW contracts (I.e., appraiser contract, negotiations, etc.)

14. What entities will be allowed to perform PE or PS&E work for a project other than TxDOT staff or a consultant? (a) Would a city engineer be allowed to do the work as long as it conforms to state standards? What if that engineer works for a city where the MPO staff is housed? (b) If an MPO housed within a city is allowed to use city engineers, can a stand-alone MPO use in-house engineers? (c) All of these possibilities would, of course, allow an MPO to save that money and reallocate it toward ROW or Construction costs.

15. Will the MPOs be expected to fund engineering services for national/statewide mobility projects such as IH-69 partially or fully from the Category 3 funds or are we only talking about projects that are “local” in nature?

# APPENDIX E

Technical Report Documentation Page

| 1. Report No. FHWA/TX-05/0-4079-1 | 2. Government Accession No. | 3. Recipient's Catalog No. |
|---|---|---|
| 4. Title and Subtitle<br>**RIGHT-OF-WAY COSTS AND PROPERTY VALUES: ESTIMATING THE COSTS OF TEXAS TAKINGS AND COMMERCIAL PROPERTY SALES DATA** | | 5. Report Date<br>August 2004<br>6. Performing Organization Code |
| 7. Author(s)<br>Kara M. Kockelman, Jared D. Heiner, Shadi Hakimi, and James Jarrett | | 8. Performing Organization Report No.<br>0-4079-1 |
| 9. Performing Organization Name and Address<br>Center for Transportation Research<br>The University of Texas at Austin<br>3208 Red River, Suite 200<br>Austin, TX 78705-2650 | | 10. Work Unit No. (TRAIS)<br>11. Contract or Grant No.<br>Technical Report 0-4079 |
| 12. Sponsoring Agency Name and Address<br>Texas Department of Transportation<br>Research and Technology Implementation Office<br>P.O. Box 5080<br>Austin, TX 78763-5080 | | 13. Type of Report and Period Covered<br>Technical Report<br>9/1/2003-8/31/2004<br>14. Sponsoring Agency Code |

15. Supplementary Notes
Project performed in cooperation with the Federal Highway Administration and the Texas Department of Transportation. Project Title: Impacts of Landuse and Landuse Change on Right-of-Way Cost

16. Abstract

Right-of-Way (ROW) acquisition for highways and other transportation improvements can be very expensive, time-consuming, and socially sensitive. Accurate ROW cost estimation, efficient acquisition practices, and appropriate federal and/or state laws can be keys to successful completion of ROW acquisition. This report reviews the literature related to ROW acquisition, and highlights the findings of expert interviews.

Hedonic price models were proposed using recent acquisition data from several Texas corridors and separate databases of full-parcel commercial sales transactions for Texas' largest regions. For the latter, the method of feasible generalized least squares (FGLS) was employed to correct the standard error terms for heteroskedasticity. The models presented here add considerably to the literature and research in this area and should prove valuable to ROW professionals, transportation planners, developers, appraisers, and others involved in ROW cost estimation and commercial property valuation. A cost estimation tool developed in Excel, accompanied by a supporting document providing instructions on its application, was presented to Texas ROW administrators as a potential budget estimation tool for future tasks.

Furthermore, state condemnation statutes were aggregated and then compared and contrasted for ROW acquisition, noting their associated weaknesses and strengths. This report recommends modifications to current laws in order to expedite the acquisition process, minimize cost, and build property owners' trust in government actions. Additionally, it describes how state characteristics impact real property condemnation rates. Results indicate that states with the lowest condemnation rates allow early taking of land, land consolidation and land exchange techniques; mandate early public involvement; and require that appraisal details be reported to property owners. They also emphasize negotiation and mediation before filing for condemnation proceedings, while providing comprehensive and detailed laws regarding compensable items. This research also found that variables like rural highway mileage, fraction of land owned by the Federal Government, urban area population, and educational attainment are statistically significant in predicting condemnation rates.

| 17. Key Words | 18. Distribution Statement |
|---|---|
| Right of Way Acquisition, Property Valuation, Cost Estimation, Commercial Real Estate, Condemnation Rates, Uniform Act | No restrictions. This document is available to the public through the National Technical Information Service, Springfield, Virginia 22161; www.ntis.gov. |

| 19. Security Classif. (of report) | 20. Security Classif. (of this page) | 21. No. of pages | 22. Price |
|---|---|---|---|
| Unclassified | Unclassified | 142 | |

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- Estimates of Project and Parcel Valuation—Alaska, Connecticut, Iowa, Michigan, Virginia, Washington
- Management Information Systems—Idaho, Massachusetts, Oklahoma
- Estimation of Administrative Costs—Wisconsin
- Corridor preservation or advanced purchasing is being undertaken in such states as Iowa, Kansas, Michigan, Minnesota, and Washington.
- Other interesting approaches underway in the states include new public information efforts (Alaska—open houses for affected landowners; Oklahoma—advance contact) and leasing, which is underway in numerous states.

The complete set of survey responses is included in Appendix B.

## 3.2 Synthesis of Texas Districts' Survey Results

### 3.2.1 Introduction

A survey of Texas Department of Transportation (TxDOT) districts was also conducted through an email survey instrument sent to districts in February and March 2003.
All but seven of the TxDOT district offices provided information about:

(1) Current procedures used in the district to forecast ROW costs for projects;
(2) The types of parcels and other issues, which present the most difficulty in preparing estimates;
(3) What changes and improvements, if any, should be made to the current procedures?
(4) What new or additional information would aid staff's work in estimating costs; and
(5) Other aspects about the estimation process.

The seven non-responsive districts were mostly rural: Pharr, Paris, Childress, with a sprinkling of medium-sized regions: San Angelo, Wichita Falls, Laredo. El Paso was the only metro district not to respond. Because all but one metro, most urban, and many rural districts provided data, the information should cover the major problems throughout the state. The email survey instrument can be viewed in Appendix D, complete responses to each question can be found in Appendix E, and respondents' contact information is contained in Appendix F.

### 3.2.2 General Findings

The findings of this survey are as follows:

- Issues and concerns vary greatly by the type and size of district (metro-urban-rural).
- Many of the difficult parcels or problems in estimating ROW costs are either present or absent in any one district. For example, utility relocation was identified by a number of districts as presenting major problems, while in other districts, it was never mentioned.

- The major metro areas share some similarity in problems but also exhibit diversity. Dallas does not have problems with the same types of parcels as Houston, and no area seems to have Houston's problems with condemnation attorneys. Austin and San Antonio appear not to have similar problems.
- Accuracy of estimates are deemed to be primarily a result of many factors: the amount and quality of information available, need for quick turnaround of an estimate, complex parcels, commercial establishments, parking for businesses, as well as many unknown and uncontrollable items. (For example, the rate of condemnation, legal damages, and current state statutes relating to obtaining clear titles are issues.) For most districts, the problems are primarily technical in nature; yet for Houston, the biggest issues are thought to be political and legal.
- Because of the uncontrollable factors, complexity of some parcels, and unpredictability of legal proceedings, many ROW administrators do not believe significant improvements in cost estimates can be achieved through a more systematic approach or quantitative model. Several district administrators, however, do believe greater quantification would improve estimates, and they suggested characteristics of a reliable and useful estimation technique.
- Most ROW administrators are unaware of any potential improvements in estimation from other states, and only a handful suggested anyone who might be contacted for further information.
- A number of ROW administrators would like to regularly discuss possible solutions and approaches in parcel cost estimation with other ROW administrators.

Detailed survey results are included in Appendix E.

**Appendix E: Detailed Findings of Survey from Texas Districts' ROW Administrators**

## I. Current Procedures In Your District

1. Budget Estimates—

How do you prepare budget estimates for future ROW projects?
What are the procedures used?
Are they informal "guess estimates" or is there a fairly precise methodology used?
Are the estimates made primarily on individual parcels (micro) or on the entire project or major sections of a project (macro)?

Please be specific and if it applies to your district, please describe the procedures for the schematic stage, multiple alignment stage, preferred alignment stage, and when your district has the final ROW maps.

***While there is great variation in how the districts describe their estimation procedures, and several districts do not believe there is much consistency across the districts, there may be more comparability than thought. All districts proceed from a general or macro approach in the early stages to a more refined micro (parcel by parcel) procedure as ROW choices are made. Much variation across the districts probably is due to differences in project sizes, the stage at which projects are first estimated, and information availability. There does appear to be differences across districts on parcel types, project types, condemnation rates, and a host of other factors. However, it seems that a parcel involving strip shopping center parking would be estimated similarly (procedure, not the value) in most metro areas. Likewise, partial takings of rural farmland would be estimated similarly.***

***The procedures used by four districts are provided below. They show both the diversity and the similarity in general approaches.***

***The first comes from one of the major metro districts (Dallas).***

**"The estimation process is viewed in successive, distinct stages.**

a. **Schematic stage—This is a very general regional estimate at the earliest stages of a potential project. At this point they usually only have a centerline and a 300 foot corridor to go on. ROW develops an estimate, based on the area and type of project (rural, metro, widening-new etc.), using a "cost per mile" calculation. Successive estimates become much more refined for the following stages.**
b. **Multiple alignments—usually 3-4 although sometimes as high as 5.**
c. **Preferred Alignment**
d. **ROW Maps—parcel by parcel.**

*Once estimates, however rough, are developed at stages b, c, or d, a district may add a certain contingency percentage for expected damages, unknowns, past experiences, and other contingencies."*

*The second example comes from an urban area district (Waco).*

**"The procedures are very similar to other district offices. In a nutshell, if they (ROW staff) have a ROW map, they estimate how many square feet of property will be needed, multiply that by a price per square foot for the different types of parcels, and then add the parcel amounts for an aggregate number. If they have only schematics, they look at each property and develop a very gross estimate."**

*The third comes from a mostly rural district (Brownwood).*

**"Visually inspect project**
**Calculate land area**
**Categorize property types**
**Discuss land values by category with local appraisers and realtors**
**Value improvements**
**Estimate damages to any remainders (fencing etc.)**
**Calculate utility adjustments**
**Estimate relocation cost**
**Estimate closing cost**

**A fairly precise methodology is utilized. Estimates are normally made on a per-parcel basis. Each parcel is visually inspected and an estimate is applied to known cost of similar land and improvements along with other known cost of acquiring real property."**

*And the fourth example comes from a small urban area district (Tyler).*

**"If the estimate is just for programming and a best guess is needed quickly-- We talk to the project manager and may drive the project. We also contact local real estate agents and call utility companies to get a rough estimate. We may only have a county map with the limits shown and maybe need estimates for taking ROW off one or both sides.**

**If we need a more detailed estimate, we use whatever information we have available at the time. We use approved schematics, preferred alignment or approved row map. Drive the project and look at each parcel for damages to the remainder, improvements in the taking, utility lines on public and private row."**

2. Accuracy of Estimates—

How well has your district done in terms of accuracy?

When the estimate is "off", is it generally low or high?
(Please quantify in percentages your past accuracy.)

Why?

***On the general question (how well has your district done), the responses were fairly evenly divided between positive and neutral, with almost no one saying they were doing a poor job. At least one-third of the districts said they have never looked at the accuracy of their estimates.***

***In looking at the districts that provided a numerical estimate of their accuracy, the most common range was 15%-30% off. Twenty-five percent was cited by a number of districts and might serve as the point estimate.***

***Of those who provided a response, the majority of districts, probably two-thirds, said their estimates were too low, compared to the eventual ROW costs. Some districts cited specific reasons for the differences (e.g. rate of condemnation proceedings, the likelihood of an unpredictable judgment for damages and so forth). Some districts said estimates are really nothing more than "guess-estimates", and others did not cite any reasons.***

***Several districts are now regularly adding contingency percentages on top of their best estimates. One district is adding 20% for its rural parcels and 33% for its urban parcels. Other districts are in the 30%-40% range. One said it has gone as high as 50%.***

***One metro district stated that even adding a "fudge factor" was less than adequate because they see considerable variation by project within the district. The estimates depend to some extent on characteristics of the projects themselves (widening from 2 lanes to 4, widening from 2 lanes to 6, as opposed to new alignments etc.). The estimates also depend to some extent on each project's condemnation rates (as high as 40-50% on some projects), donations (on one recent project, more than 60% of parcels were donated), close-by-deed rates (proportion accepting TxDOT's offer), and jury awards. Another metro district believes a good measure of how well they are estimating is the proportion of trials that terminate early. In their view, when more owners decide after a day or two that they will not receive large awards, that vindicates the accuracy of their original parcel estimate.***

3. What types of parcels, if any, are the most difficult to estimate without using outside appraisers?

- ***Parking for commercial properties (strip shopping, stand alone retail, office buildings, and display (auto lots) businesses) all were mentioned. Depletion of strip shopping parking can mean the property is limited in its choice of possible tenants and also that its income potential and long-term value is diminished.***
- ***Billboards—Dallas and Houston, although for different reasons***
- ***Utilities in rural areas—availability of information, timeliness of information, discrepancies between expected and actual locations;***
- ***Utilities in metro areas (problem is obtaining information on "what is where" although once they have that information, the estimation process is straightforward)***

- *Chain and franchise stores because of parking considerations and expertise of property owners in negotiating with departments of transportation on ROW;*
- *Contaminated parcels--Houston*
- *Industrial parcels—A higher proportion go to condemnation;*
- *Churches—Parking is very important and they rarely accept TxDOT's offer;*
- *Mixed-use parcels—More complex than single-use parcels and more difficult to find comparable properties;*
- *Large irrigation systems—Several rural districts*
- *Obtaining information on commercial properties was cited as a problem for most metro districts.*

4. What is the timing of the estimation/appraisal link—are estimates needed months (years?) in advance of any appraisal data?

**The typical timeframe for large projects was estimated to be three years, with some stretching out to five and seven years. Small projects usually required less than a year, and sometimes only six months.**

**One district noted the irony of the tradeoff between amount of information and available time. For TxDOT estimation purposes, the district usually has sufficient time to prepare estimates but not much information, whereas in providing estimates to local government officials, the district generally has sufficient information but not much time.**

**The ROW administrator of one metro district argued that it is very difficult to forecast property values several years into the future. Not only is it difficult to forecast the national and state economic conditions and how property values in the aggregate will change over that period of time, but their estimates also must take into account projections about values for different areas and different classes of property within the metro region, and then incorporate the specific factors for each parcel.**

5. How common are "partial takings" and "uneconomic remainders?"

***85%-95% are partial takings. Uneconomic remainders are either non-existent (rural districts) or a maximum of 5% in several districts. Perhaps half of the districts with uneconomic remainders expressed displeasure about the cumbersome nature of current TxDOT procedures on uneconomic remainders.***

Do they differ by project/corridor type (e.g., upgrades vs. expansions vs. new-location freeways)?

***Generally, partial takings are associated with upgrades and expansions vs. new locations. Partial takings are more common in rural than in metro and urban districts. Whole takings are most common with city parcels, especially when new locations are involved. Uneconomic remainders are equally common on upgrades and new locations.***

*In terms of expense, partial takings are more expensive on upgrades and expansions than on new locations. When uneconomic remainders occur with new locations, at least one district tries to acquire entire parcels rather than deal with denial of access, bisected properties, and control of access problems.*

6. In your district, do the planned alignments consider ROW costs to the extent they should (e.g., via access issues, creation of uneconomic remainders, generation of lawsuits)?

*Most districts said yes, although several expressly indicated more could be done. A number of districts indicated coordination between the design and ROW staffs had improved noticeably from the past. In the past, ROW staffs were sometimes not consulted about possible costs until late in the process. Now many of the districts appear to view ROW staffs as part of the decision-making process and their advice is used in determining if small alignment changes could affect cost significantly. No district mentioned, however, any rules of thumb about when an alignment would be changed based on a cost-tradeoff.*

7. Are you satisfied with current budget estimation procedures? If not, why not?

*The majority of districts said yes. If there was a pattern, it seemed that the rural districts are more satisfied. Others said the process is as accurate as it can be because of the nature of the process (lead time involved, uncertainty of alignment, lack of information, unpredictability of condemnation awards, unforeseen utility costs, uniqueness of each project and set of parcels, and so forth) precludes much improvement. However, a number of districts identified potential improvements from a database or more systematic information. (See below the section on Specific Comments on Databases and Models, on page 11.)*

8. Do you use the ROWIS information database in performing estimates or is it helpful in any way during the estimation process?

*Most districts do not consider ROWIS to be useful, several indicated ROWIS was a negative in fact, and ROWIS is being used in estimates only by a couple districts. There, it did not seem to have a central role. Comments about ROWIS ranged from its non-historical data, to non-comparability across regions, and its lack of utility information, which two districts indicated comprised up to 50% of ROW costs for them.*

*Several districts also noted they use current market data from appraiser files or the local tax district, rather than ROWIS data, to produce estimates. One district said ROWIS is not at all beneficial in generating estimates or in calculating values for parcels because (a) there is no narrative on the parcels, (b) no information about curative measures, and (3) nothing which would provide an appraiser with information about why a parcel may or may not be unique.*

## II. Ideal Procedures and Improved Process

9. What would be the ideal, practical estimation procedure for you at the district-level?

10. What are the biggest impediments, if any, to developing this ideal estimation procedure, or at least an improvement over what is done now?

11. Are there any promising or innovative procedures you've heard about or are working with to improve the current estimation process?

12. What, if anything, could be done now and at minimal cost to improve the process or procedure in your district?

***Few districts thought anything could be done. As noted in the answer for item 7 above, the majority of districts believe the current estimation process is satisfactory. Several districts said more information and more staff would improve valuation and budget estimates. Others said the existing framework and its constraints prevented improvement. Suggestions were mostly items such as obtaining ROW requirements and good maps earlier. For some rural districts, and at least one urban district, in particular, utility costs are a problem. Usually the problem relates to either obtaining information in a timely fashion about the location of utilities or to discrepancies between what utilities are expected and what are actually found on site. Another district suggested advanced surveying would help them determine if there were likely to be any major impacts on a parcel. (Staking the ROW alignment.) This district also suggested greater utilization of "distance finders" which would enable TxDOT personnel to gauge more accurately where they are located and how much ROW they would be taking from a parcel. At the estimate stage, they are unable to "walk the land."***

***Other impediments: securing information from tax appraisal districts which had provided information in the past without a charge but which now requires a fee; obtaining information about commercial sales; and finding sufficient staff time to prepare detailed estimates as most of their staff's time needs to be devoted to reviewing appraisals (because of the limited staff time, one district recently hired for the first time an appraiser to develop an estimate.)***

***Obtaining information on commercial properties was cited by most of the metro districts as being a problem. None has a solution, however.***

***One district suggested a Louisiana procedure "Quick Take" as being worthy of further consideration by TxDOT. The Texas Turnpike Authority has the authority for a "quick take" procedure, although it has yet to be used.***

13. Are the district engineers/planners finding ways to <u>proactively</u> save land, time, or money? (Examples might be by purchasing easements for impacted parcel owners through their neighbors' parcels, by building back roads, by warning developers and builders many years in advance of later corridor needs, and so forth.)

If that is occurring, please identify what has been the most successful

***This produced a wide range of specific responses, mostly from metro and urban districts. The predominant answer was that their district was involved with one or more of the examples or had considered them but found they did not apply. (Note that this question was not asked of all districts.) One of the metro districts provided a lengthy response on this, which is included beginning on page 14.***

***Another metro district no longer provides information to developers and builders about longer term ROW corridor needs as the district is convinced it has worked against, rather than benefited, TxDOT interests. The district ROW director provided examples of how information was used by property owners and condemnation attorneys to increase their eventual revenues from TxDOT.***

## III. People

14. Who at the local level do you deal with mostly on ROW issues—county, city, metro—and what kinds of questions do they ask you regarding ROW cost estimates?

***For the most part, city and county officials ask TxDOT districts what their contributions will need to be and when they will need to budget for them, rather than questioning the amount of the estimates or the methods used to generate the estimates. Several districts said they knowingly estimate high so that the local officials are not caught off guard, but several others noted that high estimates had caused problems when local officials reserved more funds than needed or when local officials had trouble meeting the requirements. Another noted that because his estimates are not based on a strong methodology, he believes the local officials are relying on him because of personal trust more than anything else.***

Are there any individuals (locally, anywhere in Texas, or elsewhere) whom we should contact regarding the estimation of ROW costs?

If so, please list their name, their phone number, why we should call them, and if we should, or should not, mention your referral.

***No one suggested anyone outside of Texas. Several districts named other district personnel. Others suggested were condemnation attorneys, individuals who previously worked for TxDOT, private appraisers, and acquisition consultant companies.***

15. Is there anything else you wish to mention about any aspect of this topic?

***One district provided considerable information about problems with parcels where there are title difficulties: lack of wills, liens, bankruptcies, divorces, and so forth. Several districts noted that changing some administrative procedures (settlement authority, business reestablishment limitation) would speed up certain types of smaller acquisitions. Several districts also noted***

***that they would like more frequent sharing among the districts of promising techniques and how others have addressed certain issues. One of the major metro districts provided unique information on condemnation attorneys and the myriad legal, political, and judicial constraints within which TxDOT ROW operates. This district believes the technical aspects of estimation can be handled adequately but that the non-technical (political, legal, and judicial) issues, which affect ROW estimates and costs, are mostly beyond the scope of districts.***

Our project team will be starting to generate a data set which details specifics of parcels, date when they were acquired, corridor details, condemnation issues, and other relevant information for which we can control statistically and/or describe more qualitatively. The ROWIS database will be the first source but if necessary, can a member of our project team (Jared Heiner, email: jheiner@mail.utexas.edu ) contact you regarding data from your district?

***Every district responding to this, which was most districts, was willing to provide data.***

Specific Comments on Databases and Models

*(Unless otherwise noted, these are verbatim comments from the districts, with minor editorial changes.)*

**Brownwood**

A comprehensive database relating to cost would be helpful, especially in the area of consultants and utility adjustments.

A comprehensive database of right of way costs from around the State (would improve the process).

**Bryan**

A systematic approach to estimating the costs would be helpful. If the program were offered with a spreadsheet type of analysis this would help compare differing alternatives.

Obviously a model that used a set of variables that anyone could plug into and produce a ROW estimate would be ideal. In this model you could have multiple variables found throughout the general area you are acquiring. It would be nice to have the ability to assign low, moderate, or high values for tracts of land with the necessary attributes giving them this value.

**Corpus Christi**

An improvement would be to have all the details about the proposed acquisition as early as possible. The ideal would be to plug the specifics such as size, type of property, location, etc., in a database to get an estimate. (This would be the ideal, practical estimation procedure at the district-level.)

We have recently discussed developing a crude table of rural and urban land values by county for use in the early stages of alignment planning. The table, while it may not improve the accuracy, could be used to simplify the process, and could be used by designers not familiar with land values.

Utility adjustments and, often, residential and business relocation costs, can comprise a significant portion of right of way acquisition costs. In this area, utility adjustments often exceed the cost of the land on a project. These costs can be difficult to estimate, because often we do not know the extent of the necessary adjustments. We try to estimate these costs based on our prior experience. It would be helpful if there were some statistical data compiled on these as well.

**Lubbock**

*Are there any promising or innovative procedures you've heard about or are working with to improve the current estimation process?*

Use of statewide averages of relocation assistance cost, cost estimate services on the Internet for improvement estimations- Marshall & Swift, http://www.CMDFirstSource.com/index.asp

**Tyler**
Do more SUE work on projects and have a common database to access actual costs for utilities on current projects (would improve the current estimation process).

**Yoakum**
*Are there any promising or innovative procedures you've heard about or are working with to improve the current estimation process?*

The Yoakum District uses an Access database to aggregate the estimates. This allows flexibility in answering budget questions.

**Amarillo**
*Are there any promising or innovative procedures you've heard about or are working with to improve the current process?*

What would be nice is a vast database of regionally-based data which could be drawn upon by administrators and their staffs. The existing databases focus on property information which doesn't help ROW administrators that much (replacement cost guide for buildings) or they are very laborious and cumbersome to use, such as appraisal district information. A "good database" should contain detailed regional data so that an estimator in Amarillo can find that a three-phase power line of 10 miles should cost such and such, i.e. the data elements should be priced in unit costs appropriate for them. Other types of utility infrastructure data elements should be included also.

Databases that might be utilized for the new database: Marshall and Swift (replacement cost of buildings) and the Handy-Whitman Index of Public Construction Costs.

**Waco**
Researcher note: This district is at the very beginning stages of creating an access database for parcels, but they have nothing to share currently, as it is in the preliminary design stage.

**Austin**

Researcher note: The process is about as good as it can be right now. District ROW staff believe (1) every parcel is unique; (2) every situation is unique; (3) regional variations would be too significant to use a database; and (4) staff experience is the primary determinant of estimation accuracy. However, some type of quantitative model might be useful if staff experience could be incorporated into it or if the database could be used to "add experience" for their young, less experienced employees. (They have 18 ROW staff currently, down from 30 several years ago because of a declining workload.)

**Abilene**
Researcher note: District ROW administrator is interested in some type of model or computer program that would be more standard across districts, have more credibility, and generate more accurate estimates than current techniques.

**Beaumont**

Researcher note: District ROW administrator needs something to reduce the time his staff spends on the 4-5 optional alignments, which never get built on each project. In his view, if a software package could be developed or is already available which would speed up the estimation process without proving too costly, it would be worthwhile.

**Dallas**

The Dallas district has some type of database of parcels.

Because of a retirement, the district is looking at the option of having estimates performed by an outside consultant. One of them has a database which he says can verify estimates, based on work that he performed in Austin.

Incidentally, the Dallas district does not use much appraisal district information as they have found it "pretty useless." Valuations used to be too low compared to actual sales, and now they believe appraisal district valuations are too high, compared to market prices. So they use sales information instead, commercial brokers whenever possible, and also the Roddy Report in their estimation work.

*Comments by San Antonio District on Proactive Approaches*
**(Juan Zaragosa, San Antonio ROW administrator, emails from February 6-7, 2003.)**

13. Are the district engineers/planners finding ways to proactively save land, time, or money? (Examples might be by purchasing easements for impacted parcel owners through their neighbors' parcels, by building back roads, by warning developers and builders many years in advance of later corridor needs, and so forth.)

***The SAT District does a good job usually through the Project Development Process and strives to be proactive. Need to involve the ROW Personnel early in the initial phases of all project development to better utilize the ROW acquisition and appraisal expertise.***

***The SAT district is doing all of these (Advanced Acquisitions, donations, land exchanges, plat dedications, etc.) and using several combinations of each. If ROW personnel are involved in the early planning process, they may be able to identify problem parcels that will require special handling. In early or advanced acquisitions, it is possible to sequence acquisition work to deal with difficult parcels. This may be due to the complexity of the property or the ownership and previous acquisition history. In a Metro District, most acquisition are repeat business or old transactions handled correctly reap some good and/or bad returns. The ROW staff is in the unique position of having access to this information, if it exists to share with project designers or planners. Parcel donations can also be identified or handled in the early project development phase of planning a project. There are times that a landowner does not wish to sell but they may have some plan that will work with an exchange of property between them and TXDOT. This can also be handled by ROW staff after the parcel needs are developed, the exchange agreement may be an option to allow TXDOT to acquire and the landowner to also acquire some piece of ROW for his use of the remainder property to reach his highest and best use of the site. Because of a past transaction or repeat business, some property owners are willing to donate a tract early into the project and continue there development rather than wait for the project to develop through the planning and then the acquisition process. An announcement that a project will occur can really impact or label a property with a negative image. Ex: TXDOT will destroy the interim development of the tract with its future highway expansion. The payment of acquisition costs and damages does not always compensate a property and/or a new business for the disruption during the life of a project (from initial survey work to final completion of the highway improvements.) Temporary Construction Easements are usually not very effective or useful. They also impacted a property for the life of a project and may result in the same business loss of a partial or full taking and without the benefit of Relocation Assistance Program for displaced owners. If project needs are identified early and a property is to be platted through the Local Public Agency, dedications through the plat process do occur, especially if the required future ROW will be a minor amount of property, the developer will plat the required future ROW need. The voluntary setback by a developer in a proposed development of land needed for a future ROW project is also very helpful in the acquisition phase of a ROW project. It will minimize damages to the remainder property and avoid the cost of purchasing improvements along the required ROW. For the developer, there is the benefit of full disclosure that a project is forthcoming also along the corridor at a later date and some assurance that the highway project will not be destroy the planned use of a property being offered for sale. The***

*required need for more full disclosure in the real estate market make it helpful for the TXDOT to provide the ROW needs early to the community being impacted by a project. Being able to confirm a sale through a friendly land title company is a tremendous asset to have in any project development and the estimating of ROW costs becomes more accurate based on actual sales in the area of planned projects. This really helps the estimating of planned project costs. Advanced acquisitions and land exchanges are the best tools available once the property owner concedes that a project will occur in the future. A good recent example is the future Kelly Parkway Corridor. People along the proposed corridor are now ready to sell or deal with us. We will need to wait for planning to be complete and funding to allocate before we can proceed to purchasing parcels.*

## Appendix F: Contact Information of Texas Districts' Respondents

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# APPENDIX F

**Lump Sum Distribution Workshop**
**Research Review Results**

**May 24, 2006**

**Right of Way Domestic Scan, Austin, TX**
**http://www.fhwa.dot.gov/realestate/scans/ausfreport.htm**

State Highway 45 and Loop 1 project
State Highway 130 Segment 1-4
Cost $1.034B
ROW excess of $130M (130M/1.034B = 12.57%)
Total project cost $2.78B

**Marsha Sharp Freeway Project – Lubbock's East/West Access**
**http://www.dot.state.tx.us/LBB/projects/q&a.htm**

| Phase | Cost |
|---|---|
| I | $46.5M |
| II | $103M |
| III | $53.6M |
| IV | $60M |
| TOTAL | $263.1M |

354 parcels acquired along 13-mile freeway route and 62 railroad parcels at a cost to date about $160M.

(160/263.1 = 60.84%  $160M/13 mi = $12M/mi)

**Williams, K.M, H. Zhou, and L. Hagen.** ***Assessing the Costs and Benefits of Strategic Acquisition of Limited Access Right-of-Way at Freeway Interchange Areas*****. November 2004.**

"In Florida, the cost of right-of-way has continued to escalate and right-of-way costs now exceed construction costs in many areas." . . . "The combination of high growth and encouragement to litigate has the Florida Turnpike Enterprise anticipating that almost 75 percent of right-of-way cases will file for litigation (*15*). The high cost of litigation combined with the 12 person jury for eminent domain cases, as contributed to high awards."

15. Florida's Turnpike Enterprise Appraisal Guideline #1 – Cost Estimate, Florida Department of Transportation, July 2002.

**Kyte, C.A., M.A. Perfater, S. Haynes, and H.W. Lee. *Developing and Validating a Highway Construction Project Cost Estimation Tool*. Report VTRC 05-R1. December 2004.**

"…researchers concluded that cost forecasts tend to underestimate final costs 9 of 10 times." "…researchers…found that actual road projects are typically 20 percent higher than forecast." All things being equal, smaller projects have a slightly higher per mile costs than typical ones because of certain fixed costs. Cost adjustment factor of +20 percent for projects less than 0.5 mile in length, cost adjustment factor of +10 percent for projects between 0.5 and 1.0 mile in length, no adjustment for projects over 1.0 mile in length.

Use of annual compounded inflation rate of a flat 3% according to VDOT's Financial Planning Division and will likely be adjusted to reflect prevailing market conditions.

"Analysis of project data demonstrated that PE costs ranged from about 8 percent of construction costs on very expensive projects to about 20 percent on very small ones. Bridge PE costs were similar but ranged from about 2 to about 40 percent."

"…consultant PE costs…tend to be higher than in-house costs…"

Analysis of 136 projects completed across Virginia between January 2001 through August 2002 "…showed that PE costs do vary inversely with the size of the project."

"To attempt to account for consultant PE costs…[a] 50 percent factor is then applied to that percentage to raise the costs over in-house PE work. This 50 percent factor came from VDOT's Management Services Division's earlier study of the costs of design consultants." The 50 percent mark-up was verified after a review of 29 consultant designed projects and 107 in-house designed projects.

**J.D. Heiner and K.M. Kockelman. "The Costs of Right of Way Acquisition: Methods and Models for Estimation," presented at Transportation Research Board Annual Meeting, January 2004.**

The federal government spent an average $36,400 per parcel in fiscal year 1999.

"Accurate ROW cost estimation can be key to project budgeting and completion."

Challenges Texas ROW administrators face are: (1) early estimates based on limited information, (2) limited time to prepare estimates, (3) estimates are prepared several years in advance "…during which time significant inflation and speculation can occur, resulting in property and damage appreciation." Urban and rural administrators reported the typical time interval is 3 years, but may stretch to 7 years.

There are uncertainties associated with damages and court costs. The value of damages is difficult to predict becoming a source of substantial error. "Condemnation awards can add

significantly to the total cost of acquisition; ROW cost estimators in metropolitan areas routinely add from 25 to 40 percent to the projected base cost of acquisition, in anticipation of these costs."

"Access costs ranged from $0 to $2490 per linear foot of frontage, with an average value of $511 per linear foot."

"…commercial properties increase the total taking cost by $24,000 per acre, compared to other land uses."

Utility relocations "…can run very high, and may even exceed property acquisition costs." I-10 in Houston utility costs exceed $200 million representing a unit cost of $10 million per mile for the 20-mile project length, or 30% of the ROW budget.

Land values for US 183 in Austin were "…estimated to fall $52,000 per acre one-half mile from the facility, compared to lots that fronted the new facility. Corner lots at signalized intersections were valued $55,000 higher per acre, and their built improvements $4.61 higher per square foot." Location and access are strong indicators of property value.

Land use types are significant, with retail uses having the strongest effect on total taking cost.