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16. Abstract

Reviewing and processing utility and driveway permits at the Texas Department of Transportation (TxDOT) requires a considerable amount of involvement and coordination by TxDOT personnel, both at the district and division levels. Currently, TxDOT absorbs the entire cost to review, process, and archive utility and driveway permits, regardless of type of permit application, proposed project scale, or required TxDOT resources involved. The purpose of the research was to evaluate the time and costs to process various types of utility and driveway permits, evaluate potential fee alternatives, determine the feasibility of transferring permitting responsibilities to local jurisdictions, and develop recommendations for access management compliance. To estimate the costs, the researchers conducted extensive interviews with TxDOT districts and divisions to characterize the permitting process and collected permit data from multiple sources. The cost estimation included direct labor, equipment, information technology, and office cost categories, as well as some costs associated with coordination activities that are directly relevant to the permitting function. Data availability enabled a differentiation between simple and complex utility permits as well as a differentiation between residential and nonresidential driveway permits. With this information, the researchers examined potential fee alternatives to cover permit administrative costs. Based on feedback from districts and divisions, the researchers concluded that transferring utility permits to local jurisdictions was not feasible given the current utility permitting structure at TxDOT. However, transferring driveway permitting to local jurisdictions is feasible under certain conditions. The researchers conducted four regional stakeholder workshops to discuss and fine-tune the research findings and recommendations.

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EVALUATION OF COSTS TO PROCESS AND MANAGE UTILITY AND DRIVEWAY PERMITS

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DISCLAIMER

The contents of this document reflect the views of the authors, who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the Federal Highway Administration (FHWA) or the Texas Department of Transportation (TxDOT). This document does not constitute a standard, specification, or regulation, nor is it intended for construction, bidding, or permit purposes. The engineer in charge of the project was Cesar Quiroga, P.E. (Texas Registration #84274).

The United States Government and the State of Texas do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the object of this report.

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LIST OF ACRONYMS, ABBREVIATIONS, AND TERMS

AAC	Alaska Administrative Code
AASHTO	American Association of State Highway and Transportation Officials
Caltrans	California Department of Transportation
CBD	Central Business District
COSA	City of San Antonio
DDOT	District of Columbia's Department of Transportation
DOT	Department of transportation
DOT&PF	Alaska Department of Transportation and Public Facilities
DPS	Texas Department of Public Safety
FY	Fiscal year
FHWA	Federal Highway Administration
FTE	Full-time equivalent
GIS	Geographic information system
IAC	Indiana Administrative Code
INDOT	Indiana Department of Transportation
IT	Information Technology
MDSHA	Maryland State Highway Administration
MMIS	Maintenance Management Information System
NJAC	New Jersey Administrative Code
NJDOT	New Jersey Department of Transportation
OS/OW	Oversize/overweight
PDF	Portable document format
PE	Professional engineer
PennDOT	Pennsylvania Department of Transportation
ROW	Right of way
RRC	Railroad Commission of Texas
MDSHA	Maryland State Highway Administration
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TFC	Texas Facilities Commission
TIA	Traffic impact assessment
TTI	Texas A&M Transportation Institute
TxDMV	Texas Department of Motor Vehicles
TxDOT	Texas Department of Transportation
UIR	Utility Installation Review
VAC	Virginia Administrative Code
VDOT	Virginia Department of Transportation
WSDOT	Washington Department of Transportation

CHAPTER 1. INTRODUCTION

Reviewing and processing utility and driveway permits requires a considerable amount of involvement and coordination by Texas Department of Transportation (TxDOT) personnel, both at the district and division levels. Although many utility and driveway permits are routine and straightforward, a substantial number of permits require more time and effort. In reality, the permitting process is considerably more complex than just receiving and approving permit applications. Managing utility and driveway permits involves *prior-to-construction* activities such as receiving, reviewing, and approving permit applications; *construction* activities such as monitoring and inspecting the installation in the field; and *post-construction* activities such as closing and archiving permit documentation. Strictly speaking, the permitting process also involves coordination activities that are not necessarily tied to individual permit applications but require time and effort nonetheless, e.g., utility coordination council meetings or damage prevention meetings with utility owners, consultants, or contractors. Internal planning or coordination meetings at TxDOT involving units such as area offices, maintenance sections, other districts, or divisions would also fall under this category.

TxDOT absorbs the entire cost to review, process, and archive all utility and driveway permits, regardless of type of permit application, proposed project scale, or TxDOT resources involved. As opposed to most cities and a number of other state departments of transportation (DOTs), TxDOT does not have the legal authority to charge a fee for utility or driveway permits.

The research evaluated the time and costs to process various types of utility and driveway permits, and examined potential fee alternatives to cover those costs. It also included evaluating the feasibility of transferring permitting functions to municipalities or other local jurisdictions and providing recommendations for access management compliance. Major activities of the research included the following:

- Conduct interviews and gather relevant time and cost data.
- Review permitting practices and costs at other agencies.
- Evaluate utility permit processing times and costs.
- Evaluate driveway permit processing times and costs.
- Analyze potential fee alternatives for utility and driveway permits.
- Assess feasibility of transferring permitting functions to municipalities.
- Provide recommendations for access management compliance.

This report describes the procedures and findings of the research. It is organized as follows:

- Chapter 1 is this introductory chapter.

- Chapter 2 provides details about the methodology followed to obtain utility and driveway permitting data at TxDOT districts. It also summarizes lessons learned from interviews with district officials, as well as interviews with representatives of a sample of municipalities in the state.

- Chapter 3 reviews utility and driveway permitting practices at other state DOTs.

- Chapter 4 summarizes the evaluation of time and costs associated with the management of utility permits at TxDOT.

- Chapter 5 summarizes the evaluation of time and costs associated with the management of driveway permits at TxDOT.

- Chapter 6 discusses potential fee alternatives to cover utility and driveway permitting costs at TxDOT.

- Chapter 7 discusses the feasibility of transferring driveway and utility permitting functions to municipalities or other local jurisdictions. It also outlines a process to ensure access management compliance if permit review is transferred to a municipality.

- Chapter 8 summarizes the conclusions and recommendations.

CHAPTER 2. DATA COLLECTION AND INTERVIEWS WITH STAKEHOLDERS

INTRODUCTION

This chapter documents the data collection methodology and information about processing times and costs related to the utility and driveway permitting processes at TxDOT. It also summarizes the lessons learned from interviews with TxDOT officials and representatives of a sample of municipalities and other local jurisdictions.

UTILITY PERMITTING PROCESS

In Texas, the utility accommodation rules in the Texas Administrative Code (TAC) are the main source of regulation and guidance for the accommodation of utilities on the state right of way (ROW) (*1*). In addition to those rules, utility owners need to comply with a host of relevant federal and state laws, including, but not limited to, the Texas Engineering Practice Act, the Federal Clean Water Act, the National Endangered Species Act, the Americans with Disabilities Act, and the Federal Historic Preservation Act. When installing, modifying, or maintaining a utility facility on controlled access highways, utility owners must also comply with relevant provisions in the Texas Transportation Code (*2*).

Until the mid-2000s, the utility installation review process at TxDOT was a paper-based process that involved the submission of several copies of an application form (Form 1082) and all supporting documentation, e.g., engineering drawings, sketches, pressure calculations, and other details. Because the process was paper-based, districts had to use a large number of file cabinets to store and archive permit documentation. According to anecdotal information provided by districts, it was not unusual for some districts to dispose of old permit files to make room for new ones. Not surprisingly, this practice ran contrary to the goal of maintaining a reliable inventory of utility installations on the state right of way.

Each year, TxDOT issues thousands of permits for new utility installations on the state right of way. Although the numbers decreased in recent years in connection with the economic downturn, permit applications have increased again. Currently, TxDOT receives some 1,400 new requests per month (which translates to about 17,000 new requests per year). The current utility installation review process relies on the preparation and submission of an application package to a TxDOT district office that includes an installation request and supporting documentation depicting the location and characteristics of the proposed installation. Conceptually, the utility permitting process includes five main phases: submitting; reviewing; approval/pre-construction; construction; and post-construction and archival (Figure 1). In practice, reviewing and processing utility permits requires considerable involvement and coordination by TxDOT personnel, both at the district and division levels (Figure 2). The review process typically includes several offices at the district and, as needed, communication exchanges with utility owner applicants for additional clarifications and/or documentation. Depending on the specific situation, the review process could also involve appropriate division-level personnel.

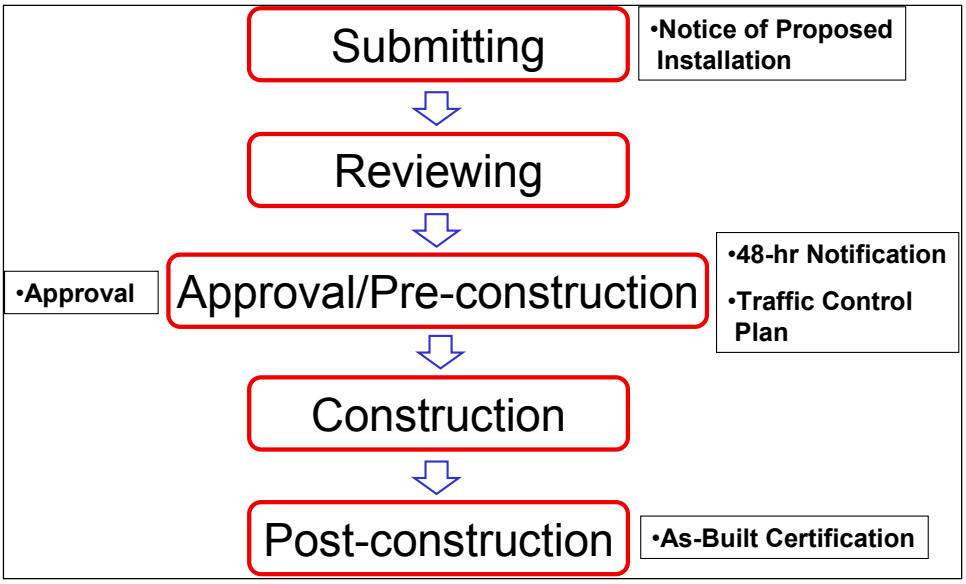
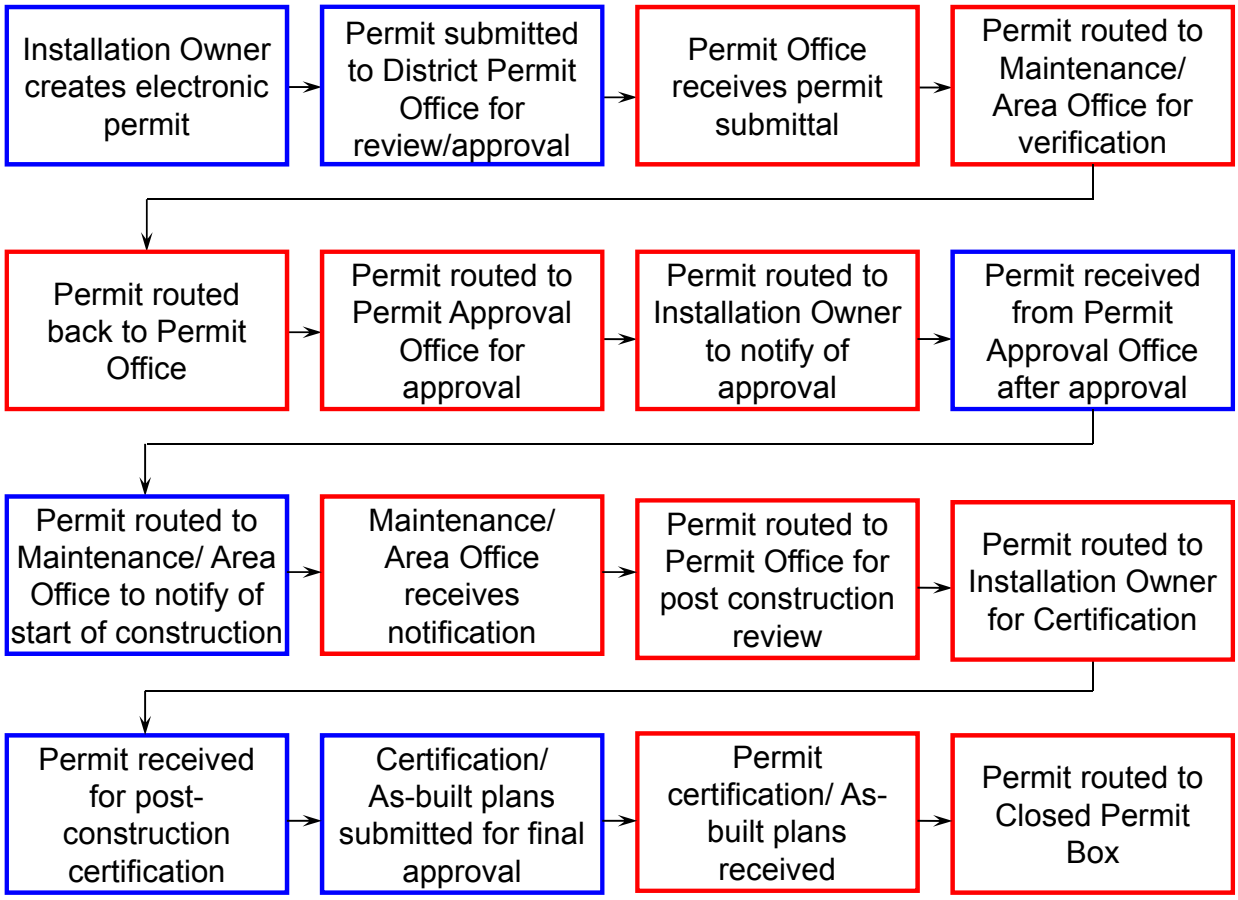


Figure 1. Utility Permitting Process at TxDOT.



Note: Blue represents activities by utility installation owners. Red represents activities by TxDOT officials.

Figure 2. Utility Permitting Process (Expanded View) at TxDOT.

In the early 2000s, TxDOT research project 0-2110 produced a prototype geographic information system (GIS)-based utility inventory model and a prototype Internet-based data entry procedure to capture utility permitting data (*3*). TxDOT's decision to implement the Internet-based prototype resulted in a web-based system called Utility Installation Review (UIR) (*4*), which was developed in the mid-2000s and enabled the automation of the submission, review, approval, construction, and post-construction phases of utility installation requests at TxDOT. UIR went online at the San Antonio District in 2005, and is now online at all 25 districts. The system captures most utility permit applications submitted to TxDOT.

According to many users, UIR has been a successful implementation, and users would not want to go back to a paper-based process. However, because TxDOT did not have a permit fee structure in place, the department had to absorb all the costs related to the development, implementation, and maintenance of the UIR system. Through the research program, TxDOT managed to fund the basic research phase as well as the development, testing, and delivery of the first version of the system. Unfortunately, TxDOT did not allocate funding for the continuous maintenance of the system. As a result, UIR is falling behind the technology curve. While the system was close to state-of-the-art when it was first developed in the early to mid-2000s, basic components such as the portable document format (PDF) generator tool, the GIS component, and the user management tools have completed their life cycle and need urgent upgrades. In the absence of an adequate funding structure to guarantee the long-term sustainability of UIR, the risk is extremely high for the system to stop providing the kind of service that users have come to expect and demand.

Although UIR provided substantial automation of the utility permitting process, the system was never meant or designed to replace critical functions that only humans can complete. For example, designated district officials still need to open and review permit applications; area engineers and maintenance supervisors still need to provide feedback to establish the feasibility of the proposed installation; and maintenance inspectors still need to meet with utility owner representatives to discuss specific issues related to the proposed installations or to address problems in the field. District officials also need to close out permit records. Likewise, although UIR is a useful management tool, it does not address structural limitations of the permitting process, e.g., those dealing with not having enough personnel to conduct effective inspections in the field. District officials frequently complain that the number of maintenance inspectors is not enough, and that a daily reality is inspectors having too many responsibilities and assignments, which negatively affects their effectiveness in the field.

The utility permitting process tends to be concentrated, with a relatively low number of utility owners submitting huge numbers of permit applications every year. TxDOT is responsible for reviewing, processing, and approving utility permit applications on the state right of way. In some isolated instances, TxDOT has transferred the responsibility for complete right of way maintenance responsibilities to a local jurisdiction. In this case, the local jurisdiction also manages the utility permitting process according to its own standards, regulations, and procedures.

DRIVEWAY PERMITTING PROCESS

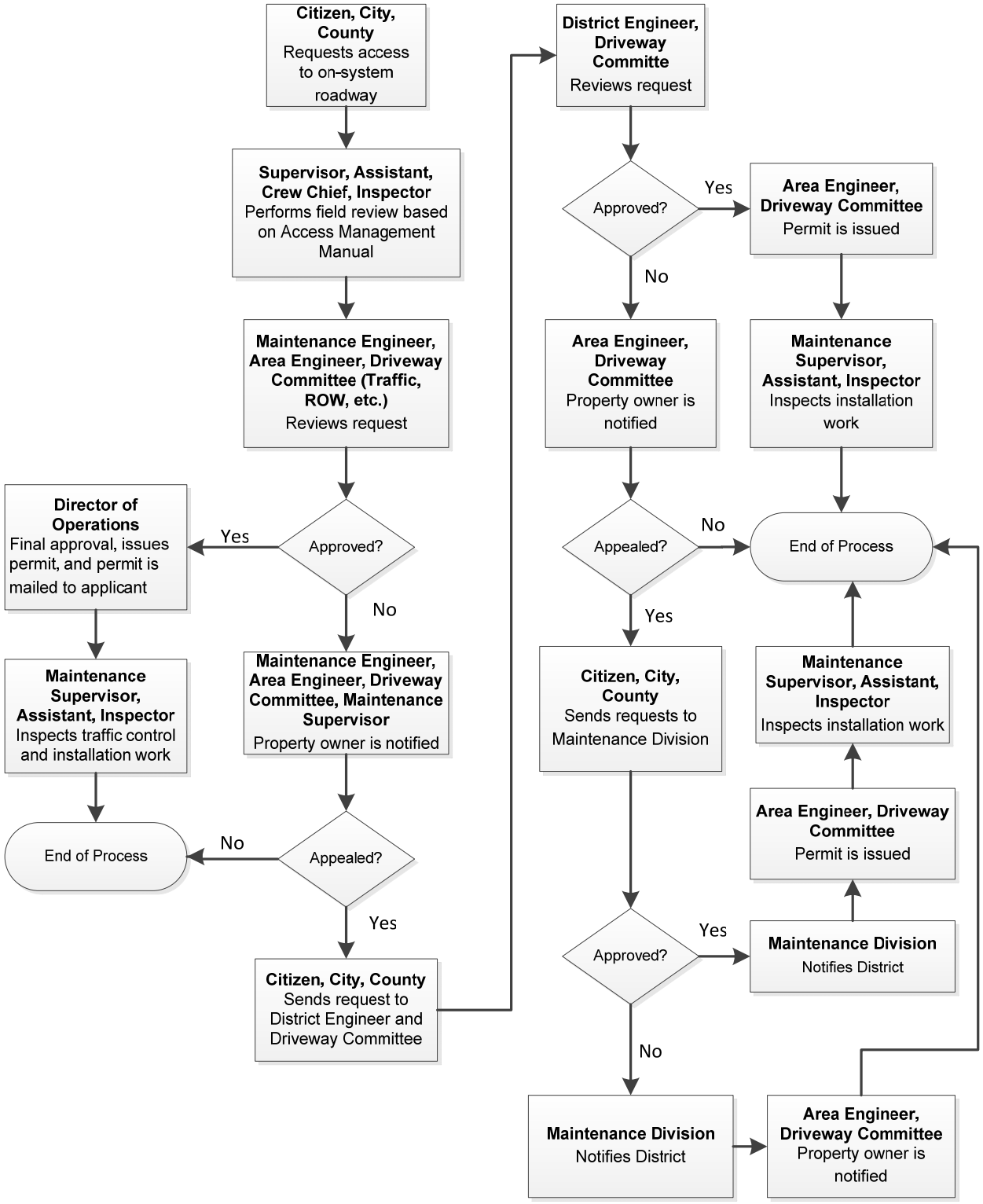
The TxDOT *Access Management Manual* includes requirements for driveway spacing, design, and other considerations for a wide range of applications, including residential and commercial applications, as well urban and rural environments (*5*). The *Access Management Manual* includes references to a number of other publications, including the TxDOT *Roadway Design Manual* (*6*) and TxDOT's bridge standards for safety end treatments (*7*), as well as federal and state accessibility guidelines.

Figure 3 shows a diagram of the typical driveway permit workflow at TxDOT, according to information that the Maintenance Division provided. As in the case of the utility permitting process, reviewing and approving access permits at most districts involve personnel such as the maintenance director, area engineers, and maintenance supervisors and inspectors. As needed, additional personnel may be involved, such as traffic engineers, road design and drainage specialists, and right of way personnel. Access permits involve the use of a standard TxDOT form (Form 1058) and one or more attachments to support the application. There may be additional documents attached to the permit file, usually in the form of comments, notes, and provisions that TxDOT personnel prepare.

There are significant differences between the utility permitting workflow and the access permitting workflow. For example, the access permitting process involves a large number of permit applications from private citizens. The distribution of private citizen-generated versus agency-generated access permit applications is not clear. However, according to information from Maintenance Division officials in 2010, probably around 90 percent of driveway permits are simple permits, and it is possible that private citizens submit a significant proportion of these applications. The remaining 10 percent of driveway permits are complex permits that require substantial time and effort to review and process.

According to new TxDOT requirements (released in August 2013), a traffic impact analysis (TIA) is required for non-residential driveways (e.g., large commercial and industrial driveways) connected to major traffic generators (Appendix A). The new process identifies cases in which a TIA can be waived. Because of this requirement, districts started collecting a supplemental form from applicants, i.e., the Commercial and Industrial Driveway Access Request Form (Appendix B) along with the traditional Form 1058 for driveway permit applications to determine if a TIA is necessary. However, the review practice after determining the need for TIA varies among districts. For instance, the Bryan District performs the TIA internally, whereas the San Antonio District requests the applicant to perform the TIA and then determines the need for appropriate engineering measures such as left-turn or right-turn lanes. This process of managing the new TIA requirements is still evolving as districts are moving toward standardizing the procedure.

The number of access permit applications by the same applicant varies widely, from only one or two permit applications over a lifetime (e.g., in the case of private citizens or individual business owners) to many (e.g., consultants who specialize in this type of work).



Note: Adapted from diagram provided by the TxDOT Maintenance Division

Figure 3. Driveway Permit Workflow at TxDOT.

As opposed to the utility permitting process, some local jurisdictions have entered into agreements with TxDOT to manage the driveway permitting process along certain state highways within the area of jurisdiction of the local authorities.

TxDOT does not have an automated system to receive, review, and approve access permit applications. All access permit applications need to be processed by hand. As in the case of utility permits, TxDOT does not have a permit fee structure for access permits. According to TxDOT estimates, districts processed 8,740 permits in FY 2012 (Appendix C).

DATA COLLECTION AND PROCESSING METHODOLOGY

The researchers followed a four-pronged approach for the collection of utility and driveway permit data:

- Data from the UIR system.
- Interviews with officials from TxDOT, municipalities, and other jurisdictions.
- Web-based utility and driveway permit activity logger.
- Data from the Maintenance Management Information System (MMIS) and other financial data systems at TxDOT.

This approach was necessary because no single system or business process at TxDOT contained all the information needed to characterize utility and driveway permit time and cost data reliably. As Figure 4 shows, the researchers obtained sample utility and driveway permit data and validated the data against these multiple sources. Next, the researchers prepared an assessment of permitting costs for utility and driveway permits and consulted with district officials to determine the validity of the cost estimates. The regional stakeholder workshops provided an additional opportunity to review and fine-tune the cost estimates.

The following sections describes the data collection process for each of the data sources in more detail.

UTILITY INSTALLATION REVIEW SYSTEM

UIR provides a wealth of information about the utility permitting process at TxDOT. For example, the TxDOT interface enables TxDOT users to review and forward installation requests to relevant stakeholders (other TxDOT users and installation owner request applicants), approve or reject pending installation requests, document the construction inspection process, select and view historical installation request data from all installation owners, and manage installation owner and TxDOT accounts. It also provides summary views documenting the status of any utility permit application on the system (Figure 5).

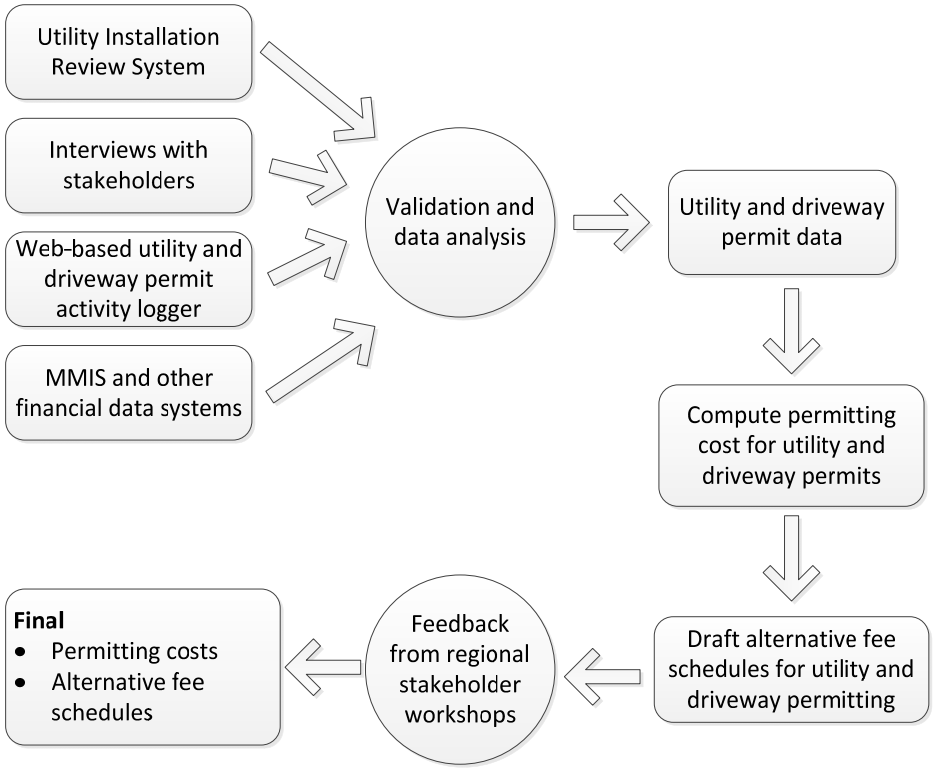


Figure 4. Data Collection and Processing Methodology.

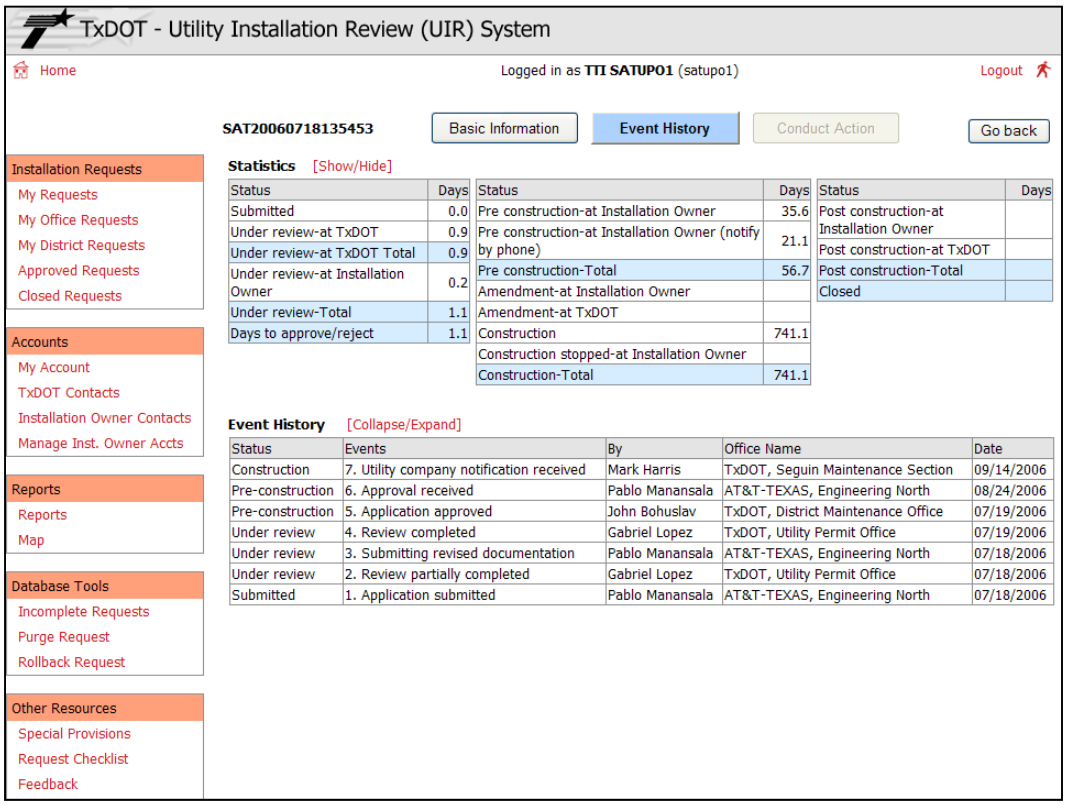


Figure 5. Sample UIR Interface Screenshot.

For this study, the researchers queried the UIR system to obtain data on the number of utility permits processed in the last few years at various levels of data disaggregation. UIR enables the collection and analysis of data about events, time stamps, and documents throughout the lifetime of a utility permit. As a result, it is possible to develop a detailed history of all permit events. Table 1 shows the total number of utility permits submitted and approved every month from fiscal year (FY) 2006 through FY 2013. It is not necessary that the number of permits submitted is always greater than the number of approved permits in the same month, due to possible backlog of permits waiting for documentation. The last row in the table shows the percentage of approved permits with respect to the number of utility permits submitted. As noted, the overall approval percentage is about 90 percent.

Table 1. Number of Utility Permits Submitted and Approved through UIR.

Submitted Utility Permits									
Month		FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
	Sept	11	199	396	456	585	1,053	1,231	1,350
	Oct	43	266	535	557	599	1,078	1,357	1,589
	Nov	50	242	418	416	576	948	1,144	1,273
	Dec	70	210	375	405	545	815	1,100	1,169
	Jan	60	243	569	489	533	1,312	1,410	1,521
	Feb	72	298	504	516	590	1,234	1,357	1,516
	Mar	62	321	569	548	679	1,413	1,512	1,496
	Apr	80	283	634	545	759	1,268	1,485	1,758
	May	81	340	569	482	709	1,345	1,543	1,787
	Jun	84	359	529	535	740	1,436	1,401	1,646
	Jul	128	356	547	531	828	1,234	1,473	1,761
	Aug	213	433	527	448	1,107	1,485	1,633	1,837
Total		**954**	**3,550**	**6,172**	**5,928**	**8,250**	**14,621**	**16,646**	**18,703**
Approved Utility Permits									
Month	**Sept**		177	358	442	521	989	1,175	1,363
	Oct	41	248	471	490	572	1,010	1,195	1,496
	Nov	29	224	431	405	512	871	1,123	1,177
	Dec	38	190	343	418	539	796	1,010	1,123
	Jan	63	213	468	490	443	983	1,242	1,350
	Feb	70	266	473	485	542	1,185	1,292	1,372
	Mar	43	291	541	493	685	1,263	1,431	1,445
	Apr	57	294	538	503	635	1,166	1,326	1,567
	May	51	264	534	461	700	1,255	1,553	1,738
	Jun	77	317	547	522	667	1,371	1,166	1,433
	Jul	110	293	499	484	760	1,097	1,352	1,593
	Aug	189	415	502	463	997	1,464	1,479	1,737
Total		**768**	**3,192**	**5,705**	**5,656**	**7,573**	**13,450**	**15,344**	**17,394**
% Approved		**81**	**90**	**92**	**95**	**92**	**92**	**92**	**93**

UIR was first deployed in 2005 at the San Antonio and Pharr Districts. Shortly after that, the Fort Worth and Bryan Districts went online. Over time, TxDOT has deployed UIR throughout the state. Table 2 provides a summary of utility permit applications submitted from FY 2006 through FY 2013. Table 3 provides a summary of utility permits approved for each fiscal year since 2006.

Table 2. Utility Permit Applications Submitted through UIR per Fiscal Year.

District	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Abilene					36	263	389	450
Amarillo					54	213	285	474
Atlanta					4	320	403	341
Austin				53	581	671	728	984
Beaumont					25	241	267	420
Bryan		95	457	406	401	443	421	517
Brown Wood					16	165	173	228
Childress					4	71	168	140
Corpus Christi					84	712	916	812
Dallas					474	1,008	1,157	1,414
El Paso						211	366	389
Fort Worth		115	1,217	960	843	992	894	1,057
Houston		2	452	1,045	1,183	1,383	1,486	1,504
Lubbock					112	420	494	609
Lufkin					48	416	386	420
Laredo					62	393	497	596
Odessa					3	247	763	636
Paris					17	404	470	594
Pharr	87	1,498	1,957	1,656	1,831	1,569	1,595	1,896
San Antonio	867	1,840	2,089	1,808	2,072	2,230	2,467	2,782
San Angelo					5	113	348	365
Tyler					44	792	620	662
Waco					263	352	409	423
Wichita Falls					42	315	428	422
Yoakum					46	677	516	568
Total	**954**	**3,550**	**6,172**	**5,928**	**8,250**	**14,621**	**16,646**	**18,703**

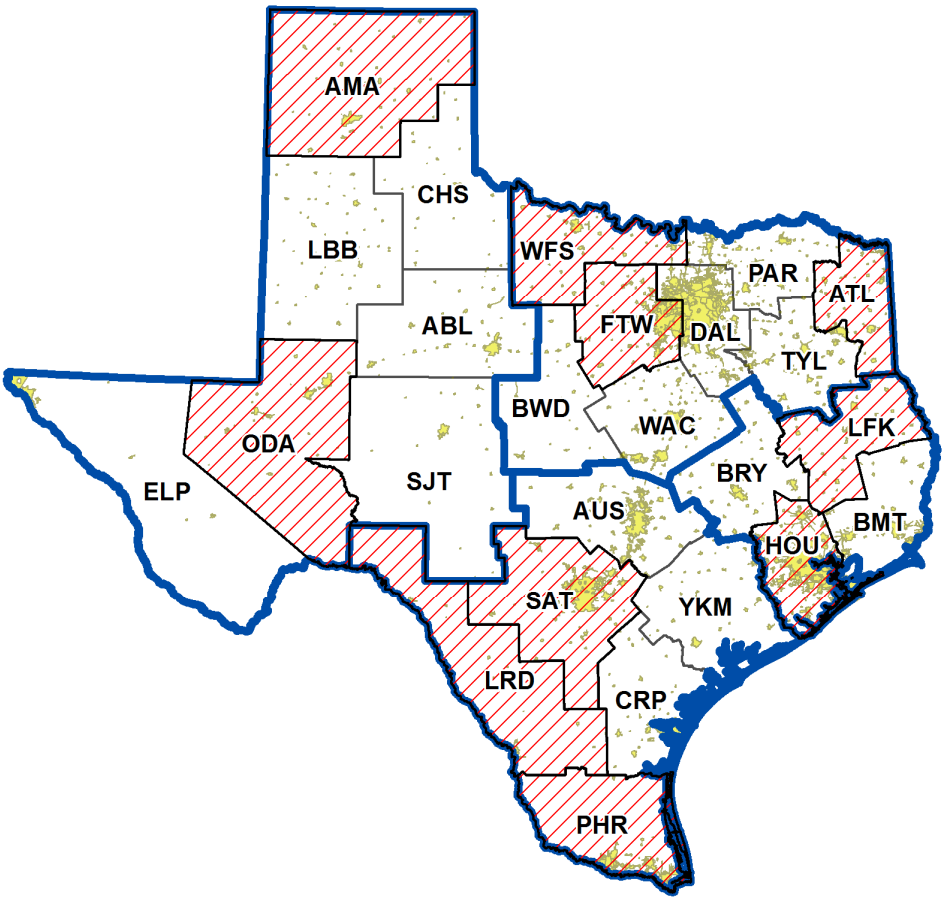
Table 3. Utility Permits Approved through UIR per Fiscal Year.

District	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Abilene					24	238	351	414
Amarillo					44	207	248	461
Atlanta					3	302	367	283
Austin				38	546	620	636	928
Beaumont					23	192	245	362
Bryan		65	404	403	373	400	388	456
Brown Wood					6	169	170	222
Childress					4	68	163	141
Corpus Christi					68	608	819	720
Dallas					419	888	979	1,278
El Paso						170	330	343
Fort Worth		83	1,161	962	790	942	854	989
Houston			408	989	1,106	1,293	1,361	1,351
Lubbock					86	403	453	578
Lufkin					42	386	362	372
Laredo					47	379	467	550
Odessa					1	203	726	620
Paris					15	363	452	587
Pharr	57	1,422	1,811	1,518	1,733	1,569	1,454	1,782
San Antonio	711	1,622	1,921	1,746	1,891	1,959	2,293	2,611
San Angelo					1	110	334	357
Tyler					42	768	618	647
Waco					236	318	381	390
Wichita Falls					31	289	395	415
Yoakum					42	606	498	537
Total	**768**	**3,192**	**5,705**	**5,656**	**7,573**	**13,450**	**15,344**	**17,394**

As mentioned, UIR enables the collection and analysis of data about events, time stamps, and documents throughout the lifetime of a utility permit. As a result, it is possible to develop a detailed history of all permit events. However, UIR does not track the actual time or other resources that TxDOT officials spend during each of those events. The researchers gathered this type of data through the other mechanisms shown in Figure 4 to complement the information gathered through UIR.

INTERVIEWS WITH STAKEHOLDERS

In coordination with TxDOT, the researchers selected 10 districts across the state to account for different locations (e.g., east, west, north, and south regions) and district types (metropolitan, urban, and rural). Figure 6 shows the locations of the 10 districts that the researchers visited.



District	Type			TxDOT Region			
	Metro	Urban	Rural	N	S	E	W
Fort Worth	●			●			
Houston	●					●	
San Antonio	●				●		
Amarillo		●					●
Laredo		●			●		
Odessa		●					●
Pharr		●			●		
Atlanta			●	●			
Lufkin			●			●	
Wichita Falls			●	●			
Total	**3**	**4**	**4**	**3**	**3**	**2**	**2**

Figure 6. TxDOT Districts Selected for Interviews.

The researchers scheduled the 10 district visits between November 2012 and February 2013. In most cases, the researchers also met with representatives of a sample of local municipalities and other jurisdictions. Appendix D includes a summary of the topics and questions used during the various interviews. The main objectives of these interviews were as follows:

- To collect information about utility and driveway processing time and other resources and costs at TxDOT.
- To request sample documentation relevant to the assessment of utility and driveway processing time and other resources and costs.
- To gather feedback on the feasibility of, or experience with, transferring permitting functions to municipalities.

Lessons Learned—TxDOT

Utility Permitting

Major lessons learned during the interviews with TxDOT officials included the following:

- **Varying practices.** There are variations in utility permitting practices across districts due to factors such as type of district, number of permits received, and staff availability. Table 4 shows these variations reflected in differences in full-time equivalent (FTE) personnel who are involved in utility permitting activities. For example, the Fort Worth District (a metro district) assigns a central reviewer who scrutinizes a utility permit application using a checklist. The reviewer determines whether to flag the permit for additional review and identifies the district officials who need to provide that review.

  At the Laredo District (an urban district), the district utility permit coordinator routes the permit request to the corresponding maintenance supervisor for review. The maintenance supervisor then compares the installation information on the request with field information and sends the request along with any comments to the corresponding area engineer through UIR. The area engineer reviews the request, and then sends it to the Director of Maintenance for final approval.

  At the Atlanta District (a rural district), area engineers and other staff outside the district office handle utility permits. District staff members get involved with utility permitting only if there is an issue in the field. In the typical process, the main contact point for utility permits routes the permits to the appropriate section. Typically, permits are routed first to the design section, which forwards the permit request to the maintenance section, and finally the area engineer.

- **Insufficient number of inspectors.** Districts highlighted a need for more inspectors in order to conduct effective, high-quality inspections. The number of FTEs required to perform adequate inspection varies among districts. For example, the Amarillo District

estimated an additional 0.25 FTEs would be required for adequate inspection, whereas a metro district such as Fort Worth estimated an additional three FTEs would be required.

Table 4. FTEs Involved in the Utility Permitting Process.

District	Reported FTEs in Interviews
Amarillo	2.5
Atlanta	n/a
Fort Worth	5.5
Houston	9.0
Laredo	3.2
Lufkin	3.0
Odessa	2.2
Pharr	5.1
San Antonio	n/a
Wichita Falls	2.3

- **Paper permits.** Most districts use UIR for regular permits. However, some districts issue a small number of temporary permits on paper format, e.g., for temporary saltwater pipes that the oil and gas industry uses, because UIR does not include the functionality to process temporary permits. The number of temporary permits varies widely. For example, the Odessa District processes some six temporary permits per year whereas the Laredo District processes close to 50 paper permits per year. Note that Senate Bill 514, enacted into law by the Texas Legislature in 2013, enables saltwater pipeline operators to lease the right-of-way of public roads where the pipelines are installed (*8*).

- **Temporary permits and illegal utility installations.** According to TxDOT officials, a major challenge is unpermitted water pipes that the oil and gas industry install on the right of way. These installations (which include booster pumps, water pipes, and other elements) occupy the right of way in a manner that can be detrimental to the integrity of the cross section and the safety of the traveling public. District officials expressed concern that some of the temporary installations appear to be in conflict with TxDOT's own safety standards and guidelines, e.g., the *Use of Right of Way by Others Manual* (*9*).

- **Permit application quality.** District officials complained that applications often do not meet TxDOT's requirements for information and supporting materials. Such applications are returned to the corresponding utility owners for resubmission, resulting in significantly longer processing times. Some utility owners involve consultants, resulting in another layer of communication. Consultants unaware of installation requirements (e.g., depth of cover and pavement cuts) further contribute to permitting delays.

- **UIR system.** Districts reported a number of issues with the UIR system and offered a few ideas and recommendations. For example, users noted that the UIR map did not function well and frequently gave errors when locating an installation on the map. Users

also noted that UIR was sometimes slow due to network speed issues, and the PDF-generating component often stopped working. Some applicants also reported compatibility issues and needed TxDOT's assistance when submitting requests.

District officials recommended adding a function to enable routing a permit request to multiple TxDOT users. Such a function would avoid delays caused by out-of-office users without updating their user status on the UIR system. Districts indicated a need for updated UIR training materials and an online UIR training course. District officials indicated that the current file limits (each permit application can accept up to five files, each one up to 5 MB in size) in the UIR system is not high enough to upload all the required files for long installations. Districts recommended increasing these limits.

Driveway Permitting

Major lessons learned during the interviews with TxDOT officials included the following:

- **Processing.** Most districts use the same review process for both residential and non-residential driveway permits, although the latter typically involves more reviews and takes longer to process. Depending on driveway location and type, districts might require applicants to submit a hydraulic study and/or traffic impact analysis. However, this requirement is determined on a case-by-case basis and there is no standard criterion to facilitate the determination. As mentioned, new requirements established in 2013 are an attempt to standardize practices in this regard (Appendix A, Appendix B).

- **Field inspections.** Districts are unable to inspect all permit applications due to a lack of maintenance inspectors. Ideally, a field visit prior to construction should be followed by at least one inspection trip during and/or after construction before issuing a permit.

- **Inconsistency in applications.** Most districts complained about inconsistencies in drawings and other information that applicants submit. There are cases when applicants do not submit engineering drawings or the drawings do not meet engineering standards.

- **Lack of online driveway permitting system.** Districts recommended the implementation of a web-based driveway permitting system similar to UIR, but cautioned that the system should have the capacity to handle large numbers of engineering drawings involved in a typical application.

- **Coordination with cities.** Districts coordinate with cities to solve issues that might arise in connection with the proposed driveway installation, but practices vary throughout the state. There are differences in local ordinances (e.g., ordinances that pertain to drainage requirements), which in some cases are in conflict with current TxDOT requirements.

- **Proactive driveway permitting.** It is common for districts to work with developers early to identify the best driveway locations or consolidate unnecessary driveways before the applicant submits the formal driveway permit application.

- **Illegal driveway installations.** District officials indicated that illegal or unpermitted driveways pose a safety risk to traffic. Enforcing driveway and access standards is a challenge for most districts.

- **Definition of residential and non-residential driveways.** There were inconsistencies in the definition of residential and non-residential driveways among districts.

Lessons Learned—Municipalities and Counties

Major lessons learned during the interviews with city and county officials included the following:

- **Access management policy.** Counties and cities either have their own access management policy or use TxDOT's access management policy. A few cities do not have an official access management policy but work with TxDOT to ensure the standard of driveways built within the city limits. Some city officials believe their policy is more stringent than the current TxDOT access management policy (e.g., Missouri City), whereas some other cities stated that their policy is lenient compared to TxDOT's access management policy (e.g., City of Longview).

- **Permit issuance.** Some cities require all utility and driveway installations within the city limits to obtain a permit from the city. As a result, utility owners need to obtain a permit or approval from both TxDOT and the city for installations on state highway right of way that is located within city limits (e.g., City of Laredo and City of Houston).

- **Franchise agreements.** It is common for franchised utility companies to not have to apply for a city permit when installing utility infrastructure on public rights of way. Franchised utility owners do need to apply for a utility permit from TxDOT if the installation is located on the state highway right of way, but it is within city limits.

- **Variances.** Some cities have reached agreements with TxDOT to issue driveway permits on state highway right of way within city limits. Those cities follow TxDOT's access management guidelines or their own guidelines if they are at least as stringent as those at TxDOT. In cases where developers or property owners request a variance from the guidelines, it is common for city and TxDOT staff to work together to develop a suitable compromise.

- **Fee alternatives.** Local jurisdictions regularly charge fees to review and issue permits. There is a wide range in permit fees that cities and counties charge. Some counties and cities use a flat fee structure for utility and driveway-related fees. Other jurisdictions use a chart of progressive costs. For example, Harris County charges a flat fee of $100 for residential driveway permits, Missouri City uses a progressive chart based on construction value for a fee, and the City of McAllen does not charge permitting fees. Appendix E provides additional details on permit fees that cities and counties charge.

Other State Agencies in Texas

The researchers reviewed the permitting process and fees at other state agencies in Texas. The review included oil and gas drilling permits at the Railroad Commission of Texas (RRC), oversize and overweight (OS/OW) permits at the Texas Department of Motor Vehicles (TxDMV), driver licensing at the Texas Department of Public Safety (DPS), and environmental permits at the Texas Commission on Environmental Quality (TCEQ).

RRC processes and manages several types of licenses and permits pertaining to energy exploration and mining-related activities. The Texas Administrative Code lists the fees that RRC levies for oil and gas drilling permits (*10*). RRC charges a permit fee between $200 and $300 for an oil/gas drilling permit depending on well depth. RRC also levies a $15 fee for the use of their online permitting portal, a $150 fee if requesting expedited processing, and a fee varying from $150 to $200 for each application of an exception to a TAC rule. In addition, RRC charges a fee ranging from $100 to $300 for applications of other permits related to oil and gas explorations, such as injection well permits, permits to discharge to surface water, and oil and gas waste hauler permits.

TxDMV handles a wide range of OS/OW permits (*11*). Table 5 summarizes the processing fees associated with these permits. TxDMV uses the Texas Permitting and Routing Optimization System (TxPROS).

DPS is responsible for processing and managing driver licenses and driver records (*12*). The agency charges a fee between $21 and $121 for each initial issuance or renewal of a commercial driver license. A fee between $6 and $25 is charged for each examination, initial issuance, renewal, or replacement of other licenses. The agency also charges a fee ranging from $4 to $20 for processing and issuing a driver record. A processing fee between $0.50 and $2 is also levied for each online order of a driver record.

TCEQ processes and manages a large variety of permits and licenses. Table 6 lists some examples of permits at TCEQ and their associated application fees.

Table 5. TxDMV OS/OW Permit Fees (*11*).

Permit Type	Permit Fee
General single-trip permit	$60 permit fee + highway maintenance fee
Single-trip mileage permit for cranes and well servicing units	A minimum fee of $31
Single-trip manufactured housing	$40
Single-trip portable buildings and portable building compatible cargo	$15. If portable building unit compatible cargo is transported, the department will also collect an additional fee equal to the regular single-trip permit fee.
Single-trip super-heavy vehicles and loads	$60 permit fee + highway maintenance fee + vehicle supervision fee
30-, 60-, and 90-day time permit	$120, $180, and $240, respectively
Annual envelope permit	$4,000
Annual fracking trailer permit	$52 or $104 per axle based on the products hauled + $20 issuance fee
Annual hay permit	$10
Quarterly hubometer permit	A minimum fee of $31
Annual implement of husbandry permit	$270 + highway maintenance fee
Annual manufactured housing permit	$1,500
Annual crane permit	$100
Annual oil well servicing unit permit	$52 per axle
Annual over axle/over gross weight tolerance permit	$95 + county fees
Annual rig-up truck permit	$52
Annual utility pole permit	$120
Annual water well drilling machinery and equipment permit	$270 + highway maintenance fee

Table 6. Application Fees for Sample Permits at TCEQ (*13*).

Permit type	Permit Application Fee
Permits for wastewater treatment or discharge	A minimum fee of 1,250 for an active permit or $620 for an inactive permit, combined with an annual fee
Standard air permits	$900
Air permits by rule	$100 for small businesses, non-profit organizations and municipalities, counties, and small independent school districts, and $450 for all other entities
Waste disposal well permits	$100 if no hazardous waste or $2,000 otherwise
Wastewater disposal permits	$100–$2,000 depending on purpose (e.g., domestic or industrial) and application type (e.g., new, amendment, or renewal)

WEB-BASED UTILITY AND DRIVEWAY PERMIT ACTIVITY LOGGER

The researchers developed a web-based logger to facilitate the process of gathering information about time and other resources that districts spend in processing driveway and utility permits. This logger enabled district officials who are involved in the permitting process to record the time they spend (and use of other resources such as vehicles) reviewing, approving, inspecting, documenting, and archiving a representative sample of actual driveway and utility permits at TxDOT. The website followed the workflow shown in Figure 7. Figure 8 and Figure 9 show sample screenshots of the web-based activity logger.

The researchers provided training on the use of the web-based logger to all the districts where interviews took place. Each district was instructed to log all activities in connection with 10–15 utility permits and 10–15 driveway permits that district officials consider typical. Ideally, districts were supposed to log all activities starting with the initial receipt of the permit application, including preliminary meetings or discussions, and ending with the permit closeout. The web-based data collection continued for seven months, primarily because in the case of driveway permits, it usually takes several months between the initial review and the time when a permit application is ready for approval.

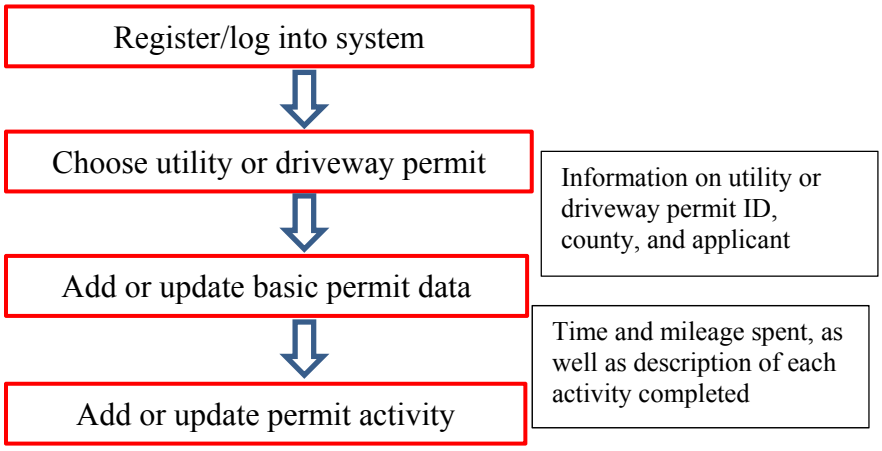


Figure 7. Permit Activity Logger Workflow.

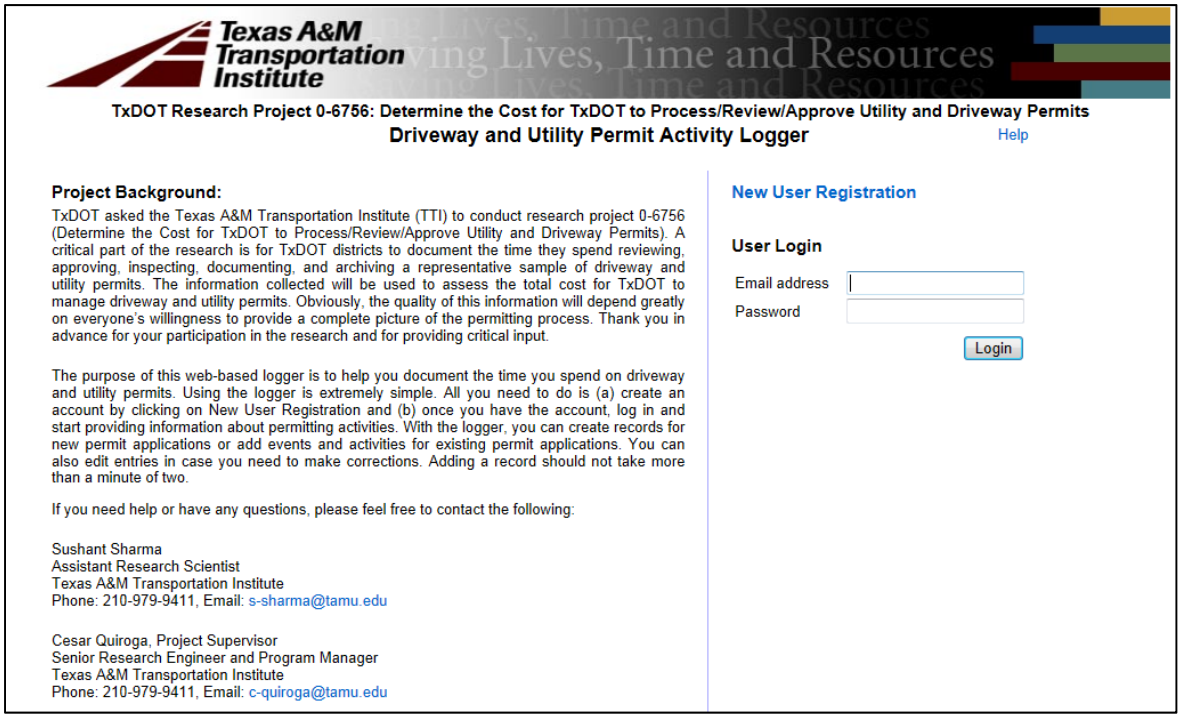


Figure 8. Logger Home Page.

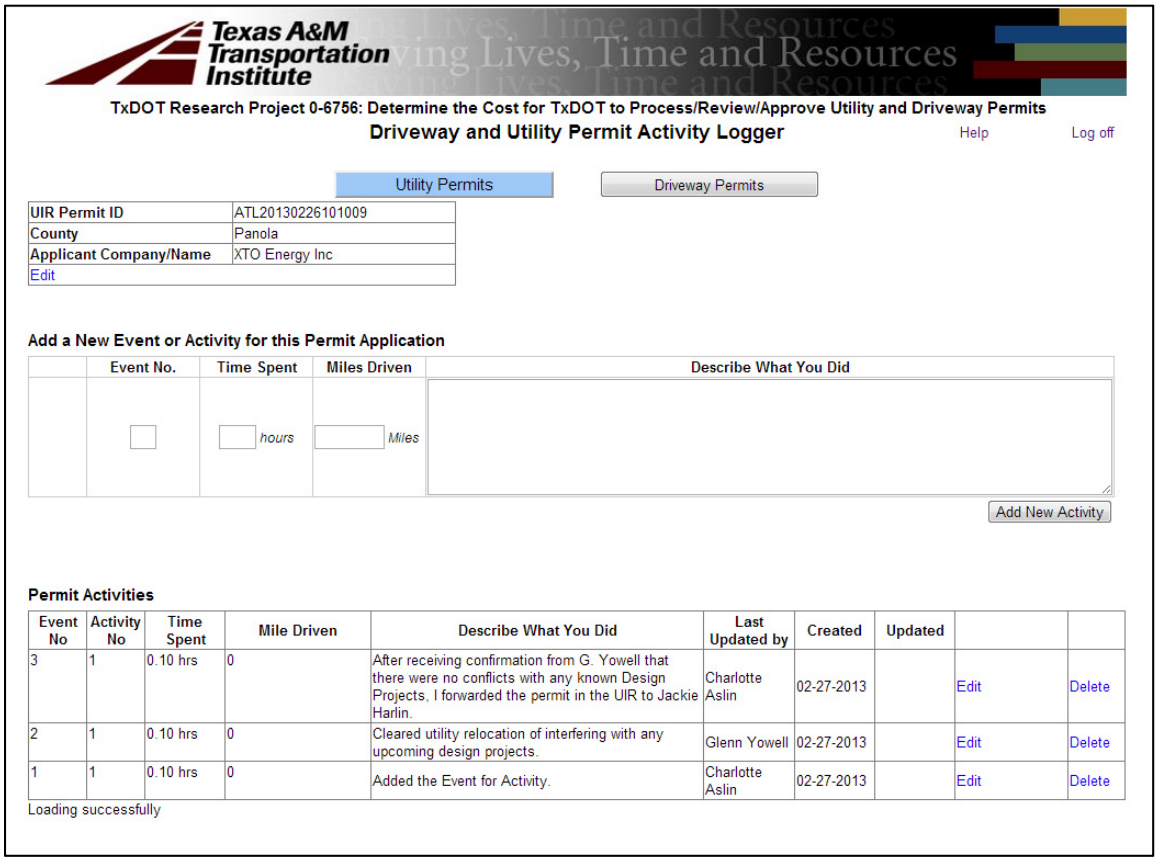


Figure 9. Sample Utility Permit Activities—Atlanta District.

MMIS AND OTHER FINANCIAL DATA INFORMATION

MMIS is an online platform that collects data on routine maintenance functions, generates reports relating to maintenance costs, and maintains an inventory of state-maintained highways. The system also collects expenditure data on labor costs, material costs, and equipment costs based on specific function codes.

A function code of interest to this research is function code 591, which pertains to utility and driveway inspections. This is the function code that district maintenance personnel use to log time and distance driven during the course of driveway and utility inspections. Only district maintenance personnel use this function code. Other officials, such as district office personnel, district maintenance engineers, and area engineers do not charge their time to function code 591. Instead, they charge their time, including overhead, to other function codes, making it difficult to extract (from MMIS alone) how much of their time is spent on utility or driveway permitting activities. In practice, field maintenance personnel divide their time among a variety of functions, two of which may be driveway or utility inspections. At this point, it is not clear whether the time and resources charged to function code 591 in MMIS correspond to an actual account of resources spent exclusively on driveway and utility inspections, or whether those expenditures reflect some level of activity grouping. An example of activity grouping would be if a specific field trip includes inspecting several driveway locations and utility crossings, as well as culverts and traffic signs, but the only function code used is 591.

Figure 10 is a typical example of an MMIS report that shows cumulative monthly expenditures by cost category (i.e., labor, materials, equipment, contractor costs, and overhead). Table 7 shows a summary of function code 591 expenditures throughout the state from 2008 through 2012.

MMIS.690_ (MMMS003) — TEXAS DEPARTMENT OF TRANSPORTATION — MAINTENANCE MANAGEMENT INFORMATION SYSTEM — PAGE 19 — 08/26/2011

EXPENDITURES BY FUNCTION CODE - DATA:FIMSTRM
DISTRICT REPORT
YEAR TO DATE (FY 2011)

DISTRICT: 19 (ATLANTA)

MONTH	LABOR $AMOUNT$	MATERIAL $AMOUNT$	EQUIPMENT $AMOUNT$	CONTRACTOR $AMOUNT$	MISC $AMOUNT$	OVERHEAD $AMOUNT$	CONTRACT PREP $AMOUNT$	TOTAL EXCL-OH $AMOUNT$	TOTAL INCL-OH $AMOUNT$
FUNCTION CODE: * 591 - NON MMIS FUNCTION CODE UTILITIES/DRIVEWAY INSPECTION									
SEP	14,490.55	0.00	3,448.98	0.00	0.00	3,765.35	0.00	17,939.53	21,704.88
OCT	14,532.43	0.00	3,101.52	0.00	0.00	3,469.21	0.00	17,633.95	21,103.16
NOV	15,695.66	0.00	3,040.50	0.00	0.00	5,932.27	0.00	18,736.16	24,668.43
DEC	12,358.36	721.00	3,384.10	0.00	0.00	5,459.79	0.00	16,463.46	21,923.25
JAN	13,604.57	0.00	2,204.88	0.00	0.00	5,763.79	0.00	15,809.45	21,573.24
FEB	12,246.07	0.00	2,410.54	0.00	0.00	3,742.19	0.00	14,656.61	18,398.80
MAR	12,696.39	0.00	3,012.85	0.00	0.00	3,337.55	0.00	15,709.24	19,046.79
APR	18,130.00	0.00	3,138.90	0.00	0.00	4,338.62	0.00	21,268.90	25,607.52
MAY	16,138.02	0.00	3,282.76	0.00	0.00	3,389.79	0.00	19,420.78	22,810.57
JUN	16,712.60	0.00	2,561.69	0.00	0.00	3,651.32	0.00	19,274.29	22,925.61
JUL	16,225.80	0.00	3,361.20	0.00	0.00	3,480.20	0.00	19,587.00	23,067.20
AUG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	162,830.45	721.00	32,947.92	0.00	0.00	46,330.08	0.00	196,499.37	242,829.45

Figure 10. MMIS Report Showing Function Code 591 Expenditures—Atlanta District.

Table 7. Statewide Function Code 591 Expenditures.

FY	Labor	Material	Equipment	Contractor	Misc	Overhead (OH)	Contract Prep	Total Excl-OH	Total Incl-OH
2008	$3,098,920	$6,032	$820,238	$0	$2,745	$1,135,518	$0	$3,927,935	$5,063,453
2009	$3,267,746	$3,347	$824,018	$10,737	$1,723	$1,209,685	$138	$4,107,709	$5,317,394
2010	$3,230,363	$3,193	$782,527	$0	$1,759	$1,282,340	$0	$4,017,842	$5,300,182
2011	$3,411,065	$2,527	$807,467	$5,416	$7,250	$1,133,384	$0	$4,233,724	$5,367,109
2012	$3,445,448	$1,629	$879,903	$0	$1,629	$953,652	$0	$4,328,609	$5,282,261

In addition to aggregated data from MMIS for the last five fiscal years, the researchers collected more disaggregated cost information. Examples of disaggregated cost data include items such as equipment rates, office space rates, and typical salary rates of people involved in the permitting process (such as area engineers, maintenance supervisors, maintenance inspectors, maintenance engineers, assistance maintenance engineers, permit officers, and technicians). The researchers used these costs to derive the cost of utility and driveway permitting to TxDOT.

REGIONAL STAKEHOLDER WORKSHOPS

As shown in Figure 4, the researchers used data from UIR, interviews with districts and local jurisdictions, the web-based logger, and MMIS and other financial systems to develop an estimate of the administrative cost to review and process utility and driveway permits at TxDOT. The researchers also consulted with district officials to determine the validity of the cost estimates.

Four regional stakeholder workshops provided an additional opportunity to review and fine-tune the cost estimates. Prior to scheduling the workshops, the researchers consulted with the directors of the Right of Way, Maintenance, and Design Divisions as to the objective and expected outcome of the workshops. The workshops took place at the regional support centers in Fort Worth, Houston, Lubbock, and San Antonio. The general workshop agenda was as follows (Note: the starting time varied by location):

- 8:30–8:45 Welcome, introductions, and stakeholder workshop objectives
- 8:45–9:45 Presentation of partial research findings
- 9:45–10:00 Break
- 10:00–11:00 Open discussion about permit process, costs, and potential fee alternatives
- 11:00–11:45 Open discussion about transfer of permitting functions to municipalities
- 11:50–12:00 Next steps and wrap-up

Overall, the workshops confirmed what districts had already indicated in the earlier interviews. Chapters 4, 5, and 6 describe in more detail how the workshops played a role in this process. In

general, workshop participants did not have major questions about the administrative cost estimates. Most of the feedback received at the workshops focused on the feasibility and implications of establishing permit fee structures, as well as the feasibility of transferring permitting functions to municipalities, as follows:

- The number of inspections required to ensure permit compliance, whether for driveway or utility permits, is a good indicator of permit complexity. In general, as the number of required field visits by a TxDOT inspector increases, the permit complexity is likely to increase as well.

- A tiered fee structure designed to capture the complexity of the review and inspection associated with a permit application is conceptually sound, but more difficult to implement in practice. Most district workshop participants favored a simple permit fee structure in which fees are either the same across the board or are based on a limited number of clearly defined options. One of those options could be the number of required inspections (see previous bullet). Another option could be charging the same amount as the original application if there is a need for subsequent reviews after the original approval, e.g., if the technical characteristics of the proposed installation change or the applicant let the old permit expire (instead of charging a variable percentage of the original fee depending on the nature of the additional review). For longitudinal utility installations that span multiple maintenance sections or highway corridors, districts would like to maintain the current practice of dividing a permit application by maintenance office and highway corridor involved.

- Non-residential driveway permit applications typically require more resources than residential driveway permit applications. A robust definition of what constitutes a non-residential driveway is necessary to ensure uniform consistency of the permitting process across the state.

- Implementing fees for utility and driveway permits would increase the quality of the permit applications that TxDOT receives. In some cases, applicants submit permit applications that reflect only a preliminary intent to build the proposed installation. Charging a fee would filter out those cases where applications are not sufficiently mature.

- Districts do not have the necessary infrastructure to manage permit fees. Officials cautioned that additional FTEs would be required to administer the monetary transactions associated with permit fee structure. They also indicated that a central office in Austin would be better suited for this activity.

- With the imposition of fees, applicants will probably expect an improved level of service in the form of a more efficient permit review and approval process, including a faster turnaround time for permits. Any permitting fee structure should take this factor into consideration in the form of additional FTEs (e.g., inspectors, engineers), improvements to the UIR system, and the development and implementation of a web-based driveway permitting system.

CHAPTER 3. PERMITTING PRACTICES IN OTHER STATES

INTRODUCTION

This chapter summarizes the existing utility and driveway permitting practices and costs at other agencies, more specifically other state DOTs. It included a comprehensive literature review of practices, complemented by phone interviews with representatives of those agencies, as needed.

UTILITY AND DRIVEWAY PERMITTING PRACTICES IN OTHER STATES

In February 2011, the American Association of State Highway and Transportation Officials (AASHTO) Subcommittee on Right of Way, Utilities, and Outdoor Advertising Control conducted a survey of state DOTs and the District of Columbia related to fees for occupying the state right of way (*14*). Of 34 agencies that responded to the survey, 28 agencies indicated that they do not have utility permit fee structures in place. Seven state DOTs (Alaska, Indiana, California, Maryland, Pennsylvania, Virginia, and Washington State) and the District of Columbia indicated they charge for utility permits. A review of regulations, manuals, and other documentation revealed that most of these seven agencies also charge fees for driveway permits. The researchers contacted these agencies for additional information and documentation of their process. In almost all cases, the researchers conducted phone interviews with representatives of those agencies. The team also interviewed officials from the New Jersey Department of Transportation, which has a permit fee structure in place.

As Table 8 shows, utility and driveway permit fee structures vary widely among state DOTs that charge for utility and driveway permits. Table 8 shows the permit fee structure at the District of Columbia. Additional information about current permit fee structures at these agencies follows.

Table 8. Permitting Fees at Other State DOTs and The District of Columbia.

State	Utility Permit Fees	Driveway Permit Fees
Alaska	Major permit fee: $600. Minor permit fee: $100. Footage fee: $1 per foot. Not to exceed $10,000. First 200 ft. included in permit fee.	Residential or farm driveway permit fee: $100. Residential or farm driveway performance deposit: $500. Commercial property driveway permit fee: Determined upon submission.
California	Fee based on estimated cost for administering and processing the permits. Fees can be fixed, based on experience, or actual, which are determined by involved staff tracking all time spent on the related activities of the permit. State requires a reasonable deposit if using this method. Most permits require a 6-hour minimum deposit unless exempted.	N/A
Indiana	One-time permit fee: $55.	One-time permit fee for private driveway: $55. One-time permit fee for minor commercial driveway: $150. One-time permit fee for major commercial driveway: $600.
Maryland	No fees except under resource sharing for controlled access right of way.	Engineering fee: $50 per access point (waived first access for residential permit). Surety of 150% of estimated construction cost. Engineering fee associated with signal work: $3,500. Inspection fee: Assessed based on costs to the state (initially 15% of net construction cost).
New Jersey	Permit application fee ranging from $50–$900 depending on type of utility installation.	Non-refundable application fees for different types of driveway permits ranging from $5 – $9000.
Pennsylvania	Application fee: $50 ($10 for each extension or change and $5 per emergency permit card). Inspection fee: Based on utility type and length. Additional fees to cover other costs to the state.	Application fee: $15–$50 based on anticipated traffic on driveway and $10 for each extension or change. Inspection fee: $10–$50 based on anticipated traffic on driveway. Additional fees to cover other costs to the state. Miscellaneous fees associated with the permit such as notary and recording costs and the cost of all drainage releases.
Virginia	Single-use permit fee: $100 plus additive fees. District-wide permit fee: $750 for utility and logging operations and $200 for surveying. Miscellaneous fees if applicable.	Single-use permit fee: $100 plus additive fees.
Washington State	One-time fee for permits or franchises depending on the anticipated complexity of the coordination: $50–$500. Reimbursement for additional cost of design or construction of highway structures. Surety as determined by the department.	Permit fee: $50–$4,000 for first driveway, and $50–$1,000 for each additional driveway depending on anticipated traffic. Reimbursement of additional costs to the department as needed.
District of Columbia [1]	Permit fee: $50. Additional fees, including public space occupancy fees, public inconvenience fees, excavation fees, and overhead utility fees.	Permit fee: $50. Additional fees, including public space occupancy fees, public inconvenience fees, and fees for fixtures and paving.

[1] Included in this research because it was one of the jurisdictions that responded to the 2011 AASHTO survey.

Alaska Department of Transportation and Public Facilities (DOT&PF)

DOT&PF charges fees for the review, approval, and amendments of utility permits as outlined in the Alaska Administrative Code (AAC) (*15*). The fee structure, which is intended to recover costs associated with the administration of the utility permitting program, is as follows:

- A $600 nonrefundable fee for major utility installations. Examples include aerial or underground transmission or distribution lines; duct systems; "utilidors" and utility tunnels, including crossings and extensions; appurtenances such as vaults, lift stations, manholes, utility poles, and transformers; crossings or installations requiring boring or trenching; and aerial service lines requiring poles within the highway right of way.

- A $100 nonrefundable fee for minor utility installations and amendments. Examples include aerial service lines not requiring structures within the right of way, underground service lines located outside the highway right of way that connect to existing utility structures within the right way, and amendments to existing permits.

- A non-refundable footage fee (not to exceed $10,000) of $1 per foot of length in excess of 200 ft., if the proposed facility is more than 200 ft. in length.

Prior to 2009, permit fees were $400, $50, and $0.25, respectively.

DOT&PF charges fees for driveway permits as outlined in the Alaska Administrative Code (*16*). The fee structure is as follows:

- A $100 nonrefundable fee and a $500 performance deposit for driveways that are *not* expected to generate more than 100 vehicle trips per hour or that are *not* expected to have a negative impact on highway safety. In practice, this covers most residential and farm driveways. The purpose of the $500 performance deposit is to reimburse DOT&PF for expenses the department incurs when removing an incorrectly installed driveway or when curing defects related to the physical features of the driveway. If the cost to remove or cure is less than $500, DOT&PF reimburses the difference to the applicant. However, if the cost to remove or cure exceeds $500, DOT&PF does not charge the applicant for the difference. The applicant must reimburse the department for any costs associated with the restoration or repairs needed in connection with damages caused to highway structures, such as pavement, drainage, or other appurtenances.

- A retainer fee for driveways that are expected to generate more than 100 vehicle trips per hour or that are expected to have a negative impact on highway safety. The retainer is the lesser of $5,000 or 25 percent of a sum the applicant and DOT&PF have agreed on for the review of the permit application and inspection of applicable mitigation efforts. The department uses the retainer to cover permit review and mitigation inspection fees. After the applicant completes all necessary mitigation efforts, DOT&PF refunds any remaining balance to the applicant. However, if the department exhausts the credit balance, the applicant must pay billings as they are presented. DOT&PF can deny a permit if the applicant fails to pay any billing.

California Department of Transportation (Caltrans)

The California Streets and Highways Code (*17*) authorize Caltrans to control encroachments within state highway right of way and establish a fee structure for issuing right of way encroachment permits. The code also specifies that the fee structure should not produce a total estimated revenue in excess of the estimated total cost for administering and processing the permits. Public corporations are exempted from the fee structure. An encroachment is defined at Caltrans as any structure, object, or special event that is in, under, or over any portion of the highway. An encroachment permit thereby is permissive authority for the permittee to enter state highway right of way to construct approved facilities or conduct specified activities (*18*).

Appendix F lists the types of encroachment permits at Caltrans and the fees associated with the permits. In general, encroachment permit fees are calculated based on the following factors (*18*):

- Administration and inspection hours, which can be one of the following:
    - Set fee hours, which are determined based on experience and are used for certain types of permits.
    - Actual fee hours, which are determined by involved staff tracking all time spent on the related activities of the permit. Caltrans requires a reasonable deposit for project review and inspection be collected at the time the permit application is submitted if using this method. The collection of costs for actual review hours is required before the permit is issued.

- Standard hourly rate. This rate is established based on salaries and wages, operating expenses, and an overhead assessment each fiscal year.

- Field work fee. This is a fee or deposit collected after review and before the permit is issued to cover the costs of anticipated field work that Caltrans forces conduct in association with a permit (e.g., traffic control, materials and equipment, and signs).

- Bridge toll fee. Permits for some special events that require the use of a toll bridge will need to be assessed for a toll fee equivalent to that charged for a seven-axle truck.

- Miscellaneous fees. Additional fees might apply, e.g., fees associated with inspection work or laboratory testing by the Caltrans Division of Engineering Services, Office of Materials Engineering and Testing Services.

When a progress payment or final payment for an encroachment permit project is due, the permittee has 30 days to submit the payment. After 30 days, a past due notice will be sent to the permittee requesting payment within 30 days. If the payment is not made after 60 days, a notice will be sent demanding payment within 15 days. Meanwhile, a notice will be also sent to each district office notifying them that any new permits will not be issued to the permittee before the payment is resolved. After 90 days, the account will be turned over to a collection agency for further action. Fees that are charged in excess to actual costs will be refunded to applications (*18*).

Caltrans typically uses deferred billing for utility companies. Using this method, utility companies receive progressive billing statements on a monthly or quarterly basis. However, if a utility company does not pay its permit bills within 60 days, a deposit and/or bonding can be required for future permits. Caltrans also issues annual or biennial permits that allow public corporations, utility companies and in some cases private corporations to perform everyday routing tasks and installations (*18*).

Indiana Department of Transportation (INDOT)

The INDOT Utility Accommodation Policy requires a one-time fee of $55 for processing utility permit requests for installations and adjustments of utility facilities within the state right of way (*19*).

For driveway permits, the Indiana Administrative Code (IAC) authorized INDOT to establish fees for processing driveway permits (*20*). The current driveway permit application fee structure is as follows (*21*):

- $55 for private driveways.
- $150 for minor commercial driveways, i.e., driveways that do not attract enough traffic to require auxiliary lanes.
- $600 for major commercial driveways, i.e., driveways that attract enough traffic to require auxiliary lanes.

As part of a driveway permit, INDOT might also require a permit bond with a minimum amount of $5,000 that covers the work to be performed in the right of way. However, the department only requires a bond only when it is absolutely necessary as INDOT recognizes that many applicants work with the department on a regular basis and understand the importance of maintaining a good working relationship with the department.

INDOT implemented the permit fees decades ago and last updated them in the 1990s in an effort to recoup 77 percent of the then-estimated administrative costs associated with the permitting process. The current fee structure is not specified in the IAC, giving INDOT flexibility in case there is a need to review the fee structure without requiring a legislative change.

A driveway permit remains effective for 12 months. If a permit expires, the applicant has to apply for a new permit with updated plans and other relevant information. For major developments, INDOT frequently conducts preliminary meetings with developers to discuss the permitting requirements beforehand.

As a side note, INDOT also charges fees for outdoor advertisement permits and permits for other banners or signs within the state right of way.

Maryland State Highway Administration (MDSHA)

MDSHA does not charge for utility permits. It has a resource sharing program in place for communication ducts within the right of way of controlled access highways. MDSHA charges fees for driveway permits. The fee structure is as follows (*22*, *23*, *24*):

- A $50 engineering fee for each access point. MDSHA waives the engineering fee for the first point of access in the case of residential driveways (up to five dwelling units), governmental agencies, and nonprofit organizations (at the discretion of the administration). This engineering fee has been in place for several decades and covers only a small portion of the total administrative cost associated with the permitting process. MDSHA is currently in the process of reviewing its engineering fee structure. Options that MDSHA is considering options that include determining engineering fees based on the number of units or square footage of the associated development.

- An inspection fee based on the base pay of the assigned inspectors, overhead, and other administrative and general expenses, including laboratory work. MDSHA introduced inspection fees in 2011 to recoup administrative costs associated with the inspection of driveways and other activities within the right of way. MDSHA assesses the inspection fee as 15 percent of the expected construction cost. If the fee is anticipated to exceed $5,000, applicants must pay it in advance. In this case, MDSHA places the fee in a holding account and assigns a dedicated account number for MDSHA use and tracking. MDSHA returns any unused balance to the applicant upon release of the permit.

- MDSHA is in the process of establishing a more accurate method to estimate the initial inspection fee. A potential method currently under consideration is to categorize projects based on total construction costs and use different percentages for projects of different sizes, e.g., 15 percent for projects less than $0.5 million, 10–12 percent for projects between $0.5 and $1 million, and 8–9 percent for projects larger than $1 million.

- $3,500 for the engineering review, inspection, and connection of each traffic signal if the proposed driveway requires traffic signal work. This fee was $1,500 prior to 2011.

- Performance surety in the form of a bond, letter of credit, or certified check for an amount equal to the next highest even thousand dollar above 150 percent of the cost estimate for the construction.

New Jersey Department of Transportation (NJDOT)

NJDOT regulates utility facilities within the state right of way by using highway occupancy permits (*25*). Except for wireless communications site survey permits that are processed by the Wireless Communications Unit, highway occupancy permits are applied from and processed by the Regional Maintenance Offices of the department. Utility-related highway occupancy permits typically remain valid for one or two years based on the permit type.

Appendix G shows the current fee structure for highway occupancy permits. The fee structure reflects minor modifications last made in 2003 (*25*). The New Jersey Administrative Code (NJAC) specifies all fees for applications, permits, and renewals. Permit fees are non-refundable. A highway occupancy permit may require a bond to ensure proper restoration and maintenance of the job site. NJAC also specifies that the department process all highway occupancy permits within 45 days of receipt of the application. This timeframe does not include any applicant time or time for Federal Highway Administration (FHWA) reviews. This processing time may be extended for permits for longitudinal installations of private facilities over 660 ft. long and underground fiber optic facilities over 1,320 ft. long. Under unusual or emergency conditions, regional maintenance engineers may issue oral approvals, but require the subsequent submission and review of a permit application.

Table 9 lists driveway permit fees at NJDOT (*26*). These permits are valid for two years.

Table 9. NJDOT Driveway Permit Fee Structure (*26*).

Type of Permit	Application Fee (Each Lot)	Permit Fee (Each Lot)	Renewal Fee (Each Lot)
Single Family Residential Driveway	$35	$15	$15
Residence and Business Driveway	$75	$25	$25
Government Driveway	$150	$500	$250
Minor	$265	$85	$85
Major	$3,750	$1,250	$250
Major with Planning Review	$9,000	$3,000	$250
Concept Reviews	$500	-	-
Street Intersection	$150	$500	$250
Street Improvement	$5	$25	$25
Lot Subdivision or Consolidation	$200	$50	-
Temporary Access	$200	$50	-

Notes:
A single family residential driveway is a driveway serving a single-family residence.
A residence and business driveway is a driveway serving a combination of private residence and business use with expected two-way traffic volume not exceeding 500 vehicles per day.
A government driveway is a driveway exclusively used for a public school, federal, state, municipal, or county facility.
A minor permit is required for driveways with fewer than 500 vehicle trips per day directly accessing a state highway.
A major permit is required for driveways with 500 or more vehicle trips per day but fewer than 200 peak-hour vehicle trips directly accessing a state highway.
A major with planning review permit is required for driveways with 500 or more vehicle trips per day and 200 or more peak-hour vehicle trips directly accessing a state highway.
A concept review permit is an application for a general analysis of the access and highway improvements associated with a future major access application.
A street intersection permit is required for new streets that directly intersect a state highway or increase the number of lanes intersecting a state highway on existing streets.
A street improvement permit is required for any change to an existing street that does not increase the number of lanes intersecting the state highway.
A lot subdivision or consolidation permit is a permit allowing multiple lots to be combined into one lot or one lot to become multiple lots.
A temporary access permit is a driveway permit with a time-limited access for a specific lot, use, and estimated traffic volume.

Developments containing 10 percent or more housing units set aside for low and moderate income residents are entitled to a 10 percent reduction in the permit fee. The department may require a bond or certified check to guarantee proper maintenance or restoration of the project area (*26*).

Pennsylvania Department of Transportation (PennDOT)

PennDOT processes a large number of utility and driveway permits each year through a web-based permitting system, of which approximately 75 percent are utility permits. The current driveway and utility permit fee structure was developed decades ago. PennDOT stressed that permit fees are significantly lower than the actual administrative cost to process the permits. PennDOT has estimated the cost to process permits to be around $8 million each year, of which the department recovers only $1 million through permit fees. All utility and driveway permit fees go into the state's general fund for PennDOT's use.

The state outlines the fee structures in the Pennsylvania Code, which results in major legal hurdles for PennDOT in case fee changes are necessary. Previous discussions with utility owners and driveway consultants regarding potential permit fee increases suggested that most stakeholders understood the issue but requested advance notice if the fees are to be increased.

PennDOT has had fees for utility permits since 1979. The fee structure at PennDOT is currently as follows (*27*):

- Permit application fees:
    - $50 application fee.
    - $10 supplement fee for each six-month extension or change to existing permits.
    - $5 per card for emergency permit cards. Emergency permit cards are temporary documents with information about the utility work and contacts at PennDOT for utility owners to use during emergency repairs. PennDOT is planning to eliminate the use of the cards because of the implementation of the web-based utility and driveway permitting system.

- Permit inspection fees (including inspections during construction or after the utility work has been completed):
    - Surface openings:
        - $40 per 100 ft. for opening in pavement.
        - $20 per 100 ft. for opening in shoulder.
        - $10 per 100 ft. for opening outsider pavement and shoulder.
    - Surface openings of less than 36 sq. ft., e.g., for service connections or pipeline repairs:
        - $30 per 100 ft. for opening in pavement.
        - $15 per 100 ft. for opening in shoulder.
        - $10 per 100 ft. for opening outsider pavement and shoulder.

    - Aboveground facilities:
        - $20 per continuous group involving up to 10 physically connected facilities.
        - $2 for additional aboveground physically connected facilities, e.g., each pole with appurtenances.
    - Crossings: $80 each.
    - Seismic explorations: $50 for the first mile and $5 for each additional mile.

- Additional fees. PennDOT assesses additional fees if the anticipated cost to the department exceeds the amounts listed above. In this case, PennDOT estimates the additional fees based on the additional estimated amounts of salary, overhead, and expenses. PennDOT also prepares a reimbursement agreement for execution by the applicant.

- $10 refund processing fee (on inspection fees) for unused permits. The permit application fee is nonrefundable. Permittees are responsible for requesting the refund on or before the permit expiration date.

- Miscellaneous fees. Applicants must pay for notary and recording costs, including the cost of recording the permit in the county recorder of deeds office.

Permit application fees and general permit inspection fees are not required for political subdivisions or government agencies of the state, except when placing a facility longitudinally within more than 100 total linear feet of pavement. The federal government is also exempt. Utility owners are exempt in the following cases:

- Installation or maintenance of highway lighting at the request of PennDOT or political subdivisions.

- Replacement or renewal of facilities in connection with a PennDOT maintenance project.

- Removal of poles and attached appurtenances.

- Utility adjustments at the request of PennDOT or political subdivisions.

- Reconstruction or maintenance of facilities that occupy the right of way under private status.

The driveway permit fee structure at PennDOT is currently as follows (*28*):

- Permit application fees:

    - $15 for a minimum-use driveway.
    - $30 for a low-volume driveway.
    - $40 for a medium-volume driveway.
    - $50 for a high-volume driveway.

    - $10 for each six-month extension or change to existing permits.

- Permit inspection fees:

    - $10 for a minimum-use driveway.
    - $20 for a low-volume driveway.
    - $35 for a medium-volume driveway.
    - $50 for a high-volume driveway.

- Additional fees. PennDOT assesses additional inspection fees if the permitted work is such that it warrants more detailed inspections than spot inspections. In this case, PennDOT estimates the additional fees based on the additional estimated amounts of salary, overhead, and expenses.

- $10 refund processing fee (on inspection fees) for unused permits. The permit application fee is nonrefundable. Permit holders are responsible for requesting the refund on or before the permit expiration date.

- Miscellaneous fees. Applicants must pay for notary and recording costs, including the cost of recording the permit in the county recorder of deeds office and the cost of all drainage releases.

Government agencies, political subdivisions of the state, and the federal government, as well as certain charitable organizations, are exempt from having to pay for permit application and inspection fees.

Virginia Department of Transportation (VDOT)

VDOT charges for utility permits. The fee structure at VDOT is current as follows (*29*):

- Permit application fees:

    - $100 nonrefundable application fee for each single-use permit.
    - 50 percent of the initial application fee for time extensions of active permits.
    - 100 percent of the initial application for reinstatement of expired permits.

- Additional fees:

    - $10 per structure for aboveground utility structures or pole attachments.
    - $10 per crossing for span guys.
    - $10 per guy and anchor for additive guys and anchors.
    - $10 per 100 linear feet for parallel underground utility lines.
    - $10 per crossing for overhead or underground utility crossings.
    - $5 per linear ft. of attachment to box culvert or bridge.
    - $10 per opening for excavations including test bores and emergency openings.

- Refund fees. If a permittee cancels the project prior to beginning construction, VDOT retains the application fee and one-half of the total additional fees.

- District-wide permits, which are valid for a period of two years:

    - $750 biennial fee per permit for utility installations and logging operations.
    - $200 biennial fee per permit for surveying.

  District-wide permits are used for utility works that don not interrupt traffic for more than 15 minutes and without requiring pavement cuts.

- Miscellaneous permit fees. A one-time permit fee of $1,500 per mile allows operators of eligible non-utility renewable energy facilities to connect those facilities to the transmission grid pipeline. Examples of facilities include those that produce not more than two megawatts of electricity from a renewable energy source, not more than 5,000 million British thermal units/hour of steam from a renewable energy source, or landfill gas from a solid waste management facility.

- Performance surety. Permittees must provide a surety based on the estimated cost of work within the right of way, in the form of a check, cash, irrevocable letter of credit, insurance bond, or any other VDOT-approved method.

- Continuous surety. Permittees must secure and maintain a continuous bond. Government entities may use a resolution in lieu of a continuous bond. The continuous surety must be in an amount sufficient to restore the right of way in the event of damage or failure, and must remain in place as long as the work within the right of way remains active. An applicant for a district wide permit must provide a continuous surety of $10,000 per county.

- Accommodation fees. After the initial installation, the following annual compensation fees apply for the use of the right of way by a utility facility (with some exceptions):

    - $50 per limited-access crossings.
    - $250 per mile for limited-access longitudinal installations.
    - Communication tower sites (limited and non-limited access):
        - $24,000 per communication tower site.
        - $14,000 for colocation on a tower site. This payment does not include equipment mounted on an existing wooden utility pole.

Exceptions and special provisions in relation to these permit fees include the following:

- A certified provider of telecommunication services must collect and pay a public right of way use fee as full compensation for the use of the right of way.

- A cable television operator subject to the public right of way use fee is exempt from having to pay the annual fee for the use of public right of way.

- Installations under a resource-sharing agreement for the use of public right of way are exempt from permit application fees, additional fees, or annual payments. At VDOT's discretion, compensation for the use of the limited access right of way can be in the form of mutually agreeable goods or services and/or cash.

- Municipal- or authority-owned water and sewer utility facilities and renewable energy generation transmission facilities are exempt from the annual accommodation fee.

VDOT also charges for driveway permits. The fee structure at VDOT is as follows (*29*):

- Permit application fees:

    - $100 nonrefundable application fee for each single-use permit.
    - 50-percent of the initial application fee for time extensions of active permits.
    - 100-percent of the initial application for reinstatement of expired permits.

- Additional fees:

    - No additional fee for private driveways.
    - $150 for the first access point and $50 for each additional access point for commercial driveways or street connections.
    - $10 for each temporary logging or construction entrance.
    - $10 per 100 linear feet of turn lanes; reconstruction of roadways, curbs, and gutters; sidewalks; storm sewers; or paved ditches.
    - $500 per crossover.
    - $1000 per signal installation.

- Refund fees. If a permittee cancels the project prior to beginning the construction, VDOT retains the application fee and one-half of the total additional fees.

- Performance surety. Permittees must provide a surety based on the estimated cost of work within the right of way, in the form of a check, cash, irrevocable letter of credit, insurance bond, or any other VDOT-approved method.

The current utility and driveway permit fee structure at VDOT reflects a recent update proposed in 2004 and implemented in 2010. The latest fees were based on the original fees that were used in the 1950s, which were converted to 2010 dollars using the consumer price index. During the update, the department had to go through a lengthy legislative process because the fee structures are specified in the Virginia Administrative Code (VAC). VDOT estimated that the current fees only cover 10–30 percent of the associated costs. Prior to the recent increase, VDOT attempted to increase the fees in 1992 but did not succeed due to resistance from stakeholders.

During the latest permit fee change, VDOT received strong opposition from surveyors in the logging industry who previously did not have to pay permit fees for occupying the public right of way (VDOT used to waive the permit fees for surveyors). In addition, VDOT recommended involving the local association of convenience stores and the petroleum industry when implementing a permit fee structure or change access policies. VDOT also recommended that TxDOT should develop clear guidelines on how to apply the fees and determine the amounts of arbitrary fees and sureties (if applicable). A robust financial system should be in place as well to manage the fees in connection with the associated activities.

In Virginia, utility and driveway permit fees are part of the highway maintenance fund for VDOT's sole use.

Washington State Department of Transportation (WSDOT)

WSDOT charges fees for utility franchises and permits. The fee structure at WSDOT is as follows (*30*, *31*):

- Permit, franchise, and amendment application fees:
    - $500 fee for Category 1 utility installations (i.e., installations that have considerable impact to roadway operations as WSDOT determines).
    - $300 fee for Category 2 utility installations (i.e., installations that have limited impact to roadway operations).
    - $150 fee for Category 3 utility installations (i.e., installations that have little or no impact to roadway operations).
    - $300 fee for franchise consolidation.
    - $250 fee for franchise renewal.
    - $50 fee for franchise assignment.

  These application fees are intended to cover administrative costs associated with the review and approval of the applications and the cost of providing an inspector during construction and/or maintenance of the utility facility. However, WSDOT can charge additional fees to cover expenses that the department has actually incurred.

  Application fees are waived for federal agencies and for utility owners who must adjust their facilities as part of a WSDOT transportation project. However, a utility owner must pay an equitable portion of the added costs to design and build highway structures that are caused by non-reimbursable (but necessary) utility adjustments that are necessary or if the utility owner is building a new installation.

- Surety bond in an amount that WSDOT requires, but not less than $1,000, to ensure completion of construction, restoration of surfacing, slopes, slope treatment, top soil, landscape treatment, drainage facilities and cleanup of the right of way for up to a year after the date of completion. The surety must be for two years after the date of completion if the utility facility disturbs traveled lanes or usable shoulders. At WSDOT's

discretion, utility owners maintain a blanket surety bond to cover multiple franchises or permits in lieu of individual bonds. A blanket surety bond must be for at least $10,000.

Franchises authorize longitudinal installations within the highway right of way for up to 25 years. The department recommends issuing only one franchise to each utility owner for each type of utility, within each county or section of county, on each highway. After a franchise is issued, additional utility accommodation requests are considered amendments to the original franchise. By comparison, utility permits authorize crossing installations within the right of way, but have no expiration date and are used when utility franchises are not applicable (*31*).

The current fee structure is the result of a fee change in 1997. The original fee structure dated back to 1980 and consisted of a flat $150 application fee for franchises and $35 for permits. In 1989, that fee structure was amended to $500 for franchises and $150 for permits. The department considers that fees are not adequate to cover administrative costs and staff time. In addition, costs such as utility database systems development, operation, and maintenance are not covered in the current fee structure. Utility application fees go into the state general fund.

WSDOT processes access connection permits on state highways outside of incorporated cities and towns. Cities issue access permits within city limits. WSDOT requires that each incorporated city have access management policies or ordinances that meet or exceed WSDOT requirements. The fee structure was originally implemented in 1992 in an effort to alleviate the associated administrative costs and to help enforce different access management requirements for different highway classifications and land use. The current permit fee structure is as follows (*32*, *33*):

- Category I (low-volume) connections. These connections include driveways for up to ten single-family residences, a duplex, or a small multifamily complex of up to ten dwelling units; permanent access connections to agricultural and forest lands; access connections to operate, maintain, or repair utility installations; or other access connections expected to serve no more than 100 weekday vehicle trip ends. Application fees are as follows:
    - $50 for field, forest lands, and utility operation and maintenance.
    - $50 per dwelling unit for residential dwelling units that use a single connection point.
    - $500 for a connection serving no more than 100 weekday vehicle trip ends.
    - $50 per additional connection.
- Category II (medium-level) connections. These connections are for traffic generators that serve up to 1,500 weekday vehicle trip ends. Application fees are as follows:
    - $1,000 for each connection with less than 1,000 weekday vehicle trip ends.
    - $1,500 for each connection with 1,000–1,500 weekday vehicle trip ends.
    - $250 for each additional connection point.
- Category III (high-volume) connections. These connections are for traffic generators that server more than 1,500 weekday vehicle trip ends. Application fees are as follows:

    - $2,500 for each connection with 1,500–2,500 weekday vehicle trip ends.
    - $4,000 for each connection with more than 2,500 weekday vehicle trip ends.
    - $1,000 for each additional connection point.

- Category IV (temporary) connections: $100 per connection.

For Category II and III connections, WSDOT might also require a developer agreement covering items such as plans and specifications, maintenance requirements, bonding requirements, inspection requirements, division of costs as required, and provisions for payment by the applicant of actual costs incurred by WSDOT in excess of the required base fees. As such, WSDOT typically sets up reimbursable accounts for large commercial developments to collect actual costs incurred during the projects.

WSDOT recognizes that the current driveway permit fees cannot reasonably cover the associated costs at the department. Two attempts were made in the past to raise the driveway permit fees but both were not successful due to legislative hurdles.

District of Columbia's Department of Transportation (DDOT)

As is the case for many local jurisdictions across the country, DDOT charges a wide range of fees in connection with utility and driveway permits. For utility permits, DDOT includes fees such as the following (*34*):

- A $50 application fee for new or renewal permits (except public utility owners, who are exempt).

- Temporary occupancy fees:

    - $85 for manhole access (each occurrence).
    - $2,585 for manhole access (batch permit).
    - Various fees for receptacles for construction debris.
    - $50 per month for general temporary occupancy.

- Minor excavation fees:

    - $50 for first test pit, boring, or core ($20 for each additional one).
    - $50 for conduit relocation up to 10 linear feet.
    - $50 for other minor excavation up to 100 sq. ft. and not requiring sheeting and shoring.
    - $50 for water or fire connection, abandonment, or repair up to two inches in diameter.
    - $50 for water meter pit and associated pipe up to two inches in diameter.

    - $50 for gas, electric, or communication connection, abandonment, or repair.
    - $85 for sanitary or storm sewer connection, abandonment, or repair up to four inches in diameter.

- Major excavation fees:

    - $135 for each installation or removal of regulator station and associated appurtenances.
    - $85 for each installation or removal of monitoring or telemetric equipment or other non-emergency maintenance-related excavations.
    - $85 for each major gas or electric service connection, abandonment, or repair.
    - $135 for each electric service connection, abandonment, or repair and associated manhole and conduit.
    - $250 for each transformer vault and associated manhole and conduit.
    - $85 for each water or fire connection, abandonment, or repair over two inches in diameter or fire hydrant installation, repair, or removal.
    - $135 for each water meter manhole and associated piping; sanitary or storm sewer connection, abandonment, or repair; or sanitary or storm sewer or communication manhole.
    - $135 for excavation per 200 linear ft. of pipe, conduit, or cable.
    - $135 per 100 linear ft. of sheeting and shoring.
    - $135 for each abandonment or removal of subsurface fuel tank or vault.

- Overhead electrical and communication installation fees:

    - $50 for installing, removing, or replacing the first (and $20 for each additional) 300 ft. of overhead electrical or communication line.
    - $50 for installing, removing, or replacing the first utility pole (and $20 for each additional pole).
    - $50 for installing, removing, or replacing the first pole guy wire (and $20 for each additional guy wire).

- $50/hour fee for any inspection needed in connection with paving, repairing, or altering the public space.

For driveway permits, DDOT includes fees such as the following (*34*):

- A $50 application fee for new or renewal permits.

- Temporary occupancy fees:

    - Various fees for receptacles for construction debris.
    - $50 per month for general temporary occupancy.

- Driveway fees:

    - $75 for repairing or replacing existing driveway.
    - $75 for closing existing driveway.
    - $75 for each new residential driveway.
    - $135 for each new commercial driveway.
    - $135 for new circular driveway.

In addition to temporary occupancy fees, DDOT charges a public inconvenience fee for occupying the public space in excess of a one-time 30-day grace period. This fee, which DDOT charges per square foot of occupancy per day, is as follows:

- Within the central business district (CBD):

    - $0.04 for the first travel lane, not to exceed $2,250 per block per 30 days.
    - $0.06 for the second and each additional lane, not to exceed $2,250 per block per 30 days.
    - $0.02 for alleys, not to exceed $2,250 per block per 30 days.
    - $0.03 for sidewalks, not to exceed $3,000 per block per 30 days.
    - $0.03 of pedestrian walkway credit for 100 percent of sidewalk area (if the pedestrian pathway is maintained per DDOT standards).
    - Parking lane fee based on duration of occupancy, number of parking spaces affected, and parking rate.

- Outside the CBD:

    - $0.03 for the first travel lane, not to exceed $2,250 per block per 30 days.
    - $0.045 for the second and each additional lane, not to exceed $2,250 per block per 30 days.
    - $0.015 for alleys, not to exceed $2,250 per block per 30 days.
    - $0.02 for sidewalks, not to exceed $3,000 per block per 30 days.
    - $0.02 of pedestrian walkway credit for 100 percent of sidewalk area (if the pathway is maintained per DDOT standards).
    - Parking lane fee based on duration of occupancy, number of parking spaces affected, and parking rate.

The current fee structure at DDOT reflects a recent increase in 2008. Prior to 2008, the fees had not been updated for nearly 25 years. During the 2008 update, DDOT conducted a study on best practices of other similarly sized cities around the nation. DDOT characterized their current fee structure to be within the mid-range that only covers a reasonable proportion of the associated costs. When updating their old fee structure, DDOT also considered fees that were based on actual time spent on the related activities. A flat fee structure was adopted instead due to concerns about additional costs for tracking the actual time and costs and the large number of permits and employees involved.

CHAPTER 4. UTILITY PERMIT PROCESSING TIMES AND COSTS

INTRODUCTION

This chapter provides a summary of the process to characterize the time and costs associated with the management of utility permits at TxDOT. The methodology for developing utility permitting costs included a validation of the permit data collected through the web-based activity logger in relation to data obtained from other sources (i.e., UIR, interviews, and MMIS). It also included an analysis of related data items such as salary rates, facility rates, and equipment rates, as well as other components such as coordination, fee management, and information technology (IT) costs.

UTILITY PERMIT DATA VALIDATION

Although UIR keeps track of event completion dates, it does not keep a record of the length of time (or resources) it takes to process each event (Figure 11). For example, the system might show that an inspector has completed a review in the field and the time stamp associated with that completion, but it does not track the length of time or resources (mileage, equipment) that the inspector uses to complete that activity. The researchers used the web-based logger (see Figure 9) to facilitate the process of gathering information about time and other resources that districts spend on processing driveway and utility permits. The researchers used the information collected to complement other pieces of information that helps to assess the total cost for TxDOT to manage utility and driveway permits.

PRMT_EVNT_NBR	PRMT_ID	PRMT_TYPE_TXT	INSTL_PURPS_TXT	INSTALL_CLS	INSTALL_LOC	PRMT_STAT_TXT	PET_CMPLT_TXT	FR_USER	FR_CMPNY	FR_OFFC	TO_USER	TO_CMPNY	TO_OFFC
6	AMA20130318161529	Regular Installation Request	Public Utility Installation	Electric	Aerial	Construction	Ready to start construction	Jim Fuller	Xcel Energy (SPS)	Amarillo	Russell Bedell	TxDOT	Amarillo
5						Pre-construction	Application approved	Blair Johnson	TxDOT	Utility Permit Approval	Lisa Lavergne	Xcel Energy (SPS)	Amarillo
4						Under review	Review completed	Eric Rodriquez	TxDOT	Utility Permit Office	Blair Johnson	TxDOT	Utility Permit Approval
3						Under review	Review completed	Russell Bedell	TxDOT	Amarillo	Eric Rodriquez	TxDOT	Utility Permit Office
2						Under review	Review completed	Eric Rodriquez	TxDOT	Utility Permit Office	Russell Bedell	TxDOT	Amarillo
1						Submitted	Application submitted	Lisa Lavergne	Xcel Energy (SPS)	Amarillo	Eric Rodriquez	TxDOT	Utility Permit Office

Figure 11. Sample Events in UIR for a Utility Permit.

The researchers also contacted TxDOT district officials to request clarifications and/or updates to web-based activity logger entries in situations where the entries were incomplete or there were discrepancies between the information recorded through the web logger and information available through UIR. Finally, the researchers obtained relevant financial data such as salary rates, vehicle rates, and office space rates, and validated these rates as needed using data from the interviews as well as external sources.

The researchers contacted the 10 districts that were identified for the research (Figure 6) and requested those districts to provide detailed activity information of 10–15 typical utility permits and driveway permits using the online activity logger. The researchers asked the districts to provide as much information as possible about the time and resources they spend processing the selected permits. Because of the possibility that districts might underreport their level of effort, the researchers spent a significant amount of time and effort with the districts and conducting further validations with other pieces of information to identify valid records that could be used for the analysis. Figure 12 shows the workflow used to select and validate permit records for the analysis.

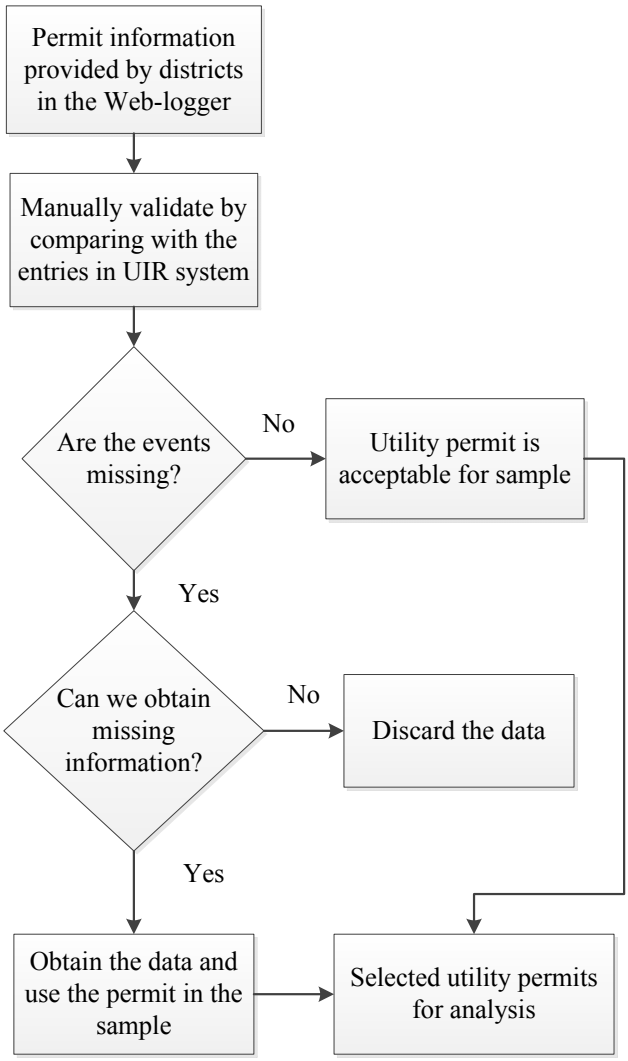


Figure 12. Workflow to Select Permits for the Analysis.

In total, the districts provided 169 utility permits through the web-based logger. After conducting the validation process to obtain as much information as possible about the selected permits, the result was 55 permits that could be used for the analysis. Table 10 summarizes the number of permits per district and type of district (metro, urban, and rural).

Table 10. Number of Usable Utility Permits through the Web Logger.

District	Type		
	Metro	Urban	Rural
Fort Worth	0		
Houston	9		
San Antonio	0		
Amarillo		10	
Laredo		9	
Odessa		0	
Pharr		9	
Atlanta			12
Lufkin			0
Wichita Falls			6
Subtotal	**9**	**28**	**18**
Total	**55**		

OTHER SUPPORTING DATA

The researchers collected information about equipment rates, office space rates, and typical salary rates of people who are involved in the permitting process to derive the cost of utility and driveway permitting to TxDOT. The researchers also obtained information needed to estimate the cost to operate and maintain the UIR system.

Salary Rates

The researchers prepared a compilation of typical staff titles from the information provided through the web logger, and then compared these titles with a list of typical titles and salaries that TxDOT provided. The researchers also looked up title and salary range data on the TxDOT website (*35*). Table 11 shows minimum, average, and maximum annual salaries for a sample of titles that the researchers obtained. These salary rates do not include fringe benefits. For the analysis, the researchers assumed a composite factor of 1.7222, which TxDOT used at the beginning of fiscal year (FY) 2013. For simplicity, the analysis did not consider longevity.

Facility Rates

The researchers obtained facility cost data from a report published by the Texas Facilities Commission (TFC) (*36*). Although the report does not include TxDOT-owned facilities, it does include rates for state-leased facilities statewide, which provide an equivalent cost for office space. For FY 2011, lease expenditures were $154 million, for an average statewide office lease cost of $14.97 per square foot. For FY 2013, the anticipated amount of lease expenditures was $157 million, which corresponds to an average statewide office lease cost of $15.21 per square foot. The researchers also assumed a typical office for a TxDOT employee to be 8 ft. × 12 ft. (i.e., 96 sq. ft.).

Table 11. Sample Annual Salaries at TxDOT.

Title/Functions	Remarks	Class[1]	Annual Salary[2]		
			Minimum	Average	Maximum
Contract Specialist	**I**	B15	$33,633	$42,881	$52,130
	II	B17	$35,651	$45,454	$55,258
	III	B19	$40,816	$53,061	$65,306
Transportation Engineer	**I**	B22	$50,002	$65,002	$80,003
	II	B23	$53,502	$69,552	$85,603
	III	B24	$57,247	$74,421	$91,595
	IV	B25	$61,254	$79,631	$98,007
	V	B26	$67,380	$89,278	$111,176
	VI	B27	$74,118	$98,206	$122,294
Maintenance Support Technician	**I**	A09	$22,581	$27,662	$32,742
	II	A11	$25,132	$32,043	$38,955
	III	A13	$28,239	$36,005	$43,770
	IV	A15	$31,729	$40,454	$49,180
Maintenance Section Supervisor	**I**	A17	$35,651	$45,454	$55,258
	II	A18	$38,146	$49,590	$61,034
	III	B19	$40,816	$53,061	$65,306
	IV	B22	$50,002	$65,002	$80,003
	V	B23	$53,502	$69,552	$85,603
	VI	B24	$57,247	$74,421	$91,595
	VII	B25	$61,254	$79,631	$98,007

Notes:
1 Each job classification in the state's position classification plan corresponds to a salary schedule and salary group. Schedule A covers administrative support, maintenance, technical, and paraprofessional positions. Schedule B covers mainly professional and managerial positions. Schedule C covers commissioned law enforcement positions.
2 Annual salaries do not include fringe benefits or longevity.

Equipment Rates

TxDOT uses standard statewide equipment rental rates. Table 12 shows standard rates at the department for different types of vehicles. District feedback indicates that a typical vehicle used for inspection of utility permits is vehicle 430070 "Truck, extended cab ½ Ton, 6000-6799 GVWR." The current rate for this truck is $0.50/mile.

TxDOT personnel who process utility permits use two types of computing equipment: desktop computers (office setting) and ruggedized laptops (field inspections). Rates that TxDOT provided for an office-type computer include $700 for a tower-style computer and $300 for a monitor. Assuming the computer lasts three years, the corresponding rate would be $0.04/hr. A ruggedized laptop costs $2000, which translates to an hourly rate of $0.08/hr. These rates do not

take into account other costs such as printers or network hardware or software costs. As a reference, the Texas A&M Transportation Institute (TTI) uses a standard rate of $1.29/hr for computing equipment, which takes into account not just the cost to acquire the computer itself but also all other costs necessary to operate the computer in a network environment.

Table 12. Sample TxDOT Vehicle Rates.

CLASS CODE	DESCRIPTION (Shading indicates class codes removed from EOS inventory at the end of FY 2008)	HISTORICAL RENTAL RATES							CURRENT RATE
		10/18/2006	6/29/2007	4/10/2008	11/5/2008	6/4/2010	3/16/2011	10/10/2011	2/21/2013
280030	TRAILER, TRANSPORT, VAN	7.25	7.00	SAME	SAME	10.00	13.00	13.25	18.00
292000	TRAILER, POLE	20.00	19.00	SAME	26.00	30.00	28.00	SAME	37.00
300000	TREE SPADE, TRAILER MOUNTED	8.00	15.00	SAME	25.00	SAME	SAME	SAME	SAME
302000	TRENCHING MACHINE	64.00	70.00	75.00	80.00	90.00	100.00	105.00	SAME
302010	TRENCHER, WALK BEHIND	20.00	30.00	50.00	SAME	SAME	SAME	SAME	SAME
305000	ROCK/CONCRETE CUTTER, CRAWLER MOUNTED	200.00	SAME	SAME	SAME	SAME	SAME	SAME	SAME
400010	TRUCK, 4-WD UTILITY AND CARRYALL	0.37	0.38	0.40	0.43	SAME	SAME	.46	0.53
400020	TRUCK, 4-WD PICKUP, ALL SIZES	0.47	0.41	SAME	0.45	.48	0.39	SAME	SAME
400030	TRUCK, 2-WD UTILITY VEHICLE, 3961-5000 GVWR	0.41	0.43	0.45	0.47	.46	0.44	.43	0.51
410010	TRUCK, CARRYALL, UP TO 6950 LB GVWR	0.39	0.36	SAME	0.39	SAME	SAME	.42	0.47
410020	TRUCK, CARRYALL, 7000 LB GVWR AND GREATER	0.42	0.40	SAME	0.44	.45	0.44	.48	0.58
420010	TRUCK, CARGO OR WINDOW VAN, MINI, UP TO 6200 LB GVWR	0.44	0.42	SAME	0.44	.43	0.40	SAME	0.50
420020	TRUCK, CARGO OR WINDOW VAN, FULL-SIZE, 6200 LB GVWR & UP	0.71	0.68	0.66	SAME	.64	0.62	SAME	0.71
420030	TRUCK, STEP OR WALK-IN VAN	0.66	0.73	0.93	1.10	1.50	2.00	3.00	2.80
430010	TRUCK, LIGHT DUTY, PICKUP, UP TO 4600 LB GVWR	0.34	SAME	SAME	SAME	SAME	SAME	SAME	SAME
430020	TRUCK, LIGHT DUTY, PICKUP, 4600 TO 6199 LB GVWR	0.47	0.49	0.52	0.54	.53	0.49	SAME	0.58
430030	TRUCK, LIGHT DUTY, OTHER BODY STYLES, 4600-6199 GVWR	0.42	SAME	SAME	SAME	SAME	SAME	SAME	SAME
430040	TRUCK, HEAVY DUTY COMPACT, 4320-5600 GVWR	0.58	0.61	0.58	SAME	.63	1.10	1.15	SAME
430050	TRUCK, EXTENDED CAB COMPACT, 4245-5034 GVWR	0.35	SAME	0.41	0.44	.45	0.43	SAME	0.53
430070	TRUCK, EXTENDED CAB 1/2 TON, 6000-6799 GVWR	0.45	0.46	0.48	0.50	.48	0.45	SAME	0.50

Hardware and Software Costs Needed to Operate and Support UIR

The researchers interviewed IT support personnel in Austin to obtain estimates of hardware and software costs needed to provide support for the operation of the UIR system. Table 13 provides a tabulation of these costs. These estimates do not include the cost to maintain UIR or provisions to ensure its long-term sustainability.

Table 13. Hardware and Software Costs to Operate and Maintain UIR.

Component	Description	Cost
Hardware		
Web server	Test and production server	$700/month
Production server		$700/month
Space	Test and production database	Negligible
Software		
Microsoft™ Internet Information Services® (IIS) running on Windows Server 2003 or 2008		No Cost
Adlib ® Express Server		$1500/year
Adlib and Cimmetry		$1200/year
Spatial data engine	15% of total license cost (assumed)	$15,000/year

Involvement of Division Personnel to Support the Utility Permitting Process

The researchers interviewed Right of Way Division personnel to develop an understanding of their time and effort spent on managing and supporting the operation of the UIR system. Division officials manage the system and provide technical support to the districts whenever there are issues or questions related to the system. They also provide training to promote standardized utility permitting practices throughout the state. Right of Way Division officials estimated their involvement at about 0.63 FTEs to support the utility permitting process statewide, including 0.25 FTEs for a manager-level staff person, 0.75 FTEs for a utility agent, and 0.30 FTEs for other planning and coordination activities. Officials at the director level spend an average of one hour per month on utility permitting for administration.

IT support personnel indicated that, at any given time, 150–200 users throughout the state are logged into the UIR system, with a ratio of utility owners to TxDOT employees of approximately 2:1. These support personnel spend relatively little of their time on UIR compared to other applications that the IT group supports. The estimated number of IT support FTEs is 0.25 FTEs (for general activities such as cleaning and maintaining folders), 0.30 FTEs (for application support), and 0.05 FTEs for database management activities.

DATA ANALYSIS

Data Processing

After validating the sample of utility permits from the web-based logger, the researchers compiled the data by joining permit data from the UIR system with web-based logger data for individual permits. For completeness, the researchers grouped permits by request type (regular, expedited), utility class (electricity, water, and so on), and installation class (aerial, buried). As needed, the researchers used supporting technologies such as Google Maps™ to develop a better understanding of the location and complexity associated with a permit. The data contained the permit description as the utility owner originally entered in the UIR system along with events and activities associated with the permit. Further, the data included the permit status according to the UIR system, and the description of the event and activity recorded in the web-based logger. Some UIR events had multiple activities, which confirmed that the completion of a single UIR event could involve TxDOT personnel multiple times, e.g., when it is necessary to schedule several meetings with a utility permit applicant to review an application and provide guidance. The compiled data also provided an indication of the status of the permit (under review, under construction, and post-construction) and the resources spent (essentially time and mileage driven) for each event and activity by each person who works on the utility permit.

The researchers used the salary rates described in the previous section to convert time spent by the staff to labor dollar amounts per permit. The analysis also included an evaluation of equipment costs (divided into computing equipment costs and vehicle costs). For completeness, the analysis used two options for computing equipment costs: a rate that only accounts only for the cost of the hardware and a second rate that includes other costs such as network hardware, software, and operational costs. Vehicle operating costs resulting from multiplying the standard vehicle rate by the total number of miles driven in connection with each permit.

The researchers applied this methodology to all 55 permits in the sample, which enabled the calculation of a preliminary estimate of the resources spent per permit as well as averages across all the sample permits from each district. Table 14 summarizes the result of this process. For example, Table 14 shows that the average number of hours per permit for the Amarillo District subsample was 3.68 hours (all of it prior or up to permit approval since the information that the district logged did not include any time spent during construction or post-construction activities). The table also shows that the average distance driven by inspectors per permit for the Amarillo District sub-sample was 41.63 miles.

Readers should note the following caveats in connection with these averages:

- The information for the Fort Worth District is not an average of permit times and mileage driven but rather a global estimate that district officials provided.

- The information for the Pharr District contains two rows because the Pharr District sub-sample included one permit that had significantly higher labor involvement because of complexities associated with the permit (i.e., multiple utility installations or location-specific issues). While this permit could be considered an outlier at first glance, it is nonetheless valid. Feedback provided by districts throughout the state indicates that the number of utility permits requiring multiple interactions by district officials is quite significant. Ignoring such cases would result in underestimation of time and resources needed to process utility permits throughout the state.

Table 14 also shows the conversion of time spent per permit into an aggregate number of FTEs per year. To this effect, the table shows the total number of permits submitted in FY 2012 for each of the districts. Most permit applications nowadays are handled using the UIR system. However, districts still process a few paper permits (primarily temporary permits although some regular permits as well). Table 14 shows the number of permits in FY 2012 submitted through UIR as well as an estimate of the number of paper permits that the districts process per year.

The number of FTEs is the average time spent per permit multiplied by the total number of permits and divided by the maximum number of working hours per year (i.e., 2,088 hours). Note the disaggregated number of FTEs for each phase of the utility permitting process (under review, under construction, and post-construction). As an illustration, Table 14 shows that the Amarillo District processed 285 utility permits through UIR. After 95 paper permits were added, the result is 380 permits. Multiplying this value by the total number of hours per permit (3.68) and dividing by 2088 results in 0.67 FTEs.

Table 14. Utility Permit Data Analysis Spreadsheet.

District	Average Time Spent on Permit (hrs./permit)				Average Miles Driven (miles/ permit)	Number of Permits Submitted in FY 2012	Initial calculated FTEs (Average Time*Number of Permits/2088) (Web Logger-Based)				Reported FTEs in Interviews	Adjusted reported FTEs in Interviews
	Phase 1 (Pre-Construction)	Phase 2 (Construction)	Phase 3 (Post-Construction)	Total		UIR	Phase 1	Phase 2	Phase 3	Total		
Amarillo	3.68	0	0	3.68	41.63	285	0.50	0.00	0.00	0.50	2.5	2.1
Atlanta	2.74	0	0.15	2.89	23.75	403	0.53	0.00	0.03	0.56	n/a	1.0
Fort Worth[1]	9.6	n/a	n/a	9.60	54.60	n/a	n/a	n/a	n/a	n/a	5.5	n/a
Houston	1.91	0.46	0.61	2.98	32.50	1486	1.36	0.33	0.43	2.12	9.0	9.0
Laredo	3.35	0	0	3.35	28.36	497	0.80	0.00	0.00	0.80	3.2	3.2
Lufkin	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.0	n/a
Odessa	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.2	n/a
Pharr[2]	1.02	0	0.01	1.03	5.88	1595	0.78	0.00	0.01	0.79	5.1	2.0
	3.44	0	0.69	4.13	27.44		2.63	0.00	0.53	3.16	5.1	2.0
San Antonio	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Wichita Falls	0.68	0	0.43	1.11	10.25	428	0.14	0.00	0.09	0.23	2.3	2.3
ROW Division[3]											0.63	
IT Division[3]											0.60	
Total						4694						

1 Data that Fort Worth provided are rough estimates by district.

2 Pharr has one complex permit. Upper row is without considering the complex permit.

3 These are statewide estimates. The researchers prorated these values based on the number of permit applications processed by the districts included in the analysis.

During meetings and subsequent conference calls with district officials, the researchers asked those district officials to provide a global (reference) estimate of the total number of FTEs involved in the permitting process (Chapter 2). Table 14 includes these values. For example, at the Amarillo District, officials indicated that 2.1 FTEs were involved at the district in the utility permitting process. In some cases, district officials first provided an estimate but then reevaluated it based on subsequent discussions with the researchers. While aggregate (and quite likely on the high side), the reference number that the district officials provided gave a reality check to compare the values obtained from the web logger-based sample.

In all the cases shown in Table 14, the difference between web logger-derived FTEs and district-provided FTEs was quite significant, with district-provided FTEs consistently higher than the web logger-derived FTEs. The reasons for those differences include the following:

- Most of the permits in the sample contained only time data during the pre-construction phase. Based on the information provided, it is unclear how much time districts spend on average during the construction and post-construction phases. Some informal estimates from districts suggest that districts could spend 20–25 percent of the total time involved in a permit during construction and 5–10 percent after construction ends. For subsequent analyses, the researchers decided to assume 70 percent during pre-construction, 20 percent during construction, and 10 percent after construction. This also means that the web logger-derived FTEs in Table 14 could potentially increase by some 50 percent to account for construction and post-construction utility permitting activities.

- District officials frequently spend a significant amount of time in coordination efforts with utility owner representatives, other TxDOT district officials, and other stakeholders. Many of those individual efforts might appear minor (e.g., 5 minutes on a call, 10 minutes drafting an email, and so on), and it is quite likely that districts did not log those efforts online in a consistent manner. However, on the aggregate, those events add up and can play a significant role on the total time and effort that districts devote to utility permitting activities.

- Some of the permits that districts selected to log online might not be representative of the typical permits that districts process.

- It is possible that some of the FTEs that districts provided overestimate the amount of resources the districts spend to review and process permits. An indication that this might be the case in some situations is that districts that reevaluated their FTEs tended to reduce the original estimate they had provided. Another reason is that district officials who are involved in utility permitting typically "wear many hats." Utility permitting is not their only responsibility (with the exception of districts that process a large number of permits every year). As a result, even though the districts attempted to separate utility permitting functions from their other responsibilities when they provided their FTE estimate, it is possible that this estimate reflected some of the time they spend in other activities.

Basic Utility Permit Cost Analysis

Considering the differences between web logger-derived FTEs and district-provided FTEs, the researchers produced three estimates of utility permit costs, first using web logger-derived FTEs; then using district-provided FTEs; and finally using an average between the two FTE estimates.

Method 1: Costs Using Web Logger-Derived FTEs

This analysis involved using the web logger-derived FTE data described in the previous section. To account for time spent during the construction and post-construction phases, the researchers assumed the following distribution of time percentages: 70 percent (pre-construction), 20 percent (construction), and 10 percent (post-construction).

Table 15 shows the results of the analysis. For each district, the researchers calculated an average cost per permit by multiplying the number of hours per title by the average hourly rate associated with that title, adding the labor costs across all permits selected by that district, and then dividing this total cost by the number of permits in the district subsample. For example, for the Amarillo District, the average cost turned out to be $90.17 per permit. Multiplying this unit cost by the total number of permits in FY 2012 (285) produced a $25,699 cost. However, since this cost was associated with permitting activities prior to approval, it was necessary to adjust this value by a factor of 1.3 to account for the time that would be spent during construction and post-construction activities. Multiplying $25,699 by 1.3 produced $33,409.

The equipment cost in Table 15 was obtained by adding computing equipment and vehicle costs, following the methodology discussed earlier. For example, for the Amarillo District, adding computing equipment and vehicle costs produced two values ($5,988 and $7,285) depending on the assumption to estimate computer costs. Table 15 also shows fringe benefit costs (i.e., $33,409 ×0.7222 = $24,055). Office space costs were calculated using the standard office space rate of $15.21/sq. ft. multiplied by the average individual office space of 96 sq. ft. and the number of adjusted FTEs (i.e., $954). The total cost for the Amarillo District was therefore $64,406 (or $65,703, depending on the approach to calculate computer costs). The researchers followed a similar procedure for the other districts (Table 15).

This table also includes costs that the Right of Way and IT divisions incur providing support for UIR and the utility permitting process. The total cost that Right of Way and IT Division personnel incur is about $185,500 (i.e., $69,629 and $115,872, respectively). However, this cost is for all 16,646 permits submitted in FY 2012. The researchers prorated this cost using the number of permits received by the six districts analyzed in the table during the same fiscal year (i.e., 4,694). The prorated costs that Right of Way and IT Division personnel incur are $19,635 and $32,675, respectively (Table 15).

The final calculation involved adding the total costs for district and division costs, then dividing this total by the total number of permits from the six districts in FY 2012 to arrive at an overall average cost. The average cost was $187–$191 per permit. Without including the complex permit from the Pharr District, the average cost would be $123–$125 per permit.

Table 15. Permit Cost Analysis Using Web Logger-Derived FTE Data.

District	Adjusted FTEs Using Method 1	Adjustment Factor for Labor Cost	Average Labor Cost	Equipment Cost		Average Fringe Benefits	Office Space Costs	Total Excluding Overhead	Total Including Overhead	
				Min	Max				Min	Max
Amarillo	0.65	1.30	$33,409	$5,988	$7,285	$24,055	$954	$33,409	$64,406	$65,703
Atlanta	0.67	1.20	$31,964	$4,832	$6,289	$23,014	$977	$31,964	$60,787	$62,244
Fort Worth	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Houston	2.12	1.00	$87,765	$24,888	$29,863	$63,191	$3,099	$87,765	$178,943	$183,918
Laredo	1.04	1.30	$51,816	$7,114	$8,603	$37,308	$1,513	$51,816	$97,751	$99,240
Lufkin	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Odessa	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pharr*	0.95	1.20	$52,701	$4,750	$6,774	$37,945	$1,383	$52,701	$96,779	$98,803
	3.79	1.20	$214,953	$22,147	$30,383	$154,766	$5,529	$214,953	$397,395	$405,631
San Antonio	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Wichita Falls	0.27	1.20	$13,025	$2,220	$2,807	$9,378	$399	$13,025	$25,022	$25,609
ROW Division			$11,265	$0	$0	$8,111	$259	$11,265	$19,635	$19,635
IT Division			$13,197	$9,729	$9,729	$9,502	$247	$13,197	$32,675	$32,675

* Pharr has one complex permit. Upper row is without that outlier/complex permit

Method 2: Costs Using District-Provided FTEs

This analysis involved using the district-provided FTE data mentioned previously. The methodology used for the cost calculations was similar to that used for the web logger-based FTEs, except that the adjusted FTEs in Table 15 were replaced with the adjusted reported FTEs in Table 14. Under this scenario, the average cost would be $365–$369 per permit. As a reference, without including the complex permit from the Pharr District, the average cost would be $360–$363 per permit.

Method 3: Costs Using Average between Web Logger-Derived FTEs and District-Provided FTEs

This analysis involved using an average between the web logger-derived FTEs and district-provided FTEs. Under this scenario, the average cost would be $256–$260 per permit. As a reference, without including the complex permit from the Pharr District, the average cost would be $227–$229 per permit.

OTHER PERMITTING COSTS

In addition to costs that districts explicitly provided, the researchers took into consideration the following cost components that were the result of feedback received during the regional stakeholder workshops (see Chapter 2):

- Cost to maintain UIR.
- Cost to manage a fee collection process.
- Coordination costs.
- Cost of unmet staffing needs.

Cost to Maintain the UIR System

The utility permitting cost analysis in the previous section did not consider the cost to maintain the UIR system. A cost analysis assuming a discount factor of four percent yields a cost estimate of $96,326 to maintain UIR every year (Appendix H). The average cost for maintaining UIR is $6 per permit, considering that 16,646 utility permits were processed in FY 2012.

Cost to Manage a Fee Collection Process

During the regional stakeholder workshops, district officials expressed concern about the need for additional FTEs to manage monetary transactions provided a permit fee is implemented. District officials also suggested that handling the collection of permit fees should be the

responsibility of a business office, preferably in Austin, not of those who review and approve permits at the district level.

TxDOT Finance Division officials provided some feedback on the resources that would be necessary to manage utility and driveway permit fees. This feedback is based on their experience collecting and processing fees for the web-based customer self-service and payment method used to process outdoor advertising permits. The additional staff requirements include an Accountant II (10 percent effort) and an Accountant VI (five percent effort). This staffing estimate assumes the collection of permit fees will be done through a credit card transaction, and funds will be deposited in a state treasury account. On a daily basis, an Accountant II would review and create a summarized report for internal and external deposit, document refunds, and scan documentation for retention. The Accountant VI would review and approve these entries.

Finance Division officials indicated that districts would have to shoulder the responsibility of coordinating with applicants and resolving some permit fee-related issues such as refund requests. The Finance Division would only manage the monetary transaction aspects. The number of driveway and utility permits submitted in FY 2012 was roughly 25,000 (or roughly about 1,000 permits per district on average). Assuming five percent of applicants request refunds or require some additional assistance by districts, and the processing time at the district level is an hour, the total time that district staff would spend resolving permit-fee related requests would be 50 hours (or 0.02 FTEs). Combining data from all the districts, the total staff time required for permit fee administration activities would be 0.5 FTEs (i.e., 0.02 FTEs multiplied by 25 districts).

For outdoor advertising permits, TxDOT handles web-based credit card payments using Texas.gov, which is a public-private partnership between the state and Texas NICUSA, and offers secure payment processing for multiple services. The web-based system charges a flat 2.25 percent credit card processing fee and 25 cents per transaction fee to the applicant (in addition to the outdoor advertising permit fee). Because the customer pays the processing fee, this cost does not add to the administrative cost to manage the collection of permit fees.

Table 16 shows the results of the analysis to estimate the cost for processing permit fee monetary transactions. The methodology takes into consideration labor, equipment, and office space costs.

Table 16. Administrative Cost to Manage the Collection of Permit Fees.

			Labor Cost			**Equipment Cost**		**Average Fringe Benefits**	**Office Space Cost**	**Total Cost**	
Staff	**Level**	**FTEs**	Hours/yr	Salary Rate	Cost	Min	Max			Min	Max
Accountant	II	0.1	208.8	$19.37	$4,045	$8	$269	$2,913	$146	$7,113	$7,374
	VI	0.05	104.4	$33.31	$3,478	$4	$135	$2,504	$73	$6,059	$6,189
Program Specialist	II	0.5	1044	$23.75	$24,795	$42	$1,347	$17,852	$730	$43,419	$44,724

Table 17 shows the additional cost associated with fee processing and collection. The cost per permit is the cost per year divided by the total number of driveway and utility permits submitted in FY 2012, i.e., 25,386. The total cost of fee processing and collection is between $2.23 and $2.30 per permit.

Table 17. Additional Cost Associated with the Collection of Permit Fees.

	Minimum	Maximum
Cost per Year	$56,590	$58,287
Cost per Permit	$2.23	$2.30

Coordination Costs Related to the Permitting Function

At the regional stakeholder workshops, district officials stated that they spend a significant amount of time related to the permitting function beyond the time needed to process individual permits. Examples of overall permit coordination activities, both for utilities and driveways, include, but are not limited to, the following:

- Time spent on general coordination with a wide range of stakeholders, e.g., at utility coordination meetings, workshops, and technical review board meetings.
- Time spent discussing platting and other issues related to driveway and utility permitting with cities.

The initial calculation for utility permit administrative costs did not consider these general coordination activities. The researchers tried to capture this level of effort through the web logger (Chapter 2). However, the information collected was insufficient to develop a reliable estimate. In addition, it was difficult to separate the coordination time from time spent on utility and driveway permitting.

Because the permit coordination effort can vary among districts, the researchers decided to conduct a sensitivity analysis assuming three levels of coordination effort at each district: 0.025 FTEs, 0.05 FTEs, and 0.1 FTEs. Table 18 shows the results of the analysis, assuming a mid-level utility coordinator as the typical staff person involved in permit-related coordination activities. For the three coordination effort levels (i.e., 0.025 FTEs, 0.5 FTEs, and 0.1 FTEs), the additional cost is $2, $4, and $8, respectively.

Table 18. Additional Cost Spent on General Coordination Efforts.

	Staff	Utility Coordinator (Level III)		
	Salary Rate	$21.77/hr.		
	FTE per District	**0.025**	**0.05**	**0.1**
	State FTEs (All Districts Combined)	**0.625**	**1.25**	**2.5**
Labor Cost	Hours/year	1305	2610	5220
	Cost	$28,409	$56,818	$113,635
Equipment Cost	Min	$52	$104	$209
	Max	$1,683	$3,367	$6,734
Average Fringe Benefits		$20,454	$40,909	$81,817
Office Space Cost		$913	$1,825	$3,650
Additional Administrative Cost to TxDOT	Min	$49,828	$99,656	$199,311
	Max	$51,459	$102,918	$205,836
Additional Cost Per Permit	Min	$1.96	$3.93	$7.85
	Max	$2.03	$4.05	$8.11

Cost of Unmet Staffing Needs

According to TxDOT officials, the implementation of a fee structure provides an opportunity to address unmet permit staffing needs. TxDOT officials have historically complained about insufficient staff, as there has been a consistent unmet need of additional inspectors to help perform quality inspections (also documented in Chapter 2). The addition of new inspectors can result in a more effective permit review and approval process while meeting stakeholder expectations.

As a precedent, an efficient permitting system that met stakeholder expectations is TxPROS (now managed by TxDMV). TxPROS modernized the routing and permitting of oversize and overweight loads. This automated system allowed TxDMV to issue permits on a more timely basis and led to an increase of over $30 million in permit revenue for fiscal year 2012 (*37*). Similarly, the City of San Antonio (COSA) adjusted its permit fee structure based on discussions with utility industry representatives and was able to add inspection staff, which in return benefitted the industry (*38*).

The researchers assumed various levels of additional FTEs for a field inspector to estimate the additional cost per permit. The staffing need across all districts varies based on the number of permit applications received each year. As mentioned, Amarillo District officials estimated that an additional 0.25 FTEs are required to conduct adequate inspections, whereas Fort Worth District officials estimated an additional three FTEs are needed to perform quality inspections. Therefore, the researchers assumed three levels of unmet staffing need at the district level: 0.25 FTEs, 0.5 FTEs, and 1.0 FTEs. As Table 19 shows, the monetary impact of these three levels of unmet staffing needs ranges from $20–$78 permit. The average is $45 per permit.

Table 19. Sensitivity Analysis of Additional Staffing Needed for More Efficient Operations.

	Staff	Field Inspector (Level III)		
	Salary Rate	\$17.24/hr.		
	FTE per District	**0.25**	**0.5**	**1.0**
	State FTE (All Districts Combined)	**6.25**	**12.5**	**25**
Additional Administrative Cost to TxDOT	Min	\$397,246	\$794,470	\$1,588,918
	Max	\$413,037	\$826,051	\$1,652,080
Additional Cost Per Permit	Min	\$19	\$38	\$76
	Max	\$20	\$39	\$78

For this analysis, the researchers assumed that the additional inspectors would benefit primarily utility and non-residential permits. The reason is that residential permits require less inspection effort that utility and non-residential permits. Hence, the additional staffing cost is added only to the cost of these types of permits. The total number of driveway permits processed in FY 2012 statewide was 8,740 (Appendix C). Assuming that half of the driveway permits submitted in FY 2012 were non-residential (i.e., 4,370) the average per permit cost for additional staffing is obtained by dividing the total cost by the sum of utility permits and non-residential permits (16,646 + 4,370 = 21,016).

UTILITY PERMITTING COST ESTIMATE

Table 20 shows the results of the analysis. The numbers result from adding the basic cost estimate, the total cost to maintain the UIR system, the cost to manage the collection of permit fees, coordination costs, and the cost of unmet staffing needs. For cost estimation purposes, the researchers used average cost values. The refined average cost to process utility permits is calculated by dividing the average total cost by the number of utility permits received in FY 2012 (16,646). The average cost for utility permitting is \$312–\$318 per permit whereas the total administrative cost is roughly \$5.3 million annually.

Table 20. Final Utility Permitting Costs.

Analysis Strategy	Category	Min	Max
Average of District Provided FTEs and Web Logger-Derived FTEs (Method 3)	Average Cost per Permit	\$312	\$318
	Total Cost per Year	\$5,201,461	\$5,298,229

Table 21 shows the percentage of time and effort spent for utility inspection by each district based on the data provided through the web logger. Overall, inspection activities represent 48 percent of the average time spent on utility permitting and 59 percent of the total cost. From the analysis, the average time spent per utility permit is 4.5 hours.

Table 21. Percentage Time and Effort Spent for Utility Inspection by Each District.

District	% Average Time Spent on Permit (hrs./permit)	% Labor Costs ($/permit)
Amarillo	74	72
Atlanta	50	42
Fort Worth	n/a	n/a
Houston	46	36
Laredo	36	41
Lufkin	n/a	n/a
Odessa	n/a	n/a
Pharr*	26	26
	93	93
San Antonio	64	66
Wichita Falls	39	18
Average†	**48**	**59**

* Pharr had one complex permit. Upper row is without complex permit.

† The overall average takes into consideration the complex permit from Pharr.

CHAPTER 5. DRIVEWAY PERMIT PROCESSING TIMES AND COSTS

INTRODUCTION

This chapter provides a summary of the process to characterize the time and costs associated with the management of driveway permits at TxDOT. The methodology for developing driveway permitting costs included assembling the data obtained from the web-based permit activity logger; an analysis of related data items such as salary rates; facility rates, and equipment rates; and inclusion of coordination, fee management, and IT costs.

DRIVEWAY PERMIT DATA VALIDATION

The researchers followed a similar approach for driveway permit data as that followed for utility permit data. This determination included identification of TxDOT personnel who are typically involved in driveway permitting activities (with a focus on titles and functions, as opposed to individual names), length of time in which they are involved in those activities, and resources they use (including, but not limited to, computer and communication resources, office supplies, vehicles, and office space).

The researchers used the web-based utility and driveway permit activity logger to collect information needed to identify title and function of TxDOT users as well as time and resources spent on managing driveway permits. Unlike the analysis in Chapter 4, the researchers did not have the advantage of a system similar to UIR for validating the manual entries of driveway permits in the web-based logger. As a result, the researchers contacted TxDOT district officials to request clarifications and/or update web-based activity logger entries in locations where the entries were incomplete or there were discrepancies in the recorded information. Finally, the researchers updated relevant financial data such as salary rates, vehicle rates, and office space rates, and validated these rates as needed using data from the interviews and external sources.

The researchers collected information from all 10 selected districts through the web logger system. The researchers expected the districts to provide as much information as possible on the time and resources they spend processing the selected permits. Because of the possibility that districts might underreport their level of effort, the researchers spent a significant amount of time and effort with the districts and conducted further validations with other pieces of information to identify valid records that could be used for the analysis. Figure 13 shows the workflow used to select the permit records for the analysis.

In total, the 10 selected districts provided 103 driveway permits through the web-based logger. After conducting the validation process, the researchers identified 95 permits that could be used for the analysis. Table 22 summarizes the number of driveway permits per district and type of district (metro, urban, and rural).

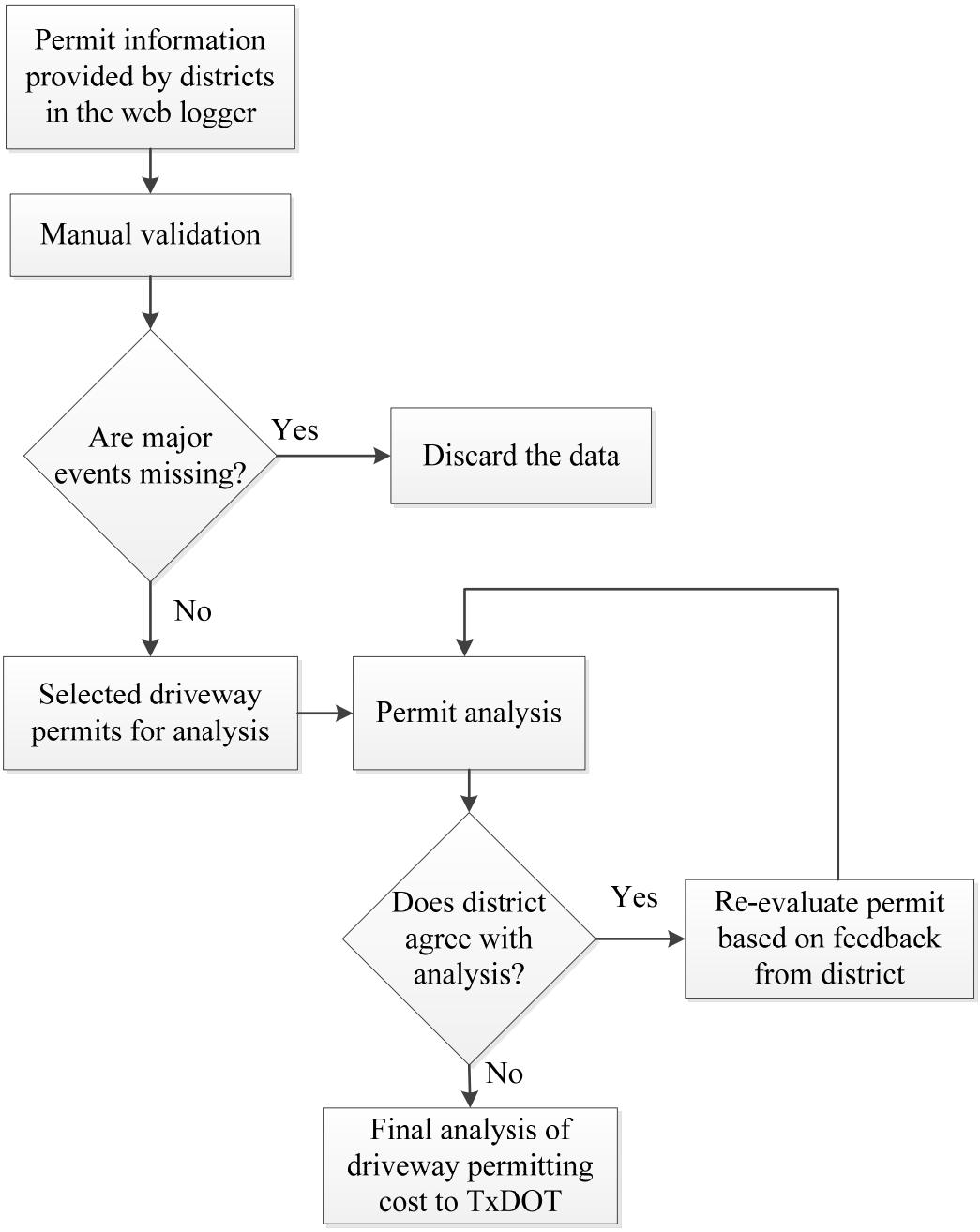


Figure 13. Workflow to Select Driveway Permits for the Analysis.

Table 22. Number of Usable Driveway Permits through the Web Logger.

District	Type		
	Metro	**Urban**	**Rural**
Fort Worth	9		
Houston	8		
San Antonio	4		
Amarillo		9	
Laredo		n/a	
Odessa		11	
Pharr		3	
Atlanta			23
Lufkin			6
Wichita Falls			22
Subtotal	**21**	**23**	**51**
Total	**95**		

DATA ANALYSIS

Data Processing

After manually validating the sample of driveway permits from the web-based logger, the researchers compiled and grouped the data into residential and non-residential permits. Data elements included permit ID, event, activity descriptions, time spent per activity, miles driven, and title of the staff member working on each activity. Next, the researchers compiled the data needed to convert the resources used into dollar amounts per permit. Similar to the utility permit analysis, the researchers included computing equipment costs and vehicle costs.

Basic Permit Data Analysis

The researchers applied the methodology described in the previous section to the usable permits in the sample, which enabled the calculation of a preliminary estimate of the resources spent per permit as well as averages for all the permits from each district. Table 23 and Table 24 summarize the result of the process for non-residential permits. Table 24 shows that the basic cost to process non-residential permits is $271 – $278 per permit.

Table 25 and Table 26 show the results of a similar analysis for residential permits. The average cost of residential permits using web logger derived FTEs ranges from $127–$130. As indicated, the average time required to process non-residential driveway permits is almost double the time required for processing residential permits, which explains the much higher cost to process non-residential permits compared to residential permits.

Table 23. Non-Residential Driveway Permit Cost Analysis: Part 1.

District	Average Time Spent on Permit (hrs./ permit)	Average Miles Driven (miles/ permit)	Average Labor Cost ($/permit)	Number of Permits for Analysis	Total Number of Permits Submitted in FY 2012	Number of Non-residential Permits (assumed)	Average Time Spent on Permits in FY 2012	Calculated FTEs
Amarillo	7.2	68.7	$181	9	182	91	651	0.31
Atlanta	4.3	83.7	$92	3	206	103	439	0.21
Fort Worth	17.1	79.4	$428	7	352	176	3017	1.44
Houston	4.6	18.6	$110	8	745	373	1706	0.82
Laredo	n/a	n/a	n/a	n/a	299	150	n/a	n/a
Lufkin	n/a	n/a	n/a	n/a	332	166	n/a	n/a
Odessa	2.4	17.1	$55	8	356	178	432	0.21
Pharr	3.0	40.0	$70	1	342	171	511	0.24
San Antonio	4.6	79.3	$123	3	1300	650	2979	1.43
Wichita Falls	3.3	36.0	$58	5	205	103	339	0.16
Average	**5**	**47**	**$124**					

Table 24. Non-Residential Driveway Permit Cost Analysis: Part 2.

District	Average Labor Cost per District	Equipment Cost		Average Fringe Benefits	Office Space Costs	Total Cost Including Overhead		Average Permit Cost (Assuming 50% of Permits are Residential)	
		Min	Max			Min	Max	Min	Max
Amarillo	$16,467	$3,172	$4,642	$11,856	$455	$31,949	$33,419	$351	$367
Atlanta	$9,458	$4,342	$4,848	$6,810	$307	$20,916	$21,422	$203	$208
Fort Worth	$75,256	$7,136	$10,882	$54,185	$2,110	$138,686	$142,433	$788	$809
Houston	$40,792	$3,572	$5,125	$29,370	$1,193	$74,927	$76,480	$201	$205
Laredo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Lufkin	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Odessa	$9,838	$1,553	$1,988	$7,084	$302	$18,777	$19,212	$105	$108
Pharr	$11,948	$3,457	$4,019	$8,603	$357	$24,365	$24,928	$142	$146
San Antonio	$80,203	$25,974	$28,858	$57,746	$2,083	$166,007	$168,890	$255	$260
Wichita Falls	$5,978	$1,869	$2,225	$4,304	$237	$12,387	$12,743	$121	$124
Average								**$271**	**$278**

Table 25. Residential Permit Cost Analysis: Part 1.

District	Average Time Spent on Permit (hrs/permit)	Average Miles Driven (miles/permit)	Average Labor Cost ($/permit)	Number of Permits for Analysis	Total Number of Permits Submitted in FY 2012	Number of Non-Residential Permits (assumed)	Average Time Spent on Permits in FY 2012	Calculated FTEs
Amarillo	n/a	n/a	n/a	n/a		0	n/a	n/a
Atlanta	3.9	67.0	$86	20	206	103	403	0.19
Fort Worth	5.0	82.5	$121	2	352	176	880	0.42
Houston	n/a	n/a	n/a	n/a		0	n/a	n/a
Laredo	n/a	n/a	n/a	n/a		0	n/a	n/a
Lufkin	2.7	52.3	$63	6	332	166	444	0.21
Odessa	1.9	11.3	$39	2	356	178	344	0.16
Pharr	1.4	19.0	$31	2	342	171	247	0.12
San Antonio	2.4	10.0	$60	1	1300	650	1557	0.75
Wichita Falls	1.9	21.4	$33	17	205	103	190	0.09
Average	**2.7**	**38**	**$62**					

Table 26. Residential Permit Cost Analysis: Part 2.

District	Average Labor Cost per District	Equipment Cost		Average Fringe Benefits	Office Space Costs	Total Cost Including Overhead		Average Permit Cost (Assuming 50% of Permits are Residential)	
		Min	Max			Min	Max	Min	Max
Amarillo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Atlanta	$8,883	$3,481	$3,946	$6,396	$282	$19,042	$19,506	$184.87	$189.38
Fort Worth	$21,252	$7,302	$8,395	$15,301	$615	$44,470	$45,563	$252.67	$258.88
Houston	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Laredo	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Lufkin	$10,479	$4,372	$4,802	$7,545	$310	$22,707	$23,136	$136.79	$139.38
Odessa	$6,983	$1,032	$1,379	$5,028	$241	$13,282	$13,629	$74.62	$76.57
Pharr	$5,318	$1,625	$1,818	$3,829	$173	$10,945	$11,138	$64.01	$65.13
San Antonio	$38,799	$3,350	$4,857	$27,936	$1,089	$71,174	$72,681	$109.50	$111.82
Wichita Falls	$3,379	$1,098	$1,311	$2,433	$133	$7,043	$7,256	$68.71	$70.79
Average								**$127**	**$130**

Readers should note the following caveats in connection with the calculations:

- The number of driveway permits submitted in FY 2012 that TxDOT provided did not separate permits between residential and non-residential permits. Almost half of the permits in the web logger data that districts provided were residential permits. In the absence of any additional information, the researchers assumed 50 percent of the permits submitted in FY 2012 were residential permits.

- In August 2013, TxDOT introduced new TIA requirements for non-residential driveways (Appendix A). These requirements were implemented after the data collection for the research had already ended. Therefore, the analysis in this chapter does not include the resources spent on TIAs after the release of the new requirements. The new TIA practices are still evolving, with different districts adopting different practices. For example, the Bryan District staff performs TIAs for the applicants, whereas at the San Antonio District, the applicant has to perform and submit the TIAs along with the Commercial and Industrial Driveway request form.

- For some permits, office staff times at certain permit phases (planning, pre-construction, construction, and post construction) were missing. The researchers made assumptions with respect to the missing data based on additional feedback from districts.

- Driveway permit entries could not be validated unlike utility permits, which were validated using data from the UIR system.

- The researchers assumed average salary rates instead of using the maximum and minimum salary rates for each typical title.

During meetings and subsequent conference calls, the researchers requested district officials to provide an overall estimate of the total number of FTEs involved in the permitting process (Chapter 2). After a preliminary data analysis, district officials had an opportunity to reevaluate the FTEs based on calculated values and reported values in the interviews (if any). This exercise provided a validation of the values obtained from the web logger-based sample. The result of this analysis was a set of permitting costs that were slightly higher than those shown in Table 23 through Table 26. Table 27 summarizes the corresponding results. Using average values, the basic cost for non-residential permits is $280–$288 per permit. Similarly, the basic cost for residential permits is $147–$149 for residential permits.

Table 27. Initial Driveway Permitting Costs Using Three Different Methods (without Maintenance Cost, Coordination Cost, Cost to Manage Fee and Cost of Unmet Staffing).

Analysis Strategy	Category	Non-Residential Permits		Residential Permits	
		Min	Max	Min	Max
Method 1 (Web Logger-Derived FTEs)	Average Cost per Permit	$271	$278	$127	$130
	Total Cost per Year†	$1,184,005	$1,216,868	$556,344	$569,315
Method 2 (District Provided FTEs)	Average Cost per Permit	$289	$297	$166	$168
	Total Cost per Year†	$1,261,986	$1,299,027	$723,938	$736,910
Method 3 (Average of Methods 1 and 2)	Average Cost per Permit	$280	$288	$147	$149
	Total Cost per Year†	$1,222,996	$1,257,948	$640,141	$653,113

† This estimate is for all 25 districts in Texas. Half of the 8,740 driveway permits submitted in FY12 in Texas are assumed to be residential permits.

OTHER PERMITTING COSTS

Similar to the utility permitting cost analysis in Chapter 4, the researchers took into consideration the following cost components that were the result of feedback received during the regional stakeholder workshops:

- Cost to develop and maintain a driveway permitting system. Assuming a four-percent discount factor and a 20-year analysis period, the estimated cost to develop and maintain driveway permitting system is $231,602/year (Appendix I). Considering the number of permits submitted in FY 2012 is 8,740, the average cost per permit would be approximately $26.

- Cost to manage a fee collection process. As discussed in Chapter 4, implementing a permit fee structure for driveway permits would require additional FTEs to manage monetary transactions. The additional cost associated with fee processing and collection is around two dollars per permit.

- Coordination costs. Coordination cost is an outcome of the amount of time related to the permitting function beyond the time needed to process individual permits. The additional cost per permit at three levels of effort (0.025 FTE, 0.5 FTE, and 0.1 FTE) is $2–$8.

- Cost of unmet staffing needs. As in the case of the utility permit analysis in Chapter 4, implementing a fee structure would provide an opportunity to address unmet permit staffing needs. The researchers assumed several levels of additional inspector FTEs. In principle, additional inspectors would benefit primarily non-residential permits because residential permits require less inspection effort. Assuming that half of the driveway

permits are non-residential, the cost of additional inspection staff would be $19–$78 per permit, for an overall average of about $45 per permit.

DRIVEWAY PERMITTING COST ESTIMATE

Table 28 shows the final driveway permitting cost results. These costs are the result of adding the basic driveway permit costs, the cost to develop a driveway permitting system, the cost to manage the collection of permit fees, coordination costs, and the cost to address unmet staffing needs. As shown, the cost is around $360 per non-residential permit and $180 per residential permit. The total annual cost of non-residential permits is around $ 1.6 million and the total cost for residential permits is around $800,000, resulting in a combined annual cost of $2.4 million.

Table 28. Final Driveway Permitting Costs.

Analysis Strategy	Category	Non-Residential Permits		Residential Permits	
		Min	Max	Min	Max
Average of District Provided FTEs & Web Logger-Derived FTEs (Method 3)	Average Cost per Permit	$357	$366	$180	$183
	Total Cost per Year†	$1,561,289	$1,596,241	$785,702	$798,674

† This estimate is for all 25 districts in Texas. Half of the total 8,740 driveway permits submitted in FY12 in Texas are assumed to be residential permits.

CHAPTER 6. POTENTIAL FEE ALTERNATIVES FOR UTILITY AND DRIVEWAY PERMITS

INTRODUCTION

This chapter summarizes the analysis to develop potential fee alternatives to cover utility and driveway permitting costs at TxDOT. The researchers developed and compared several alternative fee structures.

FEE ALTERNATIVES FOR UTILITY PERMITS

Flat Fee

This fee structure is simple to conceptualize. Other states (e.g., Indiana and Pennsylvania) and cities (e.g., Washington D.C., and San Antonio) have implemented it. From Chapter 4, the average cost per utility permit is in the $312–$318 range. From this perspective, a flat fee of $315 would be appropriate to recover most of the administrative costs that TxDOT incurs when processing utility permits (including processing complex permits and managing the collection of fees).

In addition to its conceptual simplicity, a flat fee structure would be worth considering if it is difficult to assess the administrative complexity of a utility permit or the complexity of a proposed installation at the time utility owners submit their permit application. In practice, experienced staff at TxDOT can probably estimate the complexity of a permit based on information included in the permit application. Nevertheless, this strategy could serve as a good starting point for implementing a fee structure for utility permits.

Fee Based on Administrative Cost Complexity

This fee structure is based on the assumption that the cost to process permits is a function of the complexity of the permitting process. This means that permits needing more time and resources to process would require or justify a higher permitting fee. An incremental fee structure that increases with the actual time and resources spent on permitting can be justifiable for resource-intensive complex permits. This type of fee is used in states such as California, New Jersey, Pennsylvania, Virginia, and Washington. One way to implement a fee based on administrative cost complexity is by using the following fee structure:

$$Permit\ Fee = Base\ fee + Hourly\ permit\ processing\ rate\ \times Extra\ time\ spent$$

where

- Base fee = $315, which covers up to 4.5 hours of district staff hours and resources used to review and process a “typical” permit application. This base fee would be non-refundable.

- Hourly permit processing rate = $70.

- Extra time spent = Time spent reviewing and processing a permit application in excess of the limit included in the base fee.

The average time spent per permit is 4.5 hours (Chapter 2). The administrative cost associated with this processing time is $315, resulting in a permit processing rate of $70 per hour. When a utility permit exceeds the 4.5-hour threshold, the additional administrative cost would be recovered by using the incremental fee. Districts could modify or customize the 4.5-hour threshold. However, this would not be advisable in order to ensure consistency in business practices across the state.

The base fee would be collected when utility owners submit permit applications. District officials would determine the complexity of the utility permit during the initial permit application review. If the requested permit is determined to be complex, the utility permit coordinator would begin tracking the district level of effort and assess the fee, which would be collected when the district approves the permit application.

Fee Based on Installation Complexity or Length

This fee structure is based on the assumption that the cost to process permits is a function of the complexity and/or length (i.e., the physical characteristics) of the proposed utility installation. From this perspective, more complex or long utility installations would require a district to dedicate more time and resources during the permitting process and would, therefore, require or justify a higher permitting fee. This type of fee is used in states such as Alaska, New Jersey, Pennsylvania, and Virginia. One way to implement a fee based on the complexity or length of the proposed utility installation is by using the following fee structure:

$$Permit\ Fee = Base\ fee + Inspection\ Rate\ \times No.of\ inspections\ post\ first\ inspection$$

where

- Base fee = $315, which covers one field inspection. This base fee is non-refundable.
- Inspection rate = $200/inspection.
- No. of inspections post first inspection = Number of field inspections carried out by a district inspector in excess of the first inspection, which is included in the base fee.

The labor cost for inspections is roughly 59 percent of the total administrative cost to process a typical permit (see Table 21). At $315 per permit, this translates to $200 per inspection. The average time spent on inspection varies across districts. Districts could customize the hourly rate based on their typical amount of inspection time and total processing time of a permit. However, this would not be advisable in order to ensure consistency in business practices across the state.

Districts indicated that a challenge in implementing this fee structure is the current file limits in the UIR system, i.e., each permit application can accept up to five files, each one a maximum

size of 5 MB. For some long installations, this file size limit is not enough to upload all the required files. Before imposing fees, this system limitation would need to be addressed to determine what file limits make the most sense considering that applicants would have to pay a permit fee. Modification of the 5 MB limitation in the UIR system would require coordination between the Right of Way Division and the IT Division.

Comparison

Table 29 compares advantages disadvantages, and challenges associated with implementation of the three fee structures for utility permits.

Table 29. Comparison of Potential Utility Permit Fee Structures.

Fee Structure Strategy	Advantage	Disadvantage/Challenge
Flat fee	Easy to implement and understand.	Flat fee rate penalizes simple permits but favors complex permits. Permitting process varies by permit type.
Fee based on administrative cost complexity	Fee is based on time spent on permit.	Ignores installation complexity and inspection time. Permitting process varies among the districts. Requires documentation for estimating time spent on a permit.
Fee based on installation complexity or length	Considers physical characteristics of proposed installation. Fee is based on permit type and required inspection staff effort.	Number of inspections may not reflect the time spent on each inspection. Determining the inspection rate.

FEE ALTERNATIVES FOR DRIVEWAY PERMITS

Flat Fee Based on Type of Driveway

This fee structure is simple to conceptualize. Most districts supported the idea of a separate flat fee for residential and non-residential driveway permits. Based on the administrative cost analysis for driveway permits in Chapter 5, the average cost of a non-residential driveway permit is approximately $360, while the average cost of a residential permit is approximately $180. From this perspective, a flat fee of $360 (for non-residential permits) or $180 (for residential permits) would be appropriate to recover most of the administrative costs that TxDOT incurs when processing driveway permits.

At the regional stakeholder workshops, there was some discussion on how to define a residential driveway properly and the need to use a standardized definition. It turned out that, in practice, districts use slightly different definitions. As a reference, the TxDOT *Roadway Design Manual* includes the following definitions for residential and non-residential driveways (*6*):

- A residential driveway is a driveway serving a single-family residence or a duplex and has less than 20 vehicles per day using the driveway.

- A non-residential driveway is a driveway having a traffic volume in excess of 20 vehicles per day and is not a public street or a residential driveway.

Fee Based on Time Spent on a Permit

This fee structure is based on the assumption that the cost to process permits is a function of the amount of time and resources spent reviewing and processing a permit application. One way to implement a fee based on administrative cost complexity is by using the following fee structure:

$$Permit\ Fee = Base\ fee + Hourly\ permit\ processing\ rate\ \times Extra\ time\ spent$$

For residential permits:

- Base fee = $180, which covers up to three hours of district staff time and resources used to review and process residential permit. This base fee is non-refundable.
- Hourly permit processing rate = $60.
- Extra time spent = Time spent reviewing and processing a permit application in excess of the limit included in the base fee.

For non-residential permits:

- Base fee = $360, which covers up to five hours and resources used to review and process non-residential permit application. This base fee is non-refundable.
- Hourly permit processing rate = $70.
- Extra time spent = Time spent reviewing and processing a permit application in excess of the limit included in the base fee.

Table 23 and Table 25 show average times spent on non-residential permits (five hours) and residential permits (three hours), respectively. The rate of $60/hour for residential permit results from dividing $180 by three hours. Similarly, the rate of $70/hour for non-residential permits results from dividing $360 by five hours. The non-refundable base fee for both types of permits would be collected when a permit application is submitted. The time that officials spend on permitting varies among districts. Districts could modify or customize the threshold time for residential and non-residential permits. However, this would not be advisable in order to ensure consistency in business practices across the state.

TxDOT officials considered this fee structure as a logical option, but a major concern was difficulty in tracking time and effort. Typically, inspections are performed on multiple types of permits in a single trip and it is challenging to separate time spent on each permit. Further, according to TxDOT officials, inaccurate time estimates could lead to complaints regarding the calculation and fee for a particular permit.

Fee Based on Driveway Complexity or Impact

This fee structure is based on the assumption that the cost to process permits is a function of the geometric characteristics and/or impact of the driveway. At one of the workshops, district officials suggested establishing a permit fee based on the need for additional design features, such as signals, number of left-turn lanes, subdivision left turn lanes, a combination of both left turns, and signals. Fee structures could also be based on the time required for drainage and TIA reviews. However, there was no consensus on how to manage these complexities.

As mentioned, the TxDOT *Roadway Design Manual* defines a non-residential driveway as a driveway having a traffic volume in excess of 20 vehicles per day and is not a public street or a residential driveway (*6*). It might be necessary to adjust this definition or the threshold between residential and non-residential driveways to support the use of a fee based on the geometric characteristics and/or impact of a proposed driveway.

According to new TxDOT requirements, a TIA is required for non-residential driveways that are connected to major traffic generators (Appendix A). The TIA requirement can be waived if the development has little impact on traffic operations (e.g., a light commercial development) and is based on a list of certain types of commercial driveways. However, the list does not consider metrics that could be standardized among districts such as anticipated traffic volumes, number of driveway lanes, or additional design features.

According to district officials, a common situation is multiple driveways included in a single driveway permit application. Three possible types of multiple driveway permits are:

- Multiple driveways within the same property or location. This type of permit usually does not require extra effort to review and process. A single permit and fee would be appropriate.

- Multiple driveways at different properties or locations. This type of permit frequently requires a different level of effort to approve and inspect each driveway. There should be a separate permit (and fee) for each property or location.

- Multiple driveways at the same location but one or more driveways will be built in the future as part of a long-term development plan. In this case, all the driveways (current and future) should be reviewed as a single group as part of the long-term plan to ensure compliance with access management requirements. However, there should be a separate permit fee for each driveway construction phase because each new driveway would require some level of review and inspection.

As a reference, some state DOTs (e.g., in Washington, Indiana, and Pennsylvania) have a fee structure based on the amount of driveway-generated traffic and the number of driveways required. For example, the fee structure at WSDOT includes the following categories:

- Category I (low volume) connections include driveways expected to serve no more than 100 weekday vehicle trip ends.

- Category II (medium-level) connections for traffic generators that serve up to 1,500 weekday vehicle trip ends.

- Category III (high-volume) connections for traffic generators that serve more than 1,500 weekday vehicle trip ends.

Similarly, PennDOT has a fee structure for low traffic volume (25–750 vehicles/day) and INDOT has a fee structure for non-residential driveways that separates minor commercial driveways and major commercial driveways based on the impact on auxiliary lanes.

Comparison

Table 30 compares advantages, disadvantages, and challenges associated with each of the proposed fee strategies. The researchers discussed these fee alternatives and obtained feedback in the regional stakeholder workshops (described in Chapter 2).

Table 30. Comparison of Potential Driveway Permit Fee Structures.

Fee Structure Strategy	Advantage	Disadvantage/Challenge
Flat fee	Easy to implement and understand. Separate, lower fee for residential permits, which are less labor-intensive than non-residential permits.	Flat fee rate penalizes simple permits but favors complex permits. Permitting process varies by permit type. Number of residential versus non-residential permits might vary by district.
Fee based on the time spent on a permit	Fee is based on time spent on permit.	Ignores driveway complexity and inspection time. Permitting process varies among the districts. Requires documentation for estimating time spent on a permit.
Fee based on driveway complexity or impact	Considers physical characteristics of proposed installation. Fee is based on permit type and required inspection staff effort.	Number of inspections may not reflect the time spent on each inspection. Determining the inspection rate.

EXPIRED PERMITS, AMENDMENTS, AND ILLEGAL INSTALLATIONS

Stakeholder workshop participants indicated that any potential fee structure for utility or driveway permits would need to include provisions for situations such as expired permits, amendments to approved permits, and fines for illegal utility or driveway installations.

For expired utility or driveway permits, there was consensus among stakeholder workshop participants that the fee for reinstating a permit should be the same as the fee for a new permit. While there is a possibility that fewer resources would be necessary to review and approve the new permit, as a matter of policy TxDOT should encourage applicants to follow through on their

approved permit installations in a timely manner. A full permit reinstallation fee would help to reduce the number of approved permits that applicants let expire.

For amendments to approved permits (as long as they have not expired), the stakeholder workshop participants recommended using a three-tier structure that takes into consideration the amount of extra effort required to review the feasibility of the proposed amendment. Table 31 provides a summary of the three amendment review tiers.

Table 31. Fee Alternatives for Amendments to Existing Utility or Driveway Permits.

Amendment Case	Impact Level	Permit Fee Increase	Advantage	Disadvantage
Little or no impact to roadway operations or drainage and does not require review	Low	0%	Easy to process	No recovery on effort spent for additional review
Limited impact to roadway operations or drainage structures and may require some additional review and inspections	Medium	50%	Provides flexibility to the review process	Subjective interpretation of impact
Considerable impact to roadway operations or drainage structures and requires extensive review and inspections	High	100%	Recoups costs associated with re-review and inspections	Applicants may challenge the basis for declaration of considerable impact

For illegal utility or driveway installations, the stakeholder workshop participants agreed on the need to include a provision for fines in any potential permit fee structure, but acknowledged that a more fundamental problem is that TxDOT lacks the necessary tools to enforce current rules and regulations. A permit fee provision might be in place to bring illegal utility or driveway installations into compliance, but the effectiveness of this provision will be low unless a strong enforcement structure is in place.

The Texas Administrative Code specifies the conditions that make a driveway an illegal driveway, as well as the rules under which utilities can be accommodated on the state right of way. Illegal installations include those that have received approval but are built in a manner different from what TxDOT had originally approved. Current rules are weak on the regulatory and enforcement tools that TxDOT can use to ensure that utility and driveway installations comply with all relevant accommodation requirements. The lack of robust enforcement capabilities is a major factor that prevents TxDOT from managing the right of way more effectively.

During the regional stakeholder workshops, there was some consensus that fines should be commensurate with the level of damage or risk caused. However, in practice, the resulting fine might be subjective and at the discretion of district officials, making this type of fine difficult to implement. A potential strategy would be to set a fixed fine level, e.g., 100 percent of the permit

fee. For example, if the normal permit fee for a non-residential driveway is $360, the cost to the owner of an illegal driveway would be a fine of $360, which would be added to the normal permit fee of $360 if the driveway is allowed to stay.

CHAPTER 7. FEASIBILITY OF TRANSFERRING PERMITTING FUNCTIONS TO MUNICIPALITIES

INTRODUCTION

This chapter documents the feasibility of transferring driveway and utility permitting functions to municipalities or appropriate local jurisdictions. For the most part, the analysis is based on interviews as discussed in Chapter 2, which provided an understanding of the involvement of municipalities in the driveway and utility permitting process, as well as the interaction between municipalities and TxDOT. For completeness, the discussion below summarizes the perspective of both districts and municipalities, including a discussion of challenges associated with transferring permitting functions to the municipalities. For driveway permits, the analysis included an overall discussion of a potential process to ensure access management compliance if permit review is transferred to a municipality as well as potential thresholds for transferring permitting functions to municipalities.

TxDOT DISTRICT AND MUNICIPALITY PERSPECTIVES

Table 32 summarizes utility permitting trends and assessment of the feasibility of transferring the permitting functions to municipalities based on responses from TxDOT district officials. All the districts indicated that utility permitting should remain TxDOT's responsibility.

Table 32. Utility Permitting Trends and Feasibility of Transferring Permitting Function to Municipalities.

TxDOT District	Permitting by Municipalities Currently Enabled	Feasibility of Transferring Permitting Function to Municipalities
Amarillo	No	No
Atlanta	No	No
Fort Worth	Yes (Bus US 287)	No
Houston	No	No
Laredo	No	No
Lufkin	No	No
Odessa	No (In the past, City of San Angelo)	No
Pharr	No (City of McAllen facilitates)	No
San Antonio	No	No
Wichita Falls	No	No

Major challenges for transferring utility permitting functions to municipalities include the following:

- Loss of right of way control to the municipalities.
- Loss of utility information and records to the municipalities.

- Lack of staff, expertise, and resources at the municipalities to review permit applications.
- Lack of incentives for enforcing quality installations at the municipalities.
- Increased management requirements when dealing with multiple jurisdictions for a single roadway, which might be an issue not just for TxDOT but also for utility companies.
- Currently, cities charge permit fees while TxDOT does not have a utility permit fee.
- Conflict of interest in enforcing robust utility accommodation requirements by municipalities.

Apart from these challenges, district officials indicated that the UIR system has streamlined utility permitting at the department. UIR provides a centralized management protocol that is consistent across all districts. Currently, all the districts rely on staff that has extensive training on using the system. Transferring utility permitting to municipalities would require introducing substantial changes to the system to accommodate a new structure in which local jurisdictions would be responsible for permit applications within city limits. It would also require providing substantial training to city officials on using the administrative side of the UIR system and coordinating with applicants and inspectors.

Table 33 summarizes driveway permitting trends and assessment of the feasibility of transferring the permitting functions to municipalities based on responses from TxDOT districts.

Table 33. Driveway Permitting Trends and Feasibility of Transferring Permitting Function to Municipalities.

TxDOT District	Permitting by Municipalities Currently Enabled	Feasibility of Transferring Permitting Function to Municipalities
Amarillo	No	No
Atlanta	No (small section by City of Longview)	Possibly
Fort Worth	No	No
Houston	Yes (Montgomery County)	Possibly
Laredo	Yes (City of Laredo)	Yes
Lufkin	Yes (Cities of Lufkin and Nacogdoches)	Not completely
Odessa	Yes (Cities of Midland and Odessa)	N/A
Pharr	Yes (City of McAllen)	Possibly
San Antonio	No	No
Wichita Falls	No	No

Several districts indicated that, when compared to the utility permitting process, transferring driveway permitting functions to municipalities is feasible. However, major challenges remain, including the following:

- Lack of expertise, information, and staff needed for permitting driveways on TxDOT facilities, including drainage and traffic impact reviews.

- Conflict of interest between the need for access management enforcement and the need to promote business development.

- Lack of an access management policy comparable to that at TxDOT.

- For individual driveway locations, lack of clarity about who would absorb the cost of the transition, installation and maintenance of any required signals, and maintenance of the adjacent right of way.

- Level of access control and inspections.

Table 34 summarizes the feedback from cities and counties on their assessment of the feasibility of taking up utility and driveway permitting responsibilities. Most responders indicated that utility permitting should remain TxDOT's responsibility. The reasons for not taking up utility permitting at the local level include lack of staff and expertise to review utility permits, stringent TxDOT guidelines for utility installations, and costs associated with the transition of the utility permitting function. A few city officials stated that TxDOT's effort to strengthen the utility permitting process has resulted in longer times to review and approve permits than in the past.

Table 34. Local Feedback on the Feasibility of Transferring Utility and Driveway Permitting Functions.

City/County	Feasibility of Utility Permitting by Municipalities	Feasibility of Driveway Permitting by Municipalities
City of Amarillo	N/A	No (liability resources and staff)
City of Atlanta	N/A	No (only if significant development or reducing permitting time)
City of Houston	N/A	Possibly
Missouri City		Possibly
Harris County	N/A	Possibly
Fort Bend County		Possibly
City of Laredo	No (liability and resources)	No (liability, resources, and expertise)
City of Longview	N/A	Yes
City of Lufkin	Possibly	Possibly
City of McAllen	N/A	Yes
City of Odessa	No	Yes
City of San Antonio	N/A	N/A
City of Tyler	N/A	Yes
City of Wichita Falls	No	No

Some local jurisdictions already review and approve driveway permits on the state highway right of way (Table 33). Those jurisdictions are generally satisfied with the current arrangement. However, as Table 34 shows, the interest by other local jurisdictions is not particularly high. Reasons include liability issues related to the driveway permitting process, lack of expertise and

resources to support the driveway permitting process, and the need to rewrite access management policies (infrastructure design and construction manuals) or adopt TxDOT requirements, which are typically more stringent that those at the cities.

CRITERIA AND THRESHOLDS FOR TRANFERRING PERMITTING FUNCTIONS

Table 35 shows the 16 cities that currently have a municipal agreement with TxDOT for driveway access permitting. The City of Fredericksburg did not sign a formal agreement with TxDOT after the initial review of the criteria. Most of the agreements were executed in 2004, 2005, and 2006, and the last two new agreements were executed in 2010. As Table 35 shows, 11 cities with municipal agreement have a population above 50,000 according to the 2010 population census.

Table 35. Cities that have Municipal Agreements with TxDOT for Driveway Access Permitting on State Highways within Their Jurisdiction.

City (District)	TxDOT Memo	Effective Date	Population (2010 Census)
Longview (TYL)	January 30,2004	January 30,2004	80,455
Midland (ODA)	July 20, 2004	April 1, 2004	111,147
Allen (DAL)	November 17, 2004	December 1, 2004	84,246
Frisco (DAL)	November 17, 2004	December 1, 2004	116,989
Plano (DAL)	November 17, 2004 March 31,2010	December 1, 2004 Updated April 1, 2010	259,841
Denton (DAL)	July 15, 2005	August 1, 2005	113,383
Nacogdoches (LFK)	August12,2005	August 12, 2005	32,996
Round Rock (AUS)	August 25, 2005 (ETJ)	August 25, 2005	99,887
Lufkin (LFK)	January 6, 2006	January 6, 2006	35,067
Corinth (DAL)	March 3, 2006	March 13, 2006	19,935
Lockhart (AUS)	March 22, 2006 (city limits)	March 22, 2006	12,689
Tyler (TYL)	September 6, 2006	September 6, 2006	96,900
Odessa (ODA)	August 16, 2006	October 1, 2006	99,940
Georgetown (AUS)	January 31,2007 (ETJ)	January 31, 2007	47,400
Lewisville (DAL)	February 5, 2010	March 1, 2010	95,290
McAllen (PHR)	June 17,2010	June 17, 2010	129,877
Criteria Reviewed			
Fredericksburg (AUS)	April 16,2004		

Each agreement is different. As an illustration, Appendix J shows the municipal agreement between TxDOT and the City of Plano. According to the agreement, the city is expected to provide a copy of approved driveway permits to TxDOT within 10 working days. In addition,

the city is expected to coordinate with TxDOT if there is any impact to drainage on state roads because of the permitted driveway. The City of Plano has the authority to issue permits along SH 190, SH 121, SH 289, and US 75. The procedure for issuing driveway permits is as follows:

- The developer submits a plan with an application to the city. The city also recommends developers to obtain an informal approval from TxDOT for a quicker review and approval process.

- After the initial review, the city forwards the plan to TxDOT.

- If TxDOT agrees with the permit, the city approves the permit. If TxDOT district staff has any issues with the permit application, the district highlights the problems and the applicant or developer is required to address the comments.

Feedback from TxDOT district officials who coordinate driveway permitting with cities within the Austin and Dallas Districts indicates that cities with well-established access management policies and dedicated technical personnel are successful with the local driveway permitting process. Initially, districts had some reservations when the authority to permit driveways on TxDOT facilities was transferred to the cities. However, in most instances, the cities have proved to be an effective steward of the permitting process. At the same time, district officials cautioned against transferring permitting responsibilities to small municipalities that do not have the necessary technical or engineering staff resources to review permit applications and implement the TxDOT access management policy.

From the previous section, stakeholders at the state and local levels did not foresee benefits in transferring the utility permitting function to local jurisdictions. This made it unnecessary to conduct an analysis to determine thresholds for transferring this permitting function. At the same time, discussions with stakeholders did not lead to conclusive answers regarding potential criteria or thresholds for transferring driveway permitting functions to municipalities.

Population was a potential criterion that the researchers discussed with stakeholder workshop participants. Population is used for metropolitan planning organization (MPO) designations and to identify which entities should be responsible for maintaining traffic-related infrastructure. Typically, cities are responsible for maintaining traffic signals on state highways within city limits if the population is at least 50,000 people. A similar threshold could be used for deciding what cities might be eligible for transferring driveway permitting functions.

Table 36 shows that 61 cities would qualify if the threshold is 50,000. This number would decrease to 45 if the threshold is increased to 75,000 and to 29 if the threshold is increased to 100,000. In the absence of any other information or requirement, using 50,000 as the population threshold appears to be both reasonable and practical considering that other business processes involving TxDOT and local jurisdictions already use the same threshold. Table 37 lists the cities with populations greater than or equal to 50,000.

Table 36. Texas Cities According to Population (Based on 2010 Census Numbers).

Population Threshold	Number of Cities in Texas with Population ≥ the Threshold
25,000	115
50,000	61
75,000	45
100,000	29

Table 37. Cities with at Least 50,000 People (According to 2010 Census Numbers).

District	City	Population	District	City	Population
Abilene	Abilene	117,063	Houston	Atascocita	65,844
Amarillo	Amarillo	190,695		Conroe	56,207
Atlanta	Longview[1]	80,455		Baytown[1]	71,802
Austin	Austin	790,390		Houston	2,099,451
	Round Rock	99,887		League City	83,560
Beaumont	Baytown[1]	71,802		Missouri City	67,358
	Beaumont	118,296		Pasadena	149,043
	Port Arthur	53,818		Pearland	91,252
Bryan	Bryan	76,201		Sugar Land	78,817
	College Station	93,857		The Woodlands	93,847
Corpus Christi	Corpus Christi	305,215	Laredo	Laredo	236,091
Dallas	Allen	84,246	Lubbock	Lubbock	229,573
	Carrollton	119,097	Odessa	Midland	111,147
	Dallas	1,197,816		Odessa	99,940
	Denton	113,383	Pharr	Brownsville	175,023
	Flower Mound[1]	64,669		Edinburg	77,100
	Fort Worth[1]	741,206		Harlingen	64,849
	Frisco	116,989		McAllen	129,877
	Garland	226,876		Mission	77,058
	Grand Prairie[1]	175,396		Pharr	70,400
	Irving	216,290	San Angelo	San Angelo	93,200
	Lewisville	95,290	San Antonio	San Antonio	1,327,407
	Mansfield[1]	56,368		New Braunfels	57,740
	McKinney	131,117	Tyler	Longview[1]	80,455
	Mesquite	139,824		Tyler	96,900
	Plano	259,841	Waco	Killeen	127,921
	Richardson	99,223		Temple	66,102
	Rowlett	56,199		Waco	124,805
El Paso	El Paso	649,121	Wichita Falls	Wichita Falls	104,553
Fort Worth	Arlington	365,438	Yoakum	Victoria	62,592
	Grand Prairie[1]	175,396			
	Euless	51,277			
	Fort Worth[1]	741,206			
	Flower Mound	64,669			
	Mansfield[1]	56,368			
	North Richland Hills	63,343			

[1] City limits span more than one district.

Another criterion for transferring the driveway permitting function could be roadway functional class. As a reference, Table 38 lists the total number of centerline miles associated with specific functional classes of state roads (except freeway sections) that are located within city limits. As the table shows, using functional class as the *only* selection criterion would not be effective because the result would be an extremely large number of cities (around 400 when considering collectors, minor arterials, or major arterials that are non-freeway facilities). However, combining this criterion with population would result in a more manageable dataset. For completeness, the table shows numbers both for all cities and for cities with a population of at least 50,000 people. Essentially all the cities with a population of at least 50,000 people (i.e., 61) include highway segments classified as a collector, minor arterial, or principal arterial (non-freeway).

Table 38. Cities and Centerline Miles of State Highways within City Limits.

Functional Class	Number of Cities		Centerline Miles within City Limits	
	All Cities	Population ≥ 50,000	All Cities	Population ≥ 50,000
Urban functional class				
Principal arterial (non-freeway)	429	61	5,099	3,180
Minor arterial	480	61	7,237	4,534
Collector	550	61	10,902	6,605
Local	73	28	227	137
Rural functional class				
Principal arterial (non-freeway)	542	28	1,016	66
Minor arterial	591	27	1,198	50
Major Collector	1,109	31	2,686	110
Minor Collector	627	14	776	21
Local	52	6	57	13
Total			29,198	14,716

Most state highway segments within city limits are classified as urban. However, a significant number of miles of state highways within city limits are classified as rural. For implementation purposes, it would be advisable not to differentiate between urban and rural sections, but instead focus only on the functional class. At this point, it is not clear which functional classes to recommend for transfer eligibility because of the lack of additional information (e.g., number of driveway permits per roadway functional class). At a high level, as Table 38 shows, up to 14,716 centerline miles would be eligible for transfer when considering principal arterials (non-freeway), minor arterials, collectors, and local roads. Of this total, 7,830 miles (or 53 percent) correspond to arterials: 6,736 miles (or 46 percent) correspond to collectors; and 150 miles (or 1 percent) correspond to collectors.

In 2013, TxDOT unveiled a plan to transfer control (and therefore all maintenance responsibilities) of certain state highway sections to local jurisdictions. The plan would involve transferring control of a number of state highways in urban areas of cities with a population of at least 50,000 people. The primary transfer criterion was the identification of highway sections

that are essentially city streets in character (in some cases, not even local residents recognize these roads as state highways) or that are no longer connected to the rest of the state highway system. In many cases, roadway sections would go back to local control after decades of being under state control. By default, local jurisdictions would acquire the responsibility to manage both driveway and utility permits on those corridors. The current status of this plan is not clear at this point, but the researchers are aware that close to 1,900 miles were initially being considered for control transfer. According to TxDOT officials, the plan is still in the preliminary stages.

Regardless of selection criteria, a critical issue to address is whether (or to what degree) local jurisdictions will have the necessary resources and technical capability to manage driveway permits on state highways effectively. In order for a transfer program to succeed, TxDOT would need to be forthcoming and transparent with local jurisdictions in terms of the resources and technical capability that will be required, outline a workable transition plan that has local buy-in, and provide technical and training assistance. A long-term funding plan will likely be necessary if transfer to local jurisdictions includes all highway maintenance responsibilities. TxDOT would also need to encourage local jurisdictions to set up permitting fees that are reasonable and help the agency recover the actual administrative costs associated with the permitting function.

As a strategy to prevent pushback from local jurisdictions, it would be highly advisable for TxDOT to develop maps of highway sections that may be eligible for transfer. Due diligence should also include preparing a summary of advantages, disadvantages, issues, and other relevant information at the individual highway section level. Both the map and the summary should be prepared prior to TxDOT starting any discussions with local jurisdictions.

ACCESS MANAGEMENT COMPLIANCE

A major goal at TxDOT is to maintain or increase mobility and connectivity on state highway corridors. While mobility goals are also important to local jurisdictions, a primary goal for cities is to promote economic development at the local level. When issuing driveway permits within city limits, there is often the possibility of a conflict between these goals. Transferring the driveway permitting function to municipalities would bring that possibility to the forefront, which can increase the risk of noncompliance with TxDOT's access management policies.

There is little specific guidance in the literature with respect to operational strategies to facilitate access management compliance in an environment that attempts to balance the need for mobility with the need to promote economic development. Most references focus on planning-level strategies, e.g., by promoting coordination between agencies and how to include best practices for access management in land use planning and the project development process (*39*, *40*, *41*).

The researchers developed a preliminary list of recommendations to promote access management compliance at three levels: TxDOT division level, TxDOT district level, and local level. These recommendations were then discussed with stakeholder workshop participants. Feedback from stakeholders resulted in a revised list of strategies, as described below.

TxDOT Division-Level Strategies

Strategies at the TxDOT division level include the following:

- Include in the municipal management agreements a set of standard templates clearly outlining the city's responsibilities and a process to review and approve driveway permits. In the current process, municipalities that plan to manage driveway permits on state highways within their jurisdiction can either adopt the guidelines contained in the standard access management manual or develop their own manual with TxDOT approval. However, it would be in the best interest of both parties to clarify as much as possible what responsibilities cities have regarding the driveway permitting process, particularly with respect to the need to maintain robust access management practices.

- Encourage municipalities to develop and/or follow standardized forms for driveway permits that can be used across the state.

- Develop a web-based driveway permitting system that can be used both for TxDOT-managed driveway permits and for city-managed driveway permits. Similar to the UIR system, a web-based driveway permitting system would streamline and standardize driveway permitting across the state. This system would automate the submission, review, approval, inspection, and post-construction processing of driveway permit requests. It would enable applicants to prepare and submit driveway requests online following a standardized, uniform process throughout the state. This system can play a critical role in helping cities and TxDOT to track and share information regarding driveway requests on state highway corridors within city limits. It would also end the practice of intentionally approaching districts to get permits approved when the city denies a permit.

- Require districts to submit an annual report listing the number of driveway permits that local jurisdictions have issued. The report should include the requirement to document whether the city sent copies of approved permits to the district office.

- Establish a program to monitor variances and appeals throughout the state to determine trends and identify potential changes to policy or strategies to improve access management compliance levels. This program would require districts to submit an annual report listing and describing variances as well as the corresponding outcome.

- Establish an ongoing training program for both district and local officials on access management policies and practices.

TxDOT District Level Strategies

Strategies at the TxDOT district level include the following:

- Organize regular meetings with city representatives (e.g., every 3–6 months) to discuss access management compliance issues and identify solution strategies. These meetings can provide an excellent opportunity to encourage more effective coordination and communication between TxDOT and the cities.

- Reach agreements with cities giving TxDOT the right of first refusal on new driveway permit applications that are submitted to cities. This right of first refusal could be reciprocal to encourage effective communication and coordination between TxDOT and local jurisdictions, i.e., a city would have the right of first refusal if TxDOT is responsible for issuing permits on state highways that are within city limits. There is precedent for this type of practice in the state, e.g., in the case of the Houston District, which has an informal agreement with the Cities of Sugar Land, League, and Pearland, allowing all the parties to review each other's driveway permit applications. According to district officials, this is a good example of interagency cooperation that promotes access management best practices.

- Assist local jurisdictions in reviewing complex driveway permits if the city does not have expert staff to review application. This will require developing criteria and thresholds to determine which driveway permits would be eligible for or require TxDOT's input.

- Require cities to send copies of driveway permits issued on state highways. Monitoring compliance with this requirement is equally important.

- Monitor the compliance of driveway permitting standards by performing random inspections of non-residential and residential driveway locations. Both TxDOT and the city should agree on the general process for conducting the monitoring program, and this should be outlined in the municipal maintenance agreement.

- Allocate adequate resources to facilitate the transition of the driveway permitting function to local jurisdictions.

- Establish a program to monitor variances and appeals within the district, and provide annual reports to the division level in Austin to determine trends and identify potential changes to policy or strategies to improve access management compliance levels.

- Provide training to local inspectors so that they can properly handle driveway permit inspections on state highways.

Local Level Strategies

Strategies at the local level include the following:

- Participate in regular meetings with TxDOT district officials (e.g., every 3–6 months) to discuss access management compliance issues and identify solution strategies. These

meetings can provide an excellent opportunity to encourage more effective coordination and communication between TxDOT and the cities.

- Schedule regular permit review policy meetings (e.g., every 3–6 months) and invite TxDOT district officials to those meetings.

- Engage the TxDOT district in reviewing complex driveway permits if the city does not have expert staff to review application. This will require developing criteria and thresholds to determine which driveway permits would be eligible for or require TxDOT's input.

- Provide copies of driveway permits issued on state highways. Monitoring compliance with this requirement is equally important.

- Establish a program to monitor variances and appeals and provide regular reports to the TxDOT district. The district will use this information to provide feedback to Austin for determining trends and identifying potential changes to policy or strategies to improve access management compliance levels.

- Update the city's driveway permit fee structure to make sure fees are sufficient to cover all the administrative costs, including permit review and field inspections.

- Train city staff and/or recruit experts on all aspects related to the review and approval of driveway permits, including traffic impact and hydraulic analyses. Recent TIA requirements for non-residential permits (Appendix A) underline the need for professional staff to review and approve TIAs.

CHAPTER 8. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Reviewing and processing utility and driveway permits require TxDOT personnel to devote a considerable amount of involvement and coordination, both at the district and division levels. Although many utility and driveway permits are routine and straightforward, a substantial number of permits require more time and effort. TxDOT absorbs the entire cost to review, process, and archive all utility and driveway permits, regardless of type of permit application, proposed project scale, or TxDOT resources involved. As opposed to most cities and a number of other state DOTs, TxDOT does not have the legal authority to charge a fee for utility or driveway permits.

The research evaluated the time and costs to process various types of utility and driveway permits, and examined potential fee alternatives to cover those costs. The research also included evaluated the feasibility of transferring permitting functions to municipalities or other local jurisdictions, and provided recommendations for access management compliance.

Permitting Process

Each year, TxDOT issues thousands of permits for new utility installations on the state right of way. Although the numbers decreased in recent years in connection with the economic downturn, permit applications have increased again. Currently, TxDOT receives some 1,400 new requests per month, which translates to about 17,000 new requests per year. The current utility installation review process relies on the preparation and submission of an application package to a TxDOT district office that includes an installation request and supporting documentation depicting the location and characteristics of the proposed installation. In the early 2000s, TxDOT began implementing the web-based Utility Installation Review system. UIR went online at the San Antonio District in 2005, and is now online at all 25 districts. The system captures most utility permit applications submitted to TxDOT.

As in the case of the utility permitting process, the review, and approval of driveway permits at most districts involve personnel such as a maintenance director, area engineers, and maintenance supervisors and inspectors. As needed, additional personnel may be involved, such as traffic engineers, road design and drainage specialists, and right of way personnel. Access permits involve the use of a standard TxDOT form and one or more attachments to support the application. There may be additional documents attached to the permit file, usually in the form of comments, notes, and provisions that TxDOT personnel prepare. TxDOT does not have an automated system to receive, review, and approve access permit applications. All access permit applications need to be processed by hand. According to TxDOT estimates, the districts processed 8,740 permits in FY 2012.

Permitting Costs

The researchers followed a four-pronged approach for the collection of utility and driveway permit data, which involved using data from the UIR system; conducting interviews with officials from TxDOT, municipalities, and other jurisdictions; collecting data from a custom web-based utility and driveway permit activity logger; and gathering data from MMIS and other financial data systems at TxDOT. The researchers obtained sample utility and driveway permit data, and validated the data against these multiple data sources. In coordination with TxDOT, the researchers selected 10 districts across the state for data- and information-gathering purposes to account for different locations and district types. The 10 districts selected were as follows:

- Metro districts: Fort Worth, Houston, and San Antonio.
- Urban districts: Amarillo, Laredo, Odessa, and Pharr.
- Rural districts: Atlanta, Lufkin, and Wichita Falls.

After gathering information about practices and resources used to support the permitting activity, the researchers prepared an assessment of permitting costs for utility and driveway permits and consulted with district officials to determine the validity of the cost estimates. The regional stakeholder workshops provided an additional opportunity to review and fine-tune the cost estimates. The cost analysis included labor, equipment (computers and vehicles), and office space cost categories. The analysis also included cost elements such as the cost to develop and/or maintain a web-based system for managing permits, coordination costs, and unmet staffing need costs. To account for the possibility that a fee structure might be implemented in the future, the researchers also estimated the cost to manage the collection of fees.

For utility permits, the analysis resulted in an average administrative cost of $312–$318 per permit. Statewide, the total cost is approximately $5.3 million per year. Overall, inspection activities represent 48 percent of the average time spent on utility permitting and 59 percent of the total cost.

For driveway permits, the researchers prepared separate estimates for non-residential permits and residential permits. For non-residential permits, the average administrative cost was $357–$366 per permit, for a total statewide cost of approximately $1.6 million per year. For residential permits, the average administrative cost was $180 per permit, for a total statewide cost of approximately $800,000 per year. The total administrative cost of driveway permits statewide is approximately $2.4 million per year.

In total, combining utility and driveway permits, the administrative cost to TxDOT is approximately $7.7 million per year.

Potential Fee Alternatives

The analysis included an evaluation of several potential fee alternatives to help TxDOT recover the administrative costs mentioned above. For utility permits, the researchers evaluated the following options:

- **Flat fee.** This fee structure is simple to conceptualize. Other states (e.g., Indiana and Pennsylvania) and cities (e.g., Washington, D.C., and San Antonio) have implemented it. A flat fee of $315 would enable TxDOT to recover most of the administrative costs that TxDOT incurs when processing utility permits.

- **Fee based on administrative cost complexity.** This fee structure is based on the assumption that the cost to process permits is a function of the complexity of the permitting process. An incremental fee structure that increases with the actual time and resources spent on permitting can be justifiable for resource-intensive complex permits. This type of fee is used in states such as California, New Jersey, Pennsylvania, Virginia, and Washington. This fee structure assumes a base fee of $315, which covers up to 4.5 hours of district staff hours and resources, plus additional time at $70/hour.

- **Fee based on installation complexity and length.** This fee structure is based on the assumption that the cost to process permits is a function of the complexity and/or length (i.e., the physical characteristics) of the proposed utility installation. A surrogate measure for installation complexity is the amount of TxDOT inspection required. This type of fee is used in states such as Alaska, New Jersey, Pennsylvania, and Virginia. This fee structure assumes a base fee of $315, which covers one field inspection, plus additional inspections at $200/inspection.

For driveway permits, the researchers evaluated the following options:

- **Flat fee based on type of driveway.** This fee structure is simple to conceptualize. A flat fee of $360 (for non-residential permits) or $180 (for residential permits) would enable TxDOT to recover most of the administrative costs that TxDOT incurs when processing driveway permits. Other states such as Alaska, Indiana, and Virginia have implemented this type of permit fee structure.

- **Fee based on time spent on a permit.** This fee structure is based on the assumption that the cost to process permits is a function of the amount of time and resources spent reviewing and processing a permit application. Other states such as Pennsylvania and Washington have implemented this type of permit fee structure. For residential permits, this fee structure assumes a base fee of $180, which covers up to three hours of district staff hours and resources, plus additional time at $60/hour. For non-residential permits, the fee structure assumes a base fee of $360, which covers up to five hours of district staff hours and resources, plus additional time at $70/hour.

- **Fee based on driveway complexity or impact**. This fee structure is based on the assumption that the cost to process permits is a function of the geometric characteristics

and/or impact of the driveway. At one of the workshops, district officials suggested establishing a permit fee based on the need for additional design features, such as signals, number of left-turn lanes, subdivision left turn lanes, a combination of both left turns, and signals. A fee structure could also be based on the time required for drainage and TIA reviews. However, there was no consensus on how to manage these complexities, and, therefore, the researchers did not prepare a corresponding fee structure.

The stakeholder workshop participants also indicated that any potential fee structure for utility or driveway permits would need to include provisions for situations such as expired permits, amendments to approved permits, and fines for illegal utility or driveway installations. For expired utility or driveway permits, there was a consensus among the stakeholder workshop participants that the fee for reinstating a permit should be the same as the fee for a new permit.

For amendments to approved permits (as long as they have not expired), the stakeholder workshop participants recommended using a three-tier structure that takes into consideration the amount of extra effort required to review the feasibility of the proposed amendment. For amendments that involve little or no impact to roadway operations or drainage structures, the additional fee would be zero. For amendments that involve a limited impact, the additional fee would be 50 percent of the original permit fee. For amendments that involve a considerable impact, the additional fee would be 100 percent of the original permit fee.

For illegal utility or driveway installations, the stakeholder workshop participants agreed on the need to include a provision for fines in any potential permit fee structure, but acknowledged that a more fundamental problem is that TxDOT lacks has the necessary tools to enforce current rules and regulations. A permit fee provision might be in place to bring illegal utility or driveway installations into compliance, but the effectiveness of this provision will be low unless a strong enforcement structure is in place.

Feasibility of Transferring Permitting Functions to Municipalities

In the case of utility permits, almost all stakeholders (TxDOT and local jurisdictions) indicated that utility permitting should remain TxDOT's responsibility. Stakeholders highlighted a number of major challenges, such as loss of right of way control and loss of utility information to municipalities; lack of staff, expertise, and resources at the municipalities to review permit applications; and lack of incentives for enforcing quality installations at the municipalities. Other challenges include increased management requirements when dealing with multiple jurisdictions for a single roadway and conflicts of interest in enforcing robust utility accommodation requirements by municipalities.

In addition, district officials indicated that the UIR system has streamlined utility permitting at the department. UIR provides a centralized management protocol that is consistent across all districts. Transferring utility permitting to municipalities would require introducing substantial changes to the system to accommodate a new structure in which local jurisdictions would be responsible for permit applications within city limits. It would also require providing substantial training to city officials on using the administrative side of the UIR system and coordinating with applicants and inspectors.

Compared to the utility permitting process, transferring driveway permitting functions to municipalities is feasible under certain conditions. However, major challenges remain, including lack of expertise, information, and staff needed for permitting driveways on TxDOT facilities; conflicts of interest between the need for access management enforcement and the need to promote business development; and lack of an access management policy comparable to that at TxDOT. Other challenges include lack of clarity about who would absorb the cost of the transition, installation and maintenance of any required signals, and maintenance of the adjacent right of way; and level of access control and inspections.

Sixteen cities currently have a municipal agreement with TxDOT that enables those cities to review and approve driveway permits on state highway right of way. Most of the agreements were executed in 2004, 2005, and 2006; and the last two new agreements were executed in 2010. Those jurisdictions are generally satisfied with the current arrangement. However, the interest by other local jurisdictions is not particularly high. Reasons include liability issues related to the driveway permitting process, lack of expertise and resources to support the driveway permitting process, and the need to rewrite access management policies (infrastructure design and construction manuals) or adopt TxDOT requirements, which are typically more stringent that those at the cities.

Nevertheless, the researchers examined three potential criteria and thresholds to develop a listing of cities that might qualify for a potential transfer of permitting responsibilities:

- **Population**. Population is used for MPO designations and to identify which entities should be responsible for maintaining traffic-related infrastructure. A similar threshold could be used for deciding which cities might be eligible for transferring driveway permitting functions. In total, 61 cities would qualify if the threshold is 50,000. This number would decrease to 45 if the threshold is increased to 75,000 and to 29 if the threshold is increased to 100,000.

- **Roadway functional class**. Using functional class as the only selection criterion would not be effective because the result would be an extremely large number of cities (around 400 when considering major arterials that are non-freeway facilities, minor arterials, or collectors).

- **Combination of population and roadway functional class**. This would result in a more manageable dataset. All the cities with a population of at least 50,000 people (i.e., 61) include highway segments classified as a collector, minor arterial, or principal arterial (non-freeway). At this point, it is not clear which functional classes to recommend for transfer eligibility because of the lack of additional information (e.g., number of driveway permits per roadway functional class). Up to 14,716 centerline miles would be eligible for transfer when considering principal arterials (non-freeway), minor arterials, collectors, and local roads. Of this total, 7,830 miles (or 53 percent) correspond to arterials, 6,736 miles (or 46 percent) correspond to collectors, and 150 miles (or 1 percent) correspond to collectors.

Regardless of selection criteria, a critical issue to address is whether (or to what degree) local jurisdictions will have the necessary resources and technical capability to manage driveway permits on state highways effectively. In order for a transfer program to succeed, TxDOT would need to be forthcoming and transparent with local jurisdictions in terms of the resources and technical capability that will be required, outline a workable transition plan that has local buy-in, and provide technical and training assistance. A long-term funding plan will likely be necessary if transfer to local jurisdictions includes all highway maintenance responsibilities. TxDOT would also need to encourage local jurisdictions to set up permitting fees that are reasonable and help the agency recover the actual administrative costs associated with the permitting function.

As a strategy to prevent pushback from local jurisdictions, it would be highly advisable for TxDOT to develop maps of highway sections that may be eligible for transfer. Due diligence should also include preparing a summary of advantages, disadvantages, issues, and other relevant information at the individual highway section level. Both the map and the summary should be prepared prior to TxDOT starting any discussions with local jurisdictions.

Access Management Compliance

Discussions with various stakeholders revealed a critical difference between TxDOT and local jurisdictions regarding how to approach and manage driveway permits. A major goal at TxDOT is to maintain or increase mobility and connectivity on state highway corridors. While mobility goals are also important to local jurisdictions, a primary goal for cities is to promote economic development at the local level. When driveway permits are issued within city limits, there is often the possibility of a conflict between these goals. Transferring the driveway permitting function to municipalities would bring that possibility to the forefront, which can increase the risk of noncompliance with TxDOT's access management policies.

Considering this scenario, the researchers developed a preliminary list of recommendations to promote access management compliance at three levels: TxDOT division level, TxDOT district level, and local level. These recommendations were then discussed with stakeholder workshop participants. Feedback from stakeholders resulted in a revised list of recommendations: six recommendations at the TxDOT division level, eight recommendations at the TxDOT district level, and seven recommendations at the local level. In general, the recommendations are intertwined between the three levels to emphasize that effective driveway permit management is a joint effort involving both TxDOT and local jurisdictions.

RECOMMENDATIONS

Recommendations at the conclusion of the research include the following:

- Reach out to relevant stakeholders about the sustainability of the current permitting process at TxDOT. Examples of stakeholders include utility owners, land developers, engineers, planners, contractors, and other specific industry sectors. The research demonstrated that the administrative costs to manage the utility and driveway permitting program at TxDOT are substantial: $5.3 million in the case of utility permits and

$2.4 million in the case of driveway permits (of which $1.6 million are related to non-residential permits).

- Examine the legal feasibility of establishing a permitting fee structure for utility and driveway permits at TxDOT to help recover the administrative costs associated with the permitting function. The scope of the research did not include addressing the legal feasibility or ramifications of a permit fee structure. In all likelihood, such a fee structure would require legislative action at the state level. A precedent in other states (at least eight other state DOTs have the authority to charge fees for utility and driveway permits) suggests that a fee structure to recover utility and driveway permit costs is possible.

  Part of the legal analysis would to determine which of the various potential fee structures that were analyzed during the research should or could be considered for implementation. The research analyzed technical considerations and potential acceptability by TxDOT users, but did not evaluate issues such as acceptability by external end users. Reaching out to external stakeholders as mentioned above will be a critical step as part of this process.

- Develop a web-based driveway permitting system. As mentioned, the web-based utility permitting system UIR has been a successful implementation, and users would not want to go back to a paper-based process. Similar benefits can be expected of a similar system for driveway permits. To ensure the long-term sustainability of the web-based driveway permitting system, the funding should include both the cost to develop the system and the cost to maintain it and upgrade it throughout its life cycle.

- Use the research findings to influence the current plan to transfer control of certain state highway sections to local jurisdictions. As mentioned, this plan involves transferring control of a number of state highways in urban areas of cities with a population of at least 50,000 people. TxDOT has been in discussions with local jurisdictions throughout the state since 2013. However, a few lessons learned during the research might be applicable, particularly the need to provide complete information about the resources and technical capability that will be required to manage the permitting process effectively, outlining a workable transition plan that has local buy-in, and providing technical and training assistance. TxDOT would also need to encourage local jurisdictions to set up reasonable permitting fees that are reasonable and help the agency recover the actual administrative costs associated with the permitting function.

- Implement the 21 recommendations for access management compliance that were developed as part of the research, which include six recommendations at the TxDOT division level, eight recommendations at the TxDOT district level, and seven recommendations at the local level. While the primary goal of the recommendations is to encourage access management compliance, the scope of the recommendations is much broader. As mentioned, the recommendations are intertwined between the three levels (division, district, and local) to emphasize that effective driveway permit management is a joint effort involving both TxDOT and local jurisdictions.

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APPENDIX A. NEW TIA REQUIREMENT FOR NON-RESIDENTIAL DRIVEWAY PERMITS

Texas Department of Transportation

MEMO

August 8, 2013

To: District Engineers

From: John A. Barton, P.E.
Deputy Executive Director

Subject: Commercial and Industrial Driveway Access Requests

The access management procedures for state highways are set forth in §203.031 of the Transportation Code, and 43 Texas Administrative Code, §§11.50 – 11.55. The Department's *Access Management Manual* provides the guidance for access connections to the state highways, as well as the formal appeals process for denials of access.

Commercial and industrial developments can be major traffic generators that impact the mobility and safety of the traveling public and local highway infrastructure. These types of developments and operations may necessitate transporting oversized, overweight loads over roadways and increased traffic demand within the corridor surrounding the proposed site. For these reasons the Department must analyze operational impacts to the roadways and pavement structures in order to determine the effects on mobility and safety of a driveway access request.

Denial of access by the department should be based on specific safety concerns. If the department determines that the traffic impact of the requested access will make the adjoining roadway unsafe, the department should deny the access application.

In some instances where the proposed development will have little to no impact on traffic operations such as a light commercial development (e.g., small offices), a private single family residence, an individual farm/ranch operation or an entrance to some public entities, a district office may waive the requirement of a TIA in order to consider a driveway access request. Attached is a list of commercial and industrial developments for which the TIA can be waived. DES will periodically update the list of commercial and industrial developments for which the TIA can be waived. A district will have to submit to DES a request to waive a TIA for a development that is not included in the provided list. DES will compare the intended use of the access to other access requests throughout the state in making the waiver decision.

Commercial and industrial access requests will follow the process below:

- The requesting party (business/developer or local entity) submits to the corresponding district a preliminary request for driveway access with a driveway permit application and the *Commercial and Industrial Request for Driveway Access* form (attached). The requestor may consult with the local district office for any information needed in preparation of the form. The district will determine whether the information provided is sufficient to consider the request complete. This will include determining if a TIA is not required due to the minimal impact of the requested access. If the district is not clear on the anticipated impact, the district should contact DES for guidance in determining the impact.

- If the district determines that the TIA should be waived for the requested access, the district should process the application using the Access Management Manual.
- If the TIA is not waived, the district will notify the requestor of the TIA requirement.
- Upon receipt of a TIA signed and sealed by a registered professional engineer licensed in the state of Texas, the district will forward this additional information to DES. Based on the information provided in the TIA, DES will coordinate a review by the Traffic Operations Division (TRF) for roadway operational impacts and/or with the Maintenance Division (MNT) for roadway pavement structure impacts.
- TRF and MNT will review the TIA for any concerns the anticipated impact will have on the safety of the state roadway. TRF and MNT will report their determinations and findings to DES.
- DES will coordinate the responses made by TRF or MNT and submit the findings to the districts for their use in responding to the request for access.
- The District Engineer (DE) will deny or approve based on the TRF and MNT findings. If denying the requested access, the DE will include in the denial letter the specific findings identified by TRF or MNT and will provide to the requestor the method and deadline for requesting an appeal of the denial.
- All safety issues must be addressed before a second application will be considered. The second application will be resubmitted by the district to DES to confirm with TRF and MNT that all safety issues have been addressed.
- Once all final documentation is received, DES will notify the district of the department's decision. The district will then notify the requestor of this decision.
- The district may consult with DES, TRF or MNT on an as needed basis at any time during the evaluation of the request.

If you have any questions about the statutory requirements of driveway access requests, please contact Becky Blewett, OGC. If you have any questions related to traffic operation impacts, please contact Brian Stanford, TRF. If you have any questions about pavement structure related to a driveway access request, please contact Brian Huntsinger, MNT. If you have any questions about a specific access driveway request, roadway geometrics, the request process or TIA, please contact Maria Burke, DES, or Tom Beeman, DES.

Attachments

CC: Administration
Jeff Graham, General Council, OGC
Becky Blewett, OGC
J.D. Ewald, OGC
John F. Obr, P.E., Director, CST
Mark A. Marek, P.E., Director, DES
F. Howard Holland, P.E., Director, MNT
John Campbell, P.E., Director, ROW
Carol T. Rawson, P.E., Director, TRF

Guidance for Commercial and Industrial Driveway Access Requests

Introduction

Commercial and industrial developments are major traffic generators that impact the mobility and safety of the traveling public and local highway infrastructure. Commercial and industrial developments may necessitate transporting oversize, overweight loads over roadways and increased traffic demand within the corridor surrounding the proposed development site. This document provides guidance for analyzing impacts to the roadway and pavement structure in order to determine the mobility and safety aspects of an access request.

Request for Access

Access Management Standards of the Department's *Access Management Manual* govern for connections to the state highway system. Permits for access should define the location and manner in which the access will be constructed and maintained as well as impacts to the adjacent roadway system. Driveway access requests should be submitted to the local TxDOT District office.

Commercial and industrial driveway access requests will require a traffic impact analysis (TIA) signed and sealed by a registered professional engineer licensed in the state of Texas. Changes in land use for commercial and industrial development involving an existing driveway may also require a TIA and a re-issuing of a driveway permit as determined by the District. In some instances where the proposed commercial development will have little to no impact on traffic operations such as a light commercial development (ex., small offices) a private single family residence, an individual farm/ranch operation or some public entities, a TxDOT District Office may waive the requirement of a TIA in order to consider a driveway access request. TIAs are expected to contain the following information as a minimum.

Description of the Proposed Use of the Property

- Existing use of property
- Type of proposed development on the site including future subdivision of property and ultimate build-out concept
- Zoning or approved/requested platting if applicable
- Proposed traffic counts including vehicular type and size generated by ingress/egress at the proposed driveway location for each individual year of the next three year period
- Effects/influence of ingress/egress on the adjacent roadway and traffic
- Address the queuing of traffic by vehicular type/size on the roadway facility (ingress and egress, both directions of traffic, offload queue accommodation)
- Drainage analysis and proposed drainage improvements

Information on Existing Roadway Characteristics

- Current roadway ADT
- Existing Right of Way Width
- Posted speed
- Pavement (width, material, and structure)
- Number and width of lanes/shoulders
- Geometrics at proposed location (sight distance, grades, vertical and horizontal curves)
- Physical obstructions
- Bridge structures
- Utility overhead or underground location/relocation

Proposed Driveway Characteristics

- Driveway radii
- Driveway entry/exit width
- Driveway throat length and width
- Driveway spacing with respect to other driveways, cross streets, intersections (reference the recommended spacing values in *Access Management Manual*)
- Driveway culvert size and safety end treatments

The Commercial and Industrial Driveway Access form and TIA should be submitted to the local TxDOT District office along with any other supporting documentation related to the access request.

List of commercial driveways which do <u>not</u> require a Traffic Impact Analysis

- Single family residence
- Single farm / ranch operation
- One stand-alone small professional office (single building, not a strip center arrangement)
- Church
- Public and private schools (Grades K through 12)
- Public entity office
- Gas stations / convenience stores with less than 6 pumps
- Small commercial developments (less than 75 parking spaces)

Texas Department of Transportation

MEMO

September 3, 2013

To: District Engineers

From: Mark A. Marek, P.E.

Subject: Commercial and Industrial Driveway Access Requests
Supplemental Information

On August 8, 2013, a memorandum on Commercial and Industrial Driveway Access Requests was distributed along with an email indicating that a 60-day normalization period would be in place to allow industry to prepare to accommodate this new approach as well as allow for outreach and information sharing. This normalization period is expected to extend through October 4, 2013.

This normalization period also gives the department a chance to see what modifications may be needed for this process. This memorandum provides supplemental information and modifications to the process based on initial field experience with this new approach.

The Commercial and Industrial Driveway Access Request Form provides an initial traffic analysis from which a decision can be made (1) about the access request, (2) about whether additional location specific information is needed, or (3) about whether a full traffic impact analysis (TIA) needs to be conducted. For commercial and industrial driveways with very limited traffic impacts or a single driveway on a rural lower volume roadway, the information contained in the Request Form may be sufficient to make a decision about the access request. Even in the case where a TIA (sometimes called a traffic impact study) is needed, the TIA for the purpose of determining a commercial or industrial driveway access request may be a range of documents with varying levels of detail. Use of the Request Form does not require an engineer's seal. If the district determines that additional information to that shown on the Request Form is needed, the district should provide specific direction to the requestor about the information needed or, in the case of a TIA request, the content expected in the TIA. Only information required to make the access decision should be requested. The Design Division is available to discuss with the district the need for a TIA with respect to a specific driveway request.

Only in the case of a major commercial development along a roadway with significant existing traffic volumes would a full scale TIA be required including land use and full development build out schematics with associated traffic pattern changes included. Often, this type of TIA is done in conjunction with zoning or platting requests made to cities. Districts can work directly with cities to use the same information contained in this type of TIA to determine appropriate access. This type of TIA is normally conducted by an engineering firm and this TIA would be signed and sealed by an engineer. A generic example of this type of large commercial development might be a big box

retail establishment with several outlying separate commercial entities which together would be significant traffic generators.

Another area that has raised some questions is the conditions that can be included in an approved driveway permit. For example, it is acceptable to include minor widening (including, if needed, both sides on narrow rural two-lane roadways), surfacing and driveway geometrics within the immediate influence area of a driveway as conditions in approving a driveway permit. However, for example, if pavement rehabilitation along the roadway for a significant distance beyond the driveway is going to be required, signals are going to be installed, or medians are going to be reconfigured, then the initial request will have to be denied and a donation agreement worked out with the requestor before the access request can be resubmitted.

Finally, if a commercial or industrial driveway has a change in development or land use, the existing permit will no longer be considered in effect. The development will have to submit a new request for driveway access which will be evaluated on the basis of the traffic patterns introduced by the new commercial or industrial development.

Remember that access should only be denied based on safety considerations. Thank you for your support of this effort and please continue to communicate and provide feedback on this process to DES, MNT and TRF as we continue to develop this revised process.

CC: John A. Barton, P.E., ADM
John P. Campbell, P.E., ROW
F. Howard Holland, P.E., MNT
John F. Obr, P.E., CST
Carol T. Rawson, P.E., TRF
Jeff Graham, OGC

APPENDIX B. COMMERCIAL AND INDUSTRIAL DRIVEWAY REQUEST FORM

Commercial and Industrial Driveway Access Request Form

Date: 4-2-14

District: Bryan District 17

County: Brazos

Highway: SH 21

Limits: 1450' SSW of the intersection of Andert Rd/FM 2776 on the East side of SH 21

---

1. **Purpose of Request:** *Explain the need for access driveway*
   Oil and Gas Operations and Development

2. **Proposed use of the property:** *Operations, facilities, frequency of access use, types and sizes of vehicles for each individual year of the next three year period*
   Oil and Gas Wells
   2014-Construction of Location=
   4 Overweight Loads Total
   Ingress Overweight Loads - 1 @ 108,000lbs, 1 @ 118,000lbs
   Egress Overweight Loads - 1 @ 108,000lbs, 1 @ 118,000lbs
   Semi 7 axle truck trailer combo lowboy-14 loads

3. **Background:** *Dated chronology of previous correspondence, meetings, or discussions about driveway access, identification of property zoning or approved platting, if applicable*
   James Josey is the current landowner. Proposed driveway has been decided by landowner and Halcon to be appeasing to both by way of property owner and Halcon.

4. **Participant(s) in the request process:** *Including as applicable city, county, developers, consultants, legal counsel, etc.*
   James Josey- Landowner
   Halcon Resources

5. **Highway layout showing the requested access site and upstream/downstream roadway system and other associated access:** *Attach vicinity map (surrounding area), project location map (adjacent highway/ramps and local streets), location of access breaks (in relationship to property boundaries)*
   See attached map

6. Existing roadway characteristics: *ADT, number/width of lanes/shoulders, posted speed, bridge structures, utility overhead and underground (location/relocation), geometrics at proposed access (Sight distance, grades, vertical/horizontal curves), pavement (structure, width, and material)*

Divided 4 Lane State Highway 21, no bridge structures, no overhead power lines present. Sight distance (3/4 mile +- to South West, 9/10 mile +- to North East. State Highway- Asphalt 50' for Northbound and 50' for Southbound with a 30' grass median in between.

7. Proposed driveway: *Proposed radii, throat width and length, entry/exit width*

Proposed Radii, Throat width and length requesting is 100', entry/exit 100' width decreasing to 40' width within 100' of entry.

APPENDIX C. DRIVEWAY PERMITS ISSUED IN FY 2012

District Number	District	Number of driveway permits
1	Paris	232
2	Fort Worth	352
3	Wichita Falls	205
4	Amarillo	182
5	Lubbock	162
6	Odessa	356
7	San Angelo	214
8	Abilene	248
9	Waco	265
10	Tyler	278
11	Lufkin	332
12	Houston	745
13	Yoakum	525
14	Austin	466
15	San Antonio	1,300
16	Corpus Christi	639
17	Bryan	405
18	Dallas	564
19	Atlanta	206
20	Beaumont	156
21	Pharr	342
22	Laredo	299
23	Brownwood	110
24	El Paso	35
25	Childress	122
Total		**8,740**

APPENDIX D. TXDOT AND MUNICIPALITY INTERVIEW QUESTIONS

UTILITY PERMITTING

Permitting Process

- What is the typical permitting process?
- What are the major sources of inefficiencies and challenges in the current process?
- Are there opportunities for improvement/optimization?

Processing Time and Other Resources

- How many employees/full-time employees are involved in permitting?
- What are the other responsibilities staff have in addition to those related to permitting?
- What is the average Processing Time and Other Resources?
    - What is the total time required to complete each phase of the permitting process?
    - What is the average staff time for completing different types of permits, including regular, expedited, and emergency repair permits?

Related Permitting Resources (Other than Time)

- What office equipment and supplies are required for permit processing?
    - How much office space is required?
    - Are computers, printers, and other equipment required?
    - What are the required office supplies and reproduction costs?
    - What are the associated shipping costs?
- What data/information systems are involved in permitting?
    - What are the UIR (maintenance/operation) costs to the district?
- What level of travel is involved during permitting?
    - Are there vehicles and other equipment required?
    - What are the estimated vehicle miles?
- What survey and other data collection equipment are required?
- Are there other resources required?

Permitting by Municipalities

- What are the major differences between TxDOT and municipality permitting processes?
- Is it feasible to transfer the utility permitting function to municipalities?
    - What would be the major challenges/benefits?
    - Are there any legal/policy hurdles you can think of?
- What could be the thresholds for selecting municipalities if feasible?
- What would be the anticipated TxDOT assistance/coordination if transferred?
- What is the permit fee structure at the municipality?

- What are the methods for determining fees?
- Is the current fee structure adequate?

DRIVEWAY PERMITTING

Permitting Process

- What is the typical permitting process?
  - What is the process for residential permits?
  - What is the process for commercial permits?
- What are the major sources of inefficiencies and challenges in the current process?
- Are there opportunities for improvement/optimization?

Processing Time and Other Resources

- How many employees/FTEs are involved in permitting?
  - Is it possible for TTI to obtain a list of staff involved in permitting?
- Does the permitting staff have other responsibilities in addition to permitting?
- How many permits are processed each month/year on average?
- What is the average Processing Time and Other Resources?
  - What is the total time required to complete each phase of the permitting process?
  - What is the average staff time for completing different types of permits?
    - What is the average staff time for residential permits?
    - What is the average staff time for commercial permits?

Related Permitting Resources (Other than Time) at TxDOT

- What office equipment and supplies are required?
  - What is the required office space?
  - What are the required computers, printers, and other equipment?
  - What are the costs associated with office supplies and reproduction?
  - What are the associated shipping costs?
- What data/information systems are required?
  - What is the required general equipment/hardware?
  - Is there any customized software required?
- What is the level of travel required for permitting?
  - What are the required vehicles and other equipment?
  - What are the estimated vehicle miles?
- Are there survey and other data collection equipment required?
- Are there other resources required?

PERMITTING BY MUNICIPALITIES

- What are the major differences between TxDOT and municipality permitting processes?
    - What are the major differences?
    - Do you have any agreements, plans, or other documents?
- What could be the thresholds for selecting municipalities?
- What would be the major challenges and issues?
- What TxDOT assistance/coordination is required?
- What are the major issues associated with access management by municipalities?
    - What are the current access management practices?
    - Can you think of any potential improvements?
    - What measures to ensure access management would you recommend?
- What is the current permit fee structure?
    - What is the fee structure for residential permits?
    - What is the fee structure for commercial permits?
    - What are the methods for determining fees?
    - Is the current fee structure adequate?

APPENDIX E. PERMIT FEE STRUCTURES IN CITIES AND COUNTIES IN TEXAS

CITY OF SAN ANTONIO

The current fee structure was determined in 2012 in coordination with the largest water, gas, and electric utility owners that operate in the San Antonio area (which are municipality owned). Telecommunication companies are exempted from the required right of way fees because they pay franchise fees to the city. The new fee structure enabled the right of way services office to hire more inspectors, which in turn resulted in fewer delays. For large utility owners, the city typically charges permit fees monthly. For smaller utilities or for large projects (50 ft. or longer), the city charges the permit fees up front. The latest permit fees reflect recent changes made in 2012.

The current fee structure is as follows (*38*, *42*, *43*):

- Application fee:
    - Regular application: $50.
    - Expedited application: $250 (permit to be processed within two days).
- Inspection fee:
    - $120 per point repair.
    - $60 for re-inspection.
    - $60 per day.
    - Overtime inspection: $50 per hour or $85 per hour on Sundays and holidays.
- Permit expiration fee: $30 for any permit that has not been extended before expiration with active work.
- Electronic maps submittal fee:
    - $40 per hour for each hour of labor necessitated by information submitted to city in hard copy format. There is a minimum of 2 hours.
- Pavement degradation recovery fee:
    - Determined based on the percent loss of life by the pavement cost per square yard, the area of influence, and unit costs.
- Registration fee: $45 per right of way user per year for processing registration data.
- Barricade fees:
    - $0.0629 per sq. ft. of closure per day for barricades on city streets.

    - $50 per sq. ft. per day for barricades in traveled portion of city streets.
        - $100 per block of roadway closed per day of closure for private barricading of streets.

- Minimum inspection fee for sidewalks and curb permit: $50.

- Violation penalty: $500 per violation per day.

- Public inconvenience penalty: a fee per day per sq. ft. from permit expiration date to the work completion date.

HARRIS COUNTY

The county uses a flat fee structure for utility and driveway-related fees. Harris County processes a large number of driveway permits each year. The county processes several types of residential permits online and has plans to enable online application for all permits in the near future.

Utility permit and related fees at Harris County are as follows (*44*):

- Permit fees:

    - $260 for on-site residential sewage facilities and $410 for on-site commercial sewage facilities.
    - Permit amendment fee: $150 for residential and $300 for commercial sewage facilities.

- Inspection fees:

    - Two $75 inspection fees (minimum) and $10 Texas On-site Wastewater Treatment Research Council (TOWTRC) fee.

Driveway permit and related fees at Harris County are as follows:

- Application fees:

    - $100 for residential driveways without requiring curb cuts and $140 if they require curb cuts.
    - $170 for commercial driveways with existing culvert or curb cut and $240 otherwise.

- Inspection fees:

    - One $40 inspection fee for residential driveway without curb cuts.
    - Two $40 inspection fees for all other driveway permits.

CITY OF HOUSTON

The City of Houston charges permit fees for driveways and certain utility installations that occupy the city right of way. All permit fees are adjusted annually based on the consumer price index. Currently, utility and driveway-related fees at the city do not cover administrative costs.

Examples of utility permit and related fees at the City of Houston are as follows (*45*):

- Excavation in public right of way:
    - Initial permit application fee: $129.03 for tunneling, jacking, and boring; or $180.65 for other excavation methods.
    - Permit extension fee: $51.61 if steel plate temporary surface is required or $25.80 for other excavations.
    - Data fee: $51.61 per application for non-electronic submission.
- Pipelines, conduits, and other utility structures across, along, or under city streets:
    - Application fee to construct a new pipeline: $2,064.60.
    - Permit application fee: $2,064.60 per legal entity owning or operating the pipeline and $1,032.30 per pipeline.
    - Annual fee during the term of a permit ordinance: $1,032.30 per legal entity owning or operating the pipeline.
    - $516.15 for adding a new pipeline to an existing permit.
- Sidewalk and roadway obstructions and impairments:
    - Lane closure fee (per lane, per block, per week):
        - $46.45 for single-lane closures on local roads.
        - $87.74 for single-lane closures on major thoroughfare or major collector streets outside the central business district (CBD).
        - $108.39 for single-lane closures on major thoroughfare of major collector streets inside CBD during off-peak traffic hours.
        - $134.19 for single-lane closures on major thoroughfare of major collector street inside CBD during peak traffic hours.
    - Sidewalk impairment or obstruction fee (per block, per week):
        - $61.93 for partial impairment or obstruction (maintaining three feet of pedestrian way).
        - $98.06 for full impairment or obstruction.

Examples of driveway permit and related fees at the City of Houston are as follows (*45*):

- Fees for private street work:

    - Permit fee:
        - $5.00 minimum.
        - $0.05 per linear foot for curb and gutter works above minimum.
        - $0.1 per linear foot above minimum for the pavement portion (for pavement other than with reinforced concrete base), excluding portions within intersections of streets.
    - Bond or cash deposit that the city has determined.

- Sidewalk and roadway obstructions and impairments:

    - Lane closure fee (per lane, per block, per week):
        - $46.45 for single-lane closures on local roads.
        - $87.74 for single-lane closures on major thoroughfare or major collector street outside the CBD.
        - $108.39 for single-lane closures on major thoroughfare or major collector street inside CBD during off-peak traffic hours.
        - $134.19 for single-lane closures on major thoroughfare or major collector street inside CBD during peak traffic hours.
    - Sidewalk impairment or obstruction fee (per block, per week):
        - $61.93 for partial impairment or obstruction (maintaining three feet of pedestrian way).
        - $98.06 for full impairment or obstruction.

FORT BEND COUNTY

Fort Bend County does not require a permit fee for installing, maintaining, or repairing cable, conduit, or aerial utility lines within the county right of way. However, the county does require a performance bond of $50,000 or 25 percent of the total amount of work within the county right of way (whichever is greater) (*46*).

Driveway permit and related fees at Fort Bend County are as follows (*47*):

- Single family residential and agricultural driveways:

    - Permit fees associated with the required culvert (non-refundable):
        - $150 for each row of 18- or 24-inch pipes.
        - $200 for each row of 30- or 36-inch pipes.
        - $350 for each row of 54-inch pipes or for single-row 60-inch pipes.

- Commercial driveways, median opening or median modification, new street crossings, or connections to existing streets:

    - Non-refundable permit fee: $150.
    - Performance bond: $5,000 or 25 percent of estimated construction cost (whichever is greater).

MISSOURI CITY

The city charges fees for both utility permits and driveway permits. The city charges a minimum permit fee of $15 for utility permits. It also has an access management policy that city officials believe is more stringent than the current TxDOT access management policy.

Utility permit and related fees at Missouri City are as follows (*48*):

- $15 application fee for electrical, plumbing, and irrigation installations plus additional fees based on facility and installation types.
- Inspection fees:
    - $0 for initial inspection.
    - $25 for the first reinspection and each subsequent reinspection is subject to an additional $25 fee (e.g., $50 for the second reinspection and $75 for the third reinspection).

Driveway permit and related fees at Missouri City are as follows (*48*):

- Permit fee based on construction value (including the portion in street right of way):
    - $0 for constructions of $1000 or less.
    - $15 for the first thousand and $5 for each additional thousand for constructions valued at $1,000 or greater but less than $50,000.
    - $260 for the first $50,000 and $4 for each additional thousand for constructions valued at $50,000 or greater but less than $100,000.
    - $460 for the first $100,000 and $3 for each additional thousand for constructions valued at $100,000 or greater but less than $500,000.
    - $1,600 for the first $500,000 and $2 for each additional thousand for constructions valued at $500,000 or greater.
- Plan review fee: half of the required permit fee (plan reviews are only required for new driveway installations).
- Inspection fee: $15 for each inspection for constructions of $1,000 or less.

CITY OF LAREDO

The City of Laredo uses the same fee structure for all right of way permits, including both utility permits and driveway permits. The current fee structure was developed about five years ago. During the initial outreach meetings, the contractors and developers objected to the fee increases but ultimately accepted the new fees. As part of the new few structure, the city required applicants to have insurance and certified traffic controllers for works within the public right of way, which was not well-accepted initially. The fee structure consists of the following fees (*49*):

- Permit application fees:
    - Permit application fee: $50.
    - Expedited application fee: $250.
- Inspection fees:
    - Regular inspection fee (residential driveway and sidewalk projects are exempted): $200.
    - Overtime inspection fee: $40 per hour during weekdays or $70 per hour during weekends.
- Permit expiration fee: $30.
- Electronic map submittal fee: $40 per hour (minimum of two hours) for labor necessitated by information submitted in hard copy format.
- Registration fee: $50 per year for all right of way users.
- Penalties for ordinance violations:
    - $500 for the first ordinance violation.
    - $1,000 for the second ordinance violation.
    - $2,000 for the third violation. The offender's registration as a right of way user will be suspended for 90 days after the third violation.
    - $2,500 for reinstating the right of way user status.
- Penalties for public inconvenience: See Table 39.
- Performance bond: $10,000.
- Liability insurance that meets the city's requirement.

Table 39. Public Inconvenience Penalties.

Type of Facilities Occupied	Unit of Cost	Fee			
		31–75 days	76–90 days	90–100 days	> 100 days
Traffic lane	Square foot	$0.0521	$0.1042	$0.1563	$0.2084
Sidewalk	Square foot	$0.0026	$0.0052	$0.0078	$0.0104
Driveway	Each	$39	$78	$117	$156
Parking	Meter	$14	$21	$28	$42

CITY OF LUFKIN

The City of Lufkin currently charges a flat fee of $15 for each driveway permit application. In reality, most applications are for residential driveways because non-residential driveways are

typically tied to the development plats, which platting fees already cover. The city does inspections and installations within right of way lines (materials are provided by applicants).

CITY OF ODESSA

The City of Odessa manages all types of construction or occupancy of the public right of way through right of way construction permits. All permits applications are submitted in paper format. The city estimates that it processed 300–400 right of way permits last year. The city's permitting fee structure is based on the value of the construction within the public right of way, as follows (*50*):

- Permit fee for construction or reconstruction:
    - $25 for constructions less than $2,000.
    - $25 + $0.9 per $100 cost over $2,000 for constructions between $2,000 and $5,000.
    - $52 + $0.8 per $100 cost over $5,000 for constructions between $5,000 and $10,000.
    - $92 + $0.7 per $100 cost over $10,000 for constructions between $10,000 and $20,000.
    - $162 + $0.6 per $100 cost over $20,000 for constructions over $20,000.
    - Five percent of the construction cost (but not less than $25) if proposed work requires that the administrative officer establish lines and/or grades.
- Permit fee of $10 for repair work in the public right of way.
- Lease fee of $100 per 1,000 sq. ft. of street right of way if construction activities require extended use of the public right of way beyond the one-year permit period.
- Bond of $10,000 of $2,000 if the construction value is less than $2,000.
- Permit fee of $25 for other street use or street beautification permits.

APPENDIX F. CALTRANS' RIGHT OF WAY ENCROACHMENT PERMIT FEE SCHEDULE (*18*)

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

ENCROACHMENT PERMIT FEE SCHEDULE

TR-0166 (REV. 08/2008)

CODE	PERMIT TYPE	DEPOSIT REQUIRED	REVIEW	INSPECTION
GENERAL				
AD -	Advertising Displays, Marquees, Memorial/Historical Plaques, Blue Star Memorial Markers, Arcades, Awnings	6	AX	AX
AH -	Adopt – A – Highway	EXEMPT		EXEMPT
AP -	Art Program	EXEMPT		EXEMPT
AS -	Airspace Development	6	AX	AX
BB -	Broadband	6	AX	AX
BR -	Banners / Decorations / Signs	6	AX	AX
BS -	Bus Shelters & Benches	EXEMPT		AX
CC -	City / County Issued Permits	----------		
CD -	Commercial Development	6	AX	AX
CN -	Chain Installer	2 + bib	AX	AX
CS -	Curb / Gutter / Sidewalk	6		AX
CU -	Coupon Racks & Newspaper Vending Machines @ Roadside Rests	6	AX	AX
CU -	Adopt-A-Kiosk (TSIC)	EXEMPT		EXEMPT
CU -	SRRA Vending Machines	EXEMPT		EXEMPT
DP -	Double Permit -	6	1	AX, (# 1)
	Double Permit – When contractor makes project plan submittal	6	AX	AX, (# 1)
	Cooperative Agreements		AD	AD
FN -	Fence - New / Modified	6	AX	AX
GM -	Gateway Monument	EXEMPT		EXEMPT
MB -	Mail Box	EXEMPT		EXEMPT
MC -	Contractor's Yard & Plant, Grading, Fire Protection Signs, Guide Signs, Mowing Grass, Material Removal, Structures, Parking Meters, Tieback Widening- Freeway & Conventional, Striping	6	AX	AX
OA -	Visibility Imp. Request	6	AX	AX
RX -	Rail Road Crossing	EXEMPT		EXEMPT
SC -	State Contract – Early Entry	1	1	0
SV -	Land, Archaeological, Traffic Counts, Research Project, Accident Reconstruction, Literature Distribution, Monitoring Wells	6	AX	AX
TN -	Tunneling (> 30 ")	6	AX	AX
WL -	Wall	6	AX	AX
DRAINAGE				
DM -	Minor Drainage	6	AX	AX
DD -	Major Drainage	6	AX	AX

CODE	PERMIT TYPE	DEPOSIT REQUIRED	REVIEW	INSPECTION
FILMING				
FI -	Intermittent Traffic Control	0	2	0
FL -	Traffic Control	0	AX	AX
FO -	No Moving Traffic	0	1	0
FR -	Film Rider	0	AX	AX
FS -	Special	0	AX	AX
GEO-PHYSICAL TESTING				
GC -	Cable Crossing	6	AX	AX
GV -	Seismic Vibrator	6	AX	AX
LANDSCAPE				
LC -	Conventional Highway	6	AX	AX
LF -	Freeway	6	AX	AX
LM -	Maintenance	6	AX	AX
LT -	Tree Trim / Removal	6	AX	AX
RIDER				
RD -	Caltrans Initiated Rider	EXEMPT		EXEMPT
RT -	Time Extension Rider	1	1	AX
RW -	Modify Work Rider	6	AX	AX
ROAD APPROACH / DRIVEWAY				
RC -	Commercial	6	AX	AX
RM -	RE - surface, issue, construct	6	1	AX
RP -	Public / Private	6	AX	AX
RS -	Single Family / Agricultural	6	AX	AX
SPECIAL EVENT				
SE -	Special Event	6	AX	AX
SIGNALS / LIGHTING				
SN -	Signal - New / Modify	6	AX	AX
TK -	Traff. Cntrl. Signals, Lighting	6	AX	AX
ANNUAL / BI – ANNUAL				
--- ---	ALL PERMITS	DEF	2	AX
UTILITIES				
UB -	Utilities; In or On a Bridge	DEF	AX	AX
UM -	Bi / Annual Maintenance	DEF	AX	AX
UC -	Convention Aerial	DEF	AX	AX
UE -	Bi / Annual Utility & Service	DEF	AX	AX
UF -	Freeway Aerial	DEF	AX	AX
UJ -	Transverse Bore & Jack	DEF	AX	AX
UK -	Underground Long. Major	DEF	AX	AX
UL -	Underground Long. Minor	DEF	AX	AX
UR -	State Required Relocation	EXEMPT		EXEMPT
US -	Service / Pothole / Modify	DEF	AX	AX
UT -	Open Cut Road	DEF	AX	AX
UX -	Trenching & Shoring	DEF	AX	AX

Notes:

MOST PERMITS REQUIRE A 6 HOUR MINIMUM DEPOSIT UNLESS EXEMPT OR NOTED OTHERWISE.

(#1) Inspection time will be charged to only one permit, the Parent permit or the DP, not both.

AD As determined by the agreement

AX Actual Expenditures shall be collected

DEF Deferred Billing (Utilities only)

APPENDIX G. HIGHWAY OCCUPANCY PERMIT FEE STRUCTURE IN NEW JERSEY (*25*)

Type	Number	Unit	Application	Permit	Extension
Utility Openings	0 to 20	Square Feet (SF)	$400.00	$150.00	$150.00
	20 to 200	SF	$600.00	$200.00	$200.00
	Greater than 200	SF	$900.00	$300.00	$300.00
Poles	1 to 10	Unit	$250.00	$ 75.00	$ 75.00
	Greater than 10	Unit	$475.00	$150.00	$150.00
Curb, Sidewalk or Handicapped Ramp	0 to 200	Linear Feet (LF)	$300.00	$100.00	$100.00
	Greater than 200	LF	$600.00	$200.00	$200.00
Drainage Facilities	1 to 5	Unit	$175.00	$ 50.00	$ 50.00
	Greater than 5	Unit	$400.00	$150.00	$150.00
	0 to 200	SF	$175.00	$ 50.00	50.00
	Greater than 200	SF	$400.00	$150.00	$150.00
Landscaping, Tree Trim, Vegetation Control, or Unclassified Landscaping		Unit	$300.00	$100.00	$100.00
Bridge Attachments	0 to 100	LF	$300.00	$100.00	$100.00
	Greater than 100	LF	$600.00	$200.00	$200.00
Pedestrian Overpass or Underpass	1	Unit	$600.00	$200.00	$200.00
Grading		Unit	$250.00	$ 75.00	75.00
Guiderail	0 to 200	LF	$300.00	$100.00	$100.00
	Greater than 200	LF	$600.00	$200.00	$200.00
Test Holes or Borings	1 to 5	Unit	$175.00	$ 50.00	$ 50.00
	Greater than 5	Unit	$350.00	$125.00	$125.00
Monitoring Wells	1 to 5	Unit	$175.00	$ 50.00	$ 50.00
	Greater than 5	Unit	$350.00	$125.00	$125.00
Crosswalks	1 to 4	Unit	$175.00	$ 50.00	$ 50.00
	Greater than 4	Unit	$350.00	$125.00	$125.00
Telephones		Unit	$250.00	$ 75.00	$ 75.00
Bus Shelters or Benches		Unit	$300.00	$100.00	$100.00
Banners, Decorations or Temporary Announcement or Guide Signs	1 to 5	Unit	$125.00	$ 25.00	$ 25.00
	Greater than 5	Unit	$175.00	$ 50.00	$ 50.00
Parades or Gatherings		Unit	$125.00	$ 25.00	$ 25.00
Temporary Use			$350.00	$125.00	$125.00
Detours off State Highways or Vice Versa		Unit	$300.00	$100.00	$100.00
Lane or Shoulder Closings on State Highways		Unit	$175.00	$ 50.00	$ 50.00
Automatic Traffic Counting Procedure		Unit	$ 50.00	$ 25.00	$ 25.00
Wireless Communications Site Survey	Annual	Unit	$600.00	$200.00	$200.00
Railroad Grade Crossings		Unit	$400.00	$150.00	$150.00
Miscellaneous		Unit	$300.00	$100.00	$100.00

APPENDIX H. UIR SYSTEM MAINTENANCE COSTS

UIR System

Discount rate: 4.00%

Year	Capital Investment	MSE	Total
PV	**$701,218**	**$1,225,293**	**$1,926,511**
0	$300,000	$0	$300,000
1	$0	$100,000	$100,000
2	$0	$100,000	$100,000
3	$0	$100,000	$100,000
4	$0	$100,000	$100,000
5	$0	$100,000	$100,000
6	$0	$100,000	$100,000
7	$300,000	$0	$300,000
8	$0	$100,000	$100,000
9	$0	$100,000	$100,000
10	$0	$100,000	$100,000
11	$0	$100,000	$100,000
12	$0	$100,000	$100,000
13	$0	$100,000	$100,000
14	$300,000	$0	$300,000
15	$0	$100,000	$100,000
16	$0	$100,000	$100,000
17	$0	$100,000	$100,000
18	$0	$100,000	$100,000
19	$0	$100,000	$100,000
20	$0	$100,000	$100,000

=======> $96,326 per year

APPENDIX I. DRIVEWAY PERMITTING SYSTEM DEVELOPMENT AND MAINTENANCE COSTS

Driveway Permitting System

Discount rate: 4.00%

Year	Capital Investment	MSE	Total
PV	**$1,201,218**	**$3,430,821**	**$4,632,039**
0	$800,000	$0	$800,000
1	$0	$280,000	$280,000
2	$0	$280,000	$280,000
3	$0	$280,000	$280,000
4	$0	$280,000	$280,000
5	$0	$280,000	$280,000
6	$0	$280,000	$280,000
7	$300,000	$0	$300,000
8	$0	$280,000	$280,000
9	$0	$280,000	$280,000
10	$0	$280,000	$280,000
11	$0	$280,000	$280,000
12	$0	$280,000	$280,000
13	$0	$280,000	$280,000
14	$300,000	$0	$300,000
15	$0	$280,000	$280,000
16	$0	$280,000	$280,000
17	$0	$280,000	$280,000
18	$0	$280,000	$280,000
19	$0	$280,000	$280,000
20	$0	$280,000	$280,000

=======> $231,601.96

APPENDIX J. MUNICIPAL AGREEMENT BETWEEN THE CITY OF PLANO AND TXDOT FOR DRIVEWAY ACCESS PERMITTING

Texas Department of Transportation

P.O. BOX 133067 • DALLAS, TEXAS 75313-3067 • (214) 320-6100

March 31, 2010

Mr. Thomas Muehlenbeck
City Manager
City of Plano
1520 Avenue K
P.O. Box 860358
Plano, Texas 75086-0358

APR 05 2010

Re: Access Standards

Dear Mr. Muehlenbeck:

This letter is in reference to the request that the recently updated Thoroughfare Standards Rules & Regulations from the City of Plano serve as the manual for permitting access points on the state highway system within the City. We have reviewed the manual and find it acceptable. The City may begin permitting all access locations on the highway system utilizing the City of Plano's Thoroughfare Standards Rules and Regulations as of April 1, 2010.

Per TxDOT policy, the municipality shall submit to the Department a copy of each approved access permit on the state highway system within ten working days of its approval and prior to initiation of any access construction on the state highway system. Any impacts to drainage or hydraulics on highways on the state highway system resulting from access connections must be coordinated with TxDOT prior to any local access approval. Issuance of access permits must address driveway geometrics, utility location/ relocation, compliance with the Americans with Disabilities Act (ADA) and Texas Accessibility Standards (TAS), environmental requirements, wetland considerations if appropriate, and all other applicable state and federal laws, rules, and regulations.

Sincerely,

William L. Hale, P.E.
District Engineer