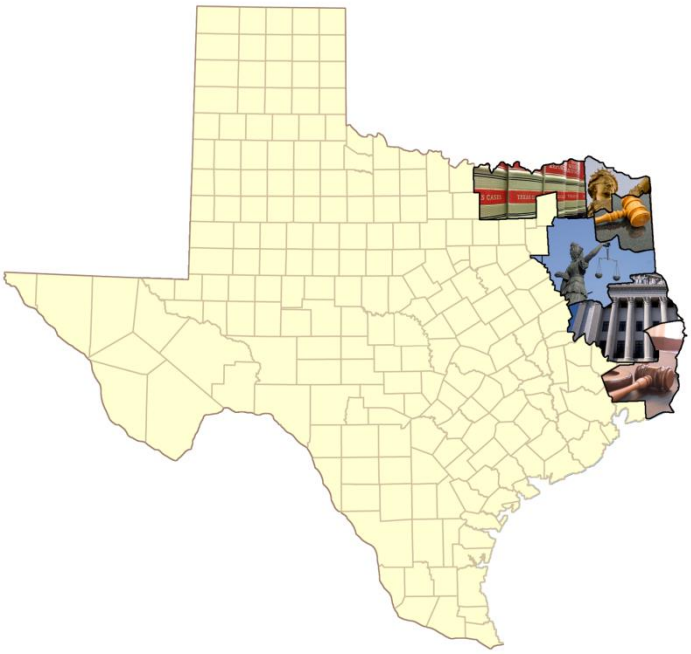
August 2015

"…and Justice for All"

The Potential Economic Benefits of Improving the Judicial Infrastructure in the Eastern District of Texas



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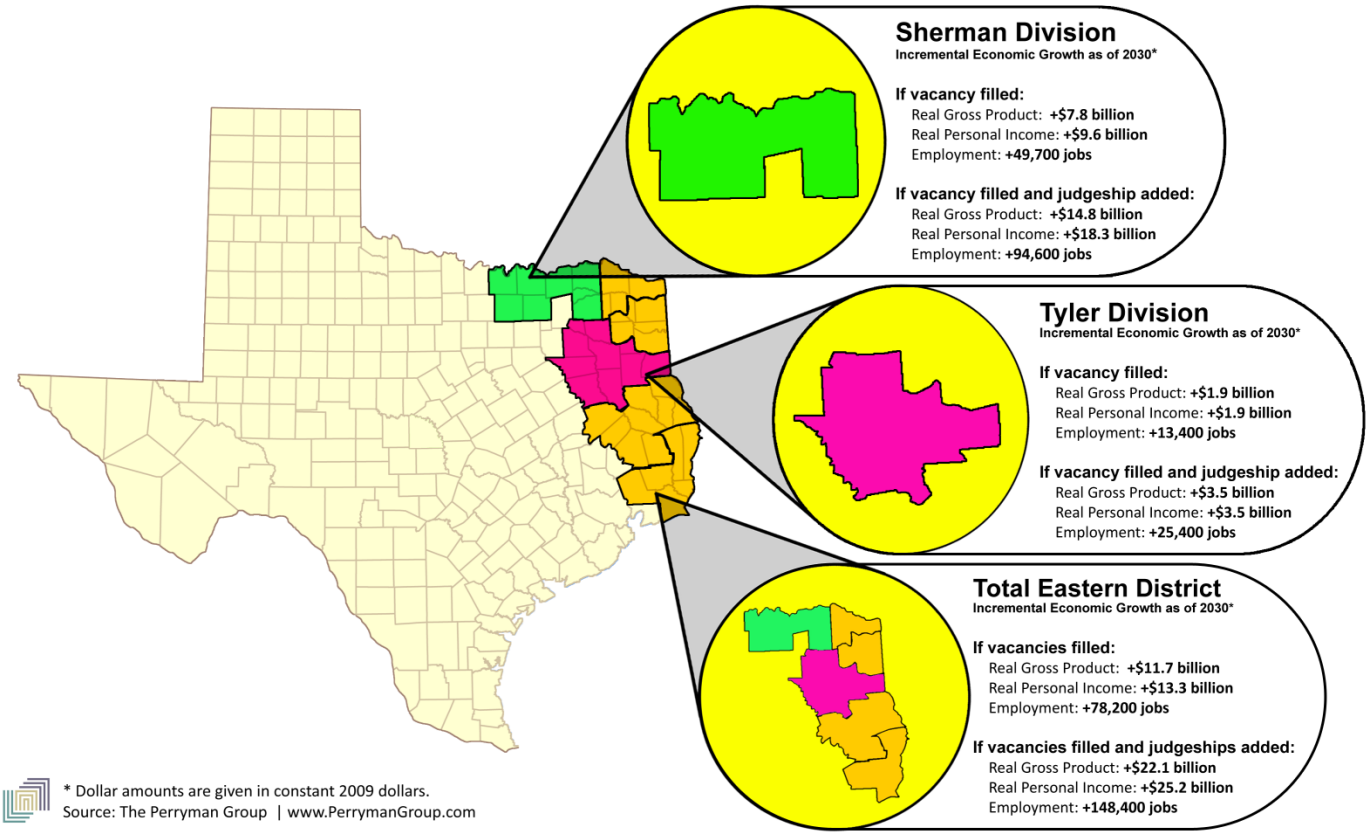
Filling vacancies and adding additional judges in the Eastern District would lead to incremental economic growth including thousands of jobs and billions of dollars in output (real gross product).



Introduction

The founding principles of Western civilization rest on the premise that governments are created and financed collectively in order to provide services to society that cannot be easily obtained on a private basis. In any modern economy, these "public goods" span a diverse spectrum, including public health and safety, national defense, infrastructure (such as transportation, water, utilities, and communication), environmental protection, public education, and safety net programs. In capitalist nations, the ability to protect property rights and enforce contracts is equally essential.

Obviously, one of the most critical institutions required to secure this framework for prosperity is an independent system of courts that is adequately staffed and funded. Public safety can only be sustained through a robust criminal justice system in which laws are properly enforced. Similarly, individuals and businesses cannot effectively make investments and transact commerce without a viable mechanism to provide confidence that assets and agreements will be properly recognized and preserved in a predictable manner and that rights are protected. This phenomenon dates at least to the Middle Ages, when the merchants of Florence developed a crude system of courts to facilitate the purchase and transport of wares from Nice.[1]

The court system must evolve and expand over time to accommodate economic and demographic growth, as well as the changing nature and character of business activity.

By the time of the American Revolution, the fact that the patronage of the king controlled judgeships and affected court rulings was one of the primary grievances that led the colonies to seek independence. It is little wonder that the Declaration of Independence, the Constitution, and the Bill of Rights all focus extensive attention on the courts and the rule of law, and that the Pledge of Allegiance concludes with "…and Justice for All."

The court system must evolve and expand over time to accommodate economic and demographic growth, as well as the changing nature and character of business activity. The sheer increase in people and production will in and of itself place more demands on the judiciary; this pattern is magnified as society becomes more complex. For example, an economy that is driven by technology and intellectual property requires exponentially more judicial

[1] Shepard, Randall T., The Judiciary's Role in Economic Prosperity, Indiana Law Review, Volume 44:987-992, 2011.

infrastructure resources, both in terms of quantity and complexity, than one based on agrarian production. Property rights and ownership and contractual obligations are much simpler to define, interpret, and enforce for crops and livestock than for complex products that often embody thousands of patents and trade secrets and are subject to attack by electronic means. Illegal activity now encompasses cybercrime, multinational drug cartels, identity theft, and many other elements that were unknown in the past.

Similarly, urbanization, the globalization of commerce, and greater concentration of business activity demand a more expansive system of courts. More people bring the need for additional transportation and education facilities. Greater production requires enhanced utilities and communications capabilities. In the same manner, a larger, more urbanized, and increasingly sophisticated global economy creates notable challenges in law enforcement and the protection of rights, and thus compels a more robust judicial infrastructure.

Despite this undeniable reality, the infrastructure of justice has not been well maintained. Many state and municipal courts throughout the country are woefully underfunded, a trend that appears to be intensifying.[2]

At the same time, delays in filling vacancies in the Federal courts and the failure to expand the number of judgeships in line with increases in the population and the level and sophistication of production processes are compromising the essential framework for social progress and prosperity. Just as a lack of maintenance of an adequate network of roads, bridges, rails, utilities, and communications arteries to accommodate growing needs limits prosperity, a paucity of judicial infrastructure retards economic and individual potential and frustrates societal advancement.

The inadequacy of judicial infrastructure in the Eastern District will predictably constrain economic growth and prosperity over time.

One of the most significant representations of this phenomenon is reflected in the Federal courts presently serving the US District Court Eastern District of Texas (Eastern District). There are two vacant judgeships (among eight that are authorized), and the Court Administrator has recommended that two additional courts be established within the District to deal with increasingly unmanageable caseloads. There are also courtrooms in existing facilities to accommodate this enhanced judicial capability. Despite the exceptional efficiency of the

[2]See, for example, Magnuson, Eric J., Steven M. Puiszis, Lisa M. Agrimonti, and Nicole S. Frank, The Economics of Justice, DRI, 2014; Pearsall, Nels, Bo Shippen, and Roy Weinstein, Economic Impact of Reduced Judiciary Funding and Resulting Delays in State Civil Litigation, ERS Group, Micronomics, March 2012; Report on the Funding Crisis in the Illinois Courts, Illinois State Bar Association Special Committee on Fair and Impartial Courts, May 2013.

current judges, increases in the time required for resolving cases and other problems have been the inevitable result as caseloads in the Eastern District have more than doubled since 2009. Logistical issues are also prevalent, as judges must often travel long distances in order to fulfill their obligations (thus furthering dampening productivity).

The inadequacy of judicial infrastructure in the Eastern District, which is among the most strained in the entire US, will predictably constrain economic growth over time. The Perryman Group (TPG) was recently asked to examine the potential economic benefits of filling current vacancies and adding judgeships; this report presents the findings from this analysis.

Summary of Potential Economic Benefits

Improving the Judicial Infrastructure in the Eastern District of Texas Could Increase the Rate of Economic Growth in the Area

If the two current vacancies are filled:	
78,188 additional permanent jobs	**in the Eastern District as of 2030**
$11.7 billion incremental output	
49,657 additional permanent jobs	**in the Sherman Division as of 2030**
$7.8 billion incremental output	
13,414 additional permanent jobs	**in the Tyler Division as of 2030**
$1.9 billion incremental output	
If the two current vacancies are filled and two judgeships are added:	
148,398 additional permanent jobs	**in the Eastern District as of 2030**
$22.1 billion incremental output	
94,577 additional permanent jobs	**in the Sherman Division as of 2030**
$14.8 billion incremental output	
25,407 additional permanent jobs	**in the Tyler Division as of 2030**
$3.5 billion incremental output	

Source: The Perryman Group
Note: Output as measured by real gross product (RGP) expressed in constant (2009) dollars. Assumptions and methods used in this analysis are described elsewhere in this report and the accompanying Appendices.

The Need for Additional Judges in the Eastern District

Across the United States, population growth and the increasing complexity of the economy and business transactions has fostered the need for additional judicial infrastructure. One aspect of the problem is that many courts have vacancies for judgeships that have not been filled, with 58 vacancies in the US circuit and district courts as of July 21, 2015. The number of "judicial emergencies," where there are an insufficient number of judges to meet the caseload, has risen from 12 in January to 28 in July of this year.[3]

Texas is the epicenter of the problem, with more judicial vacancies and judicial emergencies than any other state.[4] For a district as geographically large as the Eastern District of Texas, the problem becomes even more acute, with judges from other divisions in the District frequently having to travel hundreds of miles to hear cases in the Sherman District.[5] A recent study by the Brennan Center for Justice focusing on 10 districts with vacancies (including the Eastern District of Texas) found the shortage of judges has a significant impact on the courts. The study revealed four notable consequences.[6]

Texas is among the most challenged areas in terms of judicial infrastructure, and the Eastern District is particularly strained.

- Case delays: delays in resolving motions and hearing trials. A single judicial vacancy for 12 months was associated with a two percentage point increase in the percentage of cases pending for three or more years.
- Less time spent on individual cases: four of the districts saw heavier caseloads, meaning judges were compelled to spend less time considering individual cases and raising questions about the quality of justice.

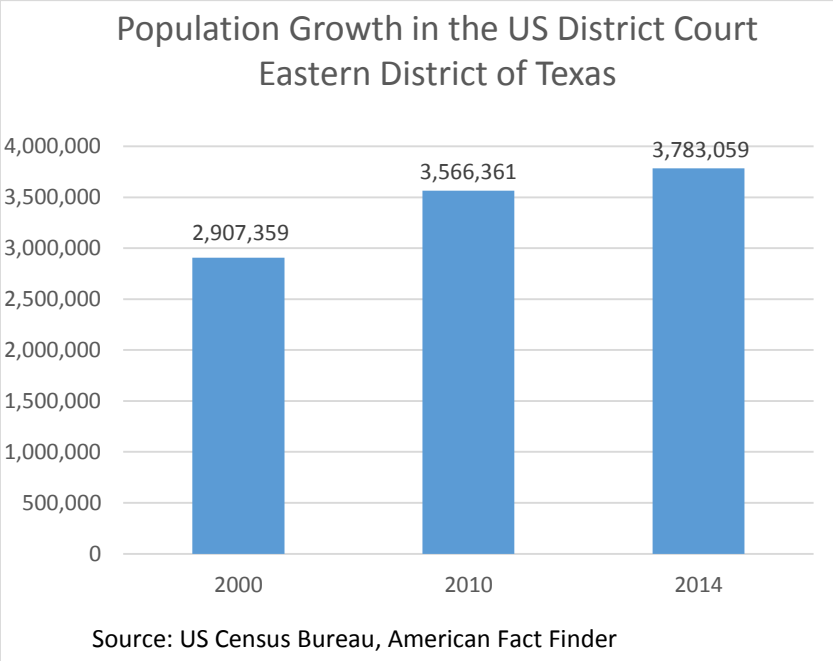
[3] Overloaded Courts, Not Enough Judges: The Impact on Real People, People for the American Way July 21, 2015; Judicial Selection in the 114th Congress: An Early Assessment, Alliance for Justice, March 2015.
[4] John Cornyn and Ted Cruz's Texas: State of Judicial Emergency, Alliance for Justice, (n.d.), http://www.afj.org/our-work/issues/judicial-selection/texas-epicenter-of-the-judicial-vacancy-crisis; Judicial Selection in the 114th Congress: An Early Assessment, Alliance for Justice, March 2015.
[5] Bannon, Alicia, The Impact of Judicial Vacancies on Federal Trial Courts, Brennan Center for Justice at New York University School of Law, July 2014.
[6] Bannon, Alicia, The Impact of Judicial Vacancies on Federal Trial Courts, Brennan Center for Justice at New York University School of Law, July 2014.

- Administrative burdens: a shortage of judges has a "trickle-down" effect on judicial administration, leading to loss of law clerks and other administrative resources and reduced capacity for the work of judicial committees.
- Risk of judicial burn-out: vacancies create additional work for a district's remaining judges to absorb the caseload, which has the potential to lead to burn-out.

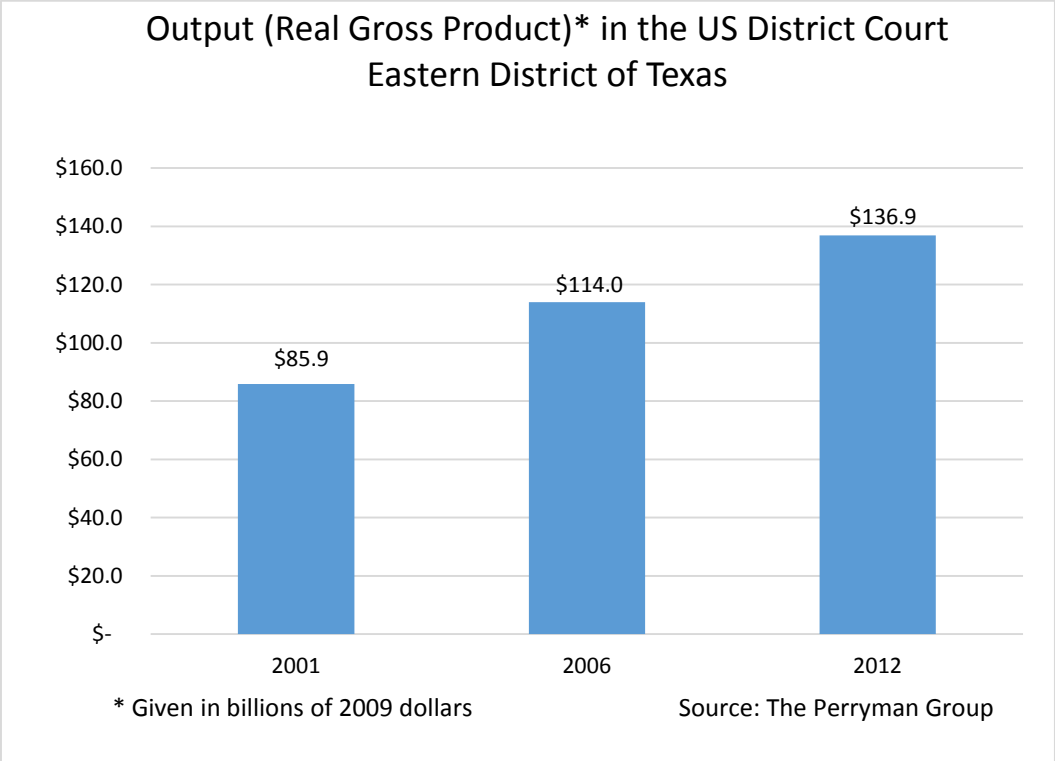
All of these impacts have a definitive negative effect on the people and businesses that rely on the courts.

Eastern District Population and Economic Growth

As noted, Texas is among the most challenged areas in terms of judicial infrastructure. The Eastern District has been particularly strained by economic growth and a failure to fill vacant judgeships. The Eastern District has recently experienced significant demographic and economic expansion.

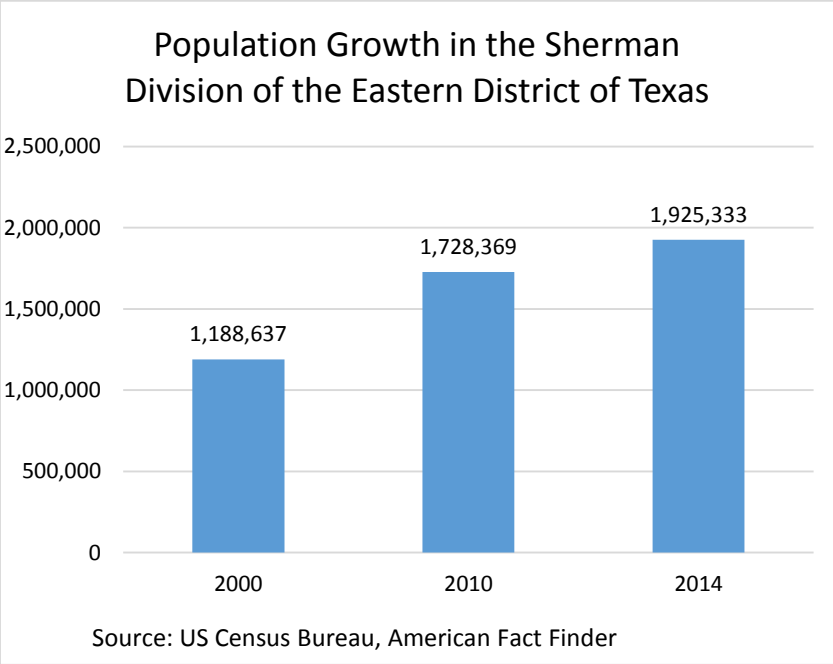


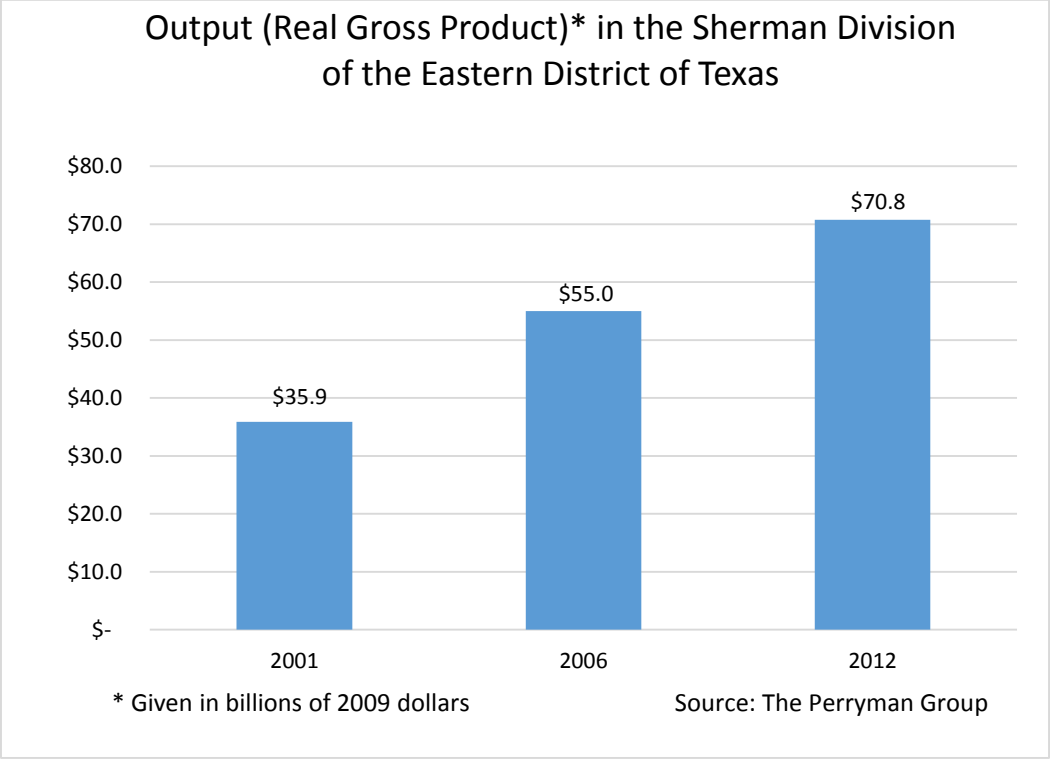
Source: US Census Bureau, American Fact Finder



Several areas within the Eastern District are experiencing growth in key sectors with significant judicial infrastructure needs. The health and biosciences complex in the Tyler area continues to expand, while substantial investments are occurring in the Beaumont area in refining and petrochemical facilities as well as emerging liquefied natural gas (LNG) operations.

Collin and Denton Counties (part of the Sherman Division), which are located in a highly dynamic corridor north of Dallas, have recently seen dramatic increases in their economies and populations, ranking among the top performing counties in the country. As a result of this phenomenon and strong growth in nearby areas, the Sherman Division has experienced a particularly notable increase in residents and business activity. Moreover, this area is home to numerous technology companies and major corporate headquarters, thus providing venue for many disputes. This pattern continues to evolve, with one prominent example being the recent decision by Toyota to locate its North American headquarters in Collin County. While highly beneficial to local business activity, such developments also escalate the need for additional judicial infrastructure. Population increases, economic expansion, urbanization, technological advances, globalization, sophisticated criminal activity, and added complexity combine to compel additional investment in the court system in order to sustain prosperity.





Expansion in the population and economy have increased the demands on the court system.

Eastern District Court Overload

The Eastern District has eight authorized judgeships (seven permanent and one temporary set to expire in September 2016). However, over the past few years, the Eastern District has been operating with only six judges for much of the time. Although two positions were filled in late 2014, a recent retirement and a judge taking senior status have again led to the district being in a situation of significant deficiency in its judicial infrastructure.

In 2014, the Eastern District of Texas caseload exceeded 1,330, more than twice the 2009 level of less than 600, and the weighted caseload per active judge was actually much higher.

Total filings in the Eastern District have been rising, up from 4,259 in 2009[7] to 5,062 in 2014.[8] The most recent federal court statistics[9] indicate the Eastern District has the third-highest weighted caseload per *authorized* judgeship of the nation's 94 districts. Furthermore, caseloads have risen dramatically in the past few years.

- In 2014, the Eastern District of Texas caseload exceeded 1,330, more than twice the 2009 level of less than 600.
- Over the same period, the overall national weighted caseload remained relatively stable at 480 in 2009 and 533 in 2014.
- Given that the Eastern District was operating with fewer than the authorized eight judges during most of that time period, the **weighted caseload per active judge was actually much higher**.

Simply stated, the judges in the Eastern District are working much harder, but will not be able to reasonably accommodate the ongoing increase in the demands that will be placed on the court system.

Even with this extremely high weighted caseload, the Eastern District performed very well in terminations per authorized judgeship, ranking twenty-first in the US. In 2009, the Eastern District averaged 499 terminations per authorized judgeship compared to 545 for the US overall. In 2014, terminations in the Eastern District had risen to 612, while the US average fell to 532. Simply stated, the judges in the Eastern District are working much harder, but will not be able to reasonably accommodate the ongoing increase in the demands that will be placed on the court system as growth and urbanization continue.

[7] Statistics given for the 12-month period ending in September of the relevant year.
[8] Eastern District of Texas Statistical Analysis, May 2015.
[9] Eastern District of Texas Statistical Analysis, May 2015.

Judicial Infrastructure's Effect on Economic Growth

It is well known and widely documented that an efficient and predictable judicial system is essential for economic growth and development.[10] For example, numerous studies have examined the recent funding issues in state and local courts and quantified some of the harms.[11] Others prepared in the context of state judicial reform efforts have demonstrated that areas with more predictable litigation environments achieve corresponding economic benefits.[12] At least one analysis has illustrated that excessive judicial turnover can impose measurable economic harm.[13] The Perryman Group has been involved in many such analyses.

It should be noted that this phenomenon is not unique to the United States; a large body of research has identified similar patterns in countries throughout the world. Numerous studies

[10] See, for example, Pinheiro, Armando Castelar, Judicial System Performance and Economic Development, BNDES, October 1996; Scully, Gerald W., The Institutional Framework and Economic Development, Journal of Political Economy 1988, Vol. 96, No. 3; Dam, Kenneth W., "The Judiciary and Economic Development," John M. Olin Law & Economics Working Paper No. 287, The Law School, The University of Chicago, March 2006; Feld, Lars P. and Stefan Voight, Making Judges Independent – Some Proposals Regarding the Judiciary, CESifo Working Paper No 1260, August 2004; Islam, Roumeen, Institutional Reform and the Judiciary: Which Way Forward?, World Bank Policy Research Working Paper Series 3134, September 2003; Esposito, Gianluca, Sergi Lanau, and Sebastiaan Pompe, Judicial System Reform in Italy—A Key to Growth, IMF Working Paper, International Monetary Fund, February 2014; Shepard, Randall T., The Judiciary's Role in Economic Prosperity, Indiana Law Review, Volume 44:987-992, 2011.

[11] See, for example, Magnuson, Eric J., Steven M. Puiszis, Lisa M. Agrimonti, and Nicole S. Frank, The Economics of Justice, DRI, 2014; Pearsall, Nels, Bo Shippen, and Roy Weinstein, Economic Impact of Reduced Judiciary Funding and Resulting Delays in State Civil Litigation, ERS Group, Micronomics, March 2012; Report on the Funding Crisis in the Illinois Courts, Illinois State Bar Association Special Committee on Fair and Impartial Courts, May 2013.

[12] The Perryman Group, An Economic Assessment of the Benefits Associated with Increasing Judicial Compensation in Texas, 2005; The Perryman Group, The Economic Benefits Associated with Increasing the Efficiency and Productivity of the Texas Judicial System Through Expanded Investment in Educational Programs for Judges, Analysis prepared for the Texas Judicial Foundation, 2010; The Perryman Group, The Potential Impact of Additional Judicial Reforms on Economic Activity in Mississippi, Study prepared for Mississippians for Economic Progress, 2004; The Perryman Group, The Impact of the Proposed Judicial Reforms on Business Activity in Texas: An Initial Assessment, Study prepared for Texans for Lawsuit Reform, 2003; The Perryman Group, The Current and Projected Impact of Recent Judicial Reforms on Economic Activity in Alabama, Analysis prepared for the US Chamber of Commerce, 2002; Shepard, Randall T., The Judiciary's Role in Economic Prosperity, Indiana Law Review, Volume 44:987-992, 2011; Esposito, Gianluca, Sergi Lanau, and Sebastiaan Pompe, Judicial System Reform in Italy—A Key to Growth, IMF Working Paper, International Monetary Fund, February 2014.

[13] Bannon, Alicia, The Impact of Judicial Vacancies on Federal Trial Courts, Brennan Center for Justice at New York University School of Law, July 2014.

have found countries with more efficient judicial systems perform better than countries with inefficient judicial systems.[14]

- One study revealed that the inefficiencies of the Italian judicial system are a factor in the country's poor economic growth.[15]
- Another analysis indicated that "within individual countries the relative competence of provincial and state courts affects comparative economic competitiveness," and "an ineffective judiciary may have extraordinary and far-reaching effects on a country."[16]
- An evaluation of the Greek legal system found its inefficiencies are detrimental to that country's social and economic well-being and have a negative impact on the economic growth needed to help overcome its enormous debt situation.[17]
- A report by the European Commission for the Efficiency of Justice concluded that a strong positive correlation exists between GDP per inhabitant for an area and the level of resources allocated per capita to the operation of the judicial system.[18]
- Finally, a global assessment by the Organisation for Economic Co-operation and Development (OECD) found that well performing judiciaries are crucial to positive economic performance.[19]

The importance of the judicial infrastructure is widely recognized around the world.

The importance of the judicial infrastructure is widely recognized around the world; these studies and many others are illustrative of the correlation between a well-functioning court system and the pace of business expansion.

[14] Esposito, Gianluca, Sergi Lanau, and Sebastiaan Pompe, Judicial System Reform in Italy—A Key to Growth, IMF Working Paper, International Monetary Fund, February 2014; Dam, Kenneth W., "The Judiciary and Economic Development," John M. Olin Law & Economics Working Paper No. 287, The Law School, The University of Chicago, March 2006; Colville, Megan, The Inefficiencies of the Greek Legal System, 2012, http://martindale.cc.lehigh.edu/sites/martindale.cc.lehigh.edu/files/Innefficiencies.pdf; European Judicial Systems, Edition 2014 (2012 data), Efficiency and Quality of Justice: An Overview, European Commission for the Efficiency of Justice (CEPEJ), July 2014; OECD (2013), What Makes Civil Justice Effective?, OECD Economics Department Policy Notes, No. 18, June 2013.
[15] Esposito, Gianluca, Sergi Lanau, and Sebastiaan Pompe, Judicial System Reform in Italy—A Key to Growth, IMF Working Paper, International Monetary Fund, February 2014.
[16] Dam, Kenneth W., "The Judiciary and Economic Development," John M. Olin Law & Economics Working Paper No. 287, The Law School, The University of Chicago, March 2006, p.1-2.
[17] Colville, Megan, The Inefficiencies of the Greek Legal System, 2012, http://martindale.cc.lehigh.edu/sites/martindale.cc.lehigh.edu/files/Innefficiencies.pdf.
[18] European Judicial Systems, Edition 2014 (2012 data), Efficiency and Quality of Justice: An Overview, European Commission for the Efficiency of Justice (CEPEJ), July 2014.
[19] OECD (2013), What Makes Civil Justice Effective?, OECD Economics Department Policy Notes, No. 18, June 2013.

Potential Benefits of Adding Judges

Improving the judicial infrastructure in the Eastern District would lead to a spectrum of quality of life benefits, as well as eliminating a current constraint on economic expansion.

- The Perryman Group estimates that filling vacant judgeships (in the Sherman and Tyler Divisions) would lead to a net increment of almost **$11.7 billion** in yearly output (RGP) and almost **78,200** jobs in the **Eastern District** by 2030.
    - For the **Sherman Division**, estimated gains from filling the vacancy include $7.8 billion in yearly output (RGP) and 49,657 jobs.
    - In the **Tyler Division**, estimated gains from filling the vacancy are estimated to be $1.9 billion in yearly output (RGP) and 13,414 jobs.
- Filling the two vacancies and adding two new judgeships (in the Sherman and Tyler Divisions) would lead to net incremental benefits for the **Eastern District** including **$22.1 billion** in annual output (RGP) and approximately **148,400** additional jobs by 2030.
    - Incremental economic growth in the **Sherman Division** from filling the vacancy and adding a judgeship include $14.8 billion in yearly output (RGP) and 94,577 jobs.
    - For the **Tyler Division**, filling the vacancy and adding an additional judgeship results in an estimated increase in business activity of $3.5 billion in yearly output (RGP) and 25,407 jobs.

These benefits are summarized in the table and graphic below, with further detail in the Appendices. Note that the gains for the entire district exceed those of the two divisions where the increases would likely occur. This pattern occurs because of the spillover effects of a more efficient system across the entire area.

Net Incremental Benefit of Enhanced Judicial Infrastructure as of 2030*
(Dollar Amounts in Billions of 2009$)

If two vacant judgeships are filled:

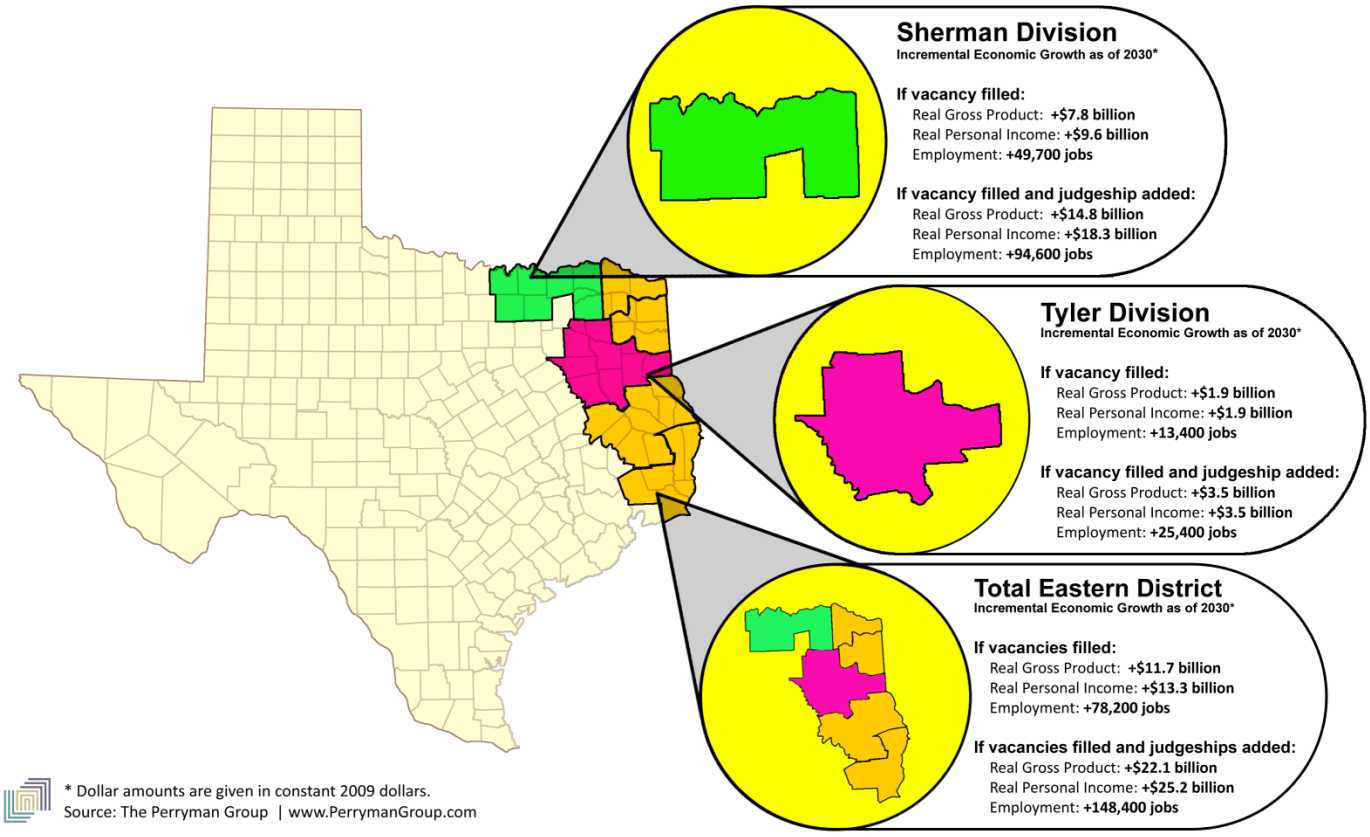
	Annual Real Gross Product	Annual Real Personal Income	Annual Real Earnings	Employment	Annual Real Retail Sales
Eastern District Total	**$11.7**	**$13.3**	**$7.2**	**78,188**	**$4.5**
Sherman Division	$7.8	$9.6	$4.9	49,657	$3.3
Tyler Division	$1.9	$1.9	$1.2	13,414	$0.6

If two vacant judgeships are filled and two additional judgeships are added:

	Annual Real Gross Product	Annual Real Personal Income	Annual Real Earnings	Employment	Annual Real Retail Sales
Eastern District Total	**$22.1**	**$25.2**	**$13.8**	**148,398**	**$8.5**
Sherman Division	$14.8	$18.3	$9.3	94,577	$6.2
Tyler Division	$3.5	$3.5	$2.3	25,407	$1.2

Source: The Perryman Group

Note: Net incremental benefit compared to a baseline case in which the current judicial infrastructure in the Eastern District of Texas is maintained. Dollar amounts are the estimated annual increase in activity measured as of 2030.



Study Approach and Summary of Methods Used

A large number of studies have found that efficient judicial infrastructure is important to economic growth. The Perryman Group conducted a review of these prior studies as an initial phase of this analysis. TPG adapted a widely accepted approach that has been used in many contexts to measure the effects of the institutional framework on economic development. In essence, economic expansion can only occur when (1) the **factors of production are increased**, their **rate of implementation is accelerated**, or their **quality is improved through advances in technology**; or (2) **existing resources are deployed more efficiently** to generate greater output. **Enhancements in the judicial infrastructure of a region benefit each of these phenomena in a systematic manner**. In addition, consumers, producers, and investors increase their economic activity in response to benefits of filling current vacancies and adding judgeships such as (1) greater predictability with regard to enforcement and outcomes; (2) lower costs in terms of both system access (judicial efficiency) and opportunity costs (such as the interest expense during the period that funds are subject to uncertainty); and (3) reductions in the time involved in accessing the system.

Various assumptions regarding the addition of judges in the Eastern District and the resulting effects on factors of production and efficiency were incorporated into simulations of The Perryman Group's econometric model (the Texas Econometric Model, which is described in further detail in the Appendices to this report). This Model was developed by the firm some 30 years ago and has been consistently maintained and updated since that time. It has also been used to produce county-level forecasts of the Texas economy for decades as well as forecasts for clients ranging from major corporations to government agencies. The Model is designed to permit the integration of relevant global, national, state, and local factors into the projection process.

The submodels used in the current analysis were developed specifically for the multi-county areas studied. Results are expressed in terms of the following economic measures.

- **Real gross product** (or output) is production of goods and services in the area expressed on an inflation-adjusted basis (2009$).
- **Personal income** is dollars ending up in the hands of people living in the area; the vast majority of this aggregate derives from the earnings of employees, but payments such as interest and rents are also included.
- **Real earnings** is similar to personal income, but reflects earnings paid to workers employed in the area.
- **Employment** is persons working on a full-time equivalent basis using a wage and salary definition of employment (which excludes proprietors).
- **Real retail sales** reflects retail sales on an inflation-adjusted basis.

Monetary values were quantified on a constant (2009) basis, which eliminates inflationary effects and conforms to nationally reported statistics. See the remainder of this report and the accompanying Appendices for additional information regarding the methods and assumptions used in this analysis.

Conclusion

The judicial infrastructure in the Eastern Division is in need of improvement. In spite of the efficiency and hard work of the judges now in place, population and economic growth has strained the system beyond a reasonable level. The current authorized level of eight judges is insufficient to meet the needs of the area, particularly as population and economic expansion continue. Moreover, two of the eight existing positions are now vacant, exacerbating the situation.

If a critically strained judicial infrastructure is not addressed, "…and Justice for All" -- citizens, businesses, and those who protect them -- will, over time, become less and less attainable.

Investing in the judicial infrastructure can improve quality of life as well as future prosperity. By reducing uncertainties and time required to resolve business disputes, performance of the economy can be enhanced.

- The Perryman Group estimates that filling the two positions now vacant would add almost **78,200** jobs in the Eastern Division as of 2030 compared to a baseline situation reflecting current infrastructure.
- If the vacant positions are filled and two additional judges are added as recommended by the Court Administrator, the benefits would increase to approximately **148,400** net incremental jobs in the Eastern District as of 2030.

The current difficulties in the Eastern District will only become worse in the future under current conditions, with caseloads rising, judges increasingly overworked, criminal cases being delayed, and people and businesses unable to resolve disputes in a predictable manner and in a reasonable amount of time. **If a critically strained judicial infrastructure is not addressed, "…and Justice for All" -- citizens, businesses, and those who protect them -- will, over time, become less and less attainable.**

APPENDICES

Appendix A: About The Perryman Group

The Perryman Group is an economic and financial analysis firm located in Waco, Texas. The firm has extensive experience in areas related to this study.

In the area of **economic forecasting**, Dr. M. Ray Perryman, founder and President, developed the Texas Econometric Model in the early 1980s and has consistently maintained, expanded, and updated it since that time. The model provides detailed industry-level forecasts for the Texas economy and is used to provide ongoing forecasts for the various regions and metropolitan areas within Texas. It is formulated in an internally consistent manner and is designed to permit the integration of relevant global, national, state, and local factors into the projection process. It is the result of more than three decades of continuing research in econometrics, economic theory, statistical methods, and key policy issues and behavioral patterns, as well as intensive, ongoing study of all aspects of the global, US, Texas, and Texas metropolitan area economies. It is extensively used by scores of federal and State governmental entities on an ongoing basis, as well as hundreds of major corporations. In addition to producing regular forecasts for Texas as well as its regions and metropolitan areas for more than 30 years, the firm has performed specialized forecasts for dozens of corporate clients.

The firm has studied the effects of **infrastructure improvements and insufficiencies** in a variety of contexts. These analyses have commonalities with the present study in that they typically involve examination patterns in economic growth "with" and "without" a potential improvement. The firm has completed transportation studies for the US Department of Transportation, the Congress of the United States, the Texas Department of Transportation, the Texas Turnpike Authority, and numerous regional entities related to transportation and infrastructure issues. TPG provided all of the economic analysis underlying the development of Fort Worth Alliance Airport, the largest and most successful business aviation complex in the world, and much of the associated collateral activity. Similar work has been completed regarding the industrial development around Denver International Airport. The firm has also conducted studies for numerous other airport developments around the country, as well as major industrial sites associated with the Burlington Northern-Santa Fe Railroad facilities at Alliance Airport, the Railport industrial park, and major port facilities in Mexico (Topolobampo), Houston, and Charlotte. Many of these initiatives involve multimodal capacity. The firm also conducted an analysis of the economic impact of the Port of Houston on overall business activity in support of the recent expansion of its container facilities and a similar analysis

regarding the proposed expansion of several aspects of the Port of Charleston and collateral business development. The firm has also analyzed the economic effects of numerous other major highway corridors and toll roads.

In addition, The Perryman Group has extensive experience related to the **process of litigation**, including numerous instances in the Eastern District of Texas. For example, Dr. Perryman has served as an expert witness in litigation related to patent infringement in a industries including telecommunications equipment, mainframe computer software, personal computer components, environmental equipment, disposable diapers, sporting goods, cable television technology, microelectronics, oil and gas production trade secrets, medical devices, wireless technology, Internet security, battery life, drilling equipment, pharmaceuticals, electronic commerce, optical navigation devices, and lighting controls. He has also provided testimony in major cases related to antitrust and competitive issues, securities, and large-scale commercial disputes. Through this experience, the firm has gained first-hand experience of the business effects of the litigation process as well as the crucial nature of the judicial infrastructure. TPG has performed numerous studies related to judicial reform around the country, with Dr. Perryman having testified on this topic before legislative and administrative bodies in several states. In addition, the firm has analyzed the importance of adequate judicial compensation, the role of justice access and indigent defense, and the importance of a proper court record. All of these studies are similar in some respects to the present analysis.

Appendix B: Methods Used

Linkage Between the Judiciary and Economic Growth

The fundamental and formal economic theory underlying the linkage between the judiciary and growth is grounded in the basic notion that economic actors, such as consumers, producers, and investors, make decisions in a manner that seeks to maximize expected long-term utility or satisfaction.[20] This framework unambiguously demonstrates that the utility of the system increases in response to (1) greater predictability with regard to enforcement and outcomes; (2) lower costs in terms of both system access (judicial efficiency) and opportunity costs (such as the interest expense during the period that funds are subject to uncertainty); and (3) reductions in the time involved in accessing the system. Note that all of these drivers are positively influenced (moved in the direction of increasing the value (utility) of the system) by increasing the number of judges, particularly in an environment characterized by vacancies and an inadequate number of judgeships.

This basic model has numerous extensions which serve to explain the role of the judiciary in fostering economic progress in a rigorous manner,[21] all of which can be demonstrated in a straightforward and unambiguous manner. In essence, expansion can only occur when (1) the factors of production are increased, their rate of implementation is accelerated, or their quality is improved through advances in technology; or (2) existing resources are deployed more efficiently to generate greater output. Enhancements in the judicial infrastructure of a region benefit each of these dynamics in a systematic, predictable, and reliable manner.

With regard to **increasing the factors of production**, a predictable and timely ability to adjudicate claims and enforce contracts lowers the risk of individual transactions and reduces expected costs. The result is that the risk (often operationalized as a discount rate) is lower,

[20] A formal mathematical exposition of these concepts may be found in Pinheiro, Armando Castelar, Judicial System Performance and Economic Development, BNDES, October 1996. See also Barro, Robert J., Economic Growth in a Cross Section of Countries, The Quarterly Journal of Economics, Vol. 106, No. 2, May 1991, p. 407-443; North, Douglass C., Institutions, Institutional Change, and Economic Performance, Cambridge, U.K.: Cambridge University Press, 1990; Olson, Mancur, Distinguished Lecture on Economics in Government, Big Bills Left on the Sidewalk: Why Some Nations are Rich, and Others Poor, The Journal of Economic Perspectives, Volume 10, No. 2 Spring 1996, p. 3-24.
[21] Again, a formal mathematical presentation is provided in Pinheiro, Armando Castelar, Judicial System Performance and Economic Development, BNDES, October 1996.

thus resulting in more transactions and higher levels of investment. The rate of capital accumulation is accelerated through this process, leading to gains in business activity. The increase in transactions positively affects implementation, again contributing to output expansion. A more effective criminal justice system also creates a less uncertain environment for both consumer and business transactions. In addition, improvements in the ability to protect intellectual property rights and properly adjudicate disputes over its use and value stimulate innovation and technological advances by preserving and securing opportunities for fair returns. These gains, in turn, enhance the quality of the capital stock and support higher levels of growth.

In terms of **efficiency**, the federal judiciary plays a pivotal role in assuring that the competitive framework remains vibrant through adjudicating antitrust and regulatory issues. To the extent the ability to perform these functions is compromised by inadequate resources, resource allocation is distorted and the economy suffers. Similarly, when the period required to resolve matters is extended, uncertainty is increased and funds potentially at risk cannot be deployed in an optimal manner. These factors further inhibit business activity. The inability to fully enforce contracts in a timely manner can create difficulties in distribution, pricing, and other key elements of market efficiency. These example are representative of the many avenues through which the judiciary system impacts resource allocation.

Thus, facilitating the performance of the Federal judiciary through providing needed resources will foster economic growth. Moreover, because the Federal judiciary is organized and staffed based on regional districts and divisions, scarcity of resources in one geographic area relative to others can affect economic performance. This phenomenon has been widely demonstrated in the context of the role of state judiciaries in business activity.[22]

Despite the recognition of the role of the court system in economic development and the various channels through which it is manifested, there has been relatively little effort to quantify these effects in a comprehensive and systematic manner. One group of studies has

[22] The Perryman Group, An Economic Assessment of the Benefits Associated with Increasing Judicial Compensation in Texas, 2005; The Perryman Group, The Economic Benefits Associated with Increasing the Efficiency and Productivity of the Texas Judicial System Through Expanded Investment in Educational Programs for Judges, Analysis prepared for the Texas Judicial Foundation, 2010; The Perryman Group, The Potential Impact of Additional Judicial Reforms on Economic Activity in Mississippi, Study prepared for Mississippians for Economic Progress, 2004; The Perryman Group, The Impact of the Proposed Judicial Reforms on Business Activity in Texas: An Initial Assessment, Study prepared for Texans for Lawsuit Reform, 2003; The Perryman Group, The Current and Projected Impact of Recent Judicial Reforms on Economic Activity in Alabama, Analysis prepared for the US Chamber of Commerce, 2002; Shepard, Randall T., The Judiciary's Role in Economic Prosperity, Indiana Law Review, Volume 44:987-992, 2011.

estimated impacts of funding shortages in some state and local judiciaries by seeking to quantify the effects of the funds that are not fully available due to excessive delays.[23] While this approach is useful and illustrates significant effects, it only captures one aspect of the efficiency channel outlined above and none of the various aspects of resource quantity, penetration, and quality.

In order to provide a more comprehensive measure and illustrate the potential effects on the economy of the Eastern District of Texas, TPG adapted a widely accepted approach that has been used in many contexts to measure the effects of the institutional framework on economic development.[24] In its original formulation, this method was used to assess the role of governmental institutions, inclusive of the judiciary, on growth in more than 150 market economies. This approach is readily amenable to the current analysis and has been cited and applied hundreds of times since its initial introduction. The process involves (1) updating all parameters and data, (2) isolating the effect of the court system (and the subset represented by the Federal courts), and (3) calculating the resulting responsiveness coefficients. Once these tasks are completed, it is necessary to (1) localize the model to the relevant region, (2) determine an appropriate baseline level of economic activity for comparative purposes, and (3) develop meaningful alternative scenarios to provide a basis for impact assessment.

The localization was implemented relative to the geographic area comprising the Eastern District of Texas, with submodels for both the Sherman Division and the Tyler Division. The baseline levels of economic activity were established based on forecast simulation of the Texas Econometric Model for the relevant regions. This model was developed by TPG more than 30 years ago and has been consistently expanded, refined, and updated. It has been peer reviewed on multiple occasions and is regularly used by hundreds of State and federal agencies, local governments, and major corporations (see below for a more detailed discussion).

Once the baseline pattern of activity is determined, two alternative scenarios are examined. In the first scenario, it is assumed that the two current vacant judgeships in the Eastern District are filled. The second scenario examines a situation in which, in addition to eliminating the existing vacancies, two new judgeships are established and the new judges appointed. In both instances, the additional resources are assumed to be in place by the end of 2017. Using these

[23] Pearsall, Nels, Bo Shippen, and Roy Weinstein, Economic Impact of Reduced Judiciary Funding and Resulting Delays in State Civil Litigation, ERS Group, Micronomics, March 2012; Weinstein, Roy and Stevan Porter, Economic Impact on the County of Los Angeles and the State of California of Funding Cutbacks Affecting the Los Angeles Superior Court, Micronomics, December 2009.
[24] Scully, Gerald W., The Institutional Framework and Economic Development, Journal of Political Economy 1988, Vol. 96, No. 3.

potential outcomes, the regional model for each of the three areas is simulated under baseline conditions (which implicitly assume that the current situation is maintained). This exercise is then repeated under each of the alternative sets on conditions regarding judicial resources, with the difference being the economic impacts of the enhanced court infrastructure. In all cases, the analysis is extended to 2030 in order to allow sufficient time to permit the full effects to be integrated into the economy. Because this approach compares the aggregate economy in varying states, it is not appropriate to calculate additional multiplier effects.

While no method is perfect, the approach is advantageous in that (1) it fully controls for all other intervening factors; (2) it measures the effects across all of the sectors of the economy; (3) it is localized to the industrial characteristics, composition, and dynamics of the relevant areas; and (4) it permits effects to be measured across multiple indicators of business activity (gross product, income, earnings, and employment). Note that all monetary values are given in constant (2009) dollars to eliminate the effects of inflation and to be compatible with standard reporting patterns in current US economic statistics.

Texas Econometric Model

The **Texas Econometric Model**, the system utilized in this analysis, was developed by Dr. M. Ray Perryman, President and CEO of The Perryman Group, more than 30 years ago and has been consistently maintained, expanded, and updated since that time. It is formulated in an internally consistent manner and is designed to permit the integration of relevant global, national, state, and local factors into the projection process. It is the result of more than three decades of continuing research in econometrics, economic theory, statistical methods, and key policy issues and behavioral patterns, as well as intensive, ongoing study of all aspects of the global, US, Texas, and Texas metropolitan area economies. It is extensively used by scores of federal and State governmental entities on an ongoing basis, as well as hundreds of major corporations and has been peer reviewed on many occasions. Moreover, as discussed below, it is structured in a multi-regional framework, thus allowing specific evaluation of the Eastern District of Texas and its larger divisions.

The overall methodology, while certainly not ensuring perfect foresight, permits an enormous body of relevant information to impact the economic outlook in a systematic manner. Moreover, for purposes of the current analysis, it offers a benchmark for comparative purposes

in order to measure the incremental change associated with enhanced judicial infrastructure. Because the relevant analysis focuses on the difference in two scenarios and only a single intervening factor, departures of ultimate economic outcomes from the projections are of little consequence.

Model Logic and Structure

The Texas Econometric Model revolves around a core system which projects output (real and nominal), income (real and nominal), and employment by industry in a simultaneous manner. For purposes of illustration, it is useful to initially consider the employment functions. Essentially, employment within the system is a derived demand relationship obtained from a neo-Classical production function. The expressions are augmented to include dynamic temporal adjustments to changes in relative factor input costs, output and (implicitly) productivity, and technological progress over time. Thus, the typical equation includes output, the relative real cost of labor and capital, dynamic lag structures, and a technological adjustment parameter. The functional form is logarithmic, thus preserving the theoretical consistency with the neo-Classical formulation.

The income segment of the model is divided into wage and non-wage components. The wage equations, like their employment counterparts, are individually estimated at the 3-digit North American Industry Classification System (NAICS) level of aggregation. Hence, income by place of work is measured for approximately 90 production categories. The wage equations measure real compensation, with the form of the variable structure differing between "basic" and "non-basic."

The basic industries, comprised primarily of the various components of Mining, Agriculture, and Manufacturing, are export-oriented, i.e., they bring external dollars into the area and form the core of the economy. The production of these sectors typically flows into national and international markets; hence, the labor markets are influenced by conditions in areas beyond the borders of the particular region. Thus, real (inflation-adjusted) wages in the basic industry are expressed as a function of the corresponding national rates, as well as measures of local labor market conditions (the reciprocal of the unemployment rate), dynamic adjustment parameters, and ongoing trends.

The "non-basic" sectors are somewhat different in nature, as the strength of their labor markets is linked to the health of the local export sectors. Consequently, wages in these

industries are related to those in the basic segment of the economy. The relationship also includes the local labor market measures contained in the basic wage equations.

Note that compensation rates in the export or "basic" sectors provide a key element of the interaction of the regional economies with national and international market phenomena, while the "non-basic" or local industries are strongly impacted by area production levels. Given the wage and employment equations, multiplicative identities in each industry provide expressions for total compensation; these totals may then be aggregated to determine aggregate wage and salary income. Simple linkage equations are then estimated for the calculation of personal income by place of work.

The non-labor aspects of personal income are modeled at the regional level using straightforward empirical expressions relating to national performance, dynamic responses, and evolving temporal patterns. In some instances (such as dividends, rents, and others) national variables (for example, interest rates) directly enter the forecasting system. These factors have numerous other implicit linkages into the system resulting from their simultaneous interaction with other phenomena in national and international markets which are explicitly included in various expressions.

The output or gross area product expressions are also developed at the 3-digit NAICS level. Regional output for basic industries is linked to national performance in the relevant industries, local and national production in key related sectors, relative area and national labor costs in the industry, dynamic adjustment parameters, and ongoing changes in industrial interrelationships (driven by technological changes in production processes).

Output in the non-basic sectors is modeled as a function of basic production levels, output in related local support industries (if applicable), dynamic temporal adjustments, and ongoing patterns. The inter-industry linkages are obtained from the input-output (impact assessment) system which is part of the overall integrated modeling structure maintained by The Perryman Group. Note that the dominant component of the econometric system involves the simultaneous estimation and projection of output (real and nominal), income (real and nominal), and employment at a disaggregated industrial level.

This process, of necessity, also produces projections of regional price deflators by industry. These values are affected by both national pricing patterns and local cost variations and permit changes in prices to impact other aspects of economic behavior. Income is converted from real to nominal terms using the Texas Consumer Price Index, which fluctuates in response to national pricing patterns and unique local phenomena.

Several other components of the model are critical to the forecasting process. The demographic module includes (1) a linkage equation between wage and salary (establishment) employment and household employment, (2) a labor force participation rate function, and (3) a complete population system with endogenous migration. Given household employment, labor force participation (which is a function of economic conditions and evolving patterns of worker preferences), and the working age population, the unemployment rate and level become identities.

The population system uses Census information, fertility rates, and life tables to determine the "natural" changes in population by age group. Migration, the most difficult segment of population dynamics to track, is estimated in relation to relative regional and extra-regional economic conditions over time. Because evolving economic conditions determine migration in the system, population changes are allowed to interact simultaneously with overall economic conditions. Through this process, migration is treated as endogenous to the system, thus allowing population to vary in accordance with relative business performance (particularly employment).

Real retail sales is related to income, interest rates, dynamic adjustments, and patterns in consumer behavior on a store group basis. It is expressed on an inflation-adjusted basis. Inflation at the state level relates to national patterns, indicators of relative economic conditions, and ongoing trends. As noted earlier, prices are endogenous to the system.

A final significant segment of the forecasting system relates to real estate absorption and activity. The short-term demand for various types of property is determined by underlying economic and demographic factors, with short-term adjustments to reflect the current status of the pertinent building cycle. In some instances, this portion of the forecast requires integration with the US Multi-Regional Industry-Occupation System which is maintained by The Perryman Group. This system also allows any employment simulation or forecast from the econometric model to be translated into a highly detailed occupational profile.

The overall Texas Econometric Model contains numerous additional specifications, and individual expressions are modified to reflect alternative lag structures, empirical properties of the estimates, simulation requirements, and similar phenomena. Moreover, it is updated on an ongoing basis as new data releases become available. Nonetheless, the above synopsis offers a basic understanding of the overall structure and underlying logic of the system.

Model Simulation and Multi-Regional Structure

The initial phase of the simulation process is the execution of a standard non-linear algorithm for the state system and that of each of the individual sub-areas. The external assumptions are derived from scenarios developed through national and international models and extensive analysis by The Perryman Group.

Once the initial simulations are completed, they are merged into a single system with additive constraints and interregional flows. Using information on minimum regional requirements, import needs, export potential, and locations, it becomes possible to balance the various forecasts into a mathematically consistent set of results. This process is, in effect, a disciplining exercise with regard to the individual regional (including metropolitan and rural) systems. By compelling equilibrium across all regions and sectors, the algorithm ensures that the patterns in state activity are reasonable in light of smaller area dynamics and, conversely, that the regional outlooks are within plausible performance levels for the state as a whole.

The iterative simulation process has the additional property of imposing a global convergence criterion across the entire multi-regional system, with balance being achieved simultaneously on both a sectoral and a geographic basis. This approach is particularly critical on non-linear dynamic systems, as independent simulations of individual systems often yield unstable, non-convergent outcomes.

It should be noted that the underlying data for the modeling and simulation process are frequently updated and revised by the various public and private entities compiling them. Whenever those modifications to the database occur, they bring corresponding changes to the structural parameter estimates of the various systems and the solutions to the simulation and forecasting system. The multi-regional version of the Texas Econometric Model is re-estimated and simulated with each such data release, thus providing a constantly evolving and current assessment of state and local business activity.

The Final Forecast

The process described above is followed to produce an initial set of projections. Through the comprehensive multi-regional modeling and simulation process, a systematic analysis is generated which accounts for both historical patterns in economic performance and inter-

relationships and best available information on the future course of pertinent external factors. While the best available techniques and data are employed in this effort, they are not capable of directly capturing "street sense," i.e., the contemporaneous and often non-quantifiable information that can materially affect economic outcomes. In order to provide a comprehensive approach to the prediction of business conditions, it is necessary to compile and assimilate extensive material regarding current events and factors both across the state of Texas and elsewhere.

This critical aspect of the forecasting methodology includes activities such as (1) daily review of hundreds of financial and business publications and electronic information sites; (2) review of major newspapers and online news sources in the state on a daily basis; (3) dozens of hours of direct telephone interviews with key business and political leaders in all parts of the state; (4) face-to-face discussions with representatives of major industry groups; and (5) frequent site visits to the various regions of the state. The insights arising from this "fact finding" are analyzed and evaluated for their effects on the likely course of the future activity.

Another vital information resource stems from the firm's ongoing interaction with key players in the international, domestic, and state economic scenes. Such activities include visiting with corporate groups on a regular basis and being regularly involved in the policy process at all levels. The firm is also an active participant in many major corporate relocations, economic development initiatives, and regulatory proceedings.

Once organized, this information is carefully assessed and, when appropriate, independently verified. The impact on specific communities and sectors that is distinct from what is captured by the econometric system is then factored into the forecast analysis. For example, the opening or closing of a major facility, particularly in a relatively small area, can cause a sudden change in business performance that will not be accounted for by either a modeling system based on historical relationships or expected (primarily national and international) factors.

The final step in the forecasting process is the integration of this material into the results in a logical and mathematically consistent manner. In some instances, this task is accomplished through "constant adjustment factors" which augment relevant equations. In other cases, anticipated changes in industrial structure or regulatory parameters are initially simulated within the context of the Multi-Regional Impact Assessment System to estimate their ultimate effects by sector. Those findings are then factored into the simulation as constant adjustments on a distributed temporal basis. Once this scenario is formulated, the extended system is again balanced across regions and sectors through an iterative simulation algorithm analogous to that described in the preceding section.

Appendix C: Results

Results for the Eastern District

Projections of Key Economic Indicators Eastern District of Texas Assuming Current Judicial Infrastructure* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$157.848	$166.622	$93.458	1,431,184	$56.060
2016	$164.743	$174.948	$97.464	1,464,141	$58.875
2017	$172.236	$184.199	$102.406	1,497,731	$62.001
2018	$180.277	$193.803	$107.872	1,532,176	$65.244
2019	$188.547	$203.660	$113.522	1,566,437	$68.574
2020	$196.621	$213.161	$118.589	1,599,736	$71.789
2021	$204.906	$223.007	$123.827	1,633,142	$75.121
2022	$213.398	$233.203	$129.240	1,666,623	$78.573
2023	$222.092	$243.756	$134.830	1,700,147	$82.147
2024	$230.984	$254.673	$140.600	1,733,682	$85.846
2025	$240.069	$265.961	$146.552	1,767,193	$89.671
2026	$249.340	$277.624	$152.690	1,800,647	$93.626
2027	$258.792	$289.670	$159.014	1,834,006	$97.712
2028	$268.418	$302.104	$165.528	1,867,237	$101.930
2029	$278.210	$314.931	$172.233	1,900,302	$106.284
2030	$288.161	$328.156	$179.132	1,933,164	$110.775

Source: The Perryman Group
Note: This scenario assumes that the current judicial infrastructure in the Eastern District of Texas is maintained.

Projections of Key Economic Indicators Eastern District of Texas Assuming that the Two Vacant Judgeships are Filled* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$157.848	$166.622	$93.458	1,431,184	$56.060
2016	$164.743	$174.948	$97.464	1,464,141	$58.875
2017	$172.236	$184.199	$102.406	1,497,731	$62.001
2018	$180.914	$194.488	$108.253	1,537,589	$65.475
2019	$189.863	$205.081	$114.315	1,577,373	$69.053
2020	$198.641	$215.352	$119.808	1,616,175	$72.527
2021	$207.677	$226.023	$125.502	1,655,227	$76.137
2022	$216.966	$237.103	$131.401	1,694,493	$79.887
2023	$226.506	$248.600	$137.509	1,733,934	$83.780
2024	$236.291	$260.524	$143.830	1,773,510	$87.818
2025	$246.316	$272.881	$150.366	1,813,178	$92.005
2026	$256.576	$285.680	$157.120	1,852,896	$96.343
2027	$267.062	$298.927	$164.096	1,892,618	$100.834
2028	$277.770	$312.630	$171.296	1,932,300	$105.482
2029	$288.691	$326.795	$178.722	1,971,894	$110.289
2030	$299.816	$341.428	$186.377	2,011,352	$115.256

Source: The Perryman Group
Note: This scenario assumes that the two vacant judgeships in The Eastern District of Texas are filled by 2017.

Projections of Key Economic Indicators Eastern District of Texas Assuming that the Two Vacant Judgeships are Filled and Two Additional Judgeships are Established* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$157.848	$166.622	$93.458	1,431,184	$56.060
2016	$164.743	$174.948	$97.464	1,464,141	$58.875
2017	$172.236	$184.199	$102.406	1,497,731	$62.001
2018	$181.467	$195.082	$108.584	1,542,287	$65.675
2019	$191.009	$206.319	$115.005	1,586,895	$69.470
2020	$200.406	$217.265	$120.872	1,630,532	$73.171
2021	$210.104	$228.665	$126.969	1,674,575	$77.027
2022	$220.102	$240.529	$133.300	1,718,982	$81.042
2023	$230.395	$252.869	$139.871	1,763,708	$85.218
2024	$240.980	$265.694	$146.684	1,808,708	$89.561
2025	$251.852	$279.015	$153.745	1,853,931	$94.073
2026	$263.005	$292.839	$161.057	1,899,328	$98.757
2027	$274.432	$307.176	$168.624	1,944,844	$103.617
2028	$286.126	$322.035	$176.449	1,990,427	$108.655
2029	$298.079	$337.423	$184.534	2,036,018	$113.875
2030	$310.281	$353.347	$192.883	2,081,562	$119.279

Source: The Perryman Group
Note: This scenario assumes that the two vacant judgeships in The Eastern District of Texas are filled and that two additional judgeships are established and filled by 2017.

Projected Net Incremental Benefit of Enhanced Judicial Infrastructure—Eastern District of Texas Assuming that the Two Vacant Judgeships are Filled* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$0.000	$0.000	$0.000	0	$0.000
2016	$0.000	$0.000	$0.000	0	$0.000
2017	$0.000	$0.000	$0.000	0	$0.000
2018	$0.637	$0.685	$0.381	5,413	$0.230
2019	$1.316	$1.422	$0.793	10,937	$0.479
2020	$2.020	$2.190	$1.219	16,438	$0.738
2021	$2.771	$3.016	$1.675	22,085	$1.016
2022	$3.569	$3.900	$2.161	27,870	$1.314
2023	$4.414	$4.844	$2.679	33,787	$1.633
2024	$5.306	$5.851	$3.230	39,828	$1.972
2025	$6.247	$6.921	$3.814	45,985	$2.333
2026	$7.235	$8.056	$4.431	52,249	$2.717
2027	$8.271	$9.257	$5.082	58,612	$3.123
2028	$9.353	$10.527	$5.768	65,062	$3.552
2029	$10.481	$11.865	$6.489	71,591	$4.004
2030	$11.655	$13.272	$7.245	78,188	$4.480

Source: The Perryman Group
This scenario assumes that the two vacant judgeships in The Eastern District of Texas are filled by 2017.

Projected Net Incremental Benefit of Enhanced Judicial Infrastructure—Eastern District of Texas Assuming that the Two Vacant Judgeships are Filled and Two Additional Judgeships are Established* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$0.000	$0.000	$0.000	0	$0.000
2016	$0.000	$0.000	$0.000	0	$0.000
2017	$0.000	$0.000	$0.000	0	$0.000
2018	$1.190	$1.279	$0.712	10,110	$0.431
2019	$2.463	$2.660	$1.483	20,459	$0.896
2020	$3.785	$4.103	$2.283	30,795	$1.382
2021	$5.198	$5.658	$3.141	41,433	$1.906
2022	$6.704	$7.326	$4.060	52,359	$2.468
2023	$8.303	$9.113	$5.041	63,561	$3.071
2024	$9.996	$11.021	$6.085	75,026	$3.715
2025	$11.783	$13.054	$7.193	86,738	$4.401
2026	$13.665	$15.215	$8.368	98,681	$5.131
2027	$15.640	$17.506	$9.610	110,838	$5.905
2028	$17.709	$19.931	$10.921	123,190	$6.725
2029	$19.869	$22.492	$12.301	135,716	$7.591
2030	$22.120	$25.191	$13.751	148,398	$8.504

Source: The Perryman Group
Note: This scenario assumes that the two vacant judgeships in The Eastern District of Texas are filled and that two additional judgeships are established and filled by 2017.

Results for the Sherman Division

Projections of Key Economic Indicators Eastern District of Texas—Sherman Division Assuming Current Judicial Infrastructure* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$82.638	$94.772	$49.217	697,508	$31.503
2016	$86.509	$99.799	$51.502	716,818	$33.230
2017	$90.697	$105.359	$54.280	736,482	$35.141
2018	$95.175	$111.123	$57.330	756,603	$37.126
2019	$99.795	$117.057	$60.492	776,788	$39.175
2020	$104.370	$122.855	$63.392	796,789	$41.186
2021	$109.082	$128.882	$66.401	816,992	$43.280
2022	$113.931	$135.144	$69.522	837,382	$45.460
2023	$118.915	$141.647	$72.757	857,945	$47.729
2024	$124.033	$148.395	$76.110	878,663	$50.088
2025	$129.284	$155.396	$79.582	899,521	$52.541
2026	$134.664	$162.653	$83.175	920,500	$55.089
2027	$140.172	$170.173	$86.893	941,582	$57.735
2028	$145.805	$177.961	$90.736	962,749	$60.481
2029	$151.561	$186.021	$94.709	983,981	$63.330
2030	$157.435	$194.359	$98.811	1,005,258	$66.283
Source: The Perryman Group Note: This scenario assumes that the current judicial infrastructure in the Eastern District of Texas is maintained.					

Projections of Key Economic Indicators Eastern District of Texas—Sherman Division Assuming that the Vacant Judgeship is Filled* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$82.638	$94.772	$49.217	697,508	$31.503
2016	$86.509	$99.799	$51.502	716,818	$33.230
2017	$90.697	$105.359	$54.280	736,482	$35.141
2018	$95.573	$111.587	$57.569	759,765	$37.281
2019	$100.621	$118.026	$60.993	783,219	$39.499
2020	$105.649	$124.361	$64.169	806,555	$41.690
2021	$110.848	$130.969	$67.476	830,219	$43.980
2022	$116.218	$137.858	$70.918	854,196	$46.373
2023	$121.759	$145.035	$74.498	878,467	$48.870
2024	$127.471	$152.508	$78.219	903,015	$51.477
2025	$133.351	$160.284	$82.085	927,819	$54.194
2026	$139.398	$168.371	$86.099	952,858	$57.026
2027	$145.610	$176.775	$90.264	978,111	$59.975
2028	$151.985	$185.504	$94.582	1,003,555	$63.045
2029	$158.520	$194.563	$99.057	1,029,164	$66.238
2030	$165.212	$203.960	$103.692	1,054,915	$69.557

Source: The Perryman Group
Note: This scenario assumes that the two vacant judgeships in The Eastern District of Texas (including one in the Sherman Division) are filled by 2017.

Projections of Key Economic Indicators Eastern District of Texas—Sherman Division Assuming that the Vacant Judgeship is Filled and An Additional Judgeship is Established* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$82.638	$94.772	$49.217	697,508	$31.503
2016	$86.509	$99.799	$51.502	716,818	$33.230
2017	$90.697	$105.359	$54.280	736,482	$35.141
2018	$95.918	$111.990	$57.777	762,509	$37.416
2019	$101.341	$118.870	$61.429	788,822	$39.782
2020	$106.768	$125.678	$64.848	815,095	$42.132
2021	$112.398	$132.800	$68.419	841,828	$44.595
2022	$118.233	$140.248	$72.147	869,006	$47.177
2023	$124.274	$148.030	$76.036	896,608	$49.880
2024	$130.520	$156.156	$80.090	924,615	$52.708
2025	$136.971	$164.636	$84.313	953,006	$55.665
2026	$143.626	$173.477	$88.710	981,756	$58.755
2027	$150.483	$182.690	$93.284	1,010,842	$61.982
2028	$157.541	$192.284	$98.039	1,040,235	$65.349
2029	$164.796	$202.266	$102.979	1,069,910	$68.860
2030	$172.247	$212.645	$108.107	1,099,835	$72.519

Source: The Perryman Group
Note: This Scenario assumes that the two vacant judgeships in The Eastern District of Texas are filled (including one in the Sherman Division) and that two additional judgeships (including one in the Sherman Division) are established and filled by 2017.

Projected Net Incremental Benefit of Enhanced Judicial Infrastructure—Eastern District of Texas—Sherman Division Assuming that the Vacant Judgeship is Filled* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$0.000	$0.000	$0.000	0	$0.000
2016	$0.000	$0.000	$0.000	0	$0.000
2017	$0.000	$0.000	$0.000	0	$0.000
2018	$0.398	$0.464	$0.240	3,162	$0.155
2019	$0.826	$0.969	$0.501	6,431	$0.324
2020	$1.279	$1.506	$0.777	9,766	$0.505
2021	$1.766	$2.087	$1.075	13,227	$0.701
2022	$2.288	$2.714	$1.396	16,814	$0.913
2023	$2.845	$3.388	$1.740	20,523	$1.142
2024	$3.438	$4.113	$2.109	24,352	$1.388
2025	$4.067	$4.889	$2.504	28,298	$1.653
2026	$4.734	$5.718	$2.924	32,359	$1.937
2027	$5.438	$6.602	$3.371	36,529	$2.240
2028	$6.180	$7.543	$3.846	40,806	$2.563
2029	$6.960	$8.542	$4.349	45,183	$2.908
2030	$7.777	$9.601	$4.881	49,657	$3.274

Source: The Perryman Group
This scenario assumes that the two vacant judgeships in The Eastern District of Texas (including one in the Sherman Division) are filled by 2017.

Projected Net Incremental Benefit of Enhanced Judicial Infrastructure—Eastern District of Texas—Sherman Division Assuming that the Vacant Judgeship is Filled and an Additional Judgeship is Established* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$0.000	$0.000	$0.000	0	$0.000
2016	$0.000	$0.000	$0.000	0	$0.000
2017	$0.000	$0.000	$0.000	0	$0.000
2018	$0.743	$0.867	$0.448	5,906	$0.290
2019	$1.546	$1.814	$0.937	12,035	$0.607
2020	$2.398	$2.823	$1.456	18,306	$0.946
2021	$3.316	$3.918	$2.019	24,836	$1.316
2022	$4.303	$5.104	$2.625	31,623	$1.717
2023	$5.359	$6.383	$3.279	38,663	$2.151
2024	$6.487	$7.761	$3.980	45,952	$2.620
2025	$7.687	$9.240	$4.732	53,485	$3.124
2026	$8.962	$10.824	$5.535	61,257	$3.666
2027	$10.311	$12.517	$6.392	69,259	$4.247
2028	$11.735	$14.323	$7.303	77,486	$4.868
2029	$13.235	$16.245	$8.271	85,929	$5.530
2030	$14.812	$18.286	$9.296	94,577	$6.236

Source: The Perryman Group
Note: This scenario assumes that the two vacant judgeships in The Eastern District of Texas (including one in the Sherman Division) are filled and that two additional judgeships (including one in the Sherman Division) are established and filled by 2017.

Results for the Tyler Division

Projections of Key Economic Indicators Eastern District of Texas—Tyler Division Assuming Current Judicial Infrastructure* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$30.364	$28.080	$18.140	293,165	$9.810
2016	$31.515	$29.220	$18.685	298,763	$10.191
2017	$32.920	$30.681	$19.639	304,850	$10.682
2018	$34.540	$32.323	$20.864	311,395	$11.234
2019	$36.207	$34.019	$22.156	317,887	$11.804
2020	$37.645	$35.467	$23.097	323,748	$12.285
2021	$39.104	$36.961	$24.068	329,600	$12.781
2022	$40.582	$38.500	$25.069	335,436	$13.290
2023	$42.078	$40.086	$26.100	341,252	$13.814
2024	$43.589	$41.719	$27.163	347,040	$14.353
2025	$45.112	$43.400	$28.257	352,793	$14.905
2026	$46.645	$45.128	$29.382	358,507	$15.472
2027	$48.184	$46.904	$30.540	364,173	$16.054
2028	$49.729	$48.729	$31.730	369,785	$16.650
2029	$51.274	$50.602	$32.953	375,336	$17.261
2030	$52.819	$52.524	$34.208	380,820	$17.886

Source: The Perryman Group
Note: This scenario assumes that the current judicial infrastructure in the Eastern District of Texas is maintained.

Projections of Key Economic Indicators Eastern District of Texas—Tyler Division Assuming that the Vacant Judgeship is Filled* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$30.364	$28.080	$18.140	293,165	$9.810
2016	$31.515	$29.220	$18.685	298,763	$10.191
2017	$32.920	$30.681	$19.639	304,850	$10.682
2018	$34.654	$32.429	$20.933	312,424	$11.271
2019	$36.443	$34.241	$22.301	319,961	$11.881
2020	$37.998	$35.800	$23.314	326,787	$12.401
2021	$39.581	$37.412	$24.361	333,621	$12.937
2022	$41.190	$39.077	$25.444	340,458	$13.489
2023	$42.822	$40.795	$26.562	347,288	$14.059
2024	$44.476	$42.569	$27.716	354,103	$14.645
2025	$46.148	$44.397	$28.906	360,897	$15.248
2026	$47.836	$46.280	$30.133	367,660	$15.867
2027	$49.535	$48.219	$31.397	374,384	$16.504
2028	$51.245	$50.214	$32.698	381,060	$17.158
2029	$52.960	$52.266	$34.037	387,680	$17.828
2030	$54.679	$54.374	$35.413	394,234	$18.516

Source: The Perryman Group
Note: This scenario assumes that the two vacant judgeships in The Eastern District of Texas (including one in the Tyler Division) are filled by 2017.

Projections of Key Economic Indicators Eastern District of Texas—Tyler Division Assuming that the Vacant Judgeship is Filled and an Additional Judgeship is Established* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$30.364	$28.080	$18.140	293,165	$9.810
2016	$31.515	$29.220	$18.685	298,763	$10.191
2017	$32.920	$30.681	$19.639	304,850	$10.682
2018	$34.753	$32.522	$20.993	313,316	$11.304
2019	$36.649	$34.434	$22.426	321,766	$11.948
2020	$38.306	$36.091	$23.503	329,439	$12.501
2021	$39.998	$37.807	$24.618	337,141	$13.073
2022	$41.723	$39.583	$25.773	344,864	$13.664
2023	$43.477	$41.419	$26.968	352,598	$14.274
2024	$45.259	$43.317	$28.203	360,333	$14.902
2025	$47.064	$45.278	$29.480	368,061	$15.550
2026	$48.891	$47.301	$30.797	375,771	$16.217
2027	$50.736	$49.387	$32.157	383,454	$16.904
2028	$52.595	$51.537	$33.559	391,097	$17.610
2029	$54.465	$53.751	$35.003	398,692	$18.335
2030	$56.343	$56.028	$36.491	406,227	$19.079

Source: The Perryman Group
Note: This scenario assumes that the two vacant judgeships in The Eastern District of Texas (including one in the Tyler Division) are filled and that two additional judgeships are established (including one in the Tyler Division) and filled by 2017.

Projected Net Incremental Benefit of Enhanced Judicial Infrastructure—Eastern District of Texas—Tyler Division Assuming that the Vacant Judgeship is Filled* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$0.000	$0.000	$0.000	0	$0.000
2016	$0.000	$0.000	$0.000	0	$0.000
2017	$0.000	$0.000	$0.000	0	$0.000
2018	$0.114	$0.107	$0.069	1,029	$0.037
2019	$0.236	$0.222	$0.145	2,074	$0.077
2020	$0.353	$0.333	$0.217	3,039	$0.115
2021	$0.477	$0.451	$0.294	4,022	$0.156
2022	$0.608	$0.576	$0.375	5,021	$0.199
2023	$0.744	$0.709	$0.462	6,036	$0.244
2024	$0.887	$0.849	$0.553	7,064	$0.292
2025	$1.036	$0.997	$0.649	8,104	$0.342
2026	$1.191	$1.152	$0.750	9,153	$0.395
2027	$1.351	$1.315	$0.856	10,211	$0.450
2028	$1.516	$1.486	$0.967	11,275	$0.508
2029	$1.686	$1.664	$1.084	12,343	$0.568
2030	$1.860	$1.850	$1.205	13,414	$0.630

Source: The Perryman Group
This Scenario assumes that the two vacant judgeships in The Eastern District of Texas (including one in the Tyler Division) are filled by 2017.

Projected Net Incremental Benefit of Enhanced Judicial Infrastructure—Eastern District of Texas—Tyler Division Assuming that the Vacant Judgeship is Filled and an Additional Judgeship is Established* (Dollar amounts in Billions of 2009$)					
Year	**Real Gross Product**	**Real Personal Income**	**Real Earnings**	**Employment**	**Real Retail Sales**
2015	$0.000	$0.000	$0.000	0	$0.000
2016	$0.000	$0.000	$0.000	0	$0.000
2017	$0.000	$0.000	$0.000	0	$0.000
2018	$0.213	$0.199	$0.129	1,921	$0.069
2019	$0.442	$0.415	$0.270	3,878	$0.144
2020	$0.662	$0.623	$0.406	5,691	$0.216
2021	$0.895	$0.846	$0.551	7,542	$0.292
2022	$1.141	$1.082	$0.705	9,428	$0.374
2023	$1.399	$1.333	$0.868	11,346	$0.459
2024	$1.670	$1.598	$1.041	13,294	$0.550
2025	$1.952	$1.878	$1.223	15,268	$0.645
2026	$2.246	$2.173	$1.415	17,265	$0.745
2027	$2.551	$2.483	$1.617	19,281	$0.850
2028	$2.866	$2.808	$1.829	21,312	$0.960
2029	$3.191	$3.149	$2.051	23,356	$1.074
2030	$3.524	$3.504	$2.282	25,407	$1.193

Source: The Perryman Group
Note: This Scenario assumes that the two vacant judgeships in The Eastern District of Texas (including one in the Tyler Division) are filled and that two additional judgeships (including one in the Tyler Division) are established and filled by 2017.