Report on Existing and Potential Electric System Constraints and Needs

December 2007

CONTENTS

EXECUTIVE SUMMARY

Background

This report* from the Electric Reliability Council of Texas (ERCOT) identifies and analyzes existing and potential constraints in the transmission system that could either pose reliability concerns or increase costs to the electric power market and, ultimately, to Texas consumers. In addition, as a part of ERCOT's continuing efforts to plan a reliable and efficient transmission system, the report provides information (as of 2007) on completed improvements from 2005 to 2007, as well as currently planned improvements, and analyzes the impact of these cumulative improvements on future congestion.

As the transmission planning authority for the region, ERCOT works with its stakeholders to identify the need for new transmission facilities based on engineering analysis of four principal factors:

Operational Results - The results of actual ERCOT operations are analyzed on a continual basis in order to identify areas of recurring congestion and to identify activities that can and should be taken to meet reliability standards while gaining maximum efficiency from the existing network.

Load Forecasting - Load forecasts developed by ERCOT planning staff using econometric modeling techniques, as well as delivery point forecasts developed by Transmission Service Providers (TSPs), are used to study projected system needs due to customer load growth.

Generation Interconnections - ERCOT processes requests to interconnect, change, or decommission generation throughout the ERCOT Region. Studies of these requests enable planning staff to analyze and respond to the impact of the resulting changes in power injection into the system.

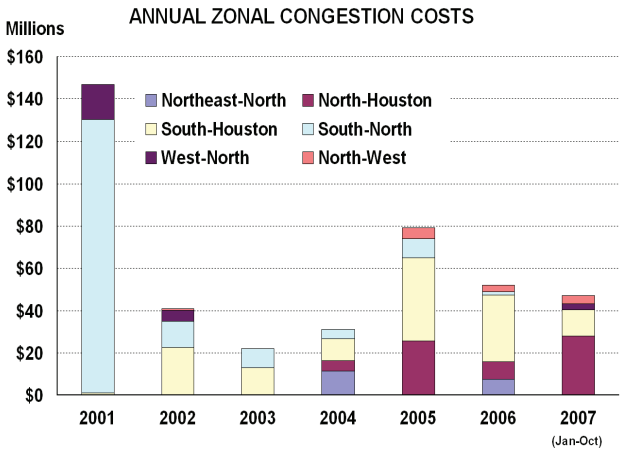
Transmission and System Studies - ERCOT planning staff, with input from stakeholders through the Regional Planning Group (RPG), evaluates and endorses transmission improvements required to meet North American Electric Reliability Corporation (NERC) and ERCOT reliability criteria and to reduce expected congestion based on ERCOT's economic criteria.

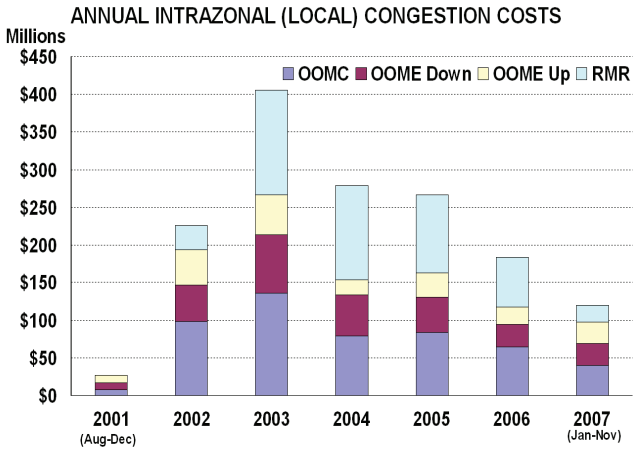
This year the planned improvements are the result of a coordinated planning process, performed by ERCOT staff with extensive review and input from TSPs and other stakeholders, which addresses region-wide reliability and economic transmission needs. These planned improvements include projects already approved by the ERCOT Board of Directors, projects reviewed by the ERCOT RPG, new projects that will be refined at the appropriate time by TSPs in order to complete RPG review, and some of the local projects currently planned by TSPs. Combined, these projects represent ERCOT's Five-Year Transmission Plan addressing the reliability and efficiency of the system to meet national and regional planning standards, criteria, and protocols.

*This report satisfies the annual reporting requirements of Public Utility Regulatory Act (PURA) Section 39.155(b) and Public Utility Commission Substantive Rule25.361(c)(15) and a portion of the requirements of Substantive Rule 25.505(c).

Major Findings

This report presents data and updates for each area of the ERCOT Region, including defined congestion zones, identified intrazonal (local) congestion areas, and weather zones. Zonal congestion costs have decreased from over $146 million in 2001 to around $52 million in 2006 and around $47 million for January through October 2007. This decrease can be attributed to the implementation of direct assignment of zonal costs to market participants scheduling energy over the constraints and on-going improvements to the transmission system. Intrazonal congestion costs have also decreased from $405 million in 2003 to about $183 million in 2006 and about $121 million from January through November 2007. Most of this decrease can be attributed to improvements in the transmission system and operational improvements.





Since 2005, ERCOT Transmission Service Providers (TSPs) have completed numerous improvement projects totaling over 2,500 circuit miles of transmission and about 28,000 MVA of autotransformer capacity, with an estimated capital cost of over $2.2 billion. The projects identified in this report to serve the electric system through 2012 are estimated to cost approximately $3 billion over the next five years and are expected to improve or add 2,538 circuit miles of transmission lines and 14,451 MVA of autotransformer capacity to the ERCOT system. The following is a summary of major completed transmission improvements.

SUMMARY OF MAJOR COMPLETED TRANSMISSION IMPROVEMENTS

Area	Major Completed Improvements	Voltage Level, kV	In-Service Year	Circuit Miles
Dallas/Ft. Worth	Watermill - Tricorner Line	345	2005	11
Dallas/Ft. Worth	Watermill - Cedar Hill Line	345	2005	17
Dallas/Ft. Worth	Venus Johnson Switch Upgrade	345	2005	24
Temple	Pecan Creek Switching Station	345	2005	10
Houston	Jewett - T H Wharton Upgrade	345	2006	133
West	Long Creek Switch	345	2006	96
North	Paris - Valley - Anna Line	345	2006	89
All Areas	Numerous Autotransformers	345/138	2005-2007	21,726 MVA
All Areas	Numerous Lines	138	2005-2007	1,675

Planned improvements identified for the first time in this year's Five-Year Transmission Plan include a new 345-kV transmission line from Nacogdoches to Lufkin in the East weather zone to alleviate the need for a special protection system (SPS), a new 345-kV switching station in northwest Houston to increase North to Houston transfer capability, and additional autotransformer and 138-kV line upgrades in the Dallas/Fort Worth metropolitan area. In addition, two new 345-kV transmission lines and a new 345-kV switching station were included in the West region due to the approximately 6,500 MW of wind generation that is installed or has completed an interconnection agreement in the West congestion management zone. However, these West zone upgrades may be superseded by the transmission lines that are ordered as a result of the Competitive Renewable Energy Zone (CREZ) process underway at the Public Utility Commission of Texas. The following is a summary of the major planned transmission improvements.

SUMMARY OF MAJOR PLANNED TRANSMISSION IMPROVEMENTS

Area	Major Planned Improvements	Voltage Level, kV	In-Service Year	Circuit Miles
Central	Bell County East - Twin Oaks Double Circuit	345	2012	88
West	Red Creek - Killeen Line	345	2012	198
North	Oklaunion - Bowman Line	345	2012	38
East	Nacogdoches - Lufkin Line	345	2012	22
Central	Clear Spring - Salado Double Circuit	345	2010/2011	103
Houston	Zenith Switching Station	345	2011	0
Southern	Uvalde Area Project	138	2010	239
North	Clear Crossing Switching Station	345	2010	0
Laredo	San Miguel - Laredo Line	345	2010	110
Houston	Rothwood Switching Station	345	2010	0
Central	Lytton Springs Autotransformer/138-kV Lines	345	2010	9
Dallas/Ft. Worth	Dynamic Reactive Devices	138	2009	0
Dallas/Ft. Worth	West Levee - Norwood Line	345	2009	7
East	Singleton Switching Station	345	2009	0
Houston	Dynamic Reactive Devices	138	2008	0
All Areas	Numerous Autotransformers	345/138	2008-2012	10,193 MVA
All Areas	Numerous Lines	138	2008-2012	1,472

Additional, significant findings of the 2007 Constraints and Needs Report are:

- The numbers of planned transmission circuit miles and autotransformer additions for the next five years have increased from the level included in last year's five-year plan.
- After several years of decrease, transmission congestion costs appear to be level between 2006 and 2007. Overall congestion costs may trend higher until planned lines are added.
- The continued rapid increase in the installation of new wind generation in West Texas is expected to result in congestion on multiple constraints and West to North transfers until new bulk transmission lines are added between West Texas and the rest of the ERCOT system.
- While this report identifies projects within and out of West Texas, the lines ordered as a result of the CREZ process may supersede these projects.

1. TRANSMISSION PLANNING PROCESS

The ERCOT transmission planning process utilizes a series of detailed technical analyses. This planning process integrates requests for transmission service to interconnect new power producers and consumers, as well as supports continued safe and reliable service and accommodates growth for existing customers. In collaboration with Transmission Service Providers (TSPs) and other interested stakeholders, ERCOT staff assesses the electric needs of existing and potential transmission system users, on both an individual and collective basis, to determine whether transmission upgrades are required and to respond to the need. All ERCOT recommendations are supported by analyses in accordance with industry-accepted performance criteria and practices. In addition, ERCOT seeks input from all market participants and stakeholders about options and possible solutions and then attempts to incorporate the input received into the overall system plans.

To facilitate this process, ERCOT leads a Regional Planning Group (RPG). This RPG provides a forum for all market participants, as well as the general public, to have the opportunity to highlight needs and propose solutions, as well as to review and consider projects proposed to address transmission constraints and other system needs. The RPG meets five to ten times a year, exchanges information via e-mail, and posts information on the Internet. By utilizing the RPG forums, ERCOT is committed to being inclusive - to share proposals openly and to listen to a diverse spectrum of interested individuals - in the development of transmission improvement proposals. Potential projects to be reviewed by ERCOT and the RPG can be proposed by ERCOT staff, individual TSPs, other market participants, the Public Utility Commission of Texas (PUCT), or the general public.

Major projects that have been successfully vetted through the ERCOT planning process and are then recommended by ERCOT staff after independent review must be endorsed by the ERCOT Board of Directors. The ERCOT Board will endorse major projects in accordance with the following criteria:

- ERCOT staff has recommended the proposed transmission project based on its analyses of identified constraints including proposals from TSPs and any necessary requirements to integrate new generation facilities.
- The project has been reviewed and considered through the open RPG process.
- ERCOT staff has determined the designated provider of the additions.
- The PUCT has been notified of all ERCOT Board-endorsed transmission facility additions and their designated providers.

2. LOAD

Forecasting electrical demand and energy is one of the most significant factors in determining the future infrastructure needs of the ERCOT power system. Should the forecast understate the actual load growth, facilities adequate to reliably serve the load may not be in place in a timely manner. On the other hand, if the forecast overstates the actual growth, facilities which are not necessarily needed may be built. These would result in an inefficient use of resources and higher cost to consumers.

To develop the most reasonable load projections for the system, ERCOT load forecasters consider a wide range of variables such as population, weather, land usage, general business economy, governmental policy, and societal trends in terms of both historical actuals and the best predicted future indicators available.

ERCOT develops peak demand and energy forecasts that reflect the outcome of differing economic and weather outlooks and uncertainties and, in cooperation with TSPs, selects a most probable scenario for planning purposes.

2.1 Peak Demand

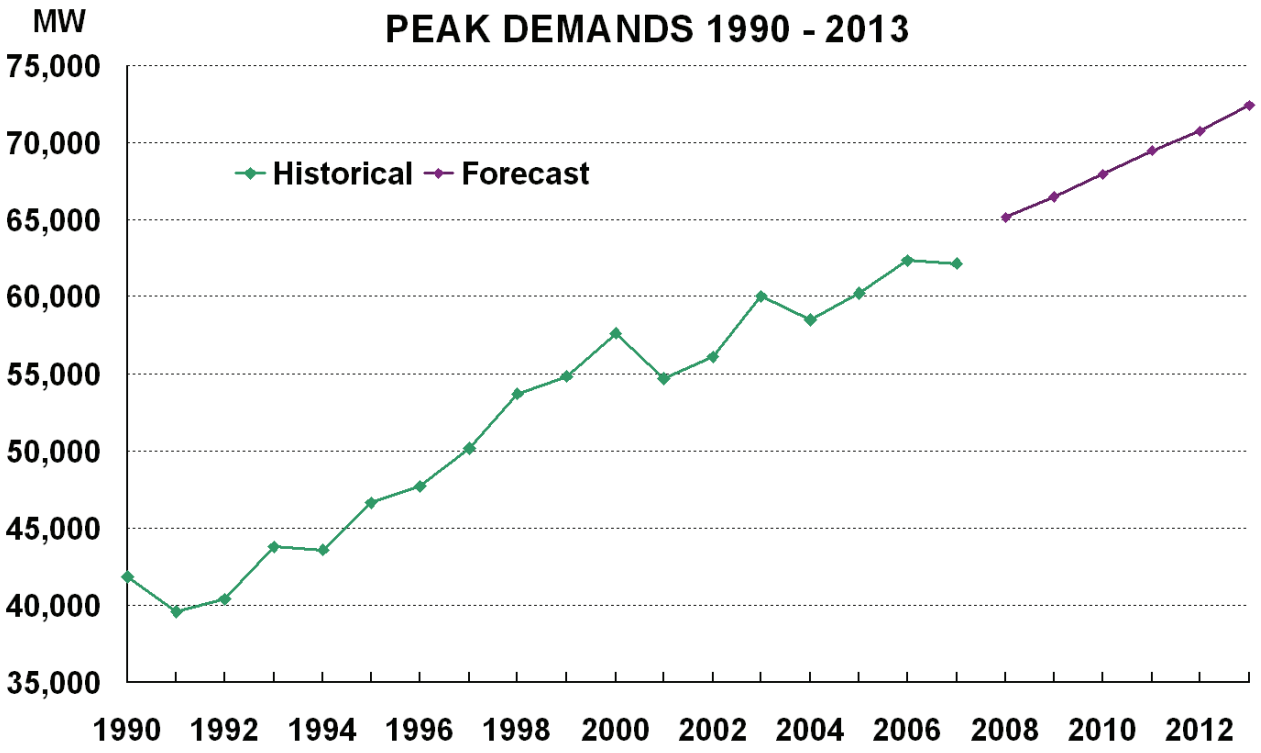
The 2008 summer peak demand forecast of 65,135 MW represents an increase of 4.7% from the 2007 actual peak demand of 62,188 MW. The ERCOT system forecast for 2008 is 1.3% higher than last year's forecast mainly due to a more optimistic economic outlook for the state of Texas, including ERCOT's territory, and adjustments to the model's weather sensitivity.

The figure shows the historic peak demand from 1990 through 2007 and the forecasted peak demand through 2013. The historic compound growth rate for the last ten years has been approximately 2.2%. The forecasted growth rate between 2007 and 2013 is 2.1%.

The 2007 long-term hourly peak demand forecast, on the average, is 0.7% higher than the forecast produced last year for 2007 to 2015. The key factor driving the higher peak demands and energy consumption is the overall health of the economy, as measured by economic indicators such as the real per capita personal income, population, and various employment measures, including non-farm employment and total employment. The model was also recalibrated to include the effects of having an additional year of historic data, which caused a portion of the forecast increase as well.

For a more detailed discussion of the forecast methodology and data, see 2007 ERCOT Planning Long-Term Hourly Peak Demand and Energy Forecast (May 8, 2007).

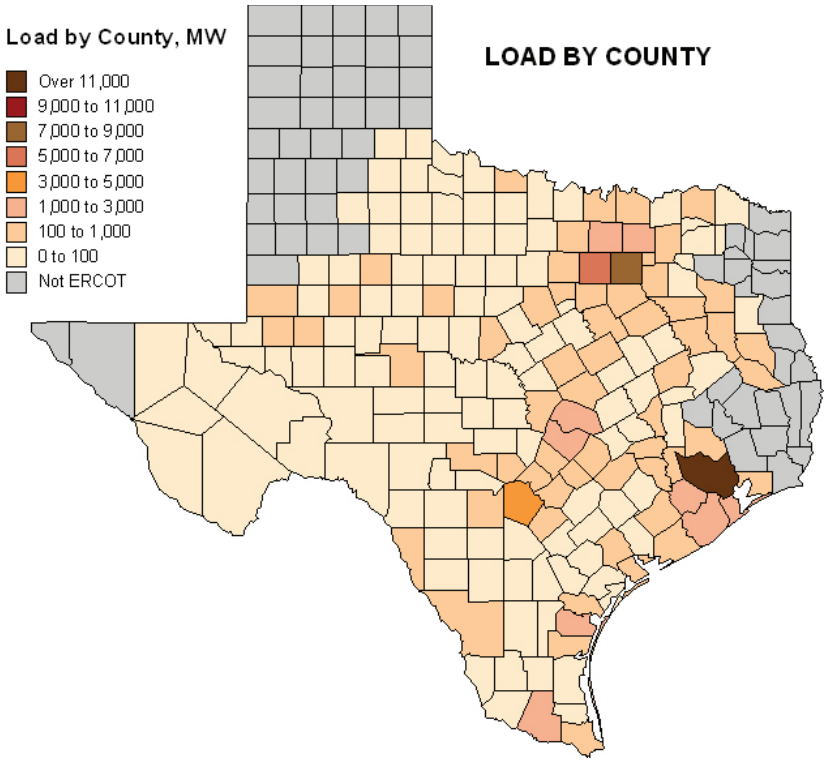
The all-time peak demand for ERCOT occurred on August 17, 2006 and was 62,339 MW.

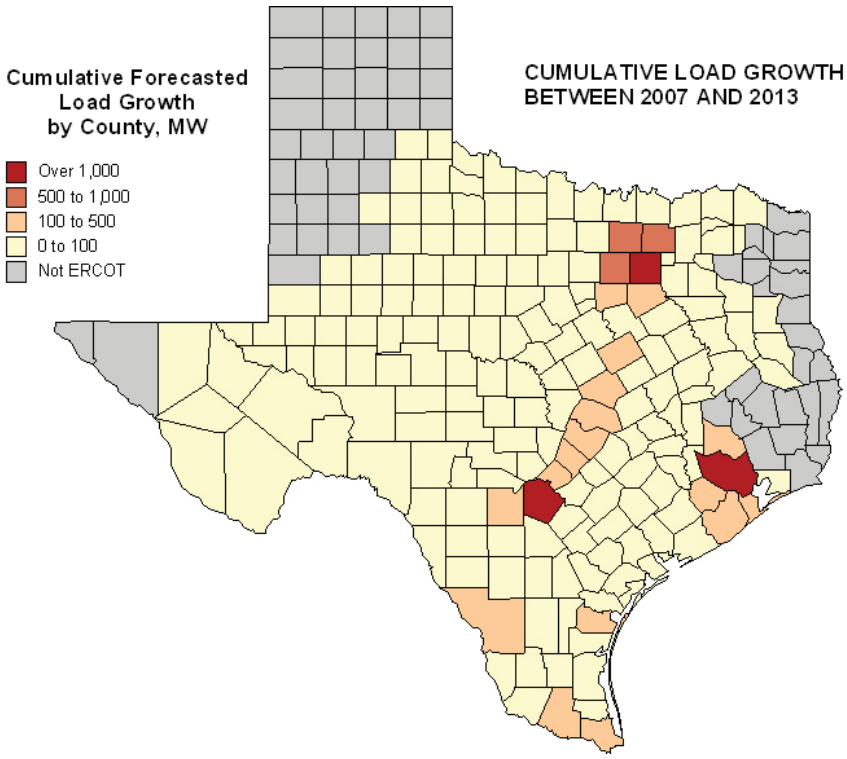


2.2 Non-Coincident Peak by County

The loads by county are shown for the summer of 2007 and are non-coincident peak demand forecasts provided by the TSPs in the 2007 Annual Load Data Request (ALDR).

The counties with the greatest peak demands are Harris, Dallas, Tarrant, and Bexar.





While ERCOT's overall peak demand forecast calls for a 2.1% annual growth rate, some areas within the state are experiencing growth as high as 6.5% per year. As expected, the greatest growth is around the metropolitan areas.

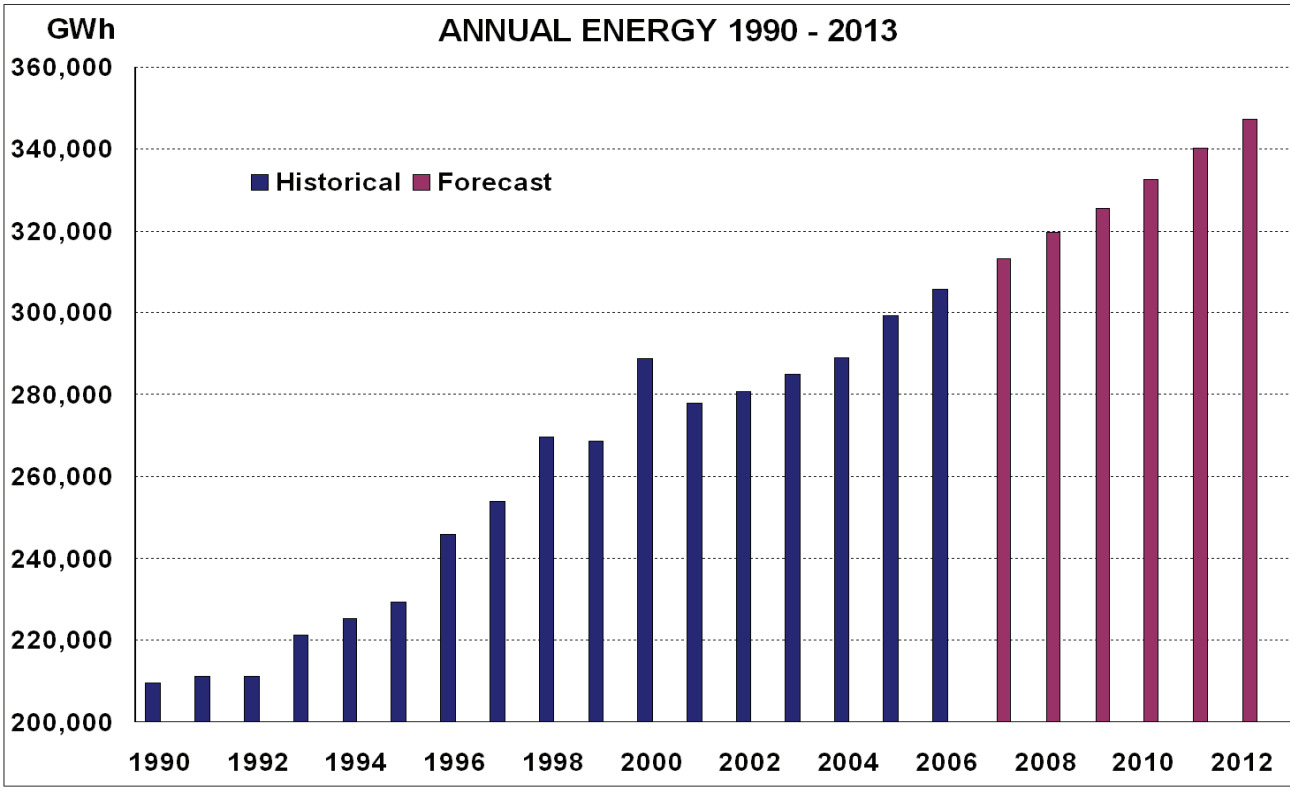
The counties with the greatest expected cumulative load growth are Bexar, Harris, Dallas, and Tarrant. Other areas expected to experience significant load growth include the counties along Interstate 35 between San Antonio and Waco, counties near Dallas and Houston, and the lower Rio Grande Valley.

2.3 Energy

While the peak demand forecast provides an indication of the size electrical facilities should be constructed to serve the expected peak demand, the energy usage forecast assists in determining the usage of these facilities over all hours of the year.

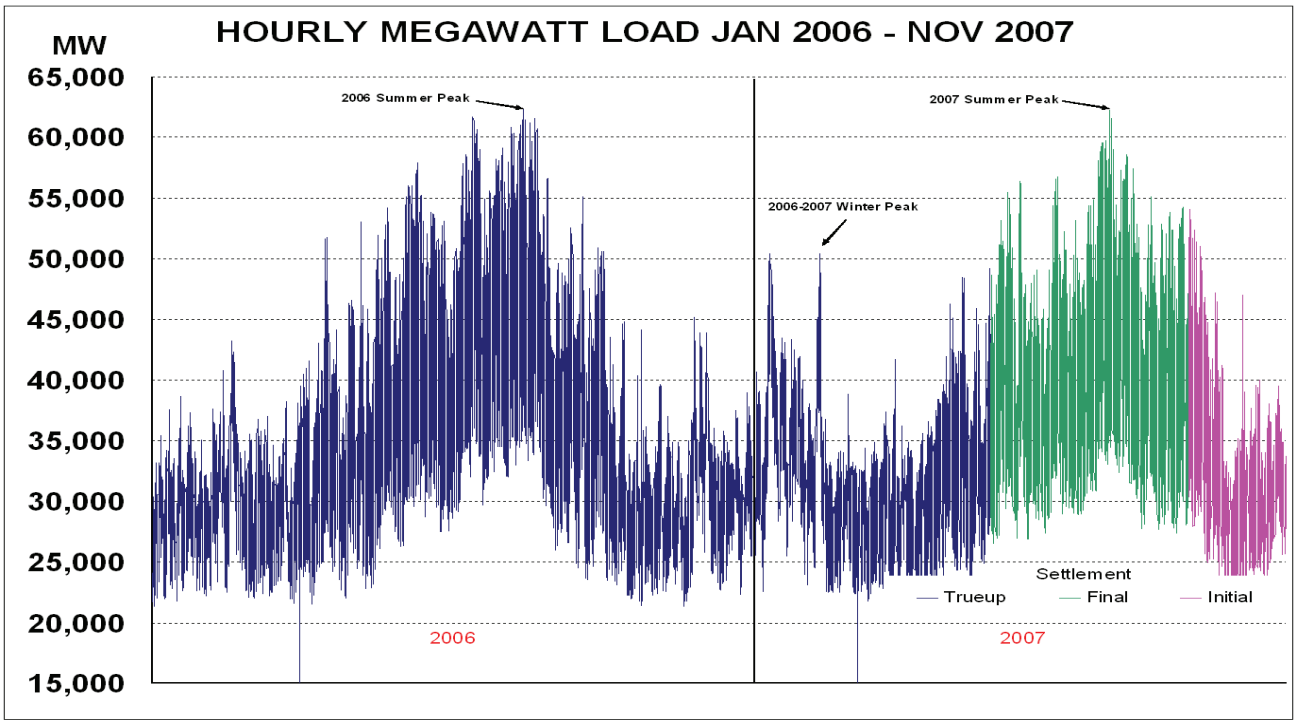
The energy forecast from 2007 to 2015 is, on the average, 0.06% higher than last year's forecast. The energy growth rate from the actual energy in 2006 to the forecast for 2007 is 2.4%. The key factor driving the higher energy consumption is an improvement in the outlook of the overall health of the economy as captured by economic indicators such as the real per capita personal income, population, and various employment measures including non-farm employment and total employment. If income is growing at a faster rate than population, the average person expects to enjoy an overall higher standard of living. A higher standard of living generally translates into an improvement in comfort, which in many cases directly translates into increases in electricity consumption.

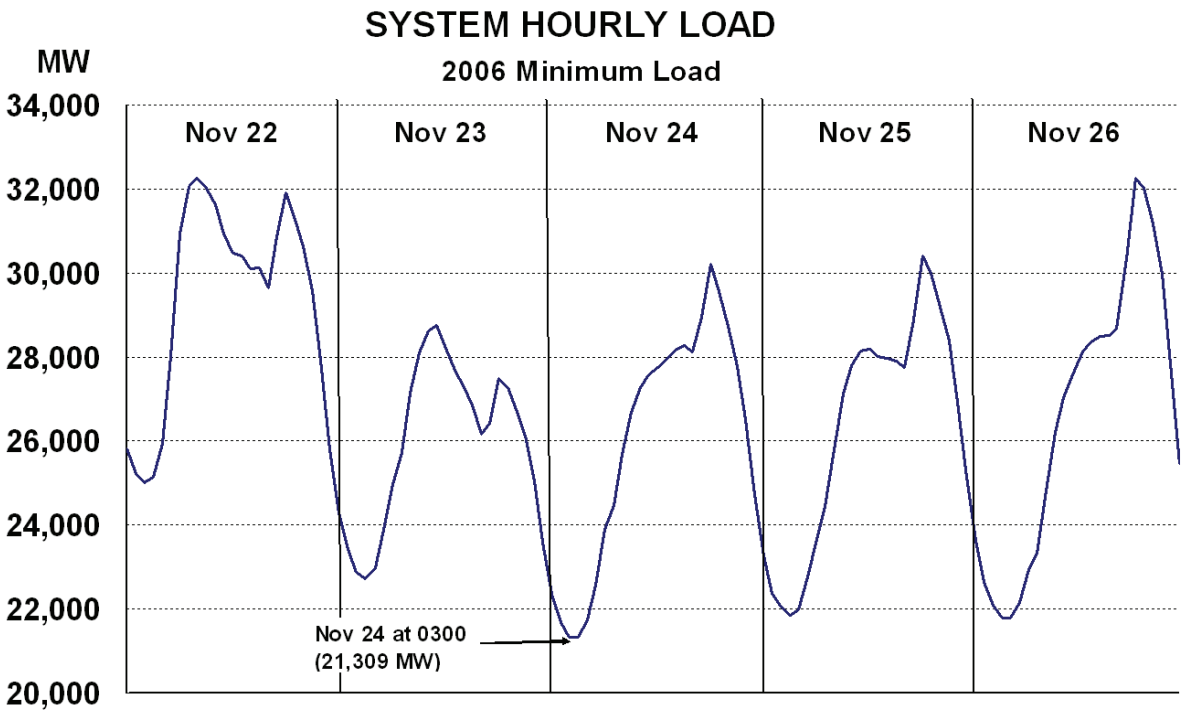
The figure shows the historical and forecasted energy consumption. The growth rate between 1996 and 2006 was 3.7%, and the forecasted growth rate between 2007 and 2013 is 2.1%.

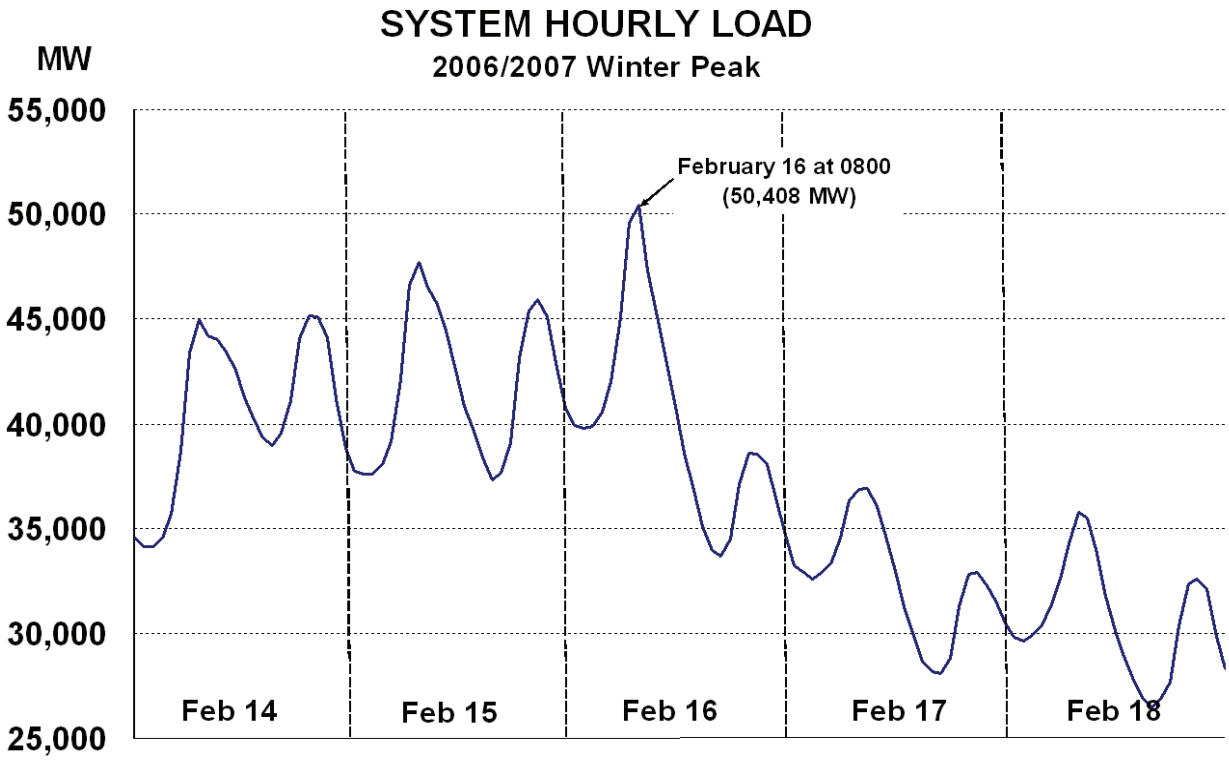


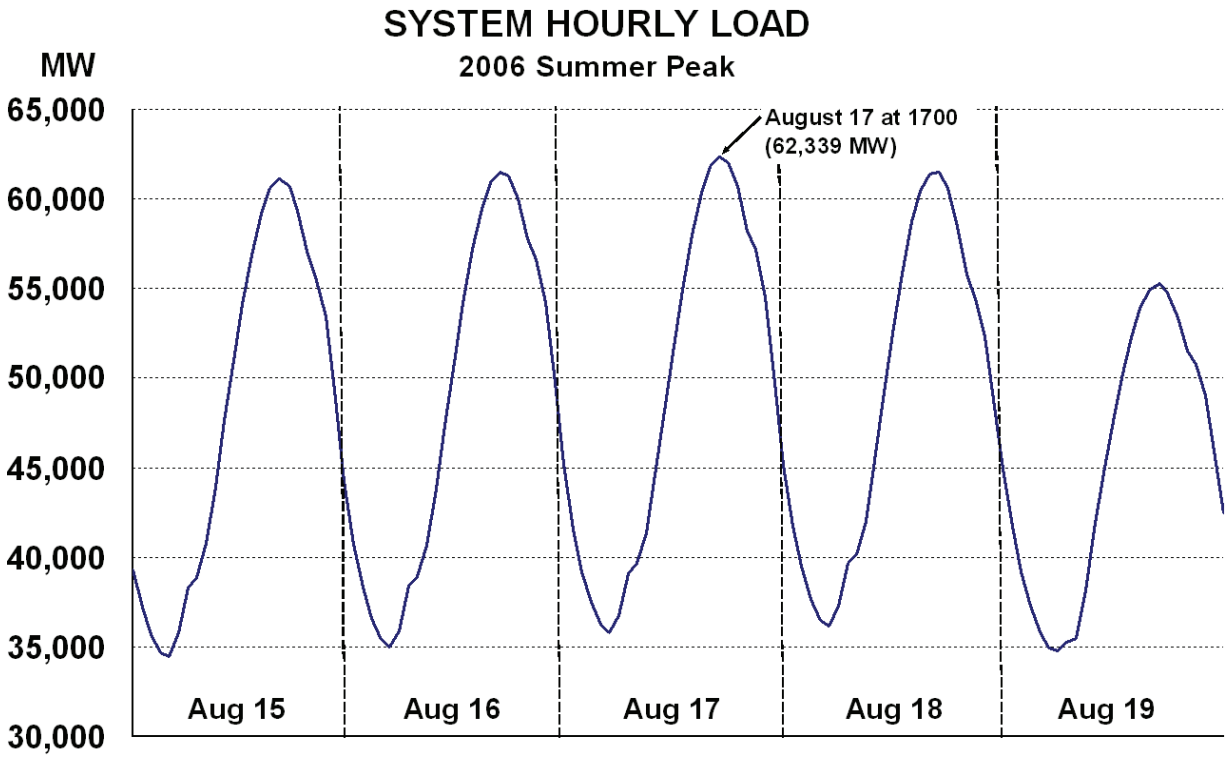
2.4 Hourly Load

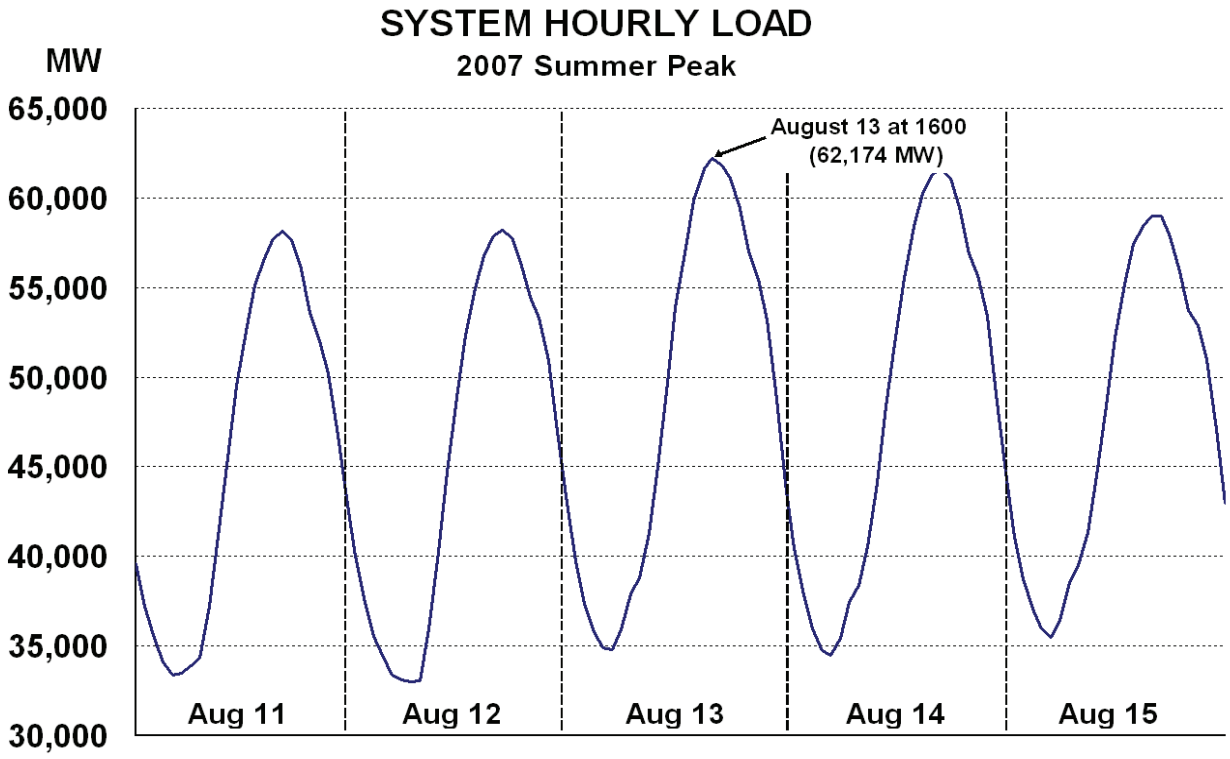
Hourly load is an extremely useful tool for understanding the magnitude change and the pattern of the load being served over a specific time. The following pages illustrate some of the varying load shapes encountered while operating the grid.




SYSTEM HOURLY LOAD
2006 Minimum Load
MW
34,000
32,000
30,000
28,000
26,000
24,000
22,000
20,000
Nov 22
Nov 23
Nov 24
Nov 25
Nov 26
Nov 24 at 0300
(21,309 MW)


SYSTEM HOURLY LOAD
2006/2007 Winter Peak
MW
55,000
50,000
45,000
40,000
35,000
30,000
25,000
February 16 at 0800
(50,408 MW)
Feb 14
Feb 15
Feb 16
Feb 17
Feb 18


SYSTEM HOURLY LOAD
2006 Summer Peak
MW
65,000
60,000
55,000
50,000
45,000
40,000
35,000
30,000
August 17 at 1700
(62,339 MW)
Aug 15
Aug 16
Aug 17
Aug 18
Aug 19

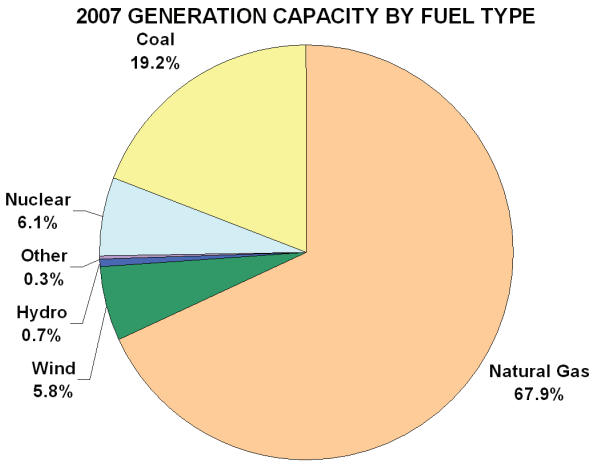

SYSTEM HOURLY LOAD
2007 Summer Peak
MW
65,000
60,000
55,000
50,000
45,000
40,000
35,000
30,000
August 13 at 1600
(62,174 MW)
Aug 11
Aug 12
Aug 13
Aug 14
Aug 15

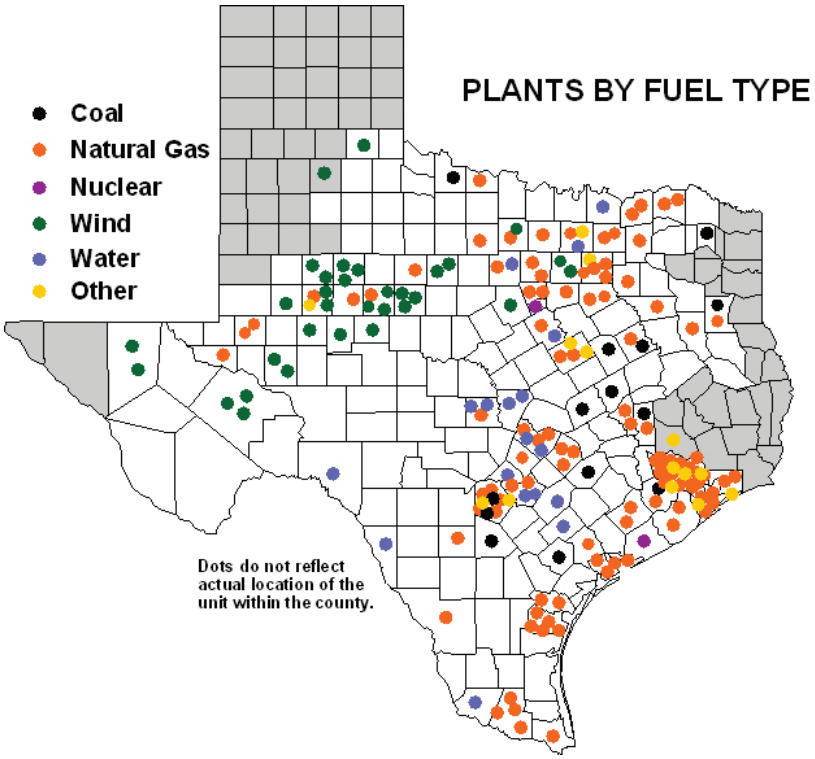
3. GENERATION

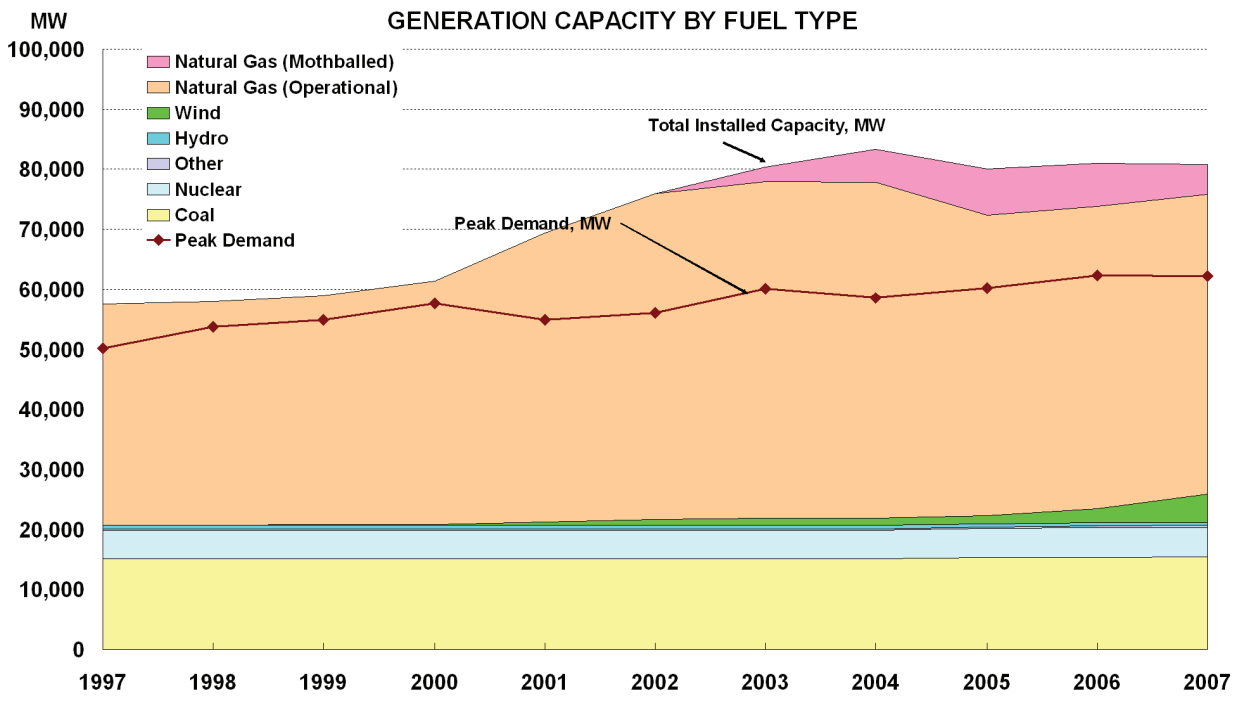
3.1 Current Generation

Current installed generation capacity in the ERCOT Region is about 81,000 MW, which includes about 5,000 MW of generation that is “mothballed” (suspended operations from the grid for more than six months).

In terms of installed capacity, 67.9% of capacity in ERCOT is fueled by natural gas, followed by 19.2% by coal, and 6.1% by nuclear. It is important to note that nearly all new generation capacity added in the ERCOT system since 2000 is fueled by natural gas. A small portion is fueled by wind and other resources. The map shows the plants by fuel type, and the graph shows the installed capacity by fuel type.

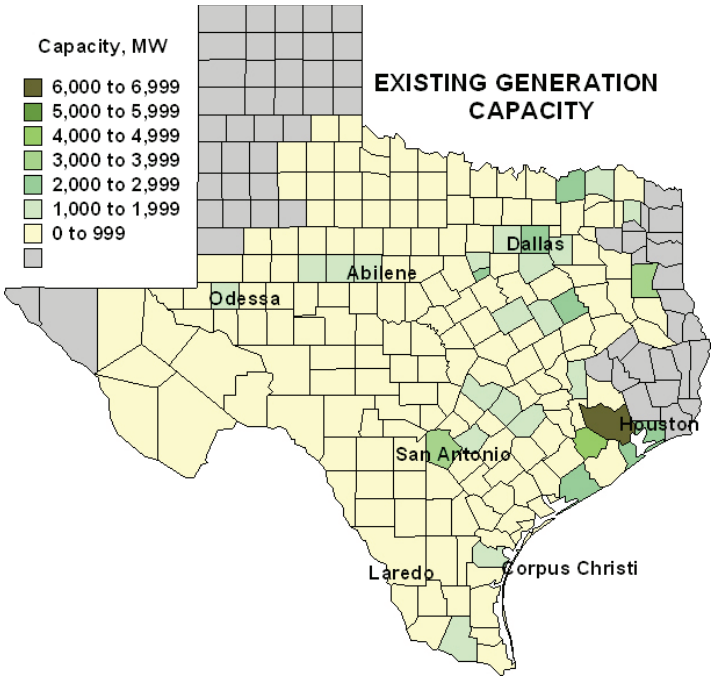


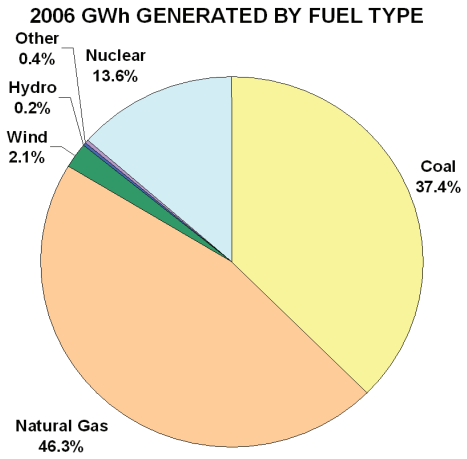




In terms of energy generated, the chart below shows that 46.3% of the energy generated in ERCOT in 2006 was from natural gas, 37.4% from coal, and 16.3% from other sources including nuclear, hydro, and wind.

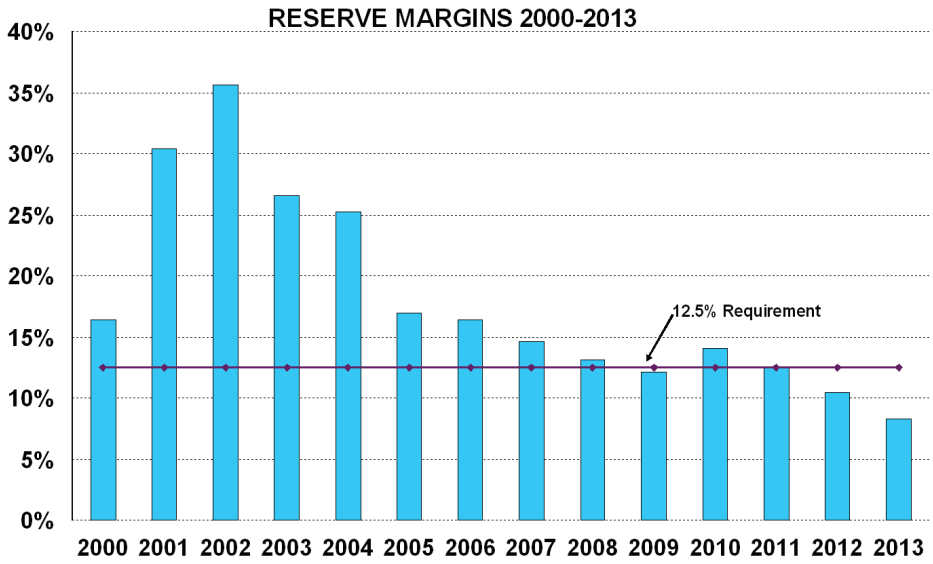
The existing generation capacity shown by county in this map is based on information from the generating companies and includes switchable capacity (capacity capable of serving ERCOT and another regional council), ties to other regions, private network generation, and distributed generation that has registered with ERCOT.





3.2 Forecasted Reserve Margins

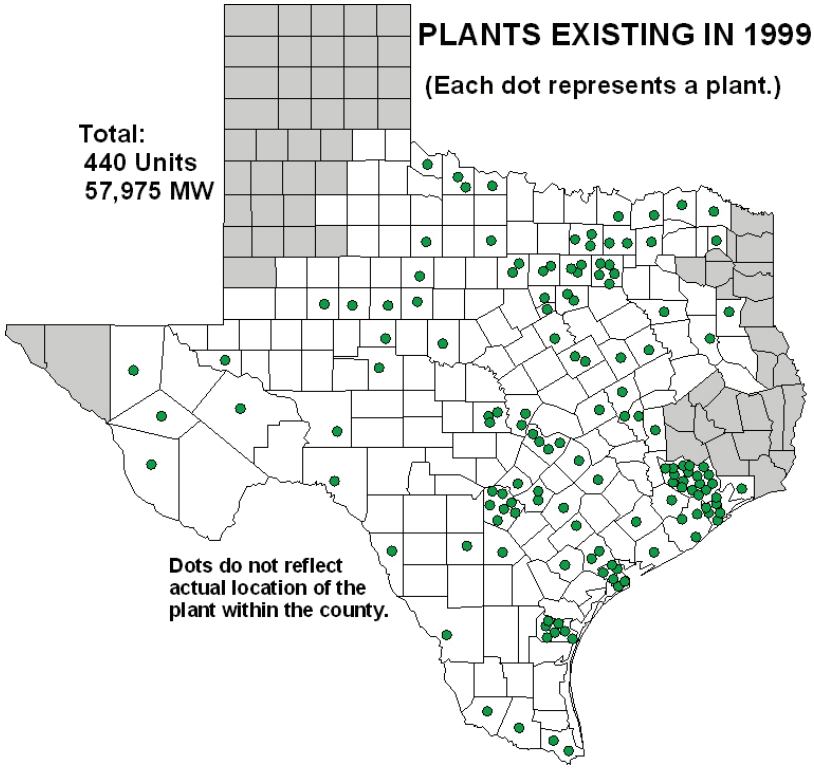
The reserve margin is the percent by which the generating capacity in the area exceeds the peak demand. From 1999 through 2004 different methodologies were used to calculate ERCOT's reserve margins. This accounts for some of the wide variation in the reserve margins shown. In 2005 the ERCOT Board of Directors approved a new methodology that recognizes that a generator's contribution to reserve is determined more by availability than by capacity. The reserve margins for 2006 through 2013 were calculated using this new methodology. Based on this new methodology, ERCOT's reserve margins through 2008 remain above the 12.5% requirement set by the ERCOT Board of Directors.

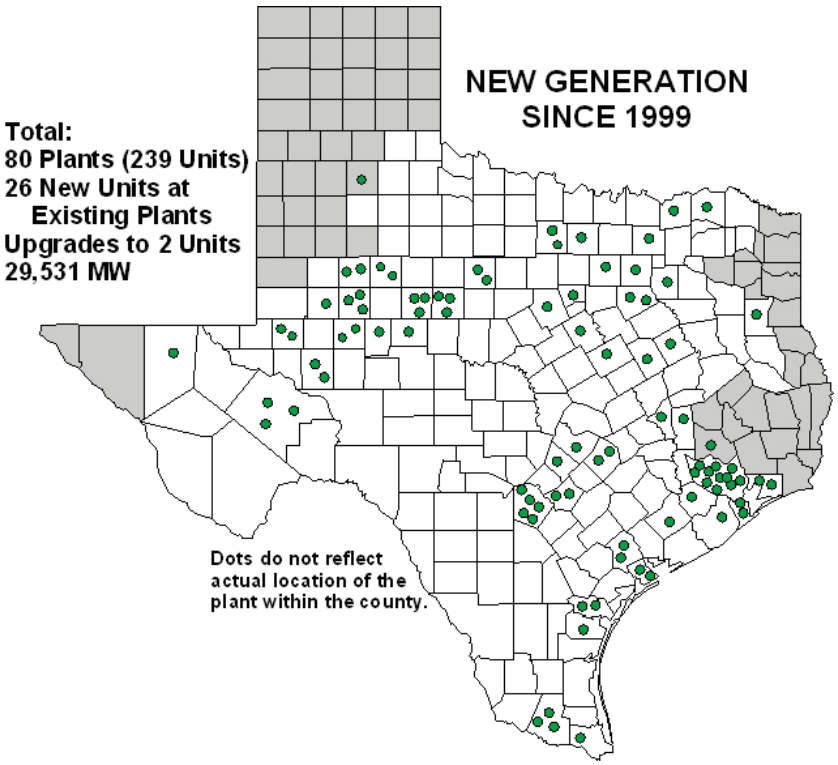


(Based on the December 2007 update of the 2007 Capacity, Demand, and Reserves Report)

3.3 Historical Generation Changes

In 1999 ERCOT had approximately 58,000 MW of installed generation capacity. Much of that generation was concentrated in the metropolitan areas of Houston, Dallas/Fort Worth, San Antonio, and Corpus Christi.



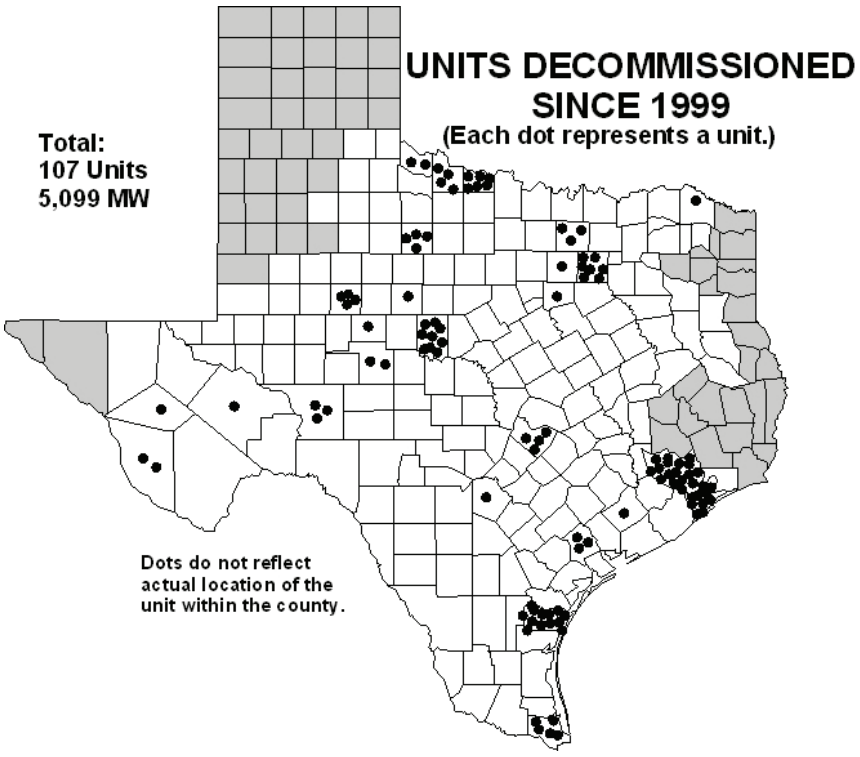


Since 1999 the ERCOT system has added 80 plants, added new units to existing plants, and upgraded existing units. The total of new generation is over 29,000 MW. Much of the new generation units added in the last two years have been large wind projects built in West Texas.

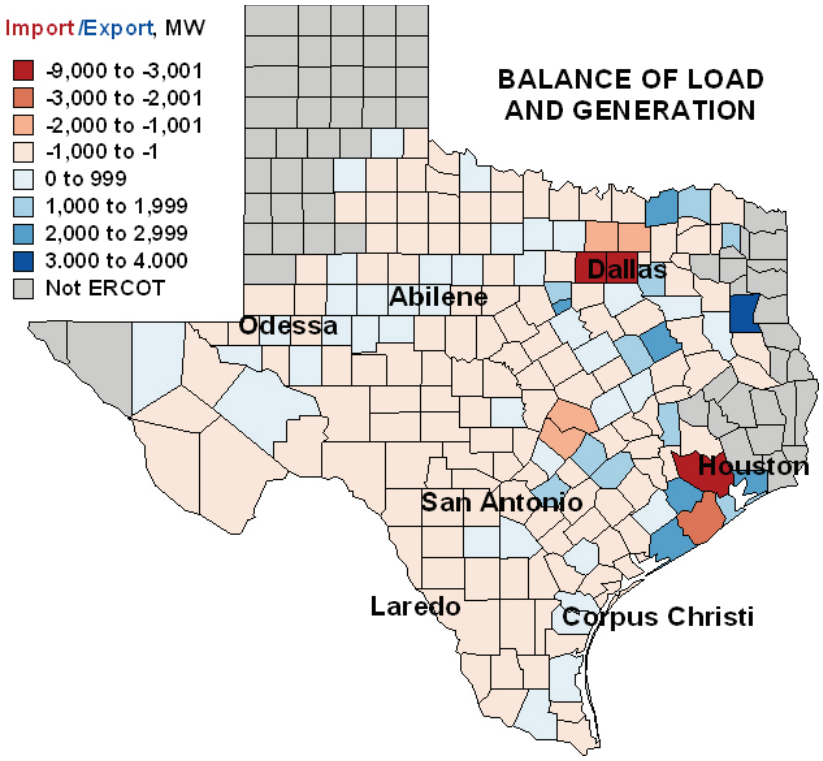
These new plants, especially the wind generation, have resulted in significant changes which have placed new challenges on the adequacy and the reliability of the existing transmission grid.

Since 1999 a total of 107 units have been decommissioned.

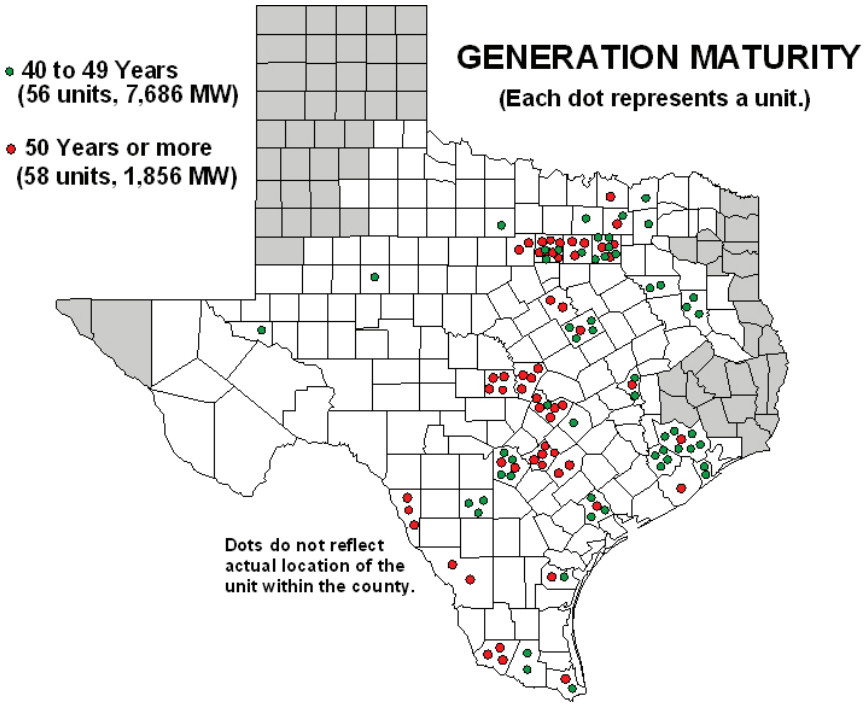
Given the current level of generation capacity, load growth, and economic factors, ERCOT expects more units to be decommissioned. Decommissioning of older plants near metropolitan areas due to economics or environmental restrictions requires ERCOT to undertake a careful assessment of the reliability needs to propose maintaining certain units under Reliability Must-Run (RMR) contracts and any transmission alternatives to these RMR sources.



This figure consolidates load and generation by county to show the balance of load and generation for the summer of 2007. If a county has more generation than load (blue on the map), then it will "export' generation to other counties. Whereas if a county has more load than generation (red on the map), then it must "import" generation from other counties. This calculation is used to illustrate dependence on local generation. This map is for illustrative purposes only; the true values will depend on actual load levels and actual generation dispatch. The graphic clearly indicates that Dallas/Fort Worth (DFW) and Houston are highly dependent on transmission to serve load.



3.4 Generation Maturity

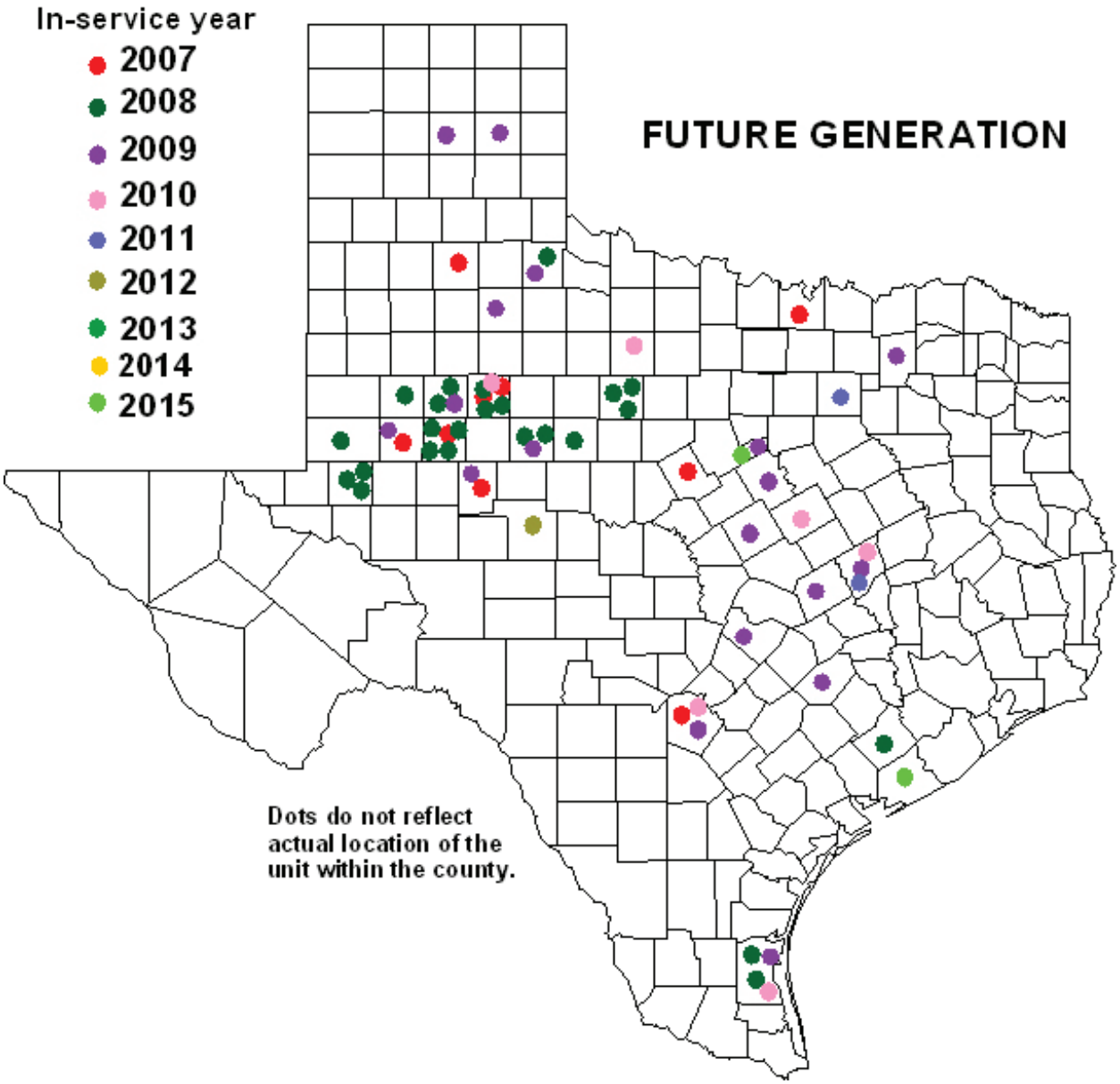


Currently there are about 9,600 MW of generation within ERCOT that is over 40 years in age. Age is one indication of the efficiency and maintenance cost of a generating unit, which are major factors in the decommissioning of units.

Most of the older capacity is located in and around the larger metropolitan areas of the state.

3.5 Future Generation

ERCOT has received requests to the system for about 92,000 MW of proposed generation capacity that has not yet been placed in service. Of this capacity about 24,000 MW is public and is shown on the map.



The following table shows the interconnection requests for proposed capacity by fuel type that ERCOT is currently tracking.

GENERATION INTERCONNECTION REQUESTS BY FUEL TYPE, MW			
Fuel	Public	Not Public	Total
Coal	4,841	2,708	7,549
Natural Gas	3,708	26,367	30,075
Nuclear	5,986	6,400	12,386
Other	0	425	425
Wind	9,631	31486	41,117
Total	24,166	67,386	91,551

The following table shows the requests for new generation in ERCOT between January 1, 2007, and December 10, 2007.

GENERATION INTERCONNECTION REQUEST ACTIVITY IN 2007						
Fuel	Screening Studies Requested		Interconnection Studies Requested		Interconnection Agreements Signed	
	Number	MW	Number	MW	Number	MW
Coal	6	2,008	4	383	1	581
Natural Gas	40	23,613	17	5,292	1	255
Nuclear	2	6,400	3	9,100	0	0
Other	0	0	1	45	0	0
Wind	79	29,478	45	13,076	17	3,064
Total	127	61,499	70	27,896	19	3,900
Projects may appear in more than one category.						

Robust load growth, a vibrant wholesale market, and renewal of the Production Tax Credit continue to attract merchant plant developers to the Texas market, resulting in a high volume of interconnection requests. However, there is still uncertainty associated with many of the proposed plants because, for example, some of the interconnection requests are for alternative sites. For this and other reasons, it is possible that much of this capacity will not be built.

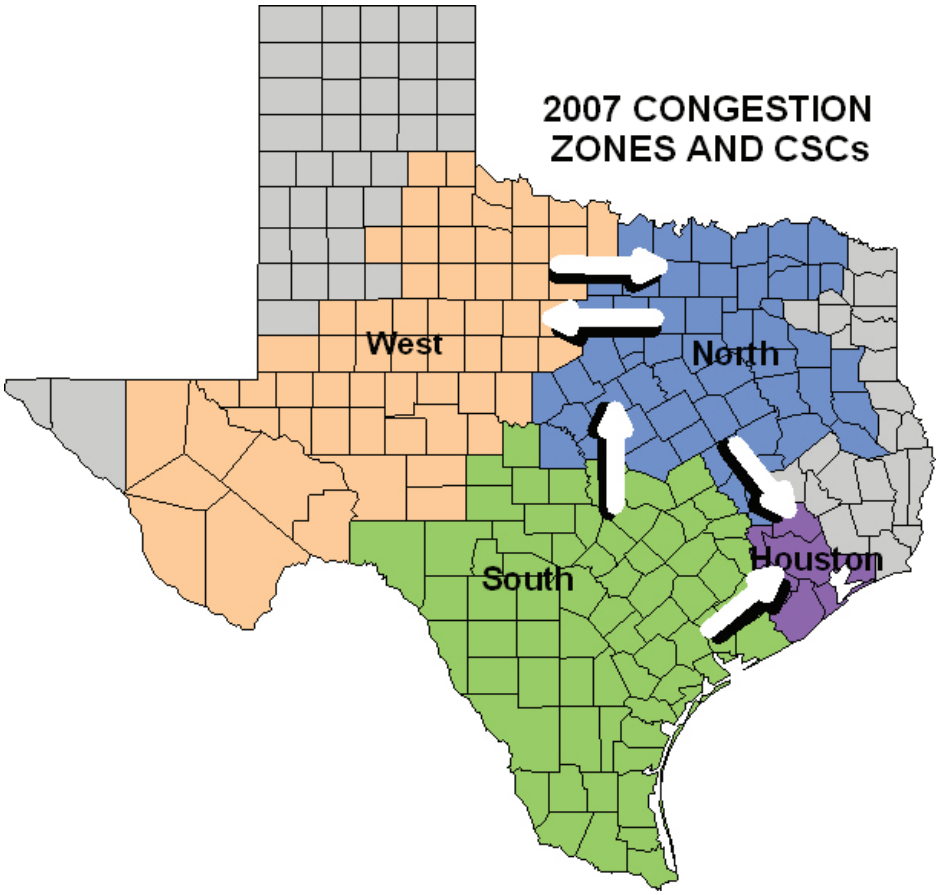
4. CONGESTION

Transmission congestion occurs whenever higher priced generation must be used rather than lower priced generation in order to maintain the reliable operation of the system. To test the reliability, ERCOT system operators perform a Real-Time Contingency Analysis (RTCA) every five minutes. This analysis identifies when the loss of any single transmission element in the system would result in any remaining portion of the system exceeding its capability limits. It assists the system operators in determining the course of action to remedy the identified congestion. The differences in generation costs quantify congestion and are ultimately borne by the consumer.

ERCOT categorizes congestion as one of two types - zonal and intrazonal (local).

4.1 Zonal Congestion

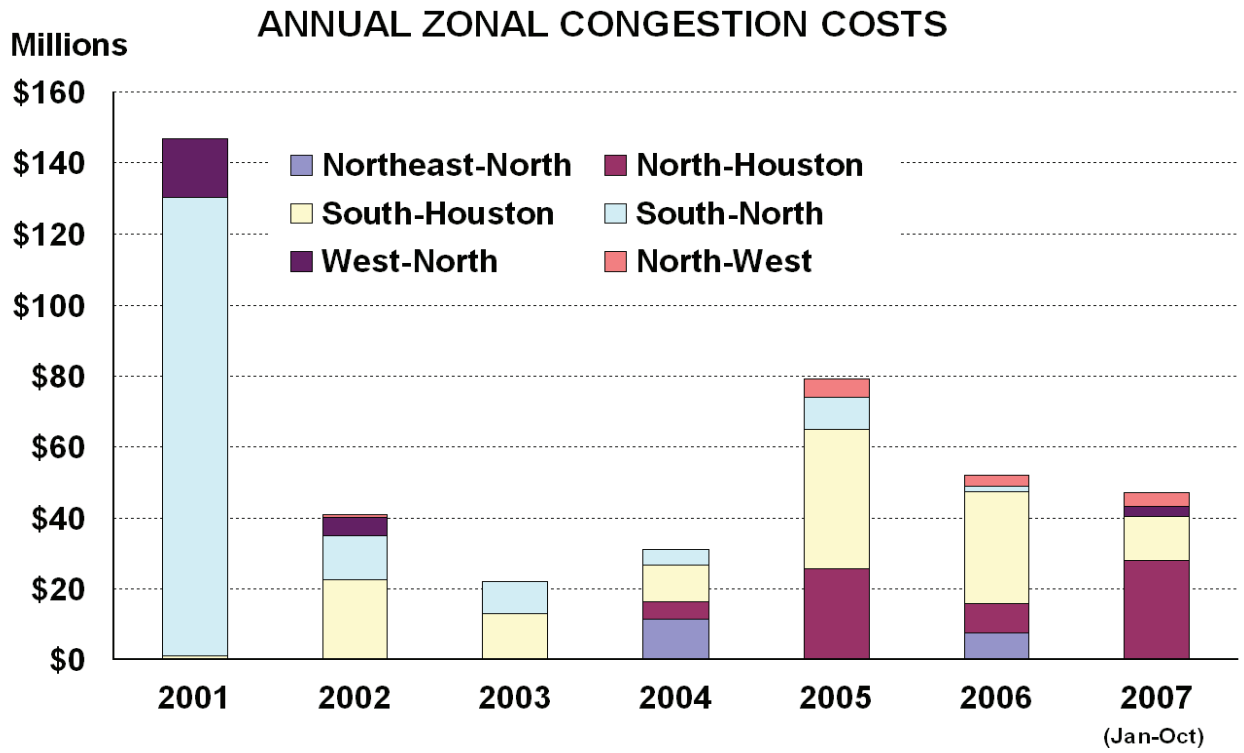
ERCOT has implemented a zonal balancing energy market for the resolution of transmission congestion between zones. A Commercially Significant Constraint (CSC) is generally a 345-kV power line which acts as an interface between two zones and physically limits (due to its design capacity) the economic flow of energy between the zones to a commercially significant degree.

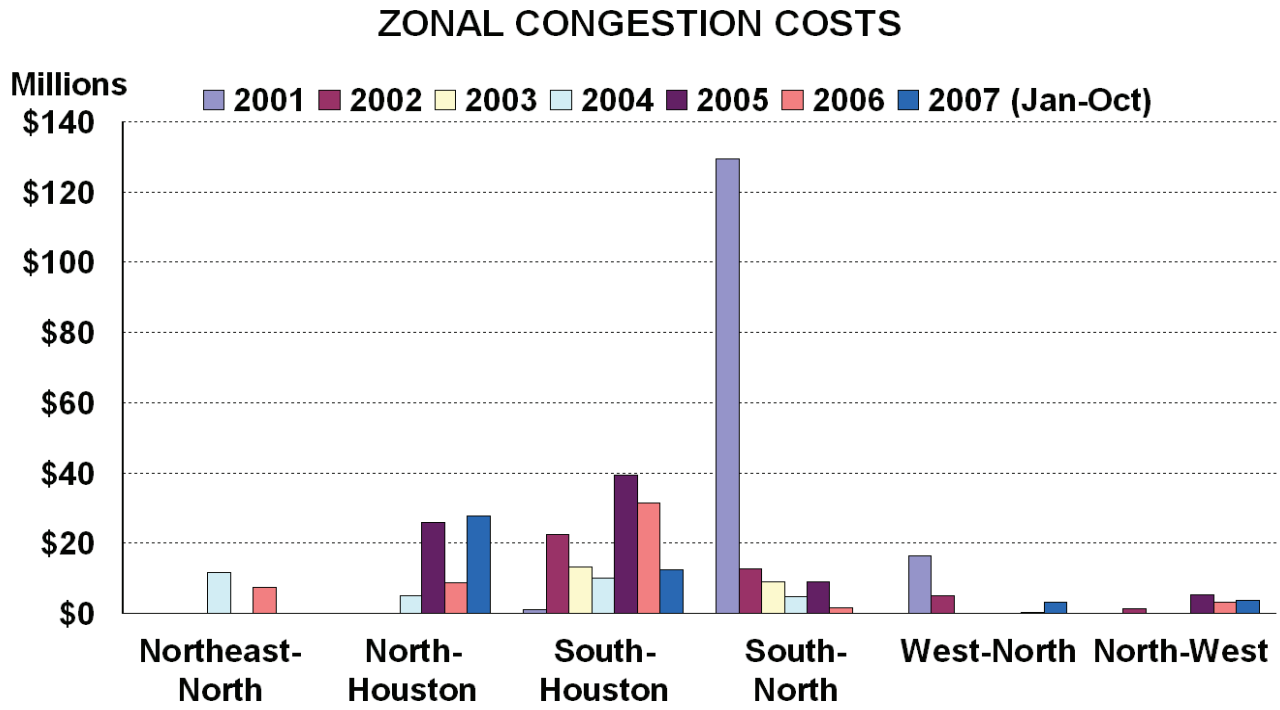


Each year studies are made to determine the congestion zones. For 2007 there are four congestion zones and five CSCs as illustrated.

When an ERCOT system operator determines a CSC is congested, the system operator reduces the line loading by issuing instructions to increase the generation in the zone importing the power and to decrease generation in the zone exporting the power. The instructions are based upon the generators' bids available in the balancing market. The resulting overall higher costs are defined as zonal congestion costs and are directly assigned on a pro-rata basis to those market participants scheduling energy over the CSC.

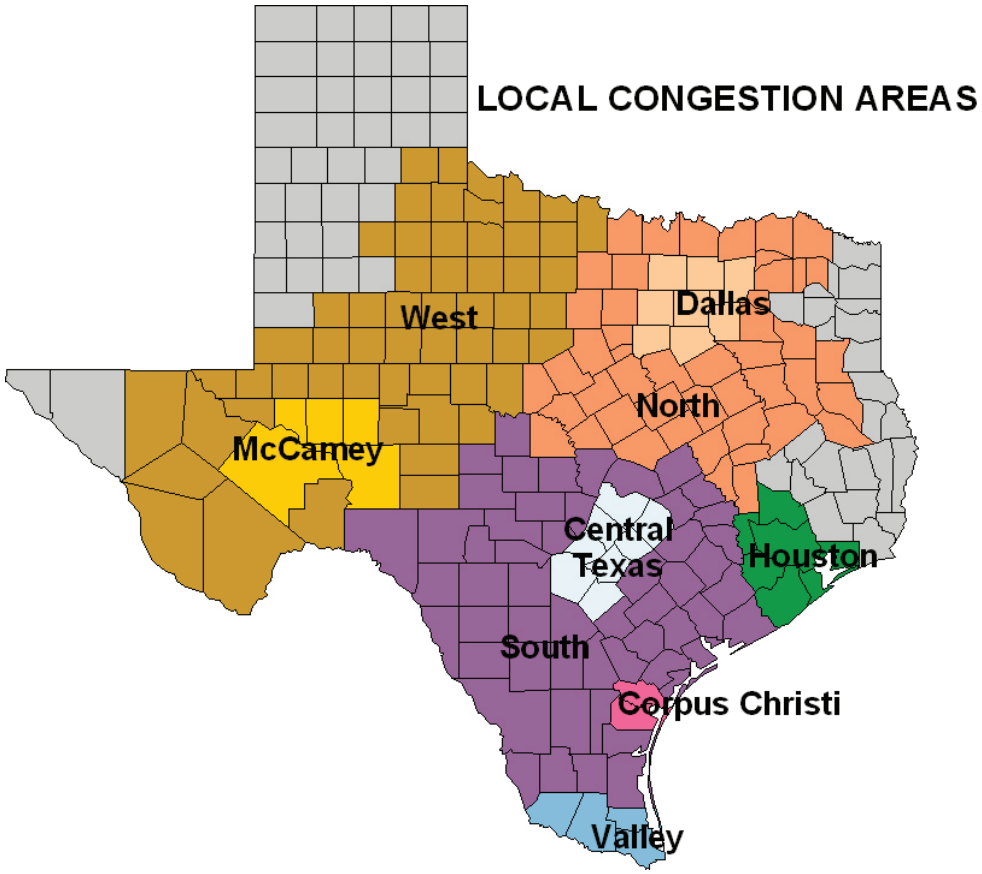
The following graphs show the zonal congestion costs from 2001 through October 2007 by CSC.





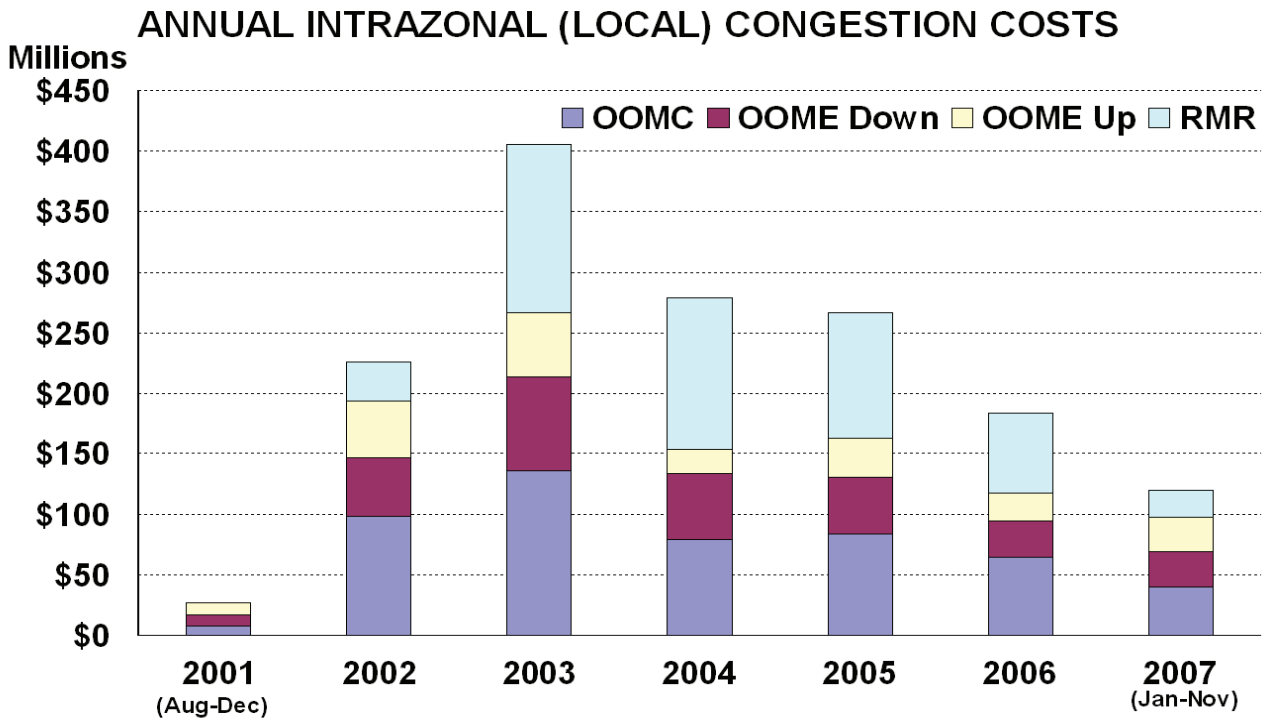
4.2 Intrazonal Congestion

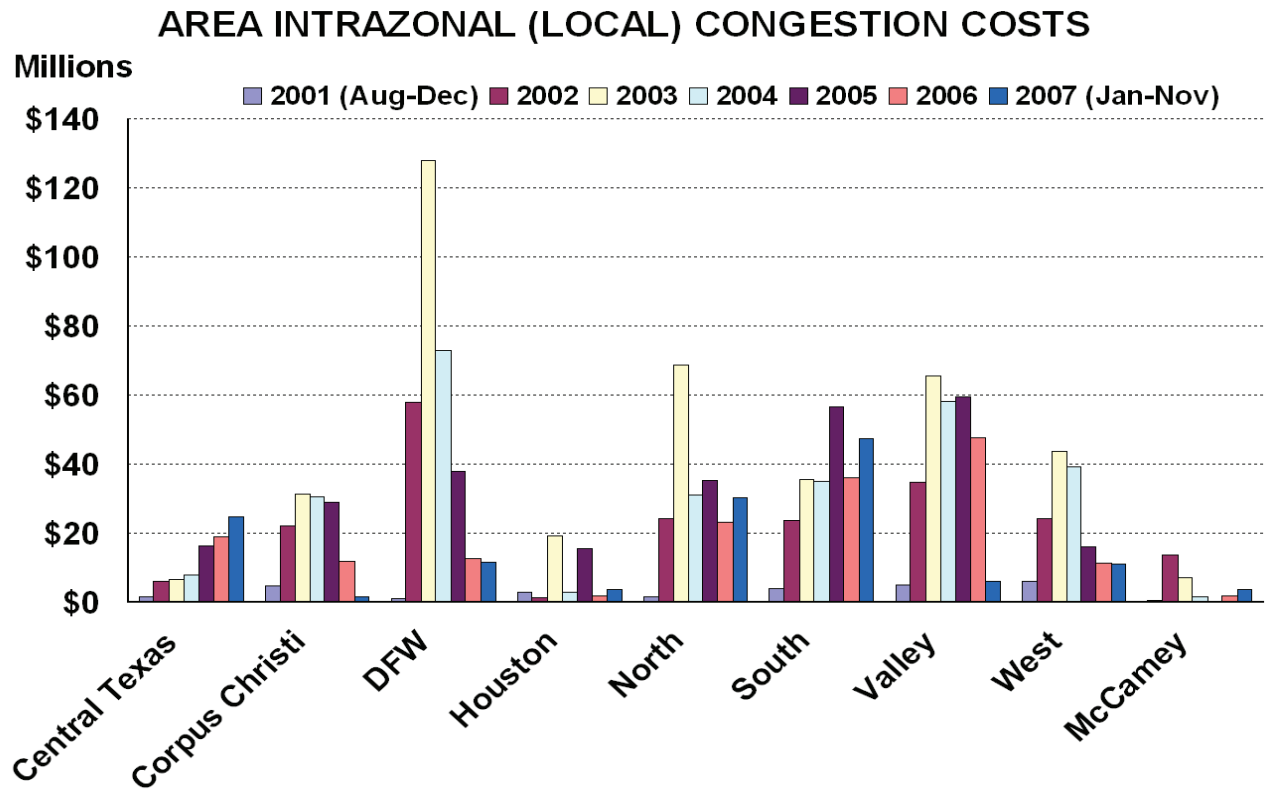
Intrazonal, or local, congestion occurs when the lack of sufficient transmission infrastructure in a given area (within a single congestion zone) results in a limitation, or bottleneck, of the flow of energy into or within that area. ERCOT has identified nine general areas with local constraints as illustrated on this map.

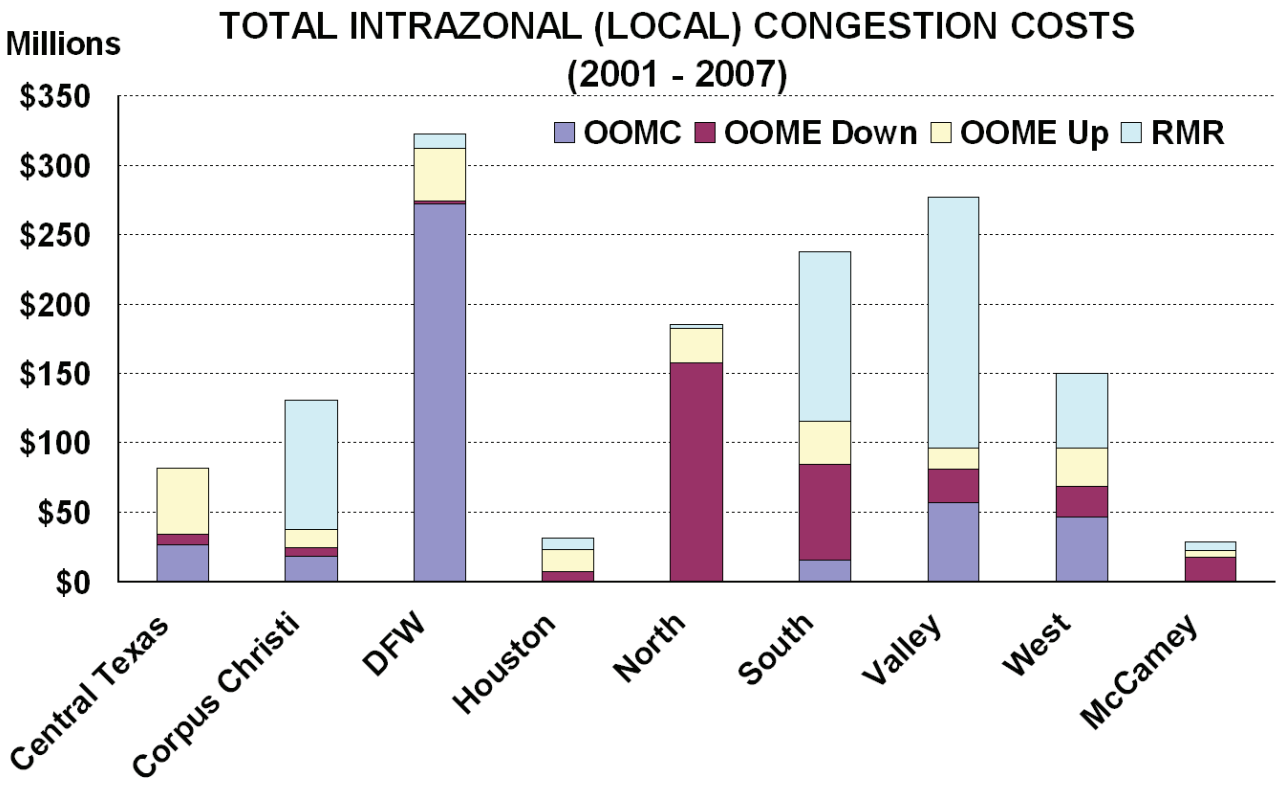


Intrazonal congestion is usually remedied by running higher cost, less efficient generation in the local area to reduce transmission flows and to improve the voltage profiles in the area. To resolve intrazonal congestion, ERCOT uses three different market services to deploy specific generating units. These services are Out-of-Merit Energy (OOME), Out-of-Merit Capacity (OOMC), and Reliability Must-Run (RMR). The cost of providing these services is collectively defined as intrazonal (local) congestion costs and is uplifted to all load-serving entities within the ERCOT Region.

As described above, intrazonal congestion costs are highly dependent on local generation availability, the limits of the current transmission infrastructure (including the impact of scheduled and non-scheduled outages), the local area demand, and projected load growth. ERCOT is working diligently with market participants to develop both short-range and long-range plans to minimize intrazonal congestion costs. As a result, due to new transmission and other operational improvements, annual intrazonal congestion costs were reduced from $405 million in 2003 to $183 million in 2006 and about $121 million from January through November 2007, as illustrated in the graph.


ANNUAL INTRAZONAL (LOCAL) CONGESTION COSTS
Millions
$450
$400
$350
$300
$250
$200
$150
$100
$50
$0
OOMC
OOME Down
OOME Up
RMR
2001
(Aug-Dec)
2002
2003
2004
2005
2006
2007
(Jan-Nov)


AREA INTRAZONAL (LOCAL) CONGESTION COSTS
Millions
2001 (Aug-Dec)
2002
2003
2004
2005
2006
2007 (Jan-Nov)
$140
$120
$100
$80
$60
$40
$20
$0
Central Texas
Corpus Christi
DFW
Houston
North
South
Valley
West
McCamey


TOTAL INTRAZONAL (LOCAL) CONGESTION COSTS
(2001 - 2007)
Millions
$350
$300
$250
$200
$150
$100
$50
$0
OOMC
OOME Down
OOME Up
RMR
Central Texas
Corpus Christi
DFW
Houston
North
South
Valley
West
McCamey

5. Improvement Costs

Improving the reliability and capability of the ERCOT transmission system for the economic benefit of all users has a price. Since 2005, ERCOT TSPs have completed projects costing approximately $2.2 billion. The projects that are being considered over the next five years to meet the growing electricity needs are estimated to cost $3 billion. The financial investment and amount of work required to develop these projects are considerable.

5.1 Improvement Projects

Transmission system reinforcements needed to maintain national and regional reliability standards are built by transmission owners and paid for by consumers. Interconnection of new generation and decommissioning of generation may also require the upgrading of additional system elements to maintain reliability.

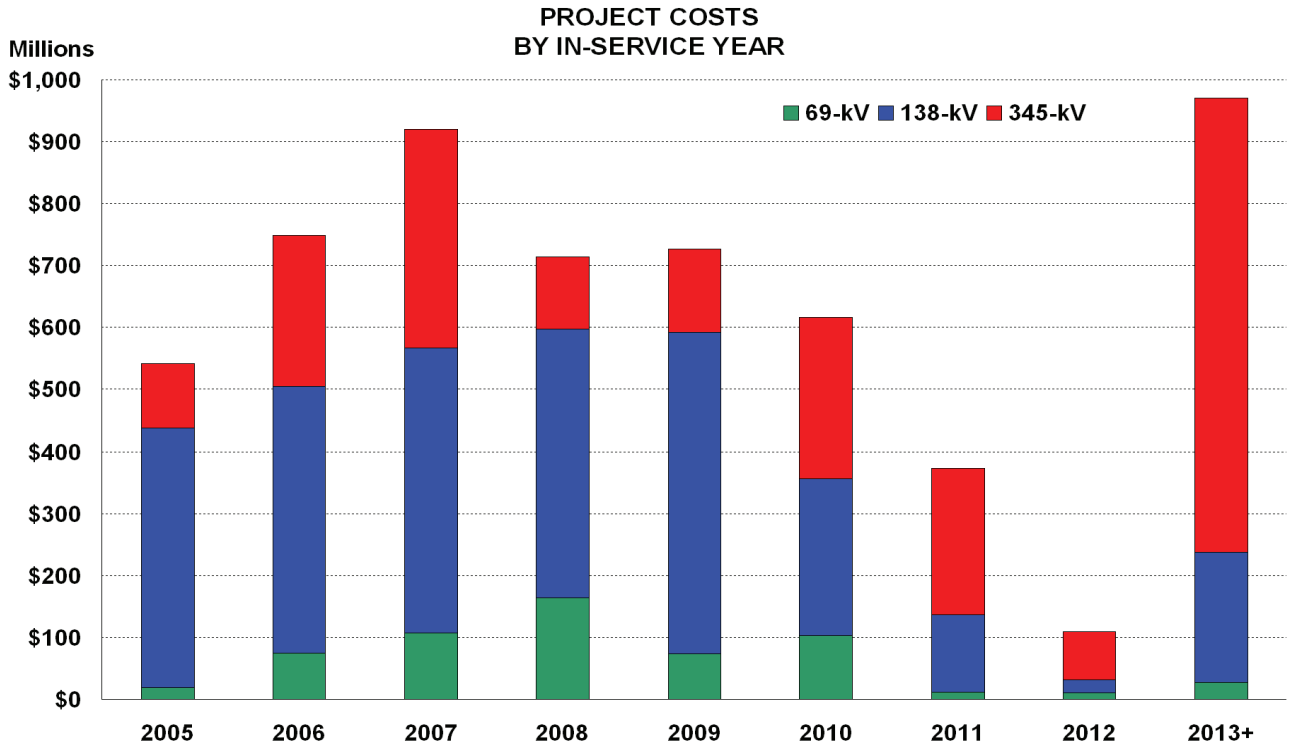
Through current congestion costs, projected congested elements, and RMR requirements, ERCOT identifies the portions of the transmission grid prone to persistent congestion and increased cost and proposes cost-effective solutions to resolve those constraints and reduce the cost to consumers.

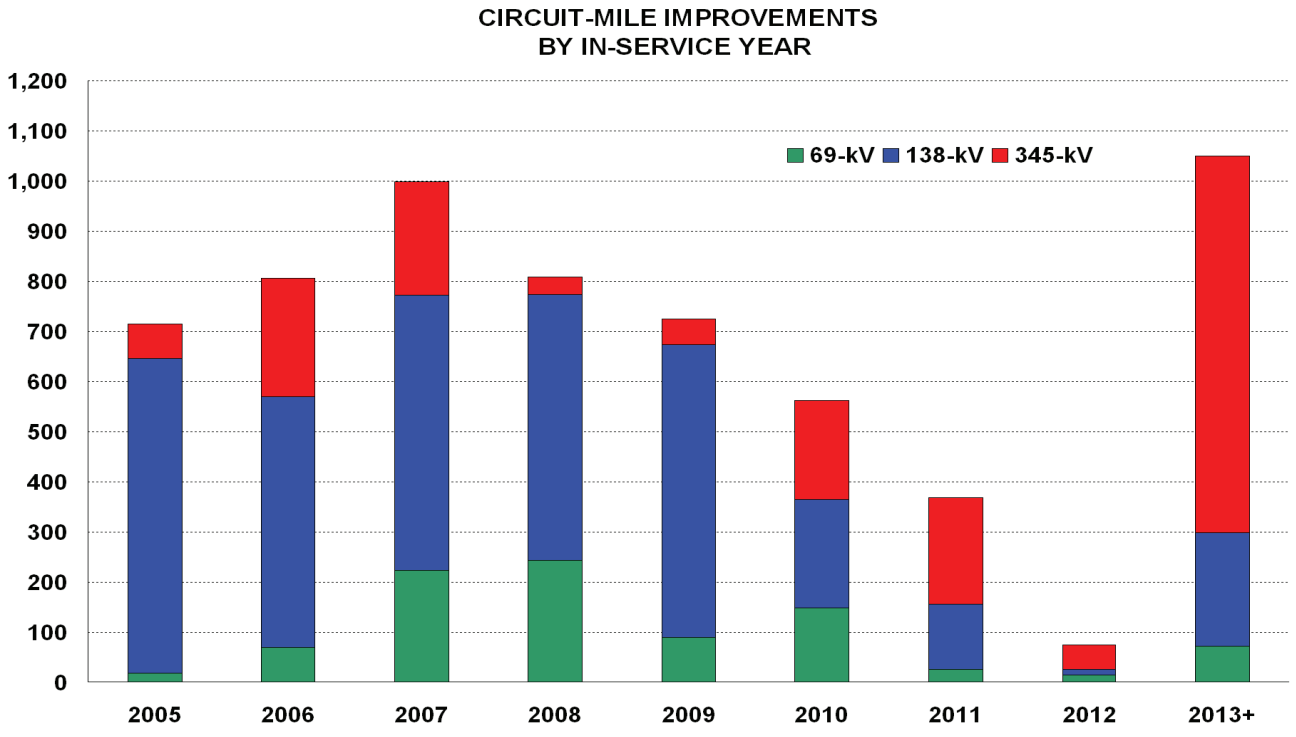
The following figures show improvements based on the projects identified and do not reflect actual overall transmission cost, including operations and maintenance, in a given year. The actual costs for a single project will be spread over several years to account for engineering, regulatory approvals, material, right-of-way procurement, construction, etc. Therefore, ERCOT strongly recommends caution in using the cost figures presented for reasons other than intended by this report. In addition, the figures do not include the incremental transmission projects that resulted from the recently completed five-year plan.

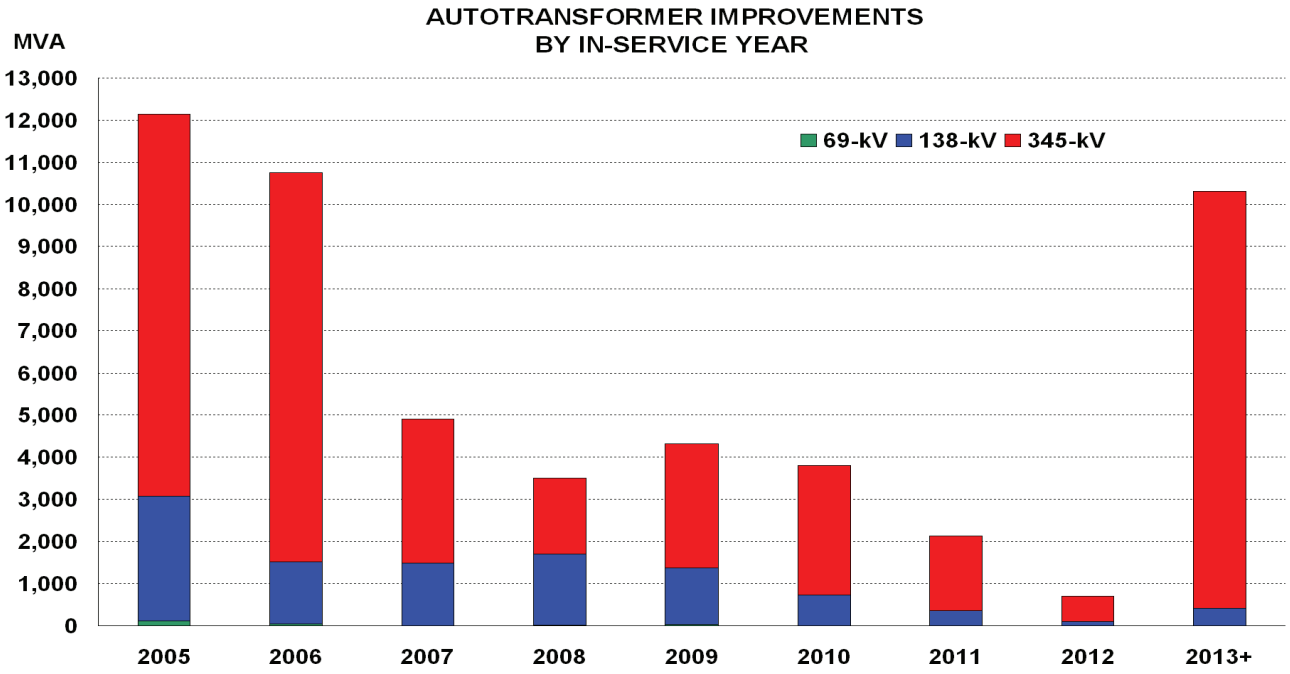
Since 2005, TSPs have completed projects improving over 2,500 circuit miles of transmission lines and adding about 28,000 MVA of autotransformer capacity. The projects that are now being considered over the next five years are expected to improve 2,538 circuit miles of transmission lines and add 14,451 MVA of autotransformer capacity. The graphs below provide a breakdown of both completed and recommended project costs, circuit miles, and autotransformer MVA by in-service year.

5.2 Comparing Improvement Costs to Congestion Costs

Direct comparison of improvements costs and congestion costs is possible only when factoring in the time frame. Improvement costs are spread over many years while congestion costs are paid for on an annual basis. It is imprecise to directly compare them side by side.


PROJECT COSTS
BY IN-SERVICE YEAR
Millions
$1,000
$900
$800
$700
$600
$500
$400
$300
$200
$100
$0
69-kV
138-kV
345-kV
2005
2006
2007
2008
2009
2010
2011
2012
2013+


CIRCUIT-MILE IMPROVEMENTS
BY IN-SERVICE YEAR
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
69-kV
138-kV
345-kV
2005
2006
2007
2008
2009
2010
2011
2012
2013+


AUTOTRANSFORMER IMPROVEMENTS
BY IN-SERVICE YEAR
MVA
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
69-kV
138-kV
345-kV
2005
2006
2007
2008
2009
2010
2011
2012
2013+

6. AREA CONSTRAINTS AND IMPROVEMENTS

This section provides maps showing recent constraints, completed improvements, planned improvements, and projected constraints on the ERCOT power system. Separate graphics, along with discussion and detailed information, are provided by weather zone. The graphics are based upon a geographic map of the power system with highlights of that weather zone. Elements at 345 kV are illustrated in red, 138 kV are in blue, and 69 kV are in green. Power plants are illustrated with square blocks, and stations are indicated with circles.

Recent Constraints are the limitations on the system that have caused local congestion in 2007 as reported in monthly operations reports. The illustrated constraints were not necessarily experienced throughout this period. Constraints may change due to generation changes, transmission and generation outages, construction schedules for transmission improvements, and changing load patterns.

Completed Improvements are the additions to the transmission system made in 2006 and 2007.

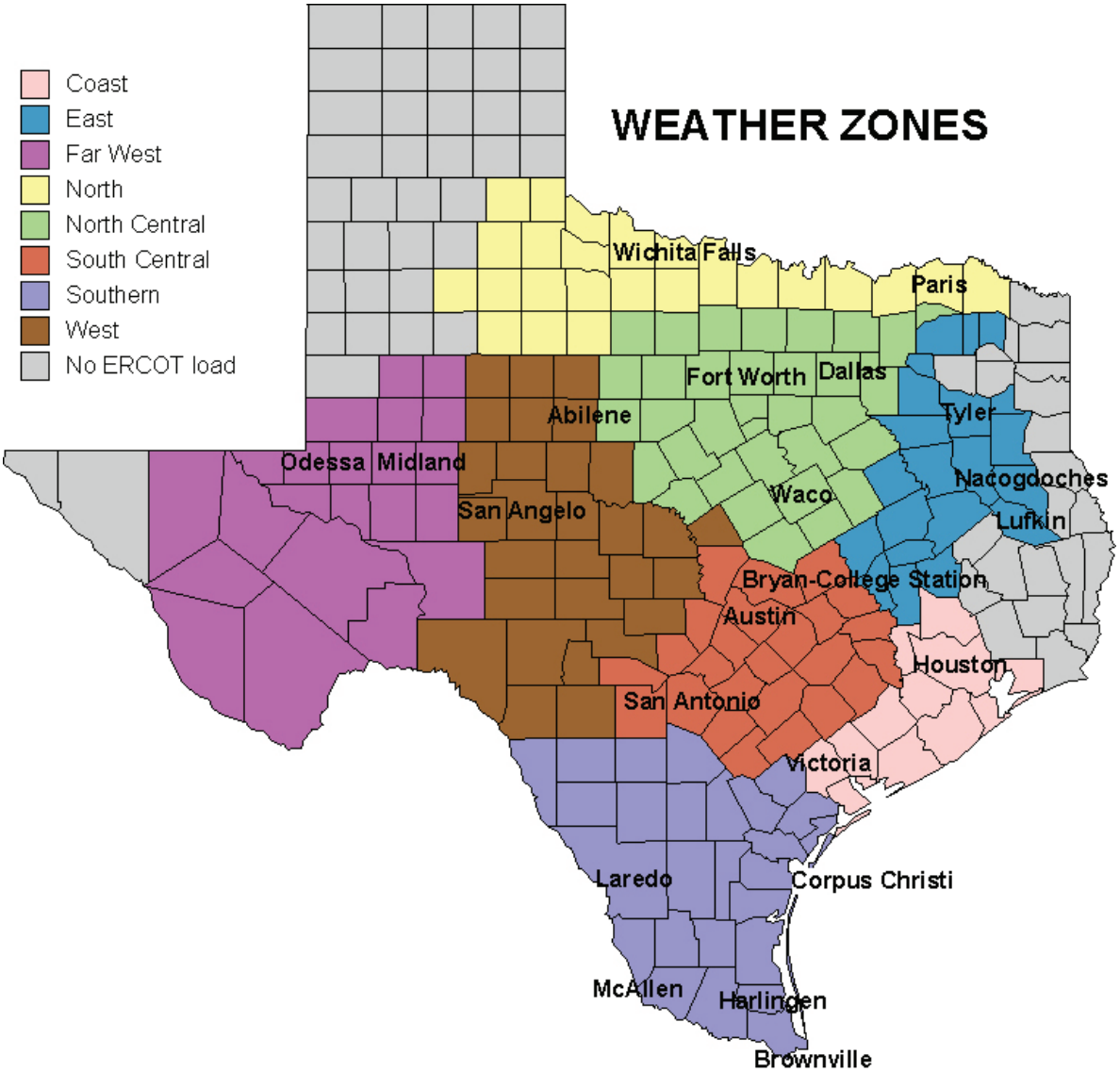
Planned Improvements are the additions currently underway or being studied in ERCOT and TSP analyses. This section includes the results of ERCOT's five-year plan development. The **ERCOT Review** designation in the planned improvements tables refers to projects which either have been reviewed by the RPG pursuant to the ERCOT planning charter and process. Projects that are included in the five-year plan must be submitted for RPG review, as appropriate, under the planning charter and must undergo limited RPG review in order to receive ERCOT Board endorsement. The planned improvements listed in each weather zone section are generally the largest projects in that area. The in-service year is the first year that the improvement will be available for the summer peak.

Projected Constraints are based on the analysis done in ERCOT's annual five-year plan using a computer simulation of an hourly security-constrained unit-commitment and economic-dispatch model for a forecasted annual period. The computer model determines an optimal unit commitment and dispatch based on the assumption that units will be bid into a nodal market at their variable cost of generation and does not consider transmission outages. Security constraints can cause the model to deviate from the most economic dispatch on an hourly basis. The measure of this deviation is marginal congestion which is defined as the rating of the line multiplied by the shadow price on the limiting transmission element in the hour the congestion occurs. Congestion may exist until planned improvements can be put in place to alleviate it. In addition, some level of congestion may acceptably continue to be experienced on some elements of the system where it is uneconomic to construct the improvements that would be required to eliminate the constraints. The amount of annual marginal congestion for each element is categorized by color. Dark brown represents the most severe congestion. Yellow represents the least congestion. Light brown represents a level of severity between yellow and dark brown.

Competitive Renewable Energy Zone (CREZ) development will significantly impact the findings of this report related to planned improvements and projected constraints. In 2005, the Texas Legislature passed Senate Bill 20 which required the Public Utility Commission of Texas (PUCT) to designate CREZs and order transmission system upgrades to allow energy from these CREZs to be delivered to consumers in the most beneficial and cost-effective manner. The PUCT conducted a contested case (Docket 33672) during 2006 to investigate potential CREZ areas, generation

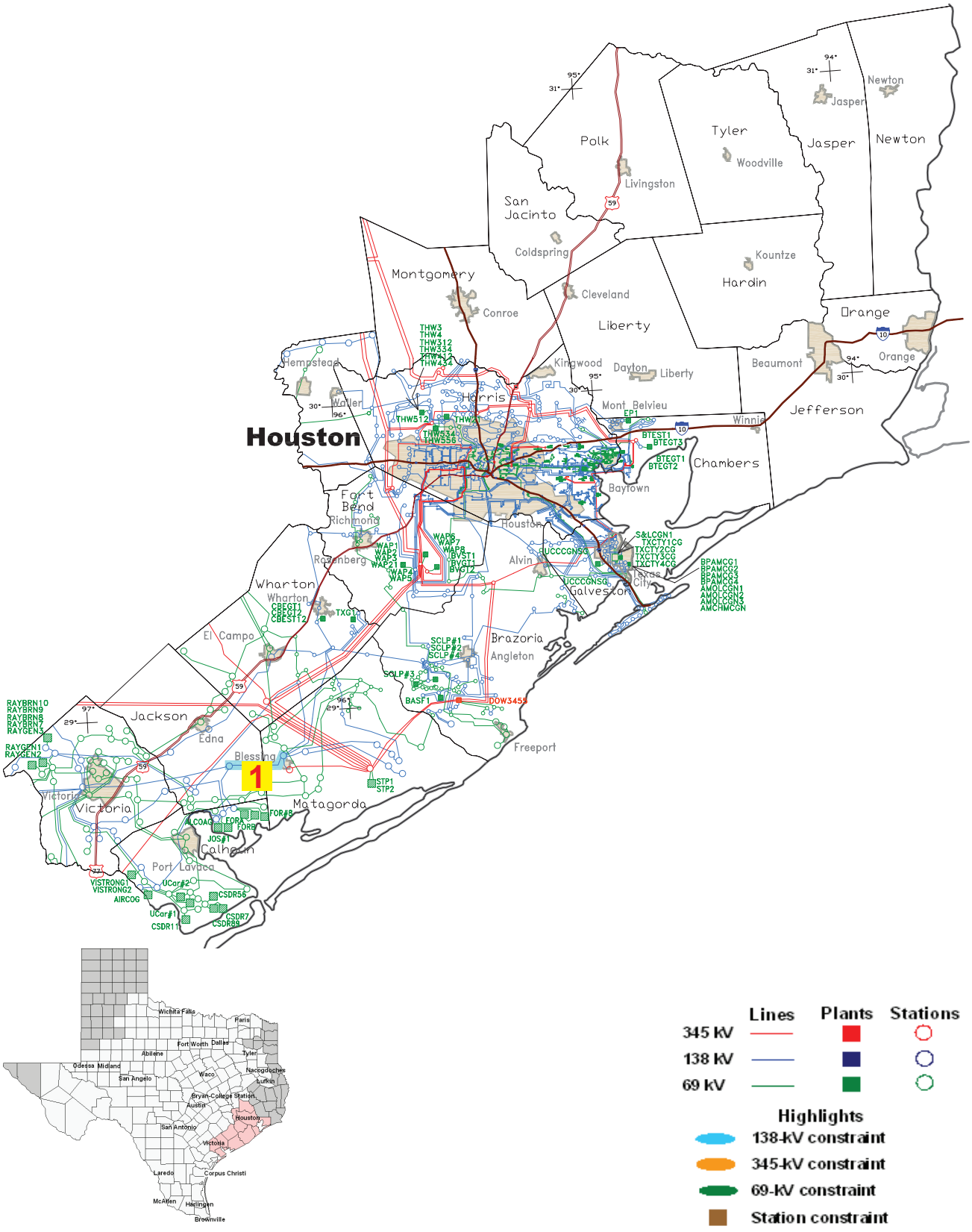
developer interest in these areas, and the transmission that would be needed associated with these areas. The Interim Order in Docket 33672, issued October 2, 2007, required ERCOT to study the transmission that would be needed for four scenarios of installed wind generation from the CREZs selected by the PUCT. Upon the completion of this study (to be filed with the PUCT on April 2, 2008), the PUCT will select CREZs and new transmission system upgrades to be constructed to meet the CREZ requirements. Some of the planned improvements identified in the five-year plan and included in this report, particularly those in the 2011-2012 time frame which are within and from the West and Far West areas, may be superseded by the CREZ-related system upgrades.

6.1 Graphics Directory



6.2 Coast Weather Zone

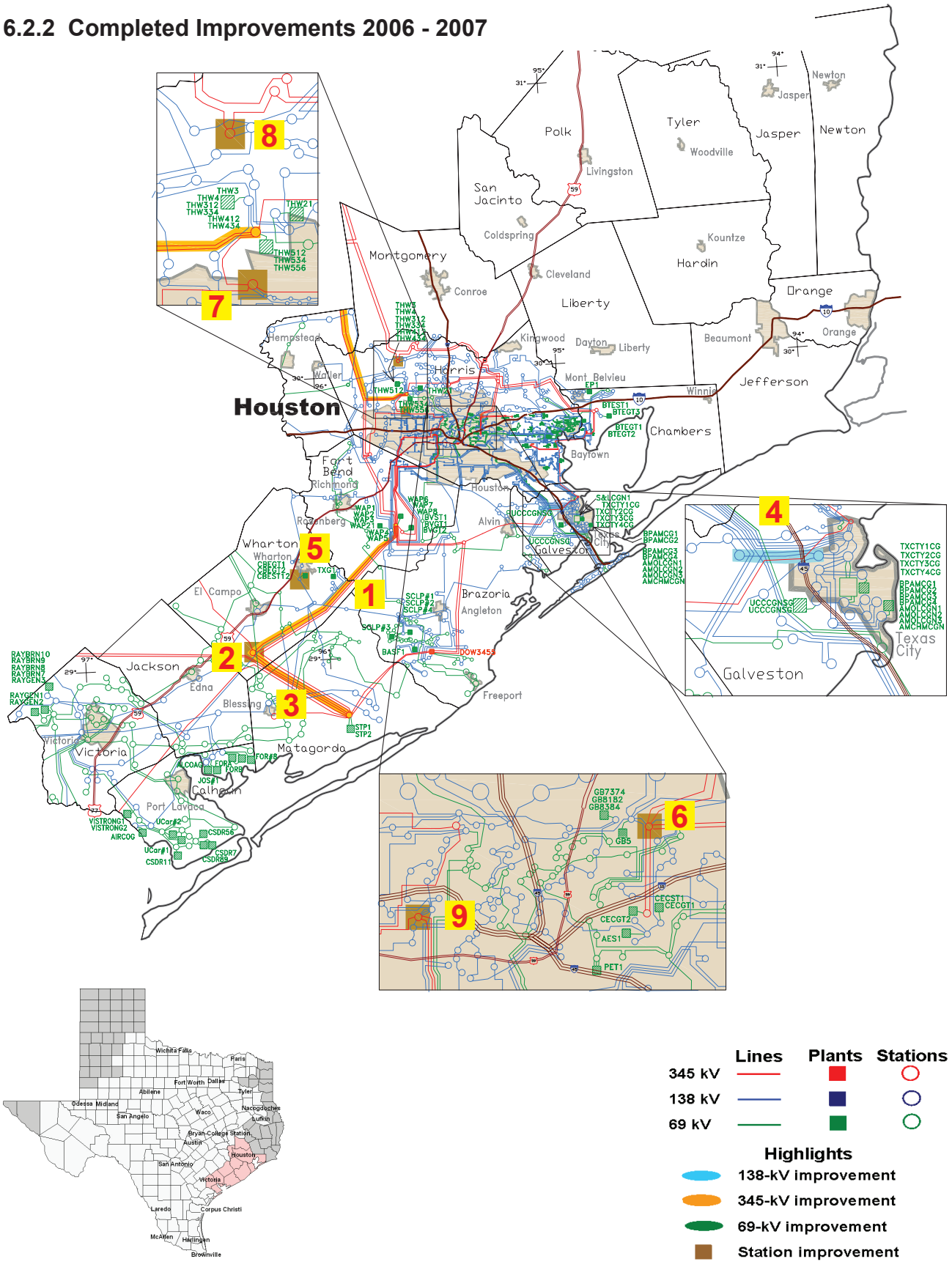
6.2.1 Recent Constraints 2007



The Coast weather zone is primarily comprised of the Houston metropolitan area, which is one of ERCOT's two largest load centers. The decommissioning of a significant portion of Houston's local generation and its continued load growth cause it to be served by power located to the north and south of the Houston zone. Congestion occurs when paths leading to Houston are taken out for upgrades and maintenance. The STP to Hillje project completed in July 2007 has increased the transfer capability from the south.

Map Index	Constraining Element	Voltage Level, kV
1	Blessing - Lolita	138

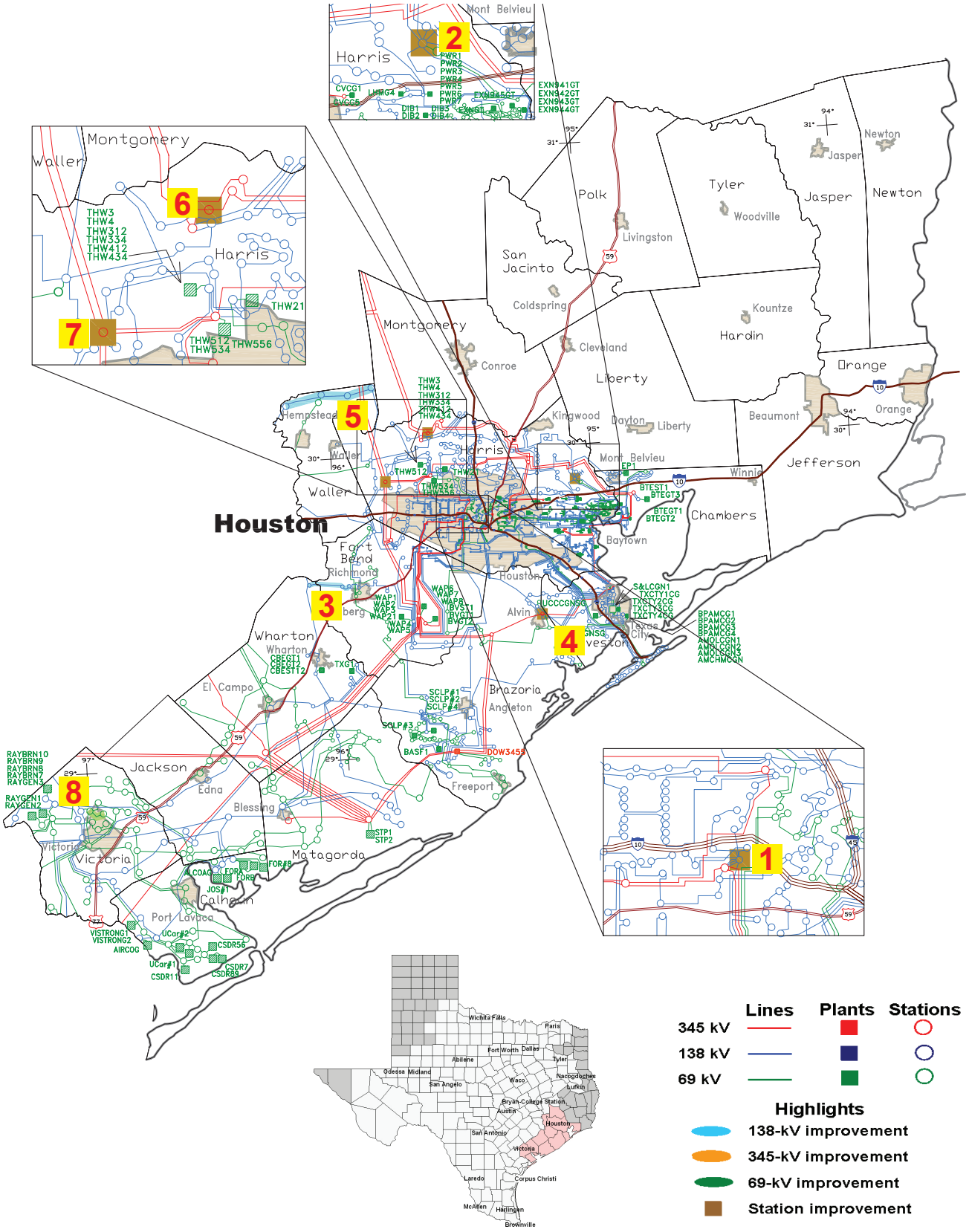
6.2.2 Completed Improvements 2006 - 2007



Completed improvements in the Coast weather zone include new/upgrades of four 345/138-kV autotransformers, 117.7 miles of 345-kV circuits, 5.6 miles of 138-kV circuits, two substations, and other smaller projects. A total of 123.3 circuit miles of new lines or line upgrades have been installed in the years 2006 and 2007. Many other upgrades were accomplished by raising the voltage of the circuit or by replacing the conductor. The new Hillje switching station, the new WAP-Hilljie double-circuit line, new autotransformers, and other projects will enhance the transfer capability from STP into Houston and other areas and the import capability into the Houston area.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	WAP - Hillje Double Circuit (new)	345	2007	97.8
2	Hillje Switching Station (new)	345	2007	0.5
3	STP - Hillje Circuit (new)	345	2007	19.4
4	Texas City, Freeway Park - Dickinson Reconductor	138	2007	5.6
5	Dyann Substation	138	2007	
6	Greens Bayou Autotransformer Replacement	345/138	2006	
7	Addicks Second Autotransformer Addition	345/138	2006	
8	Tomball Two Autotransformer Replacement	345/138	2006	
9	Bellaire Autotransformer Addition	345/138	2006	

6.2.3 Planned Improvements 2007 - 2012



Recent transmission upgrades in the Coast weather zone have focused on increasing the import capability into the Houston area by removing thermal constraints and raising transient voltage stability limits. The Houston Import Project Phase I, which was given "critical" status, consisted of several projects that will relieve thermal constraints for imports into Houston. This work continues in the Houston Import Project Phase II, which adds two new 345-kV switching stations to optimize the flow into Houston from the North congestion zone. The addition of the Singleton switching station north of Houston is discussed as a planned improvement in the East weather zone. The other station is the Zenith switch station which will eliminate congestion on the Singleton to Wharton 345-kV line.

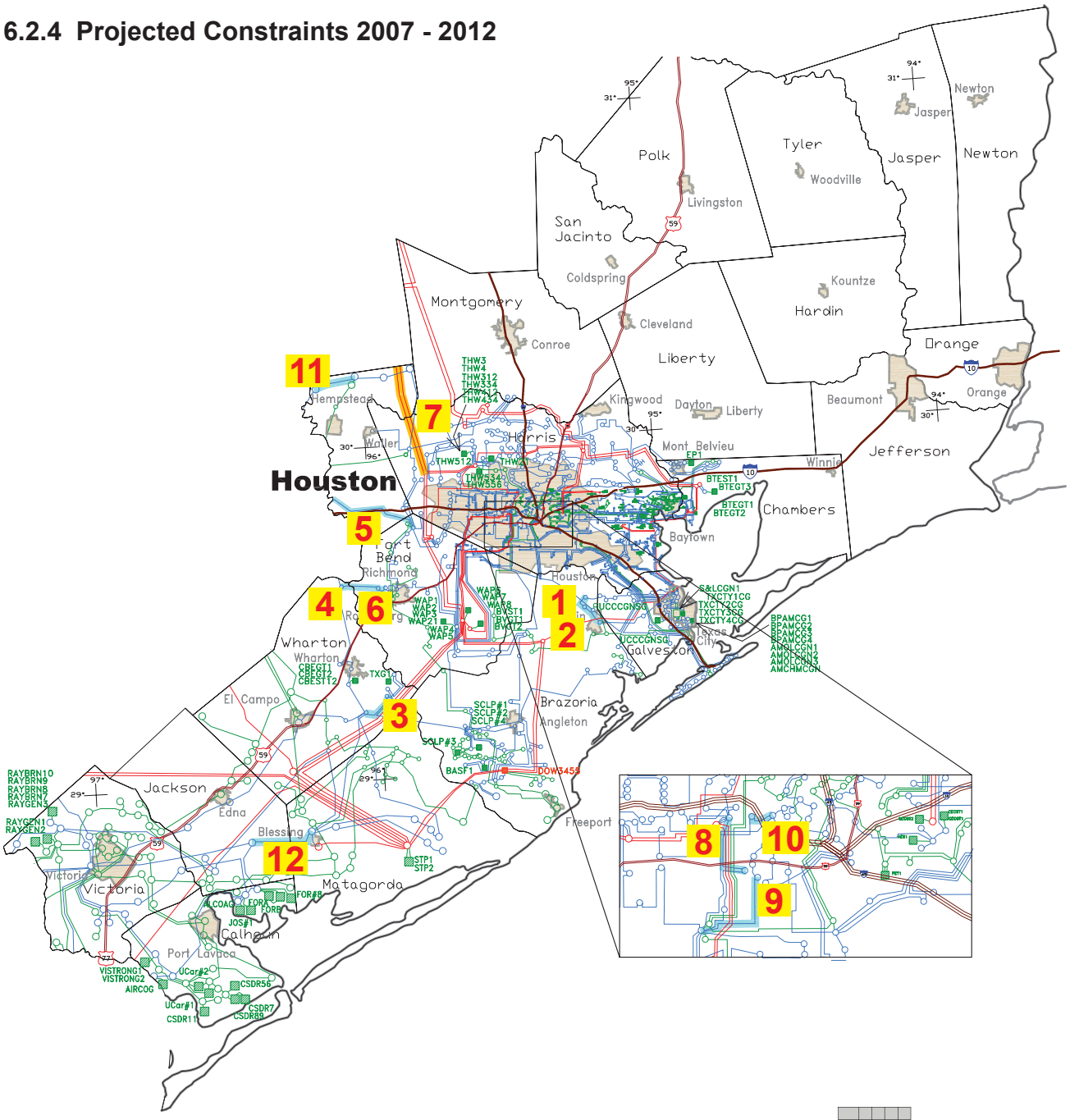
The Rothwood 345/138-kV switching station will be added to north Houston to eliminate problems seen on the Tomball autotransformers once the congestion on the Singleton to Wharton circuit is resolved.

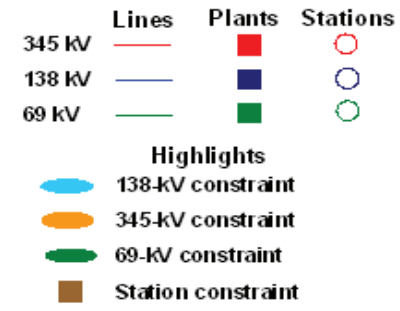
Dynamic reactive devices are planned for installation at the 138-kV Bellaire South and Crosby buses in 2008. These devices will increase the transient voltage stability limit for imports into Houston.

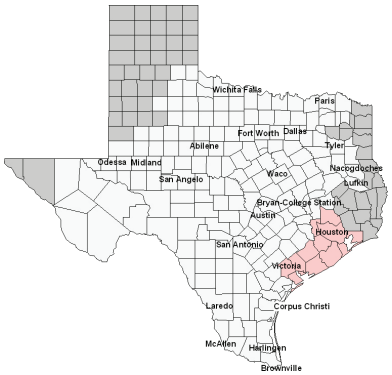
Another system upgrade that is important to the North to Houston import is the upgrade of the Waller to Prairie View to Macedonia 138-kV circuit that is scheduled for late 2009. That circuit is currently operating with an SPS to protect it from contingency overloads and still allow increased imports.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Dynamic Reactive Device Phase 1 - Bellaire	138	2008	✓
2	Dynamic Reactive Device Phase 2 - Crosby	138	2008	✓
3	East Bernard-Orchard-Fort Bend Circuit 60	138	2008	
4	CenterPoint Energy/TNMP Alvin Interconnection	345	2009	✓
5	Waller to Macedonia Upgrade	138	2010	✓
6	Rothwood 345/138-kV Station	345/138	2010	
7	Zenith Switching Station	345	2011	✓
8	North Victoria - Magruder Reconductor	69	2012	

6.2.4 Projected Constraints 2007 - 2012







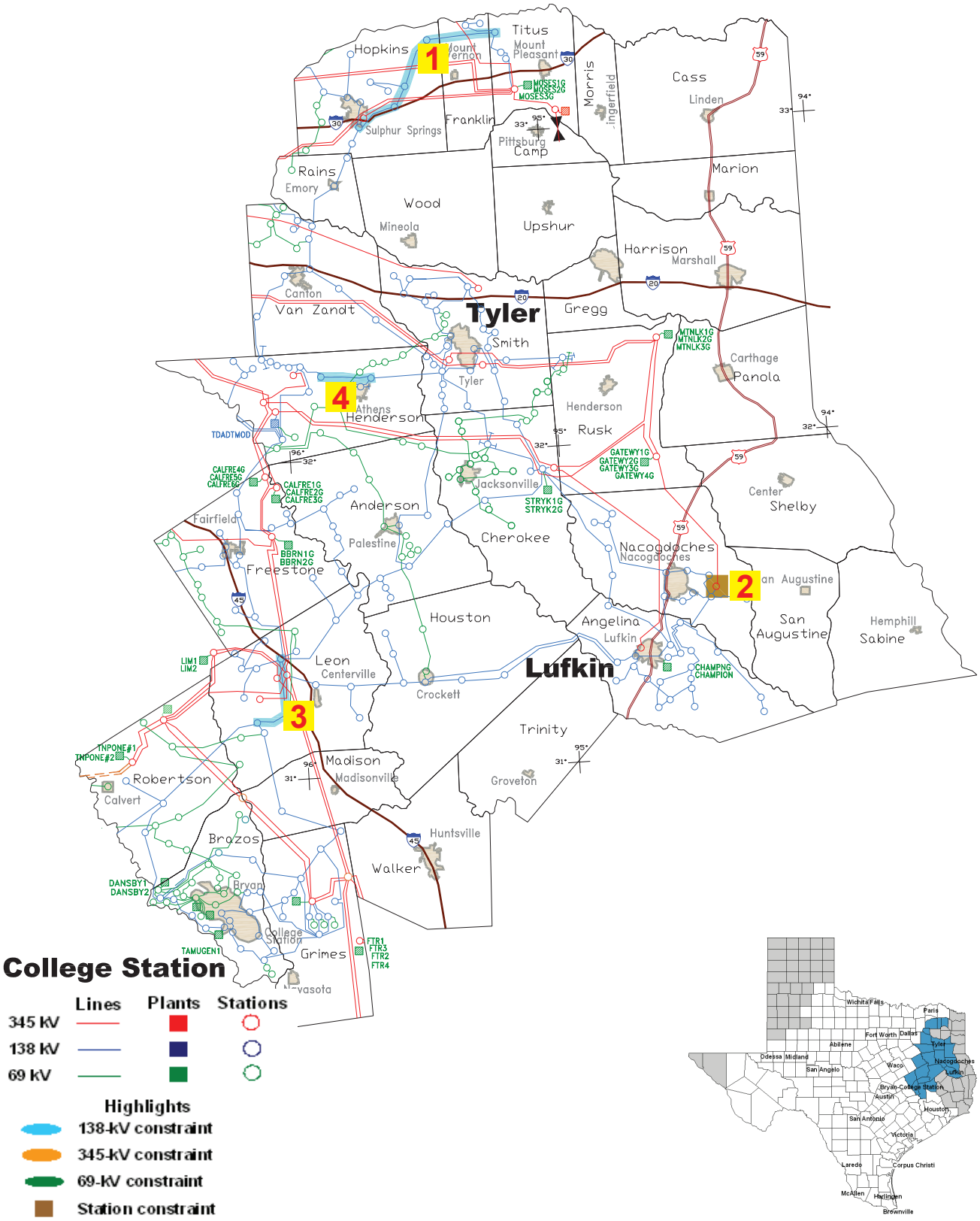
Recent transmission upgrades have helped reduce congestion into the Houston area as well as improve reliability for that area. However, import limits into the Houston area continue to be a source of transmission congestion. Scheduled projects, such as the Rothwood 345/138-kV station and East Bernard to Orchard to Ft. Bend upgrade, reduce congestion significantly. Zonal congestion from the South congestion zone into the Houston area has been greatly reduced as the 345-kV projects associated with the Hillje switching station were completed in 2007. Eventually, the new Singleton 345-kV switching station, the Zenith 345-kV switching station, and 138-kV work near Tomball will further raise the North to Houston limit. However, as load continues to grow in the Houston area, more import capability into Houston will eventually be needed.

Map Index	Projected Constraining Element	Voltage Level, kV	2008	2009	2010	2011	2012
1	Hastings Sub - Alvin Tie Sw Station	138					
2	Alvin Tie Sw SS - Alvin Sub	138					
3	New Gulf - South Lane City	138					
4	East Bernard - Orchard	138					
5	Flewellen - Peters	138					
6	Line Shunt at Fort Bend - Orchard	138					
7	Singleton - Zenith	345					
8	Bellaire - Brays	138					
9	HO Clarke Plant Sub - Knight	138					
10	Kirby - Garrott	138					
11	Waller - Prairie View	138					
12	Blessing - Lolita	138					

Level of Congestion	High	Medium	Low	None

6.3 East Weather Zone

6.3.1 Recent Constraints 2007



College Station

Lines	Plants	Stations
345 kV		
138 kV		
69 kV		

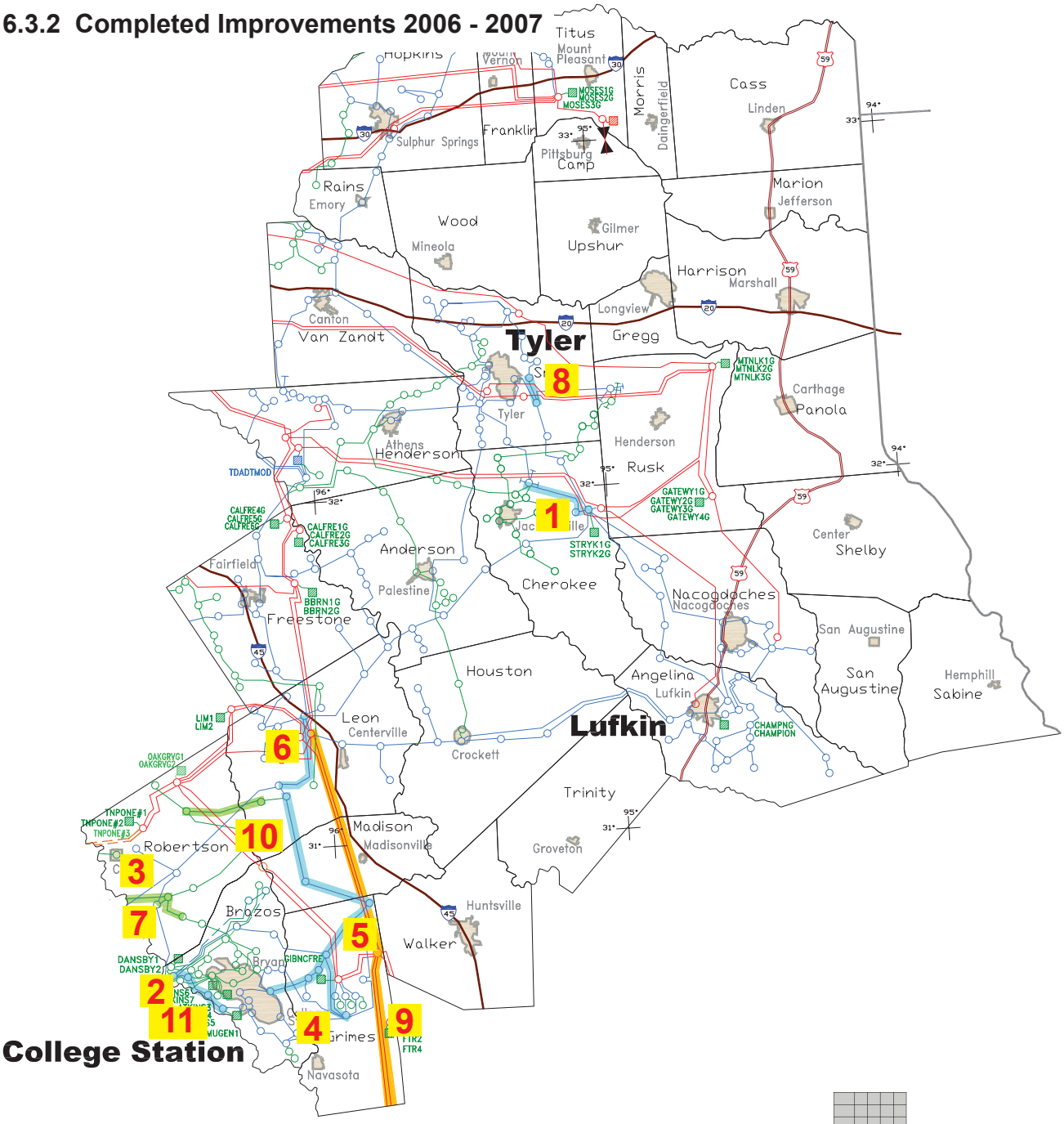
Highlights

- 138-kV constraint
- 345-kV constraint
- 69-kV constraint
- Station constraint

The East weather zone includes the towns of Bryan, College Station, Tyler, Nacogdoches, and Lufkin. The area has seen moderate load growth in recent years. Transmission constraints in this area have been mostly due to transmission construction outages.

Map Index	Constraining Element	Voltage Level, kV
1	Monticello - Sulphur Springs	138
2	Nacogdoches Autotransformer	345/138
3	Jewett - Watson Chapel	138
4	Athens North Switch - Athens Tap	138

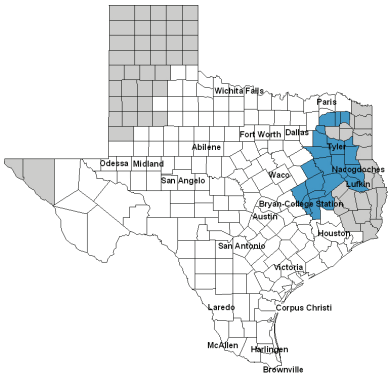
6.3.2 Completed Improvements 2006 - 2007



	Lines	Plants	Stations
345 kV			
138 kV			
69 kV			

Highlights

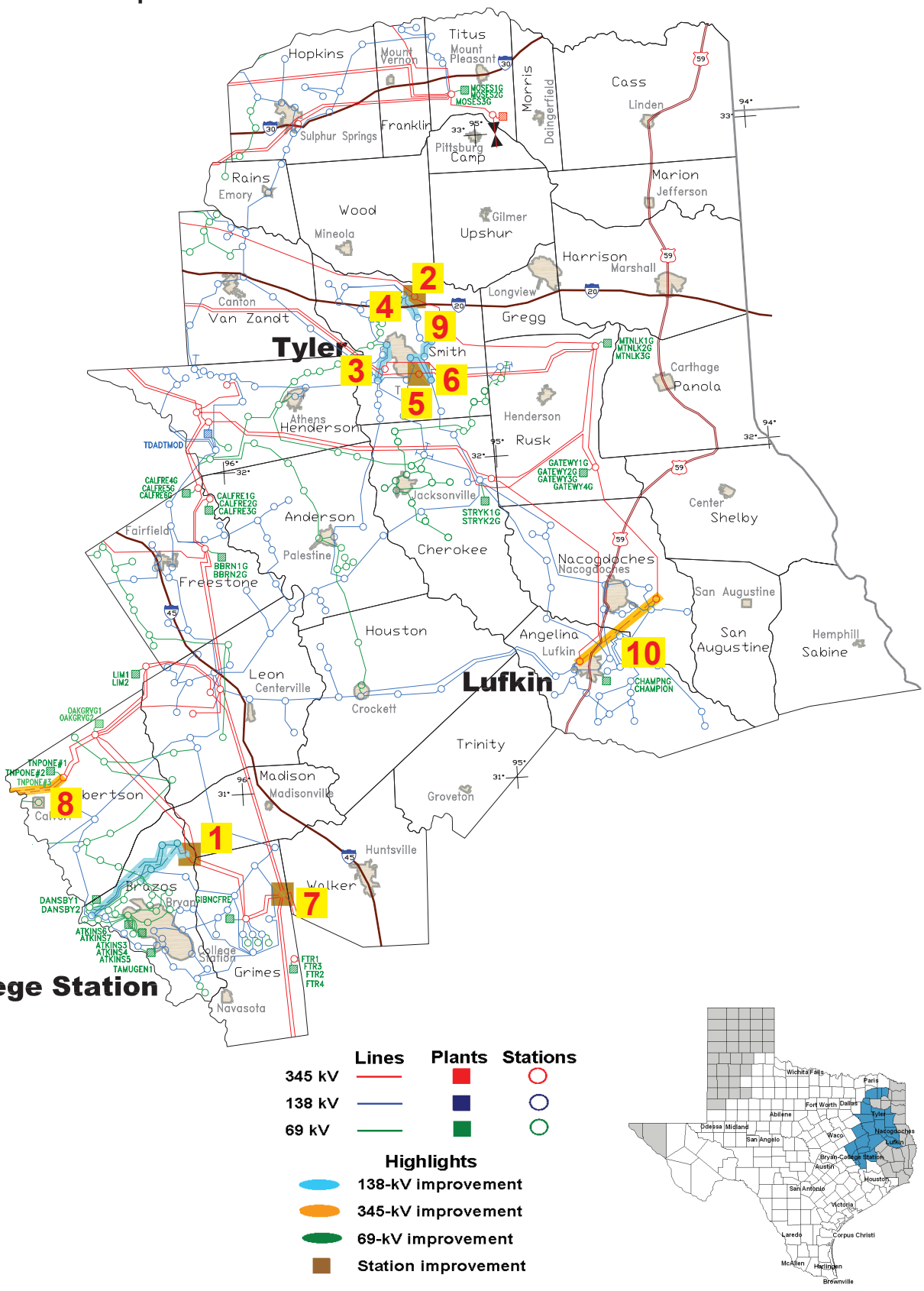
- 138-kV improvement
- 345-kV improvement
- 69-kV improvement
- Station improvement



Completed improvements in the East weather zone include new/upgrades of 32 miles of 345-kV circuits, 78.2 miles of 138-kV circuits, and 30.4 miles of 69-kV circuits, two substations, and other smaller projects. A total of 140.6 circuit miles of new lines or line upgrades have been installed in the years 2006 and 2007. Many of these upgrades were accomplished by raising the voltage of the circuit or by replacing the conductor. Many of the upgrades that were made in the Bryan/College Station area were spurred by the major outage that occurred in the that area in April 2003. The upgrades of the 345-kV circuits from Jewett to T H Wharton and Jewett to Tomball have increased the North to Houston transfer capability; the Stryker Creek to Jacksonville upgrade was driven by load growth in East Texas.

Map	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Stryker Creek - Jacksonville Upgrade	138	2007	16.4
2	Dansby - Atkins Reconductor	138	2007	9
3	Hearne - Branchville Rebuild	69	2007	9.6
4	Gibbons Creek to College Station Switch New and Upgrade	138	2006	26
5	Gibbons Creek - Keith Switch Reconductor	138	2006	2
6	Jewett to Watson Chapel Rebuild; Hilltop Lakes - Iola Upgrade	138	2006	21
7	Hearne - Hearne Southwest Rebuild	69	2006	2.6
8	Tyler SE - Tyler GE Upgrade	138	2006	1
9	Jewett - Tomball/Wharton Upgrade	345	2006	214
10	Hilltop Lake - Hilltop Lakes Switch Upgrade/Rebuild	69	2006	17.2
11	TAMU - Atkins Reconductor	138	2006	3.8

6.3.3. Planned Improvements 2007 - 2012



In the East weather zone, several significant improvements are scheduled to be completed in the Bryan/College Station area as part of a plan to meet the reliability needs in that area. Many of the improvements included in that plan have already been completed. Projects yet to be completed include the new 138-kV Tabor bus and the new 345-kV station at Jack Creek that will provide a 345/138-kV autotransformer on the north side of Bryan.

North of the Bryan/College Station area, a new 345-kV double-circuit line from Twin Oaks plant to a new 345-kV station named Bell County will allow additional exit capability for new coal units planned in the area. The Bell County 345-kV station will be located approximately 5 miles southeast of the Temple 345-kV switch station in the Sandow to Temple 345-kV double-circuit line.

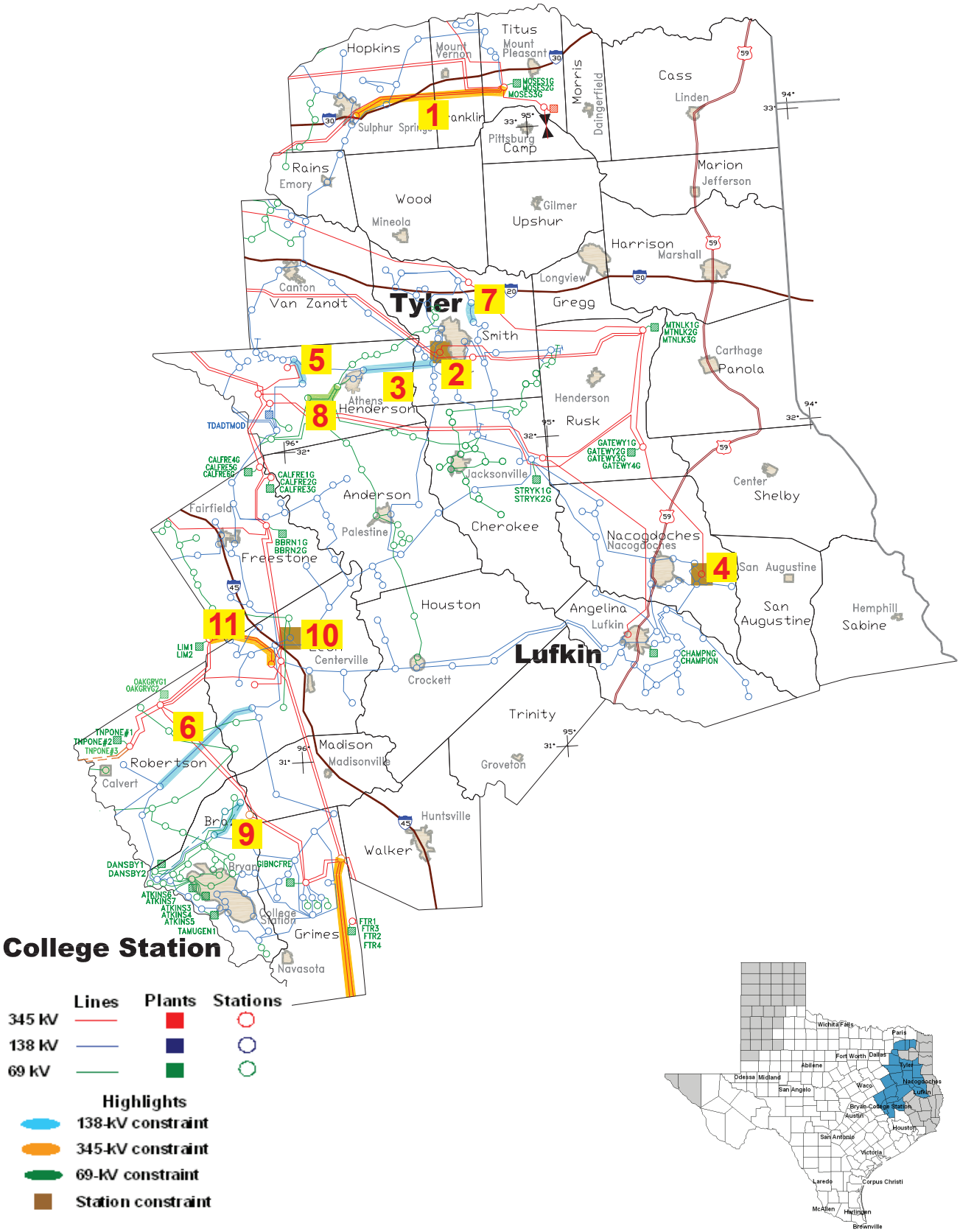
The addition of the 345-kV Singleton switching station in northern Grimes County will add outage flexibility to Gibbons Creek and, when coupled with other projects discussed in the Coast weather zone in the north Houston area, will reduce reliability problems in Houston. The new switching station will be located at the intersection of the Jewett to Tombal/Wharton and Gibbons Creek to OBrien/Roans Prairie 345-kV double-circuit lines.

In East Texas, a new 345-kV line between Lufkin and Nacogdoches will eliminate the need for several 138-kV upgrades and will allow the exit of special protection schemes in the area. In the Tyler area, several 138-kV line upgrades and a new autotransformer at Tyler Grande are planned to solve reliability problems.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Jack Creek Substation and Double Circuit to Tabor	345	2008	✓
2	Shamburger Autotransformer Replacement	345/138	2008	✓
3	Elkton - Tyler West	138	2008	
4	Tyler GE - Tyler Omen Road	138	2009	(1)
5	Tyler SE (Grande) Autotransformer	345/138	2009	(1)
6	Tyler SE - Tyler S	138	2009	(1)
7	Singleton Switching Station	345	2009	✓
8	Twin Oaks - Bell County SE (Oncor Electric Delivery part)	345	2011	✓
9	Tyler NE - Tyler East	138	2012	(1)
10	Nacogdoches - Lufkin line	345	2012	

(1) Under review at time of printing

6.3.4 Projected Constraints 2007 - 2012



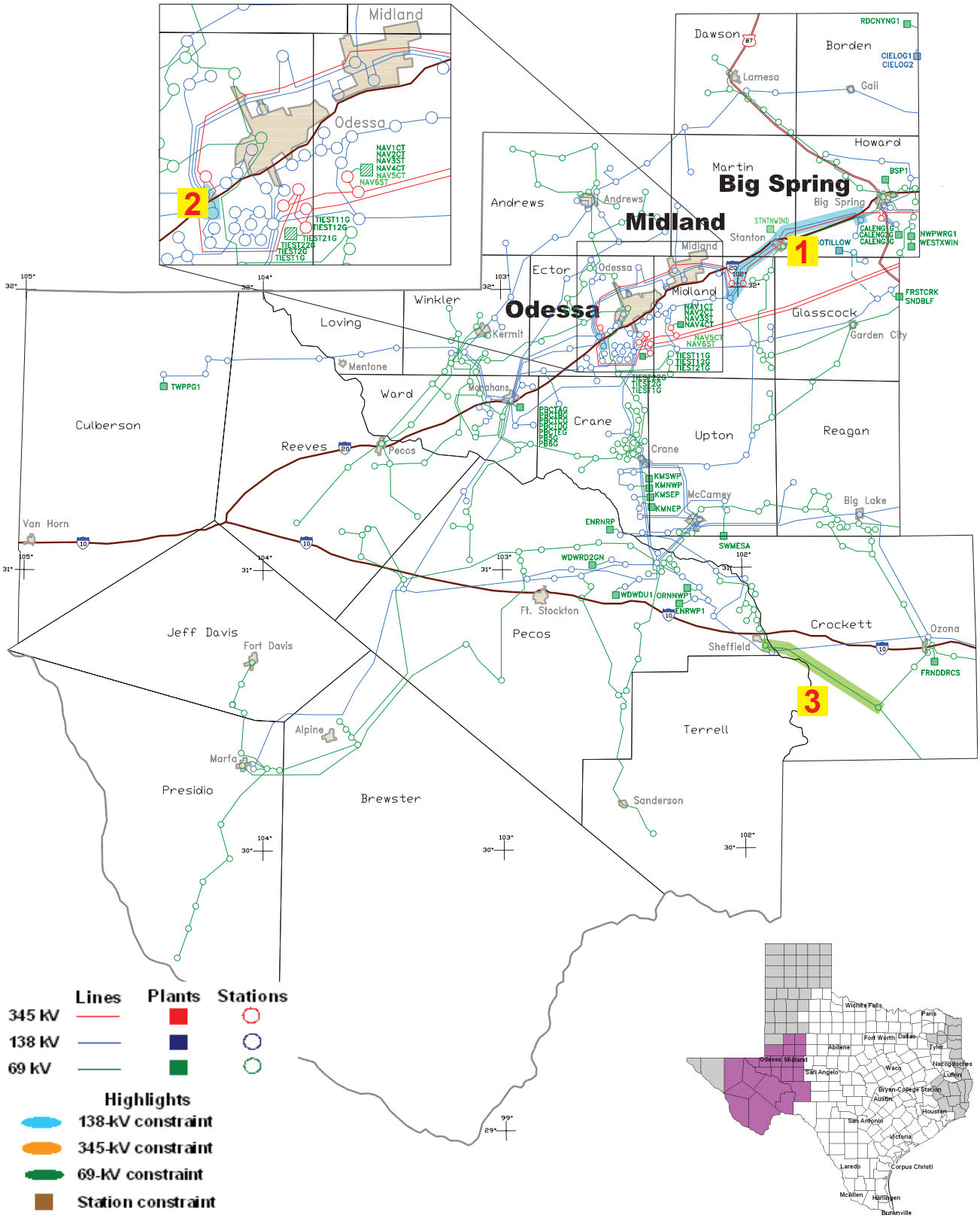
Several large 345-kV lines in the East weather zone are expected to have some degree of congestion in future years. Congestion is anticipated on the 345-kV system near Gibbons Creek from Gibbons Creek to Obrien. This congestion will be somewhat relieved by the addition of the Singleton and Zenith 345-kV switching stations. Some 138-kV congestion is also expected near the Stryker, Elkton, Tyler, and Nacogdoches-Lufkin areas.

Map Index	Projected Constraining Element	Voltage Level, kV	2008	2009	2010	2011	2012
1	Monticello - Sulphur Springs SS	345					
2	Elkton Autotransformer	345/138					
3	Elkton - Athens Tap	138					
4	Nacogdoches Autotransformer	345/138					
5	Forest Grove Mining - Malakoff	138					
6	Robertson - Watson Chapel	138					
7	Tyler Northeast - Tyler East	138					
8	Athens - Malakoff	69					
9	Jack Creek Switch - Tabor	138					
10	Jewett Autotransformer	138/69					
11	Jewett South - Limestone Plant Sub	345					

Level of Congestion High Medium Low None

6.4 Far West Weather Zone

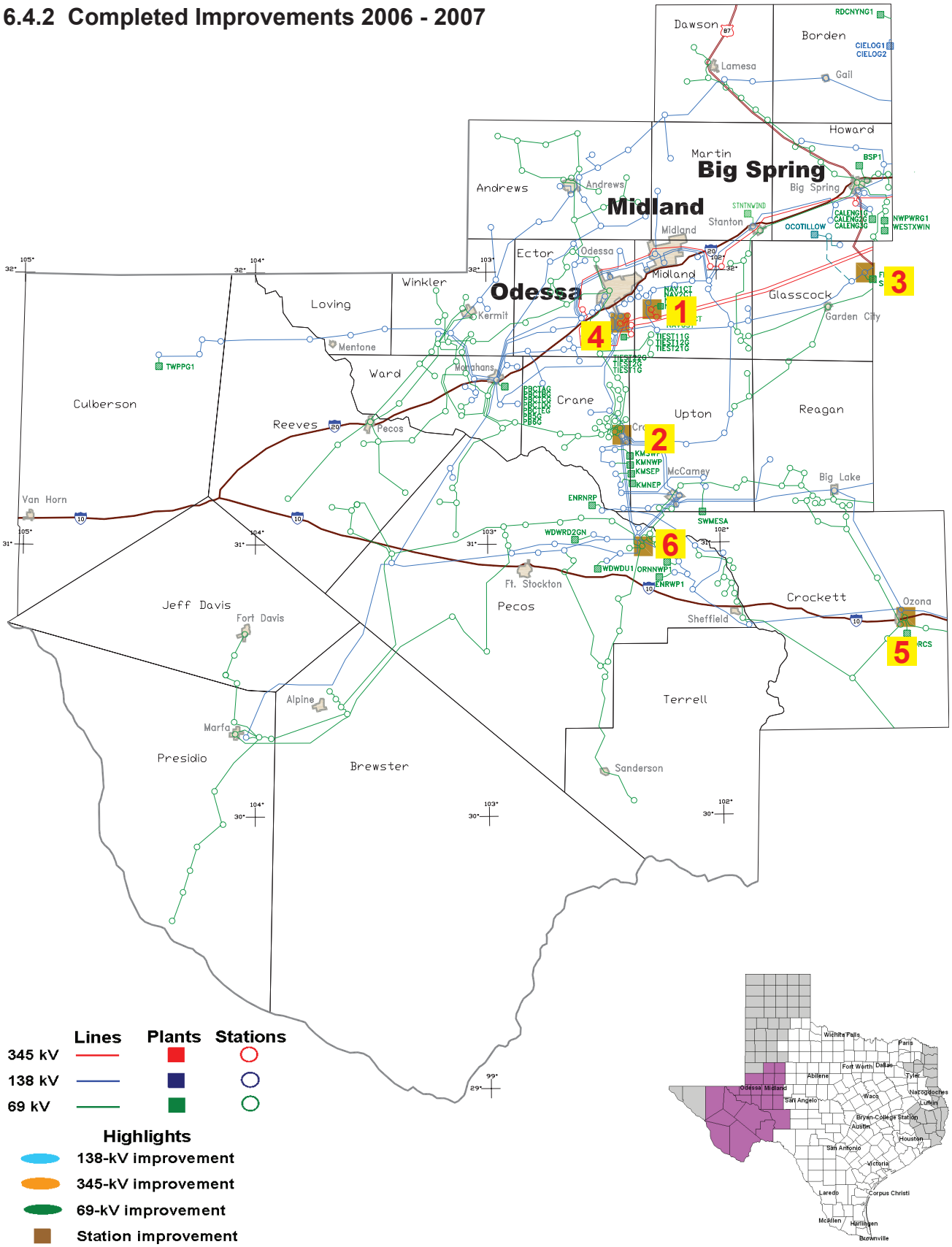
6.4.1 Recent Constraints 2007



The Far West weather zone's main cities are Midland and Odessa. This zone stretches to Big Bend and includes the McCamey area. As more wind generation is added to this area, additional transmission improvements will be needed in order to reduce the limitations on wind generation export from this area. Moderate load growth in Midland and Odessa have caused some local congestion.

Map Index	Constraining Element	Voltage Level, kV
1	Midland East - Big Spring West	138
2	Moss Switch - Odessa Southwest	138
3	Fort Lancaster - Illinois #4	69

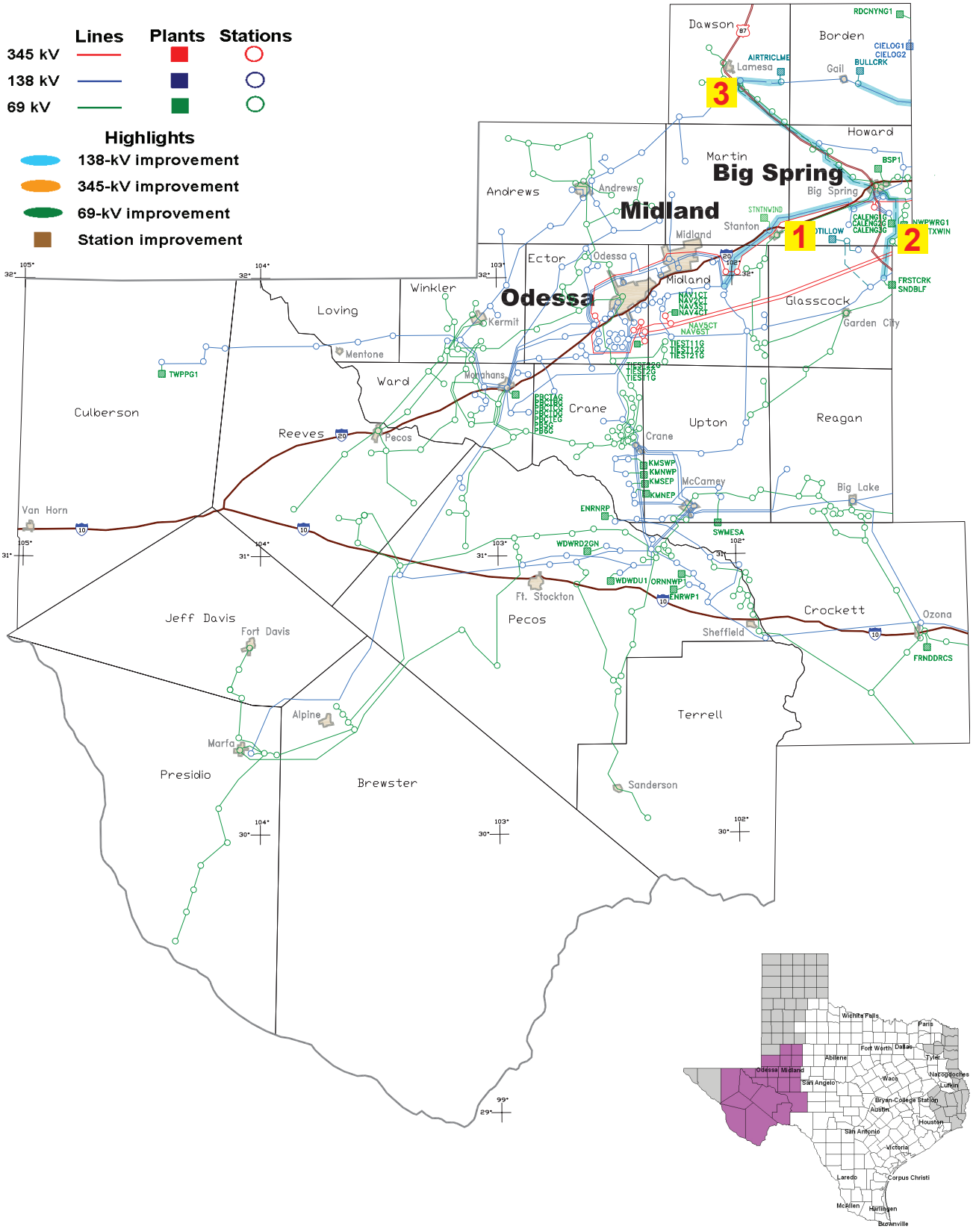
6.4.2 Completed Improvements 2006 - 2007



Completed improvements in the Far West zone include replacement of one 345/138-kV autotransformer, two switching stations, four static and dynamic reactive devices installed in the years 2006 and 2007, and other small projects. The static and dynamic reactive support devices will improve the voltage profile within the operating criteria, which has been negatively impacted by the fluctuations in the nearby wind generation. The McDonald Road switching station was installed as a hub for new wind generation. The 345/138-kV autotransformer at Odessa was replaced with a larger transformer that will help serve load when generation in the west is not online.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Quail Switching Station	345	2007	0.7
2	Crane +50/-40 MVAR DRCS Upgrade; Crane +25/-25 MVAR DRCS Installation	69	2007;2006	
3	McDonald Road Switching Station	138	2006	0.2
4	Odessa EHV Autotransformer Replacement	345/138	2006	
5	Friend Ranch +25/-25 MVAR DRCS Installation	69	2006	
6	Rio Pecos +/-25 MVAR DRCS Installation	69	2006	

6.4.3 Planned Improvements 2007 - 2012



Transmission improvements planned for the Far West weather zone are primarily associated with increasing the exit capability for several wind projects. This is true for all three of the projects listed for this weather zone. In addition, the upgrade of the Big Spring to Chalk to McDonald Road line will allow exit of two special protection schemes that had been put in place to allow maximum wind output.

The Lamesa Area Upgrades Project Phase I is included in the five-year plan and includes rebuilding sections of several lines in the area, constructing a switchyard at Ackerly Vealmoor, and rebuilding the Lamesa 138-kV switching station.

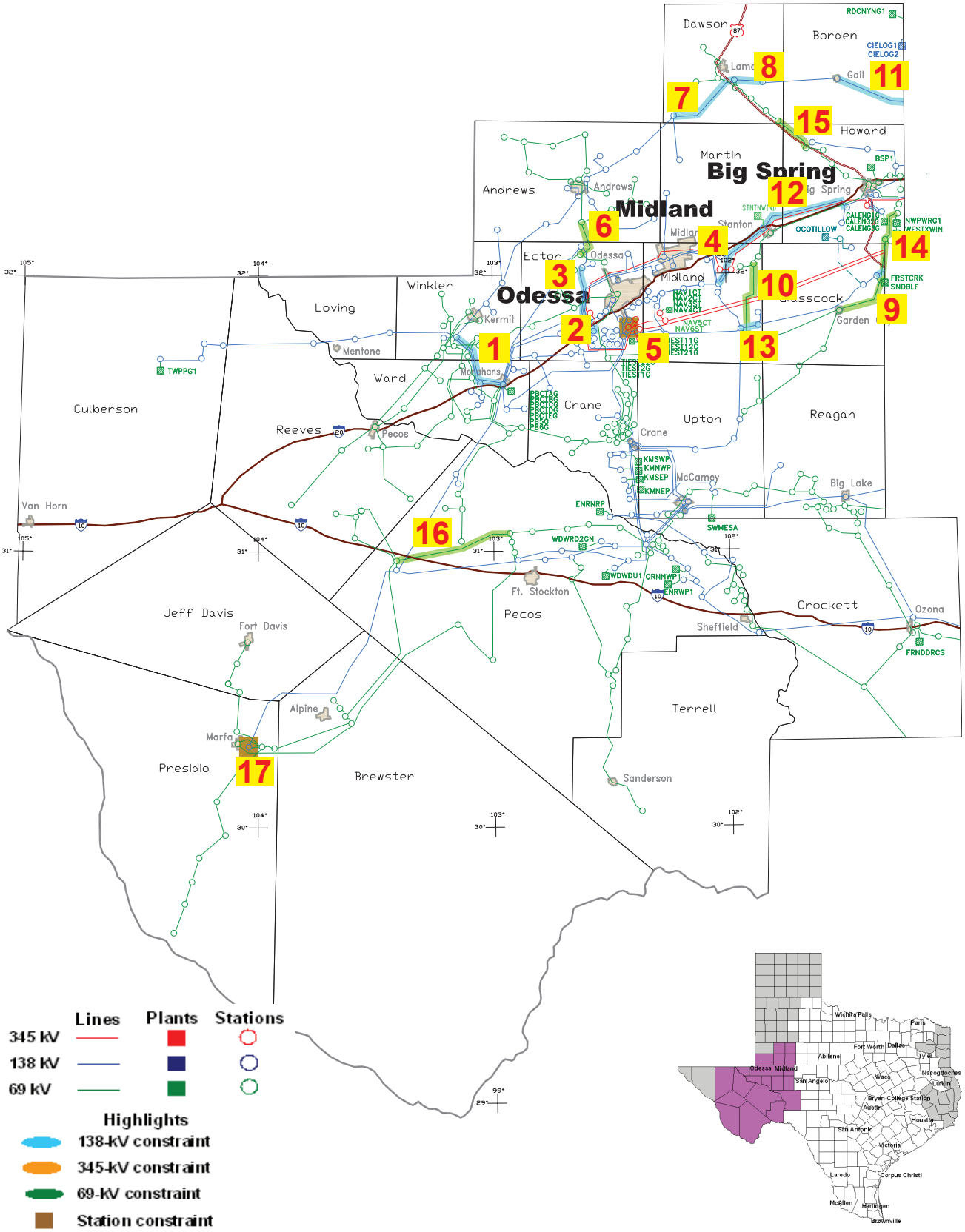
The Lamesa Area Upgrades Project Phase II includes rebuilding several lines, adding second circuits on several lines, upgrading the China Grove switching station, and rebuilding the Big Spring switching station.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Midland East - Big Spring West - Big Spring Switch	138	2009	
2	Big Spring - Chalk - McDonald Upgrade	138	2008	(1)
3	Lamesa Area Upgrades Project	138	2010	(2)

(1) Under review at time of printing

(2) Phase I included in five-year plan. Phase II not reviewed by time of printing

6.4.4 Projected Constraints 2007 - 2012



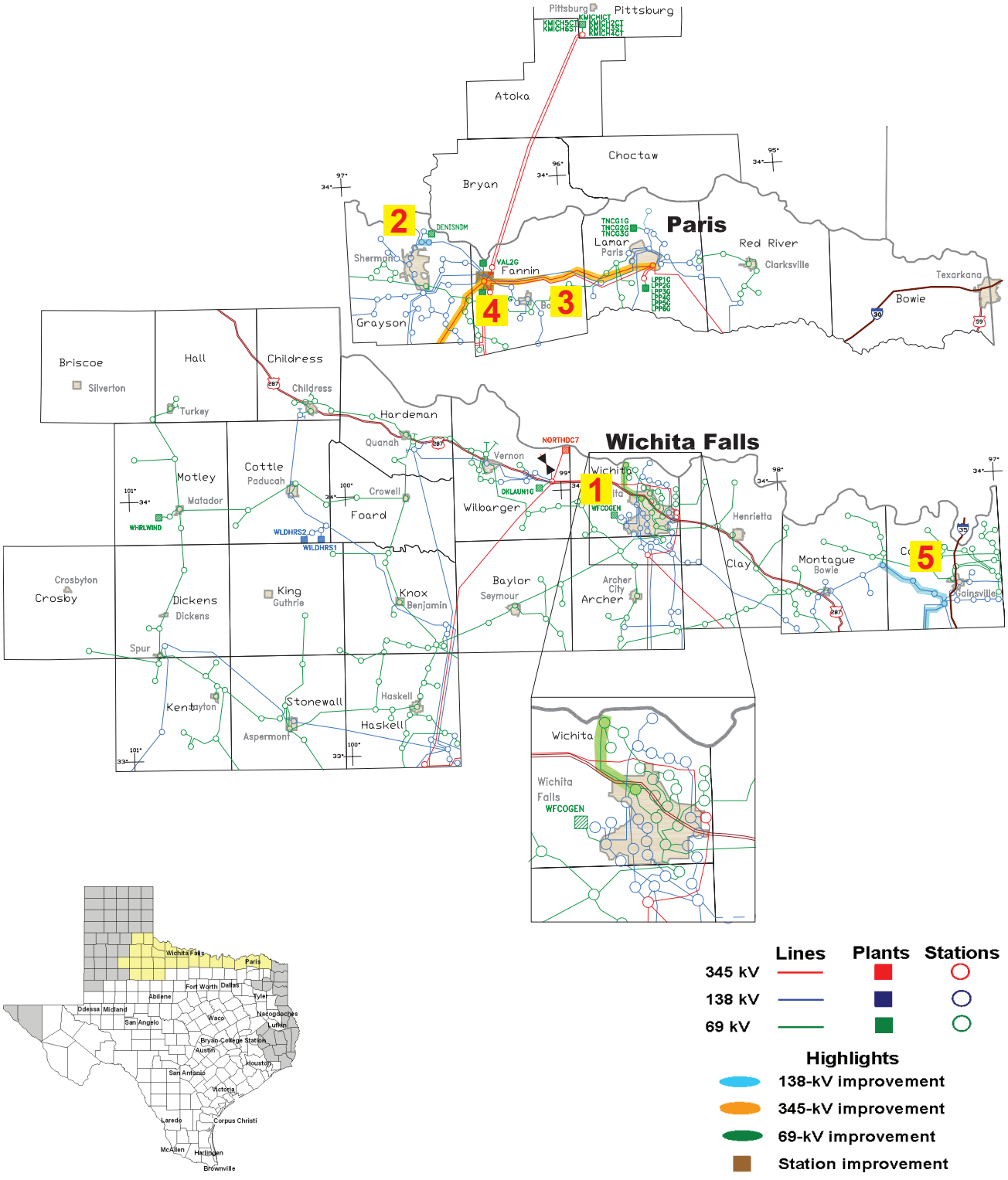
The Far West weather zone will experience some significant congestion related to the development of new wind generation. This is mostly due to the fact that much of the new generation development will be operational in 2008, but the transmission upgrades required to allow full generation output will not be complete until later. This is most evident for the constraints on the Lamesa-Bluff Creek 138-kV system and the Lamesa-Big Spring 69-kV system.

Map Index	Projected Constraining Element	Voltage Level, kV	2008	2009	2010	2011	2012
1	Permian Basin SES - Wink SS	138					
2	Moss - Odessa Southwest	138					
3	Moss - Amoco North Cowden Tap	138					
4	Midland East - Stanton Wind	138					
5	Odessa EHV Autotransformer	345/138					
6	Holt SS - Emma Tap	69					
7	Lamesa - Paul Davis Tap	138					
8	Lamesa - Key Lyntegar Coop	138					
9	Garden City - Chalk	69					
10	Midland Gulf Tap - Spraberry	69					
11	Exxon Sharon Ridge - Gail Lyntegar Coop	138					
12	Big Spring West - Stanton Wind	138					
13	Spraberry - CRMWD#7 Tap	138					
14	Chalk - New World Power Tap	69					
15	Ackerly Vealmoor - Ackerly	69					
16	RGEC Ft. Stockton SS - Barilla Junction	69					
17	Alamito Autotransformer	138/69					

Level of Congestion	High	Medium	Low	None

6.5 North Weather Zone

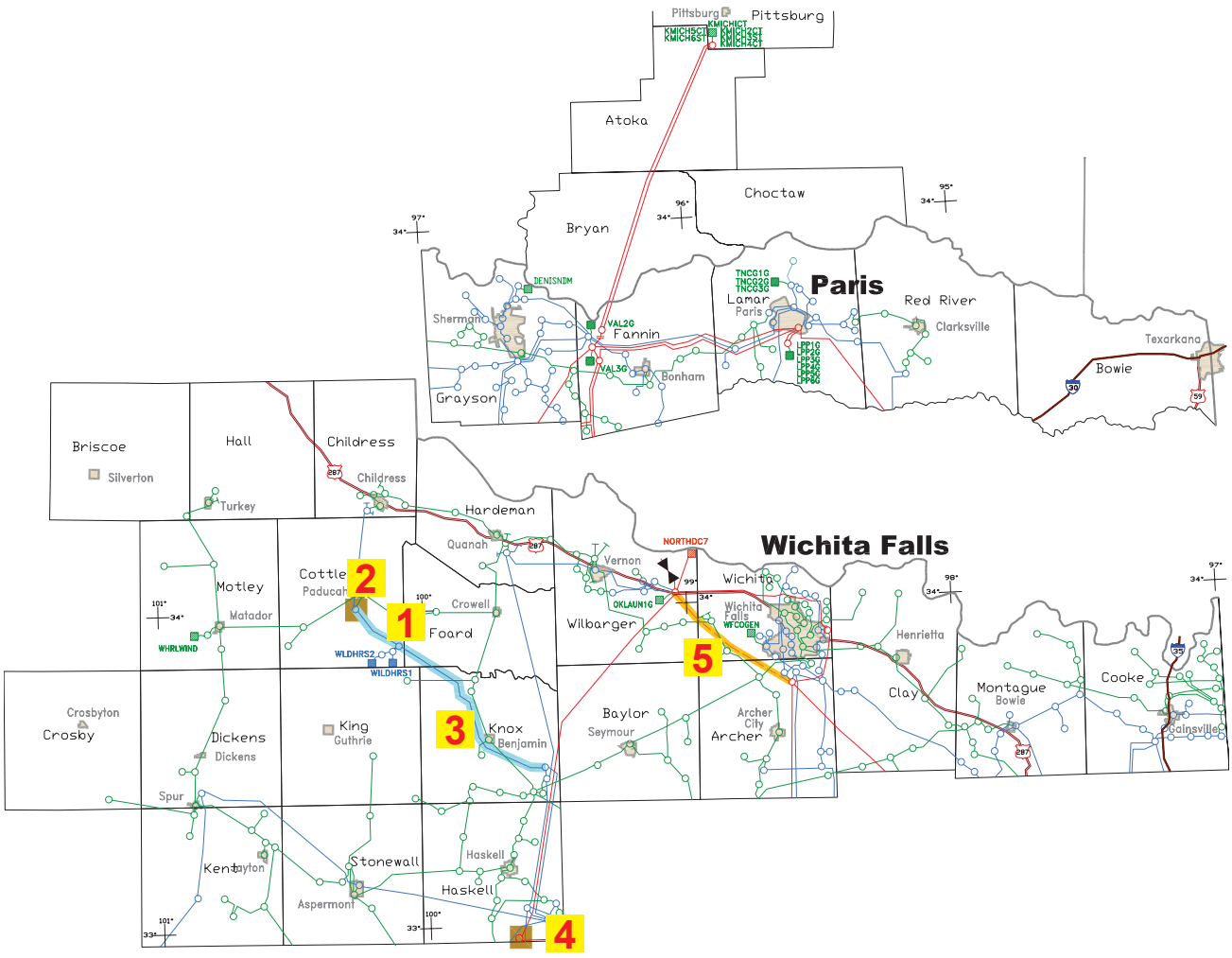
6.5.1 Completed Improvements 2006 - 2007



Completed improvements in the North zone include new/upgrades of one 345/138-kV autotransformer, one switching station, 88.7 miles of 345-kV circuits, 25.5 miles of 138-kV circuits, 12.2 miles of 69-kV circuits, and other smaller projects. A total of 125.4 circuit miles of new lines or line upgrades have been installed in the years 2006 and 2007. Some of these upgrades were accomplished by replacing the conductor. The new 345-kV circuit from Paris to Anna that goes through the new Valley South switching station will help to reliably bring in power from the many generators located north and east of the Dallas/Fort Worth metroplex. This line and switching station will also reduce the need for some of the Special Protection Schemes (SPSs) that have been implemented to maintain reliable service when generation construction occurred faster than transmission construction occurred. The rebuilt Spring to St. Jo 138-kV circuit and the 345/138-kV autotransformer will help serve the growing load in North Texas when local generation is offline.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Pleasant Valley - Iowa Park Tap	69	2007	12.2
2	Denison North - Denison Tap Upgrade	138	2007	2.1
3	Paris Switch - Valley S. - Anna Switch; Valley S. Switching Station Installation	345	2006	88.7
4	Valley Autotransformer Upgrade	345/138	2006	
5	Spring - St. Jo Rebuild	138	2006	23.4

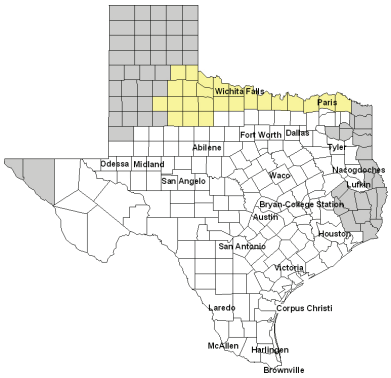
6.5.2 Planned Improvements 2007 - 2012



	Lines	Plants	Stations
345 kV			
138 kV			
69 kV			

Highlights

- 138-kV improvement
- 345-kV improvement
- 69-kV improvement
- Station improvement

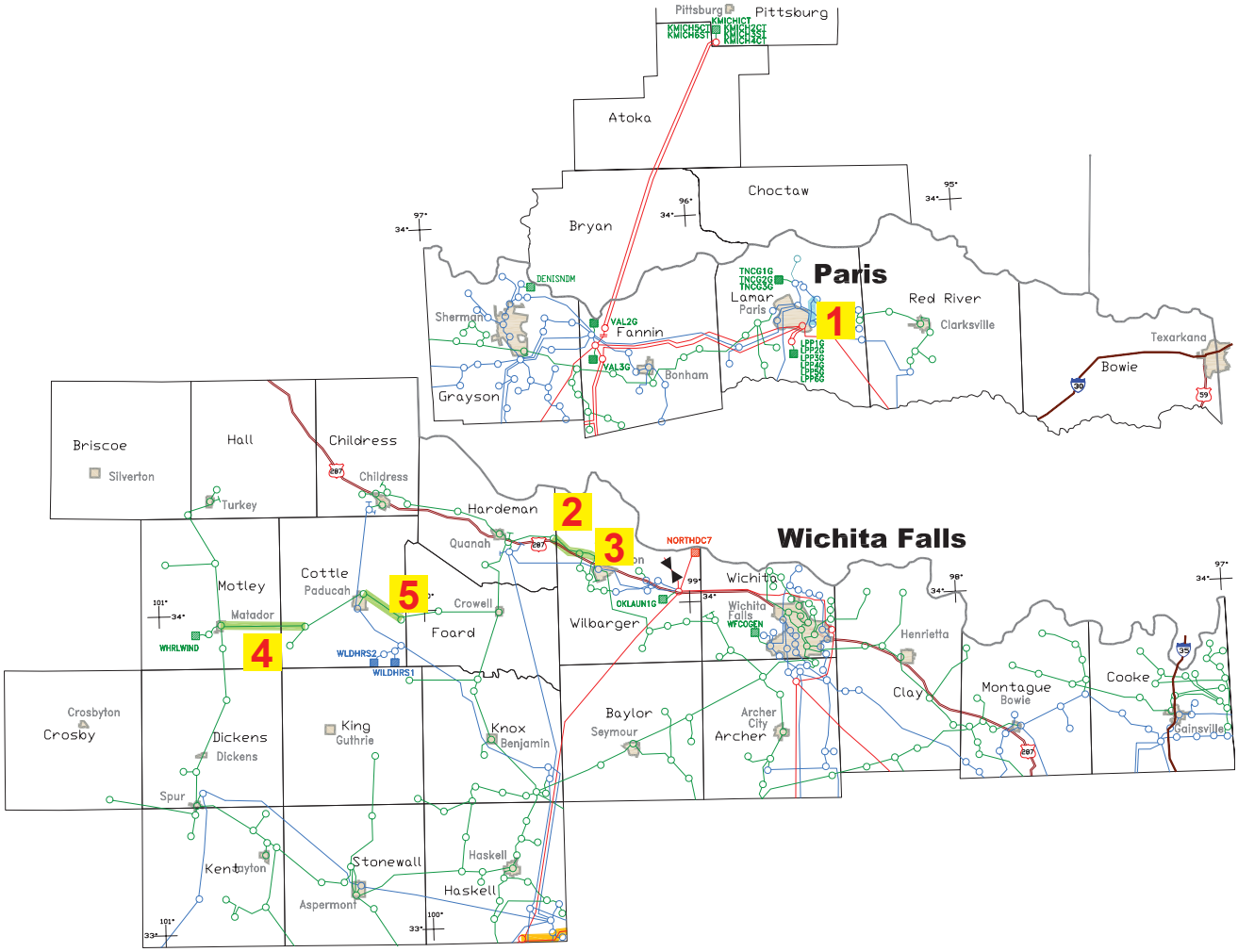


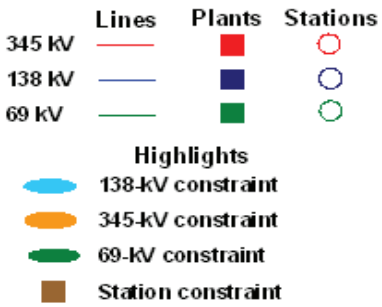
The major planned improvement for the North weather zone is a new 345-kV line from Oklaunion to Bowman that will complete a 345-kV loop around the Wichita Falls area in 2012. The 345-kV switching station named Clear Crossing at the intersection of the 345-kV lines from Oklaunion to Abilene Mulberry Creek and Morgan Creek to Graham will balance flows on these lines until the Oklaunion to Bowman line is completed.

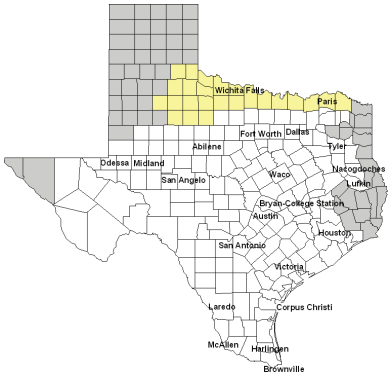
Several lower voltage improvements are also planned. These are driven by increased wind generation in the area. An example of this is the upgrade of the Paduca to Wildhorse to Munday East 138-kV line to enable generation at Wildhorse.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Paduca - Wildhorse Upgrade	138	2008	
2	Paduca Autotransformer Upgrade	138/69	2008	
3	Munday East - Wildhorse Upgrade	138	2008	
4	Clear Crossing Switching Station	345	2009	
5	Oklaunion - Bowman	345	2012	

6.5.3 Projected Constraints 2007 - 2012







The North weather zone is projected to experience congestion on the underlying 69-kV system to the west of the Oklaunion 345-kV switching station. This is due to the development of wind generation in the local area as well as other wind generation development in the West.

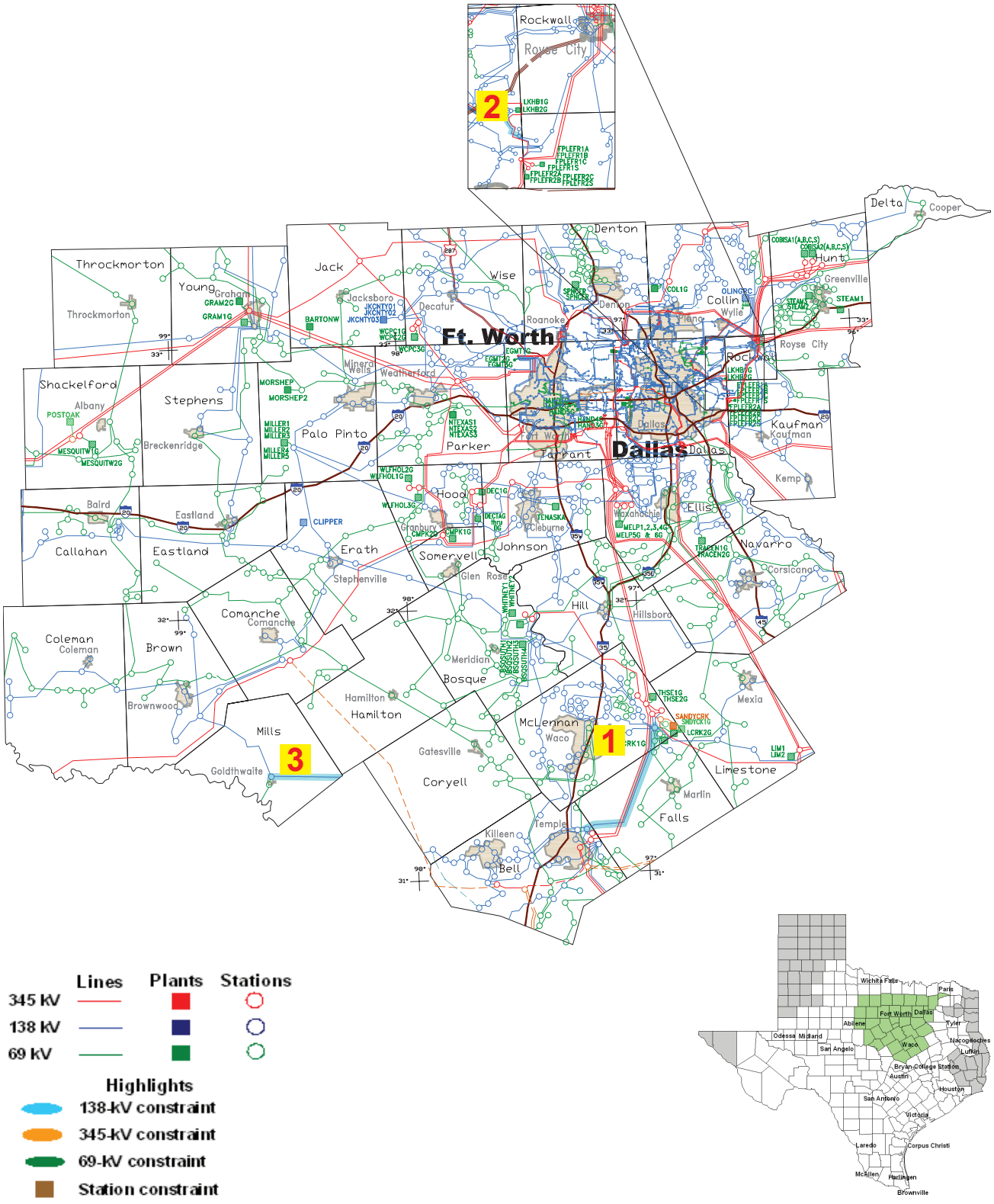
Additionally, the Lamar Tap-Paris East 138-kV line is expected to see some level of congestion.

Map Index	Projected Constraining Element	Voltage Level, kV	2008	2009	2010	2011	2012
1	Lamar Tap - Paris East	138					
2	Chillicothe Vernon - Chillicothe	69					
3	Chillicothe Vernon - Vernon Main Street	69					
4	Paducah REA Tap - Matador	69					
5	Paducah City - Paducah Clare Street	69					

Level of Congestion	High	Medium	Low	None

6.6 North Central Weather Zone

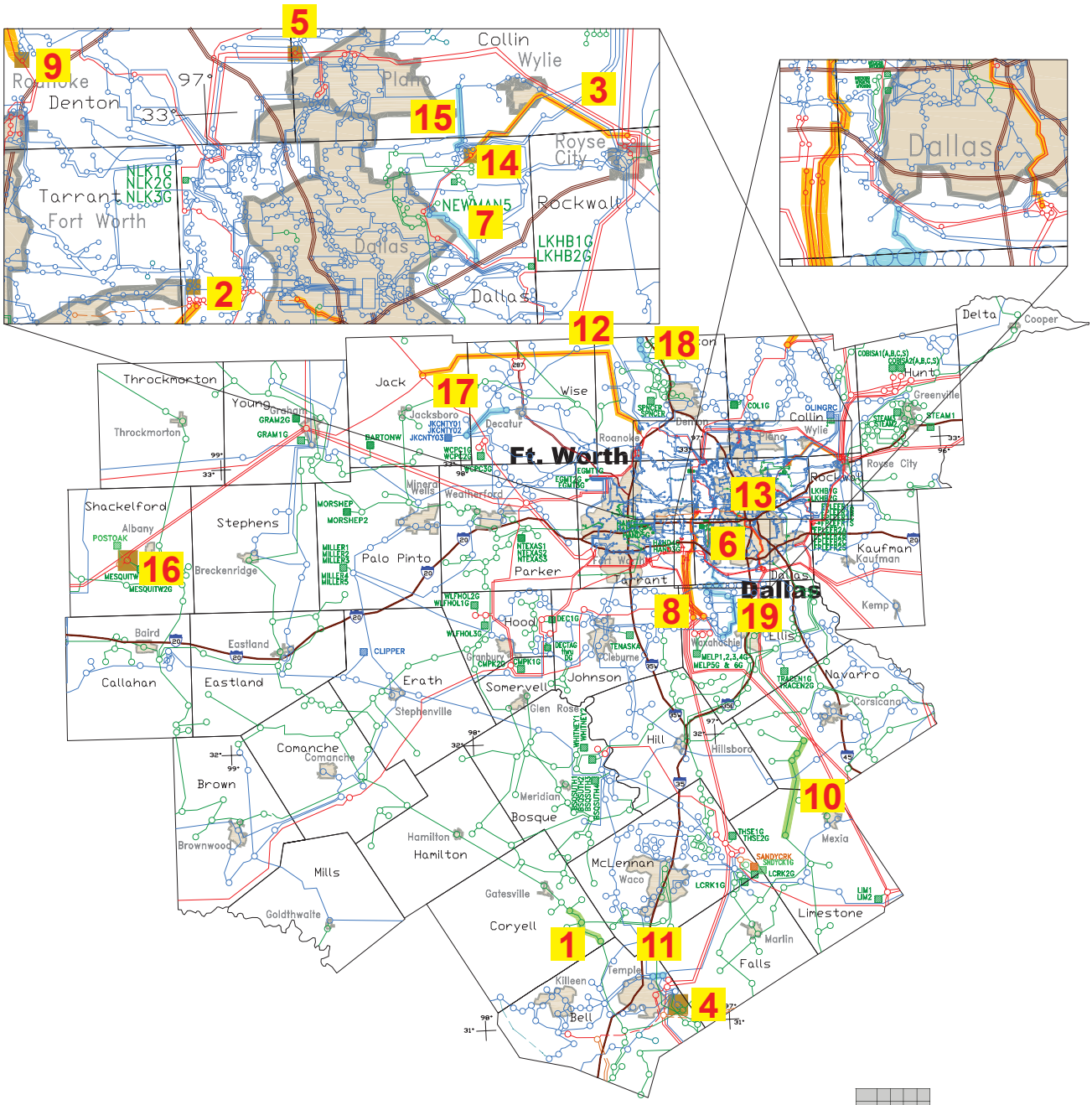
6.6.1 Recent Constraints 2007

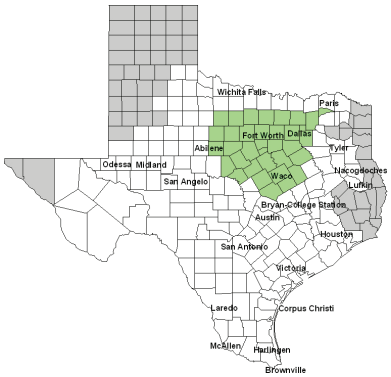


The North Central weather zone is comprised of the Dallas/Fort Worth metroplex, Waco, Temple, and Killeen and extends west to the eastern edge of Abilene. This zone has realized considerable load growth, particularly in the Dallas/Fort Worth metropolitan area. The combination of the decreased local generation and the significant increase in load led to congestion on the lines importing power into the region. Additionally, power transfers from West Texas due to the increase in wind generating resources in the west have caused transmission constraints in the western part of the zone.

Map Index	Constraining Element	Voltage Level, kV
1	Lake Creek - Temple Pecan Creek	138
2	Lake Hubbard - Duck Creek Tap	138
3	Evant - Goldthwaite	138

6.6.2 Completed Improvements 2006 - 2007

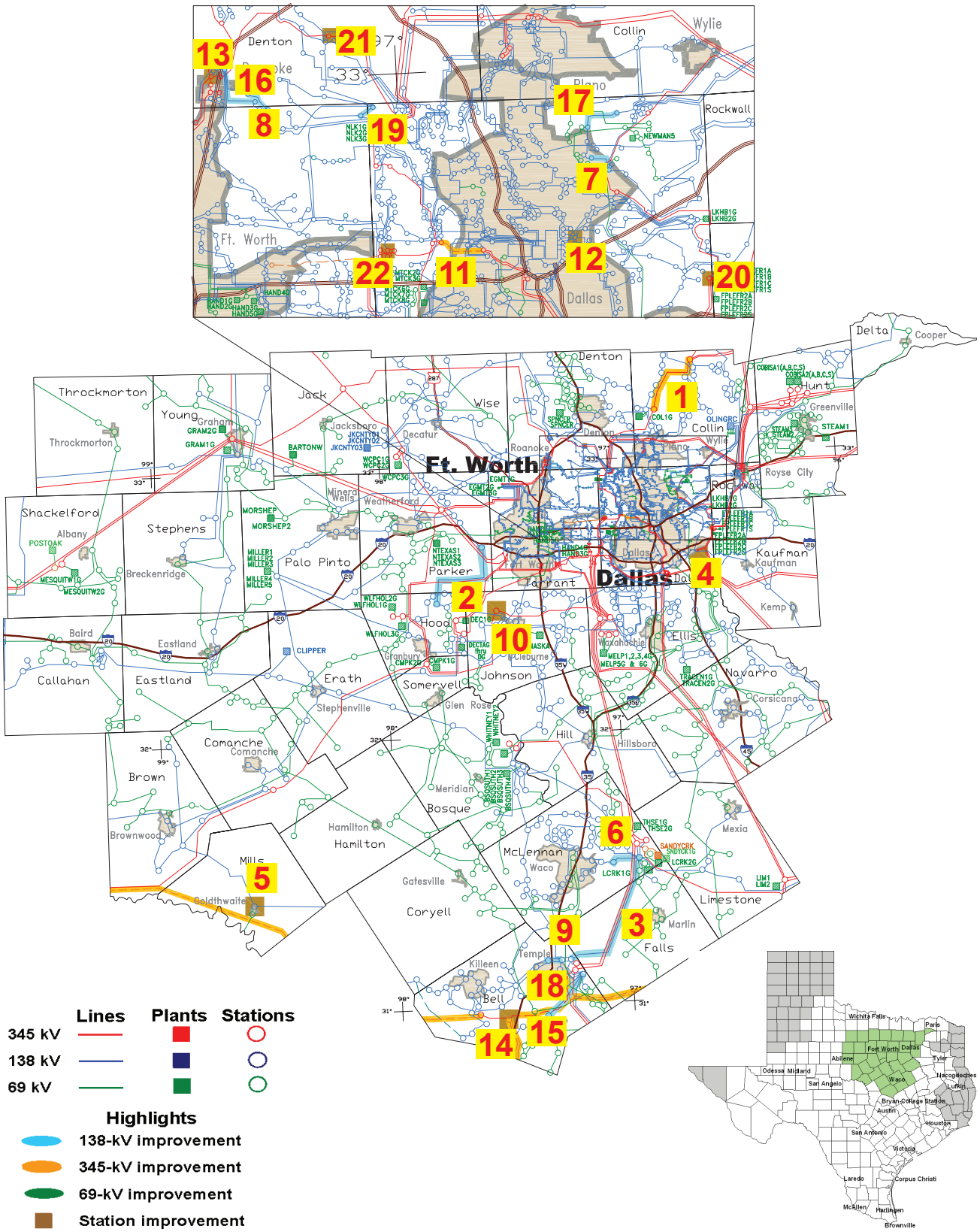




Completed improvements in the North Central area include new/upgrades of three 345/138-kV autotransformers, 142.8 miles of 345-kV circuits, 53.7 miles of 138-kV circuits, 28.3 miles of 69-kV circuits, three substations/switching stations, and other smaller projects. A total of 224.8 circuit miles of new lines or line upgrades have been installed in the years 2006 and 2007. Many of these upgrades were accomplished by raising the voltage of the circuit or by replacing the conductor. The new Jacksboro Switch to West Denton 345-kV line will help to bring power from wind generation to the DFW area. New lines and upgrades at or near Venus, Watermill, and Ben Davis will help to bring power into DFW area as well.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Leon Junction - Santa Fe Switch Rebuild	69	2007	4.1
2	Liggett Series Reactors Installation	138	2007	
3	Ben Davis - Royse Reconductor	345	2007	17
4	Seaton Autotransformer Upgrade	345/138	2007	
5	Plano Tennyson Autotransformer Installation	345/138	2007	
6	Watermill - West Levee Second Circuit	345	2007	9
7	Centerville Voltage Conversion; McCree - Centerville - Oates	138	2007	4.7
8	Venus - Sherry	345	2007	1.4
9	West Denton Second Autotrahsformer Installation	345/138	2007	
10	Prairie Hill - Purdon Rebuild	69	2007	24.2
11	Temple Pecan Creek - Temple Switch Upgrade	138	2007	4.4
12	Jacksboro Switch - West Denton	345	2006	72
13	Venus - Liggett line	345	2006	43.4
14	Ben Davis Second Autotransformer Addition	345/138	2006	
15	Ben Davis - Royse/Allen Reconductor/Rebuild	138	2006	3.8
16	Long Creek Switch Installation	345	2006	
17	Jack County - Wise County Switch	138	2006	16
18	North Denton conversion; North Denton - Spring Rebuild	138	2006	17.9
19	Venus - Cedar Hill Substation	138	2006	6.9

6.6.3 Planned Improvements 2007 - 2012



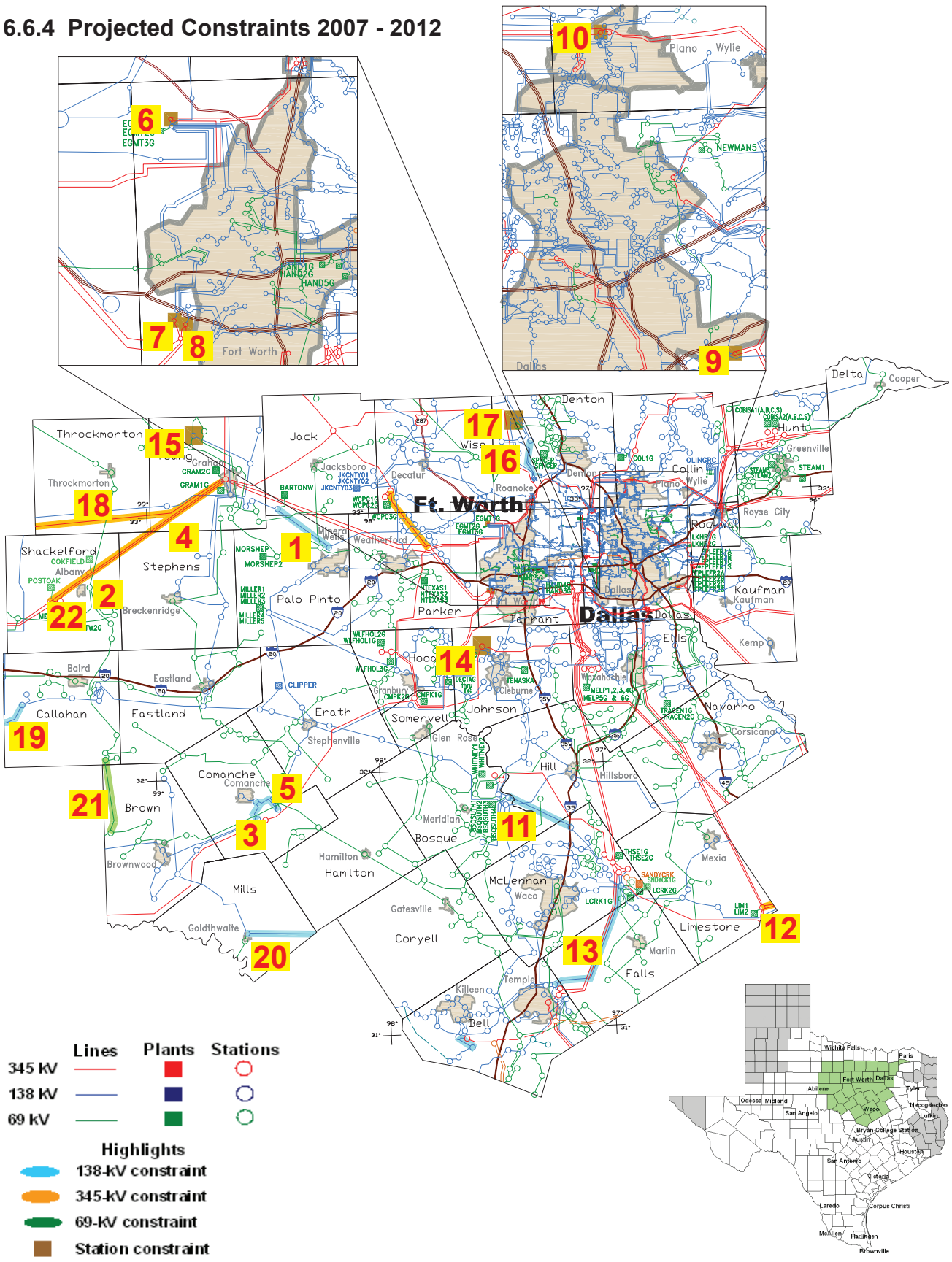
Numerous improvements are planned in the Dallas/Fort Worth (DFW) area to relieve congestion and allow the growing load to be more efficiently served. To the northeast of DFW, the Anna to Collin 345-kV line will be upgraded in 2008. In the central DFW area, the West Levee to Norwood 345-kV line will be added and the McCree to Shiloh 138-kV line upgrade will be completed by 2009. By 2010 the Brand to Fairdale 138-kV circuit will also be upgraded. A dynamic reactive device will be added to Parkdale in 2009 to restore reactive capability lost by the shutdown of generation in the area.

The Roanoke area will have several upgrades throughout the 2009 to 2012 time frame. In addition, there are numerous autotransformer upgrades and installations scheduled for the DFW area.

Planned improvements in the Waco and Temple areas include the upgrade of the 138-kV circuit between Temple Pecan Creek and Lake Creek in 2008 and Lake Creek and Robinson in 2009. Also in 2009, the Temple North to Temple Elm Creek double circuit will be reconfigured to separate structures.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Anna - Collin Upgrade	345	2008	✓
2	Fairview - Aledo	138	2009	✓
3	Temple Pecan Creek - Lake Creek	138	2008	✓
4	Seagoville Autotransformer Replacement	345	2008	✓
5	Goldthwaite Autotransformer	138/69	2008	
6	Lake Creek - Robinson	138	2009	
7	McCree - Shiloh Upgrade	138	2009	
8	Roanoke Switch - Southlake Upgrade	138	2009	
9	Temple N - Temple Elm Creek Reconfigure	138	2009	
10	Concord Autotransformer	345/138	2009	
11	West Levee - Norwood	345	2009	✓
12	Parkdale Dynamic Project	138	2009	✓
13	Upgraded Autotransformer at Roanoke SS 1	345	2009	
14	Salado Switching Station	345/138	2010	✓
15	Temple Switch - Salado Switch	345	2010	✓
16	Cross Timbers - Roanoke Upgrade	138	2011	
17	Brand - Fairdale Upgrade	138	2009	
18	Temple Switch - Boggy Creek	138	2011	✓
19	Coppell Tap - McKamy Tap	138	2012	
20	Additional Autotransformer at Forney	345	2012	
21	Additional Autotransformer at Lewisville	345	2012	
22	Liggett Autotransformer	345/138	2012	

6.6.4 Projected Constraints 2007 - 2012



The North Central weather zone is expected to experience heavy congestion over the next several years as wind energy imports from the west increase. The majority of this congestion will occur on the underlying 138-kV and 69-kV system connecting the West weather zone to the North Central zone for the contingency loss of one of the bulk 345-kV lines. The 345-kV lines coming into Graham from the west are also expected to be heavily congested. This congestion is anticipated to continue until additional 345-kV lines can be constructed out of the West zone.

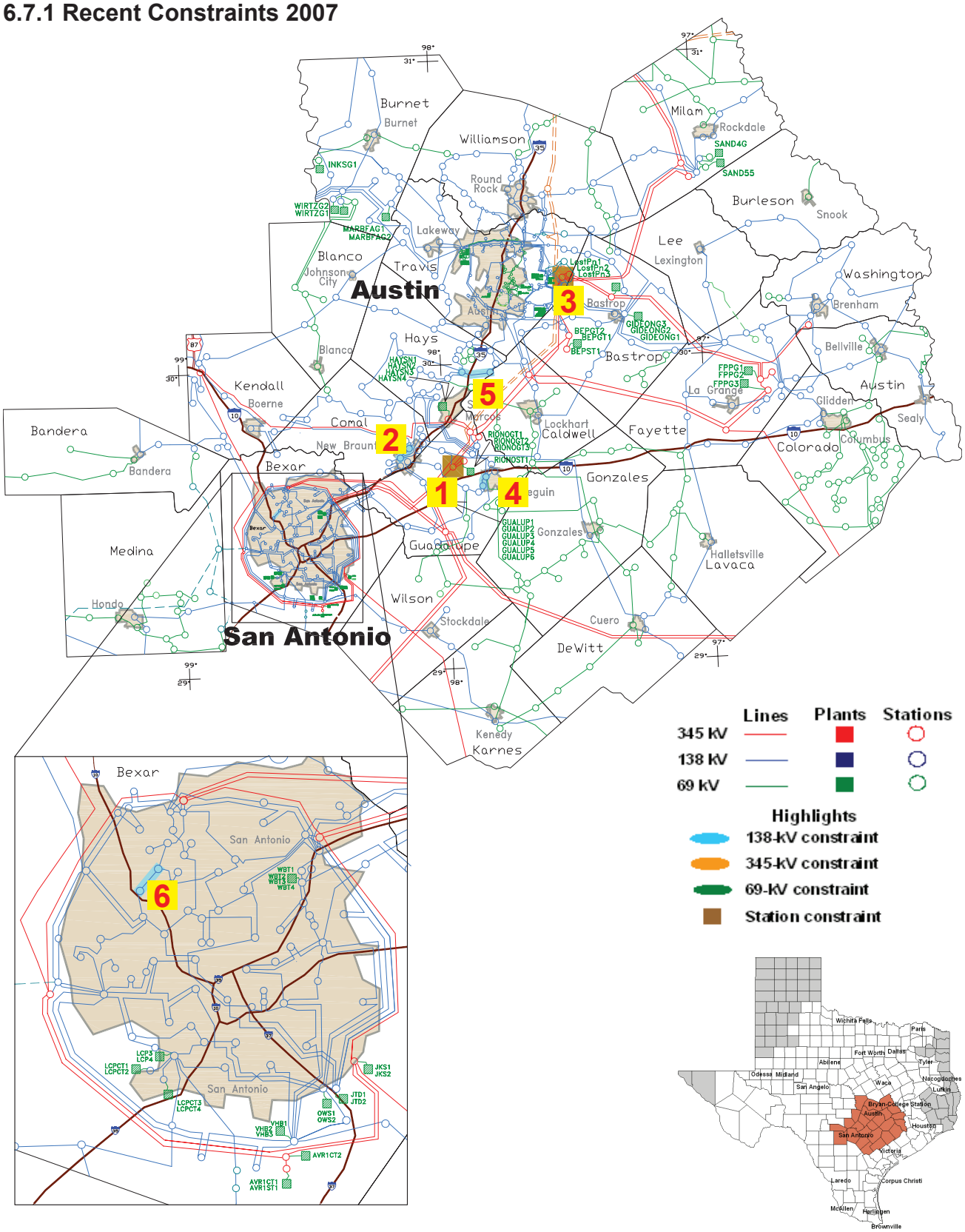
The Dallas/Fort Worth area is expected to encounter some congestion typical of the largest load center in ERCOT. This congestion is exacerbated by the effect of new environmental rules that are likely to result in less available local generation. However, recent transmission upgrades and additional 345/138-kV autotransformer capacity will minimize these effects. Further upgrades and the addition of autotransformer capacity at Roanoke, Lewisville, Liggett, and Forney in the coming years will help to reduce this congestion.

Map	Projected Constraining Element	Voltage Level, kV	2008	2009	2010	2011	2012
1	Willow Creek Switch - Parker	345					
2	Graham - Cook Field Road	345					
3	Comanche SS - Comanche Tap	138					
4	Oran - Barton	138					
5	Hasse BEC POD - Comanche Tap	138					
6	Eagle Mountain Autotransformer	345/138					
7	Benbrook A Autotransformer	345/138					
8	Benbrook B Autotransformer	345/138					
9	Seagoville Autotransformer	345/138					
10	Allen Autotransformer	345/138					
11	Bosque Switch - Rogers BEC POD	138					
12	Jewett South - Limestone Plant Substation	345					
13	Lake Creek SES - Temple Pecan Creek	138					
14	Concord Autotransformer	345/138					
15	Olney Autotransformer	138/69					
16	Jim Christal - West Denton	138					
17	Iron Horse Autotransformer	138/69					
18	Graham - Clear Crossing Switch	345					
19	Abilene South - TEC Potosi Tap	138					
20	Evant - Goldthwaite	138					
21	Santa Anna Tap - CCEC Dressy Tap	69					
22	Long Creek Switching Station - Cook Field	345					
	West Export Limit						

Level of Congestion High Medium Low None

6.7 South Central Weather Zone

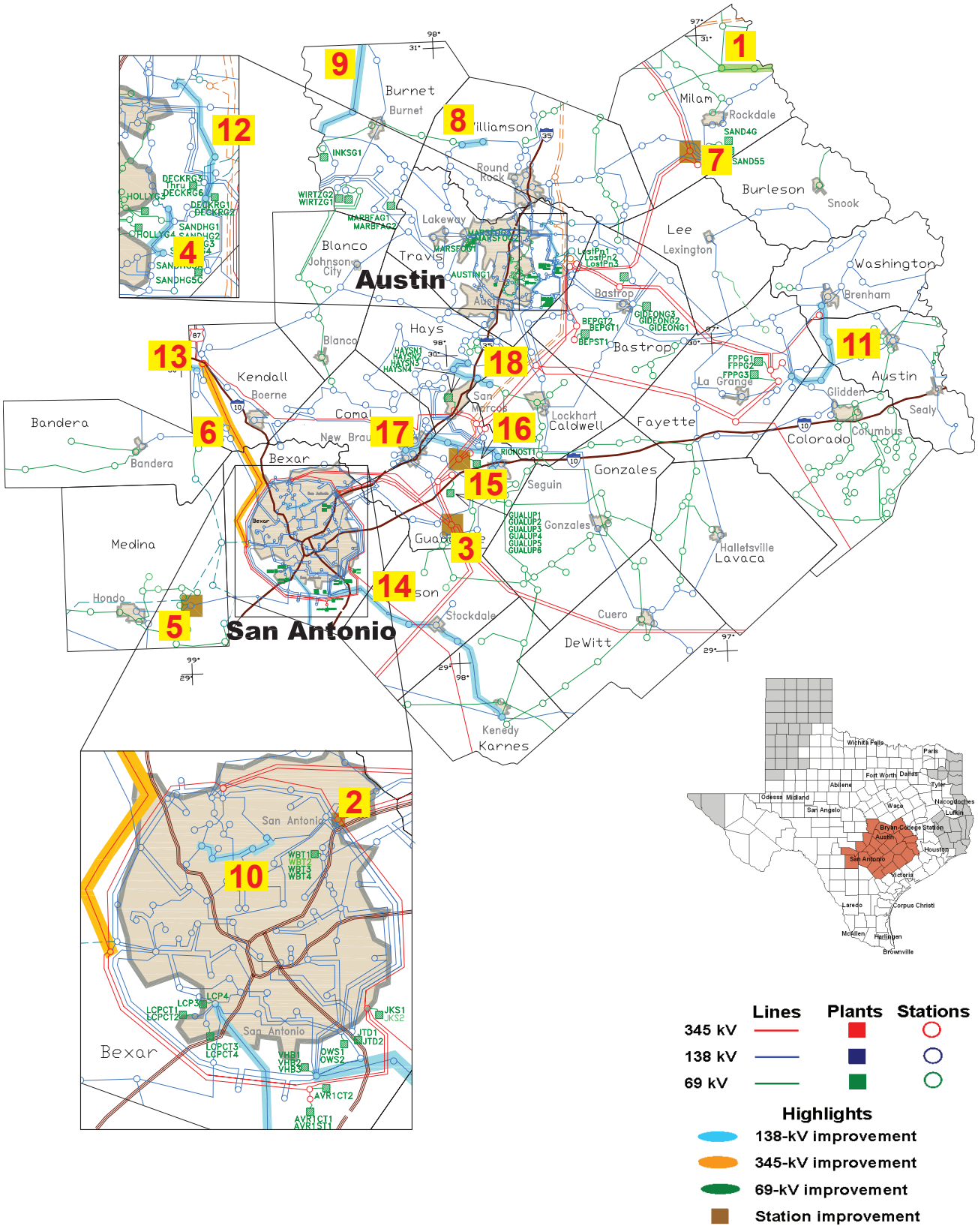
6.7.1 Recent Constraints 2007



The South Central weather zone consists mostly of the cities of Austin, San Antonio, and their surrounding suburbs. Transmission congestion in the zone is due to a variety of factors. Load growth has resulted in some transmission constraints. Congestion has also resulted during the construction periods when transmission elements are taken out of service for upgrades.

Map Index	Constraining Element	Voltage Level, kV
1	Clear Springs Autotransformer	345/138
2	Comal - Henne	138
3	Austrop Autotransformer	345/138
4	Seguin - Seguin West	138
5	Canyon - Rohr	138
6	Medical Center - Hamilton Wolfe	138

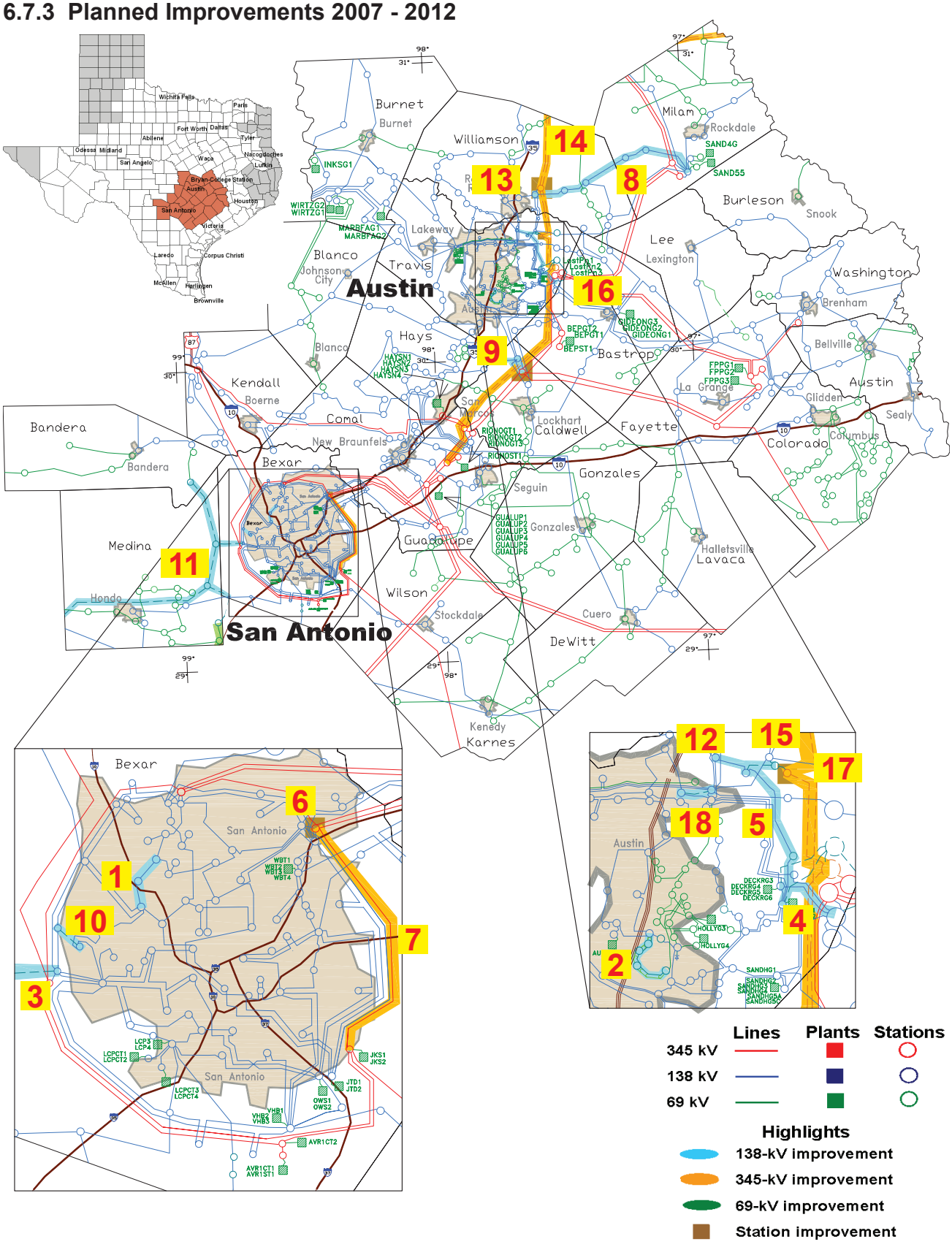
6.7.2 Completed Improvements 2006 - 2007



Completed improvements in the South Central area include new/upgrades of three autotransformers, 45 miles of 345-kV circuits, 151.3 miles of 138-kV circuits, 9.9 miles of 69-kV circuits, two switching stations, and other smaller projects. A total of 206.2 circuit miles of new lines or line upgrades have been installed in the years 2006 and 2007. Many of these upgrades were accomplished by raising the voltage of the circuit or by replacing the conductor. The Kendall to CPS Cagnon 345-kV line will help maintain reliable service to the growth of the Hill Country load and help to remove/reduce a SPS on the Hays Energy Facility.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Branchville - Silver City Rebuild	69	2007	9.9
2	Skyline Autotransformer #2 & #4 Replacement	345/138	2007	
3	Elm Creek Switching Station Installation	345	2007	
4	Bergstrom - Kingsberry Reconductor	138	2007	4
5	Pearson Switching Station Installation	69/138	2007	
6	Kendall - Cagnon	345	2007	45
7	Sandow Autotransformer Installation	345	2007	
8	Andice - Glasscock	138	2006	11
9	Coronado - Graphite Mine - Lampasas Upgrade	138	2006	27.5
10	Harmony Hills - Castle Hills - Med. Center Reconductor	138	2006	6.3
11	Fayetteville - Pisek - Welcome - Salem Upgrade	138	2006	24.1
12	Decker - Techridge	138	2006	23.2
13	Comfort - Raymond Barker Upgrade	138	2006	11.8
14	Braunig - Kenedy Reconductor	138	2006	14
15	Clear Springs Autotransformer Installation	345/138	2006	
16	Clear Springs - Geronimo - Seguin Upgrade	138	2006	7.2
17	Clear Springs - Freiheit - Hortontown - Comal Upgrade	138	2006	7.2
18	Canyon - Camp Gary Upgrade	138	2006	15

6.7.3 Planned Improvements 2007 - 2012



Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Bandera - Hamilton Wolfe - Medical Center Reconductor	138	2008	
2	Convert Burleson - Cardinal Lane - Seaholm from 69 to 138 kV	138	2008	
3	Cagnon - Texas Research - Lytle	138	2008	
4	Austrop - Decker Reconductor Last Three Spans	138	2009	
5	Decker - Techridge Reconductor	138	2009	
6	Third Autotransformer at Skyline	345/138	2010	✓
7	Skyline - Spruce Second Circuit	345	2009	✓
8	Sandow - Taylor - Hutto Upgrade	138	2009	✓
9	Lytton Springs Autotransformer and Line Upgrades	138	2010	✓
10	Anderson - Westover Hills	138	2010	
11	Medina Lake - Texas Research	138	2010	✓
12	Techridge - Howard Lane Reconductor	138	2010	
13	Hutto Switching Station	345/138	2010	✓
14	Hutto Switch - Salado Switch Double Circuit	345	2010	✓
15	Gilleland - Techridge	138	2011	
16	Clear Spring/Zorn - Gilleland/Hutto	345	2011	✓
17	Gilleland Project	345/138	2011	
18	McNeil - Summit Second Circuit	138	2012	

The most significant improvement in the South Central weather zone will be the completion of the Clear Springs to Salado 345-kV double circuit by 2011. This project will help deliver energy to Central Texas load and address transmission reliability needs in that area. The project will parallel the existing north to south 345-kV corridor and provide new autotransformer capacity to area load at key sites including the Gilleland Creek station northeast of Austin and the Hutto station located in southern Williamson County.

Northeast of the Austin area, the 138-kV circuits from Sandow to Taylor to Hutto due to the new Sandow Unit 5 will be upgraded. In the Austin area, the previously mentioned Gilleland Creek station will provide a new 345/138-kV autotransformer northeast of Austin. A new 138-kV line will be built from Gilleland to Techridge to Howard Lane to disperse the power from the new autotransformer. The Burleson to Cardinal to Seaholm circuits will be reconductored and converted from 69-kV to 138-kV operation.

The San Antonio area has several 345-kV upgrades scheduled including a second Skyline to Spruce 345-kV circuit which will be installed in 2009, a year ahead of new generation at Spruce in 2010. Additional 345-kV autotransformer capacity is planned at Skyline in 2009. A new 138-kV line from Anderson to Westover Hills and from Texas Research to Medina Lake will be built to serve growing load in west and northwest San Antonio. Southwest of San Antonio a new 138-kV line is planned between Texas Research and Lytle.

Multiple improvements are scheduled for the area between San Antonio and Austin, such as adding a third 345/138-kV autotransformer at Lytton and looping the Mendoza to Turnersville 138-kV circuit into Lytton. The thermal ratings of these circuits will be doubled.

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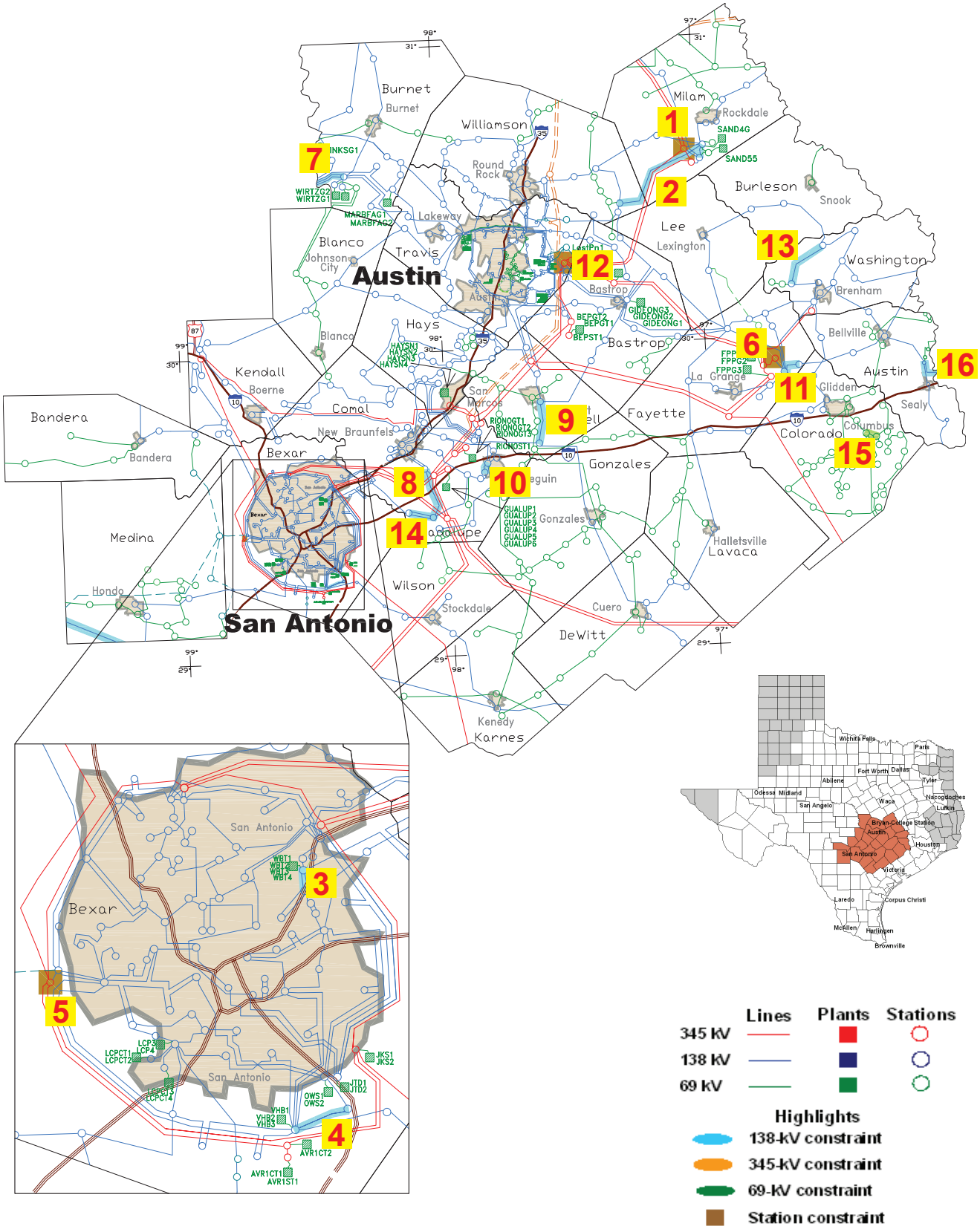
6.7.4 Projected Constraints 2007 - 2012



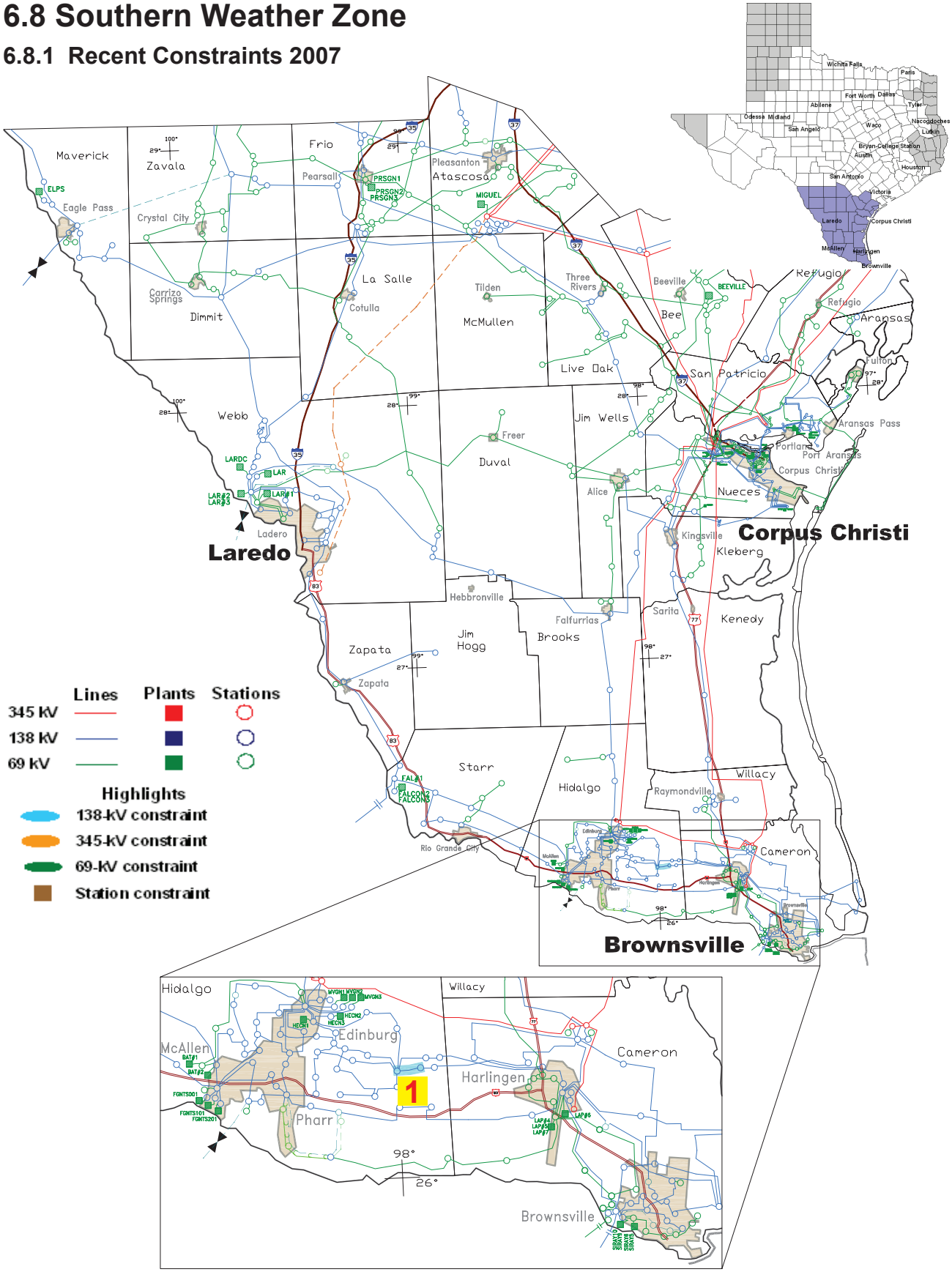
The majority of the expected constraints in the South Central weather zone relate to a South to North transfer of energy and the serving of a rapidly growing Central Texas load. Both of these problems will be mitigated by the completion of the Clear Springs to Salado 345-kV double-circuit line in 2011 that adds another 345-kV path through the Central Texas area as well as additional autotransformer capacity. In addition, several smaller projects will relieve congestion in the San Marcos, Canyon, and Schertz areas before the completion of the Clear Springs project. Some 138-kV congestion is anticipated around Ferguson, Seguin, Sandow to Elgin, and Sandy Creek areas.

Map Index	Projected Constraining Element	Voltage Level, kV	2008	2009	2010	2011	2012
1	Sandow Autotransformer	345/138					
2	Elgin SS - Sandow	138					
3	Austin Road - W B Tuttle	138					
4	V H Braunig - Streich Road	138					
5	Cagnon Autotransformer	345/138					
6	Fayetteville Autotransformer	345/138					
7	Wirtz - Ferguson	138					
8	Marion - Cibolo	138					
9	Lockhart - Luling	138					
10	Seguin - Seguin West	138					
11	Willow Springs - Fayetteville	138					
12	Austrop Autotransformer	345/138					
13	Mill Creek - Gay Hill	138					
14	Cibolo - Schertz	138					
15	Altair - Stafford Hill	69					
16	Flewellen - Peters	138					

Level of Congestion High Medium Low None

6.8 Southern Weather Zone

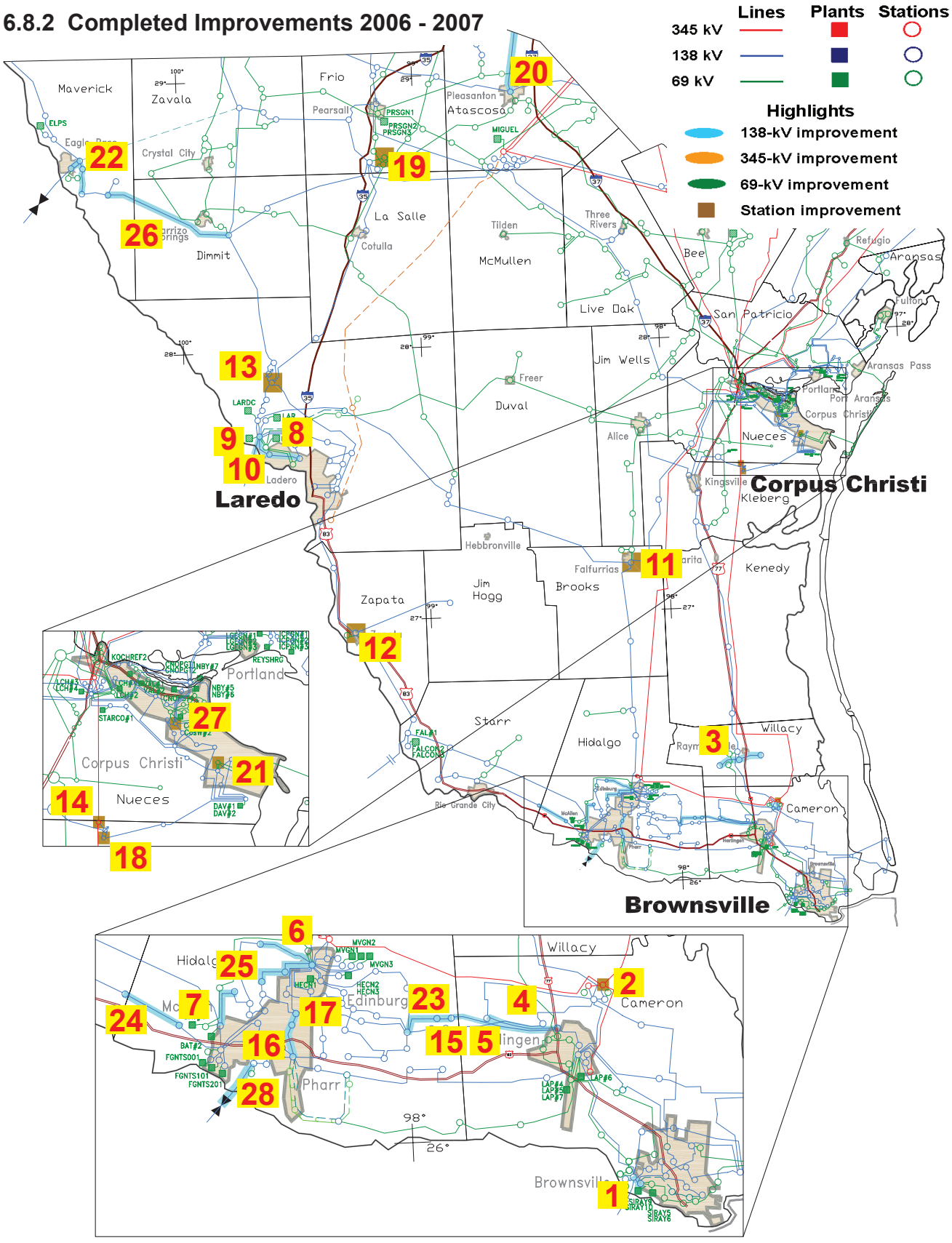
6.8.1 Recent Constraints 2007



The Southern weather zone covers the South Texas plains and contains the cities of Laredo and Corpus Christi and the lower Rio Grande Valley cities of McAllen, Harlingen, and Brownsville. These cities along the Mexico border have continued to see sizable load growth.

Map Index	Constraining Element	Voltage Level, kV
1	Weslaco Switch - MVEC Weslaco	138

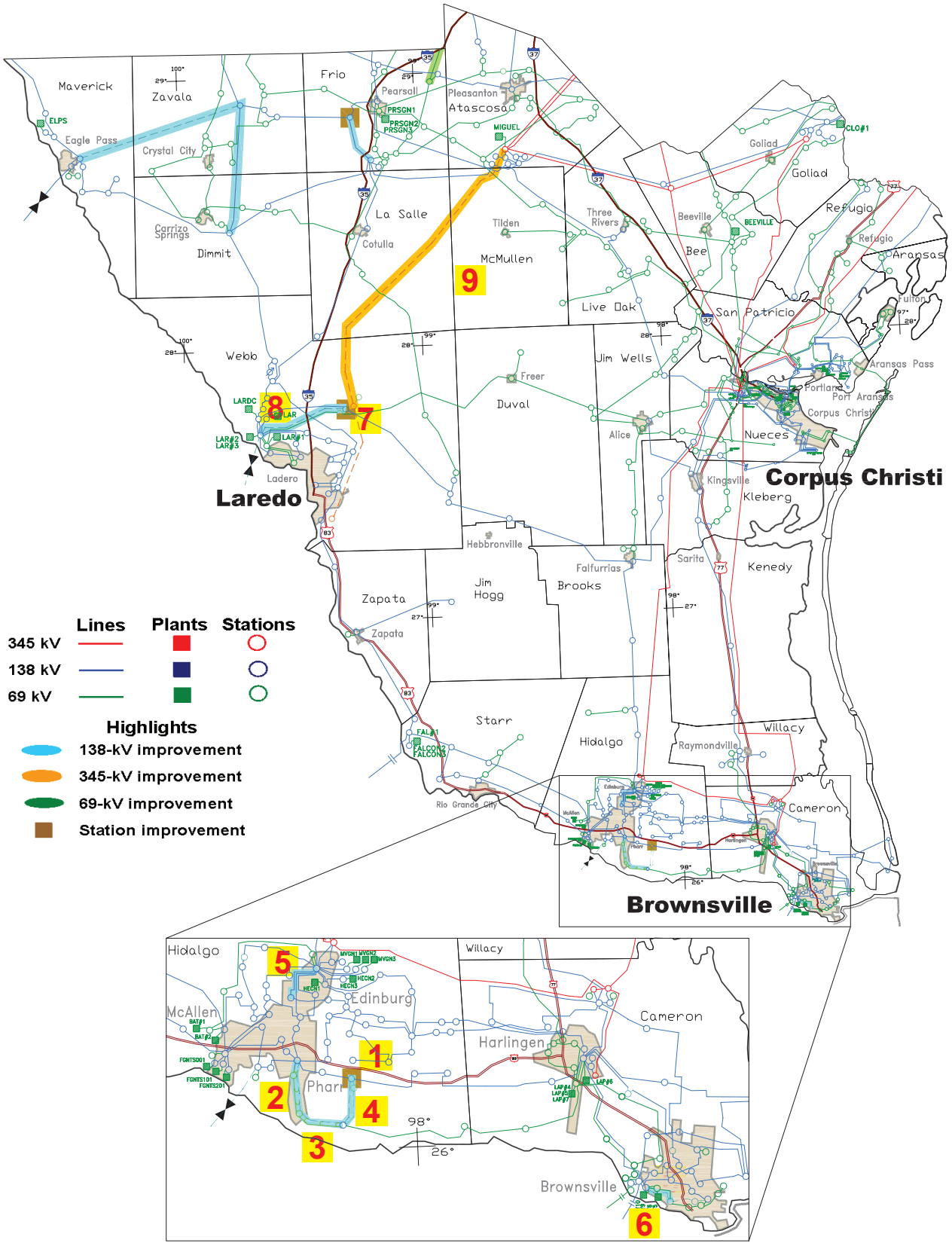
6.8.2 Completed Improvements 2006 - 2007



Completed improvements in the Southern area include new/upgrades of three 345/138-kV autotransformers, 116.7 miles of 138-kV circuits, 5 miles of 69-kV circuits, two SVCs, two DRSCs, two PSTs, and other smaller projects. A total of 121.7 circuit miles of new lines or line upgrades have been installed in the years 2006 and 2007. Many of these upgrades were accomplished by raising the voltage of the circuit or by replacing the conductor. Four reactive devices (SVC, DRCS) were installed to maintain voltage stability under contingencies; two phase-shifting transformers (PST) were installed to allow better utilization of the network to support load growth. Two addditional asynchronous ties between ERCOT and the power system of Mexico were completed in 2007: a 100-MW tie at Laredo and a 150-MW tie in McAllen.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Military Hwy - Power Plant Upgrade	138	2006	2.3
2	Rio Hondo Autotransformer Installation	345/138	2006	
3	Rio Hondo - MVEC 138-kV Lines	138	2006	1.8
4	Santa Rosa - N. Mercedes Upgrade	138	2006	5
5	Santa Rosa - Harlingen SS Upgrade	138	2006	8
6	N. Edinburg - W. Edinburg Upgrade	138	2006	4.6
7	Bates - Palmview Upgrade	138	2007	2
8	Laredo Heights - Anna Street Upgrade	138	2007	2
9	Laredo BtB 100-MW CFE Tie	138	2007	2.3
10	Laredo - Anna Street Upgrade	138	2007	3.2
11	Falfurrias SS +25/-25 DRCS Addition	69	2006	
12	Zapata +/-25 MVAR DRCS Addition	138	2006	
13	North Laredo SS 150-MVA PST Addition	138	2006	
14	Nelson Sharpe 150-MVA PST Addition	138	2006	
15	N. Mercedes - N. Weslaco Upgrade	69	2006	5
16	W. McAllen - S. McAllen Upgrade	138	2006	3.3
17	N. McAllen - W. McAllen Upgrade	138	2006	4.7
18	Nelson Sharpe Autotransformer Installation	345/138	2006	
19	Dilley SS -40/+50 MVAR SVC Installation	69	2006	
20	Leon Creek - Pleasanton Rebuild	138	2006	15.4
21	Airline -40/+50 MVAR SVC Installation	69	2006	
22	Pueblo - Eagle Pass Escondido Rebuild	138	2006	7.2
23	N. Weslaco - Weslaco SS Upgrade	138	2006	1
24	Goodwin - LaGrulla Upgrade	138	2006	14.1
25	W. Edinburg - Alton Rebuild	138	2006	6.8
26	Asherton - Conoco Rebuild	138	2006	33
27	Highway 9 Autotransformer Replacement	138/69	2006	
28	Sharyland/Railroad Tie	138	2007	

6.8.3 Planned Improvements 2007 - 2012

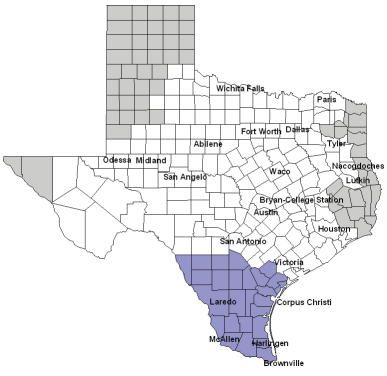


The most significant improvement in the Southern weather zone will be the completion of the San Miguel to Laredo Lobo 345-kV line in 2010. This line, along with the Laredo asynchronous interconnection and local upgrades in the Laredo area, will allow the RMR contract with the Laredo units to be exited.

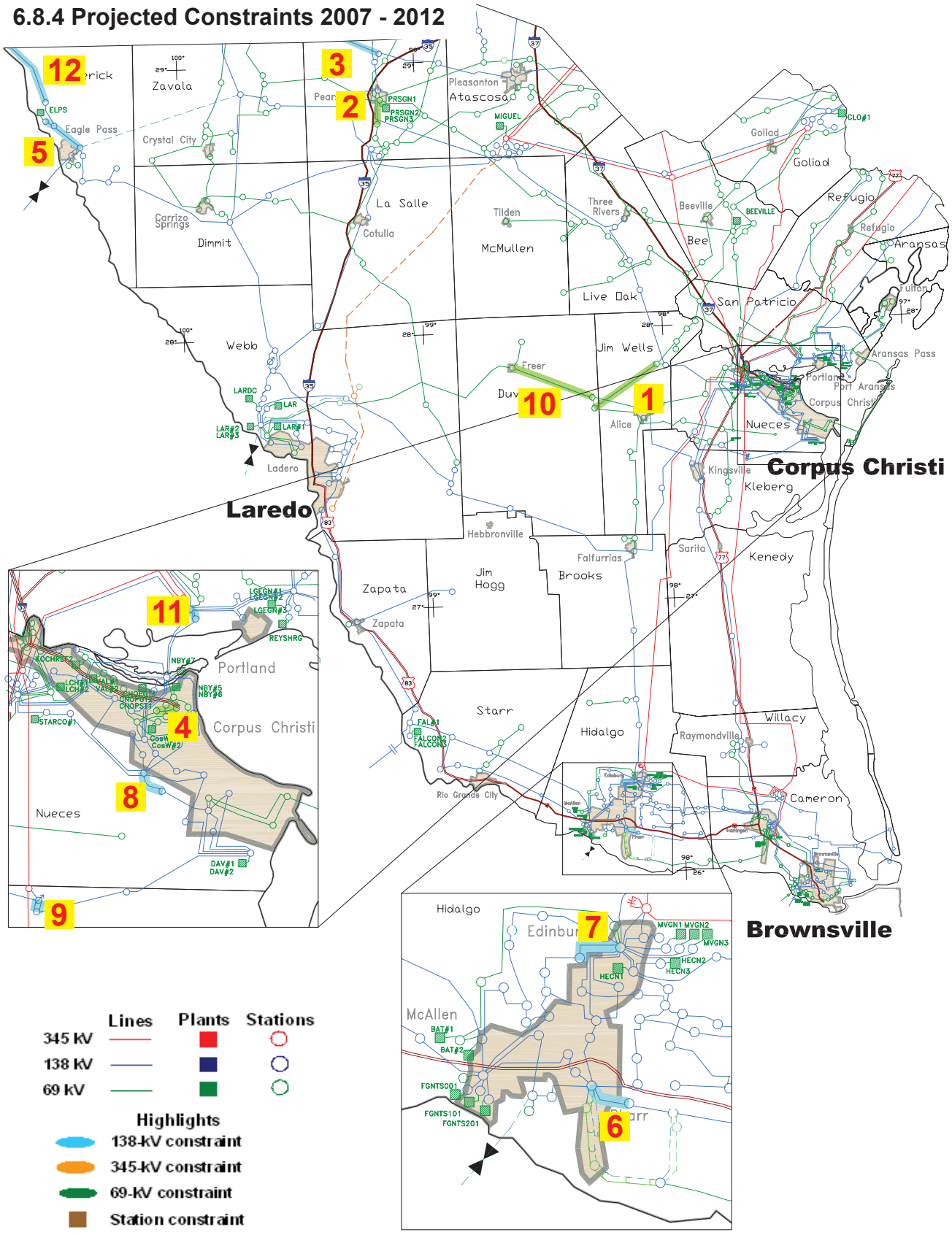
Several other improvements are scheduled for the area between San Antonio and Laredo to alleviate thermal overloads and problems with low voltage. These improvements, known as the Uvalde Area Project, include a new Escondido to West Batesville 138-kV line, the upgrade of the West Batesville to Asherton 138-kV line, a new Palo Duro 138-kV station and 138-kV line from that station to Dilley.

In the south Rio Grande Valley, several 138-kV upgrades and 69-kV conversions will relieve local contingency overloads. On the west side of the Valley the improvements include the addition of the new Stewart Road 138/69-kV station and the conversion of the 69-kV line from Stewart Road to South McAllen to 138 kV.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Build Stewart Road Station with Two 28.8-MVAR Capacitors	138	2008	✓
2	South McAllen - Hildalgo Upgrade	138	2008	✓
3	Hi-Line - Hidalgo Upgrade	138	2008	✓
4	Hi-Line - Stewart Road Upgrade	138	2008	✓
5	MVEC West Edinburg - MVEC Palmhurst	138	2008	
6	Power Plant - Sixth Street Upgrade	138	2008	
7	Lobo Substation	138	2009	✓
8	Laredo Plant - Lobo Rebuild	138	2010	✓
9	San Miguel - Laredo Lobo	345	2010	✓



6.8.4 Projected Constraints 2007 - 2012

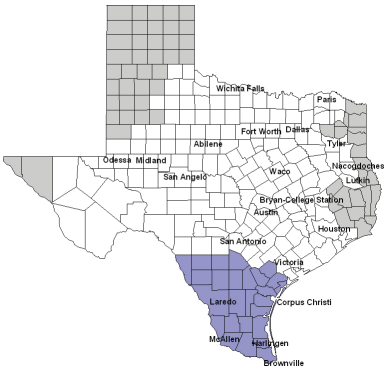


There has been much progress in reducing the amount of projected congestion in the Southern weather zone. Most of the expected congestion in the Lower Rio Grande Valley is due to west to east cross-Valley energy flow. This congestion will be mitigated as projects to add an additional 138-kV cross-Valley tie are completed in 2008.

Some level of congestion on the 138-kV system from West to South is expected due to the high level of wind generation development in the West.

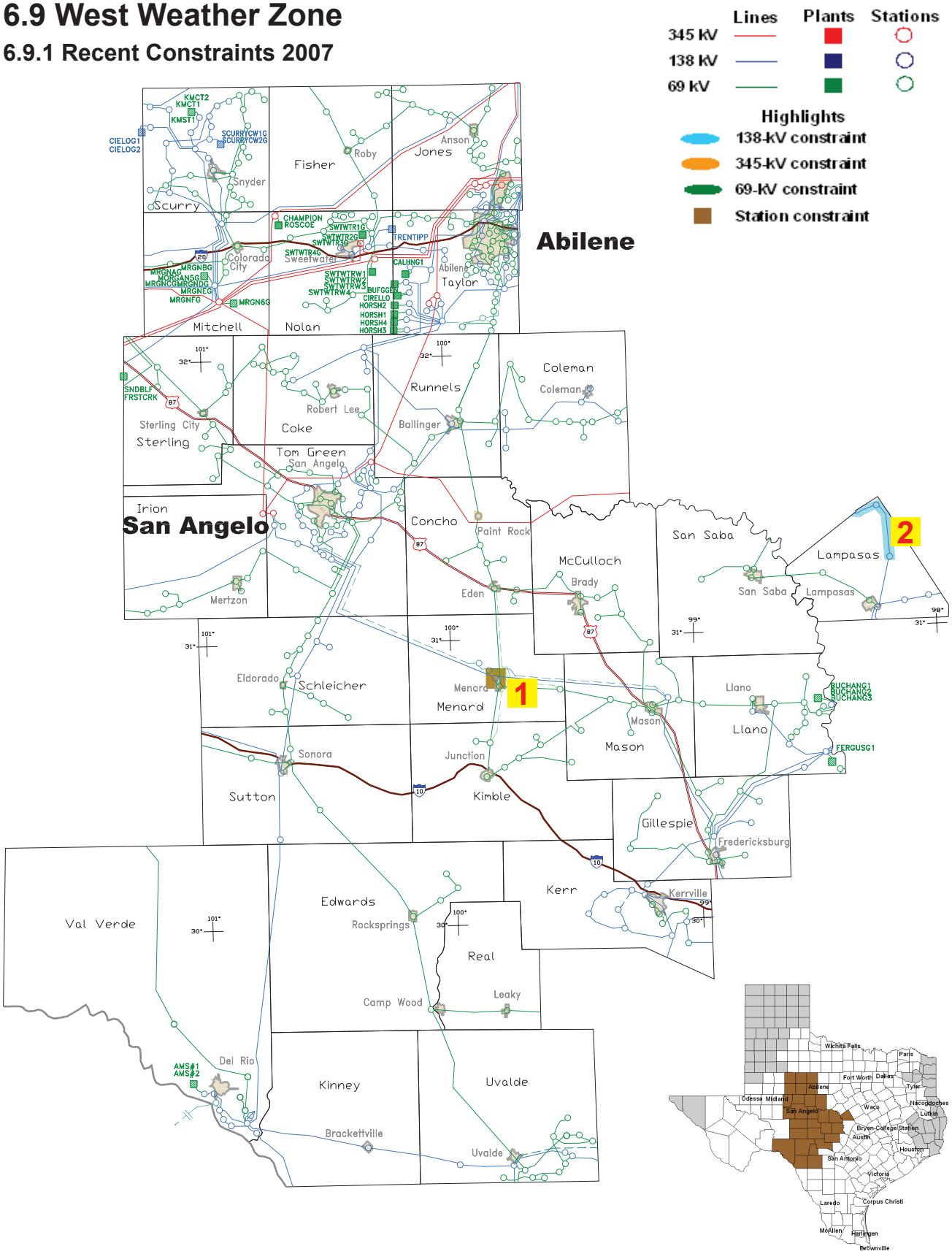
Map Index	Projected Constraining Element	Voltage Level, kV	2008	2009	2010	2011	2012
1	San Diego Substation - Orange Grove	69					
2	Derby Substation - Pearsall Switch	69					
3	Dowine Switching Station - Moore	138					
4	Nueces Bay Reactor Nb-Avery#2 - Avery Pt	69					
5	Escondido - Eagle Pass Hydro Tap	138					
6	South McAllen - Las Milpas (MVEC)	138					
7	North Edinburg - West Edinburg (MVEC)	138					
8	Westside - Cabaniss	138					
9	Nelson Sharpe - Nelson Sharpe PST Load	138					
10	Freer - San Diego	69					
11	Whitepoint - Whitepoint Reactor #2	138					
12	Hamilton Road - Maverick	138					

Level of Congestion High Medium Low None



6.9 West Weather Zone

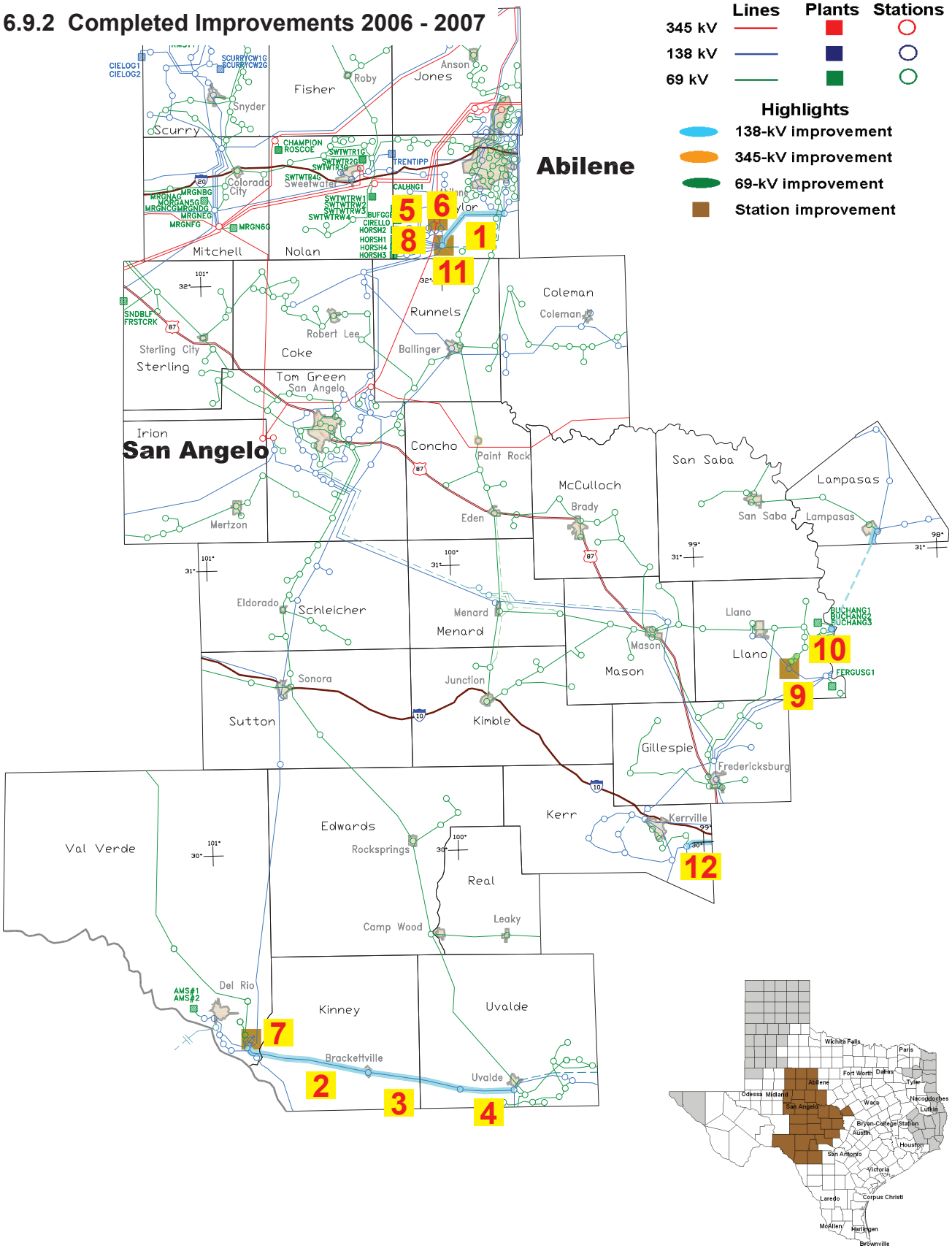
6.9.1 Recent Constraints 2007



The West weather zone includes Del Rio, Abilene, and San Angelo, as well as the western part of the Texas Hill Country. The area has seen and continues to see a tremendous amount of new wind generation capacity added in the last two years, including a nearly 1,000-MW concentration southwest of Abilene. The combination of load growth in the Central Texas area and new wind generation in West Texas causes congestion on the lines between the two areas.

Map Index	Constraining Element	Voltage Level, kV
1	Menard Autotransformer	138/69
2	Evant - Adamsville	138

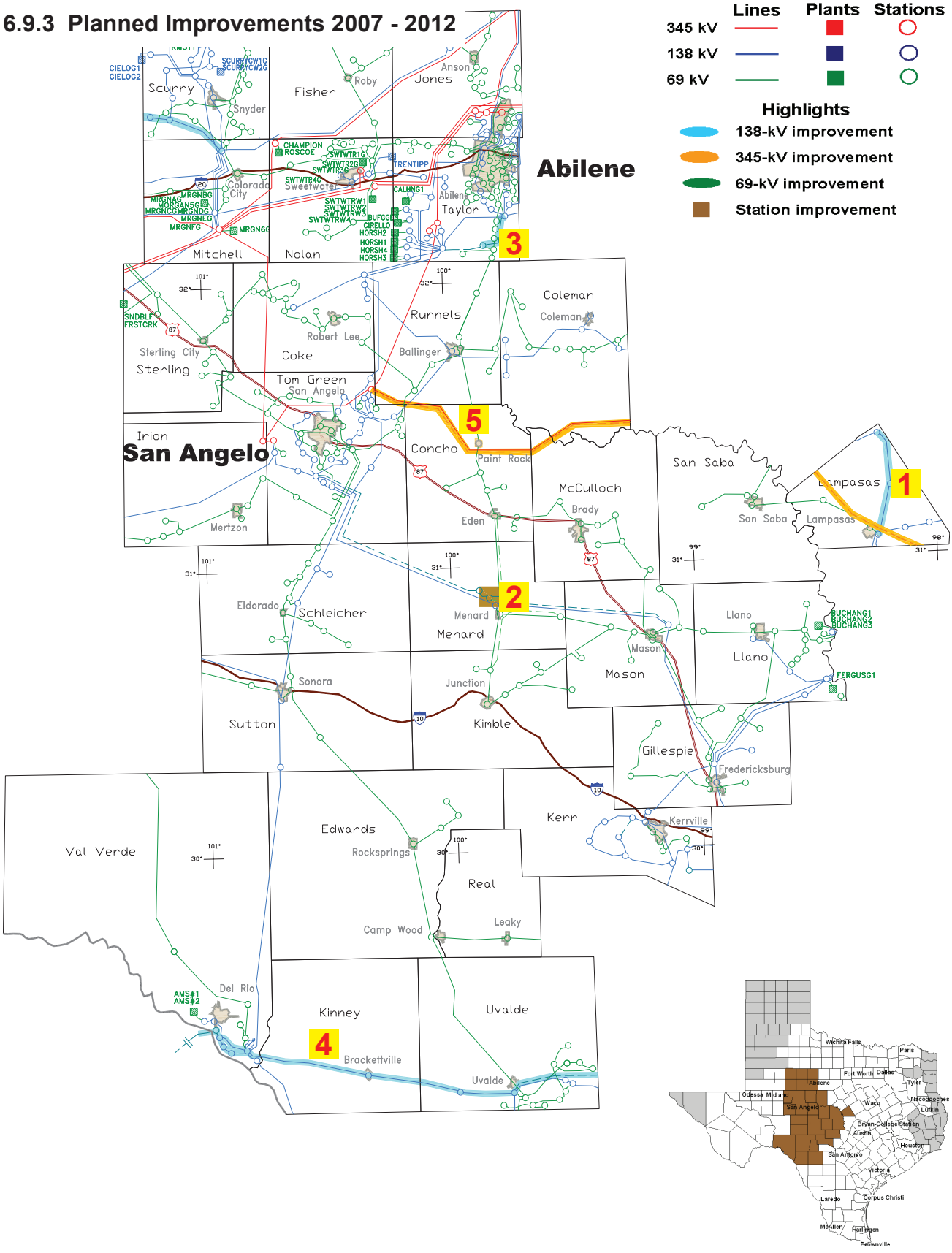
6.9.2 Completed Improvements 2006 - 2007



Completed improvements in the West area include new/upgrades of three autotransformers, 110.3 miles of 138-kV circuits, 2.6 miles of 69-kV circuits, one switching station, one SVC, one PST, and other smaller projects. A total of 112.9 circuit miles of new lines or line upgrades have been installed in the years 2006 and 2007. Many of these upgrades were accomplished by raising the voltage of the circuit or by replacing the conductor. The addition of the Bluff Creek 345-kV switching station and 345/138-kV autotransformers will be a central hub for many wind generators; the Comfort to Raymond Barker 138-kV upgrade will help to serve the load growth in the Hill Country area.

Map Index	Completed Element	Voltage Level, kV	In-Service Year	Circuit Miles
1	Abilene South - Bluff Creek Reconductor	138	2007	18.5
2	Brackettville - Hamilton Road Rebuild	138	2007	29
3	Asphalt Mines - Brackettville Rebuild	138	2007	38.6
4	Uvalde - Asphalt Mines Rebuild	138	2007	14.4
5	Bluff Creek 90-MVAR SVC Addition	345	2007	
6	Bluff Creek Autotransformer Addition	345/138	2006	
7	Hamilton Road 150-MVA PST on Sonora	138	2006	
8	Bluff Creek Switching Station Expansion	345	2006	
9	Sandy Creek - Sunrise Beach	69	2006	2.6
10	Sandy Creek Autotransformer Addition	138/69	2006	
11	Bluff Creek Second Autotransformer Installation	345/138	2006	
12	Comfort - Raymond Barker	138	2006	9.8

6.9.3 Planned Improvements 2007 - 2012

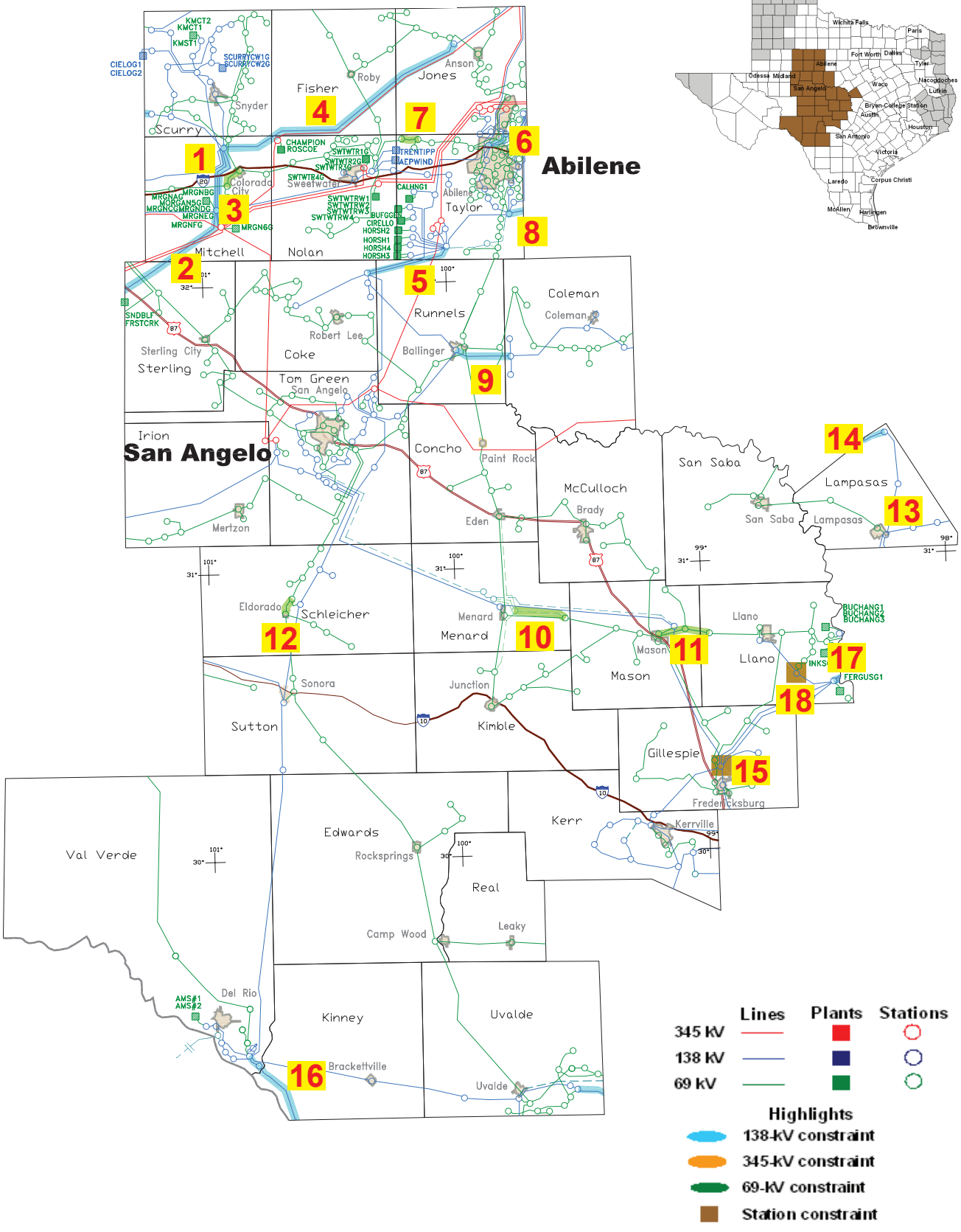


A major new improvement due to increased wind capacity in the area, the Red Creek to Killeen 345-kV line has been identified for 2012. South of San Angelo a 138-kV phase-shifting transformer (PST) is planned for a new 138/69-kV station named Yellowjacket in 2008 to control flow on the San Angelo Power Station to Mason 138-kV line. The Goldthwaite 138/69-kV autotransformer (in the North Central weather zone) is scheduled for an upgrade in 2008 along with the Adamsville to Evant to Lampasas 138-kV line.

System improvements known as the Uvalde Area Project are planned between San Antonio and Del Rio in order to remove thermal overloads and improve the voltage characteristics of the Del Rio area. Improvements include the upgrade of the Hamilton Road to Uvalde 138-kV circuit, a new 138-kV line between Uvalde and Castroville, a new 138-kV line from Escondido to West Bastesville,138-kV improvements internal to the Del Rio area, an emergency tie that will allow block load transfers to and from CFE and other lines, substations, and upgrades.

Map Index	Planned Element	Voltage Level, kV	In-Service Year	ERCOT Review
1	Adamsville - Evant - Lampasas	138	2008	✓
2	New Yellowjacket Station with 150-MVA PST	138	2008	
3	Bradshaw - Abilene South Rebuild Double Circuit	138	2009	
4	Uvalde Area Project	138	2010	✓
5	Red Creek - Killeen Circuit	345	2012	

6.9.4 Projected Constraints 2007 - 2012



Nearly all of the anticipated congestion in the West weather zone is associated with the massive increase in wind generation capacity in ERCOT. This congestion is expected to be experienced on the transmission lines connecting the west part of the system with the more heavily loaded areas in the eastern part of Texas and will continue until more bulk 345-kV lines can be constructed out of West Texas.

Additionally, there will be some local congestion which will constrain new wind plants until the upgrades required to get the power to the bulk system can be completed.

Map Index	Projected Constraining Element	Voltage Level, kV	2008	2009	2010	2011	2012
1	Morgan Creek SES - China Grove	138					
2	Morgan Creek SES - McDonald Rd SS	138					
3	Morgan Creek SES - Colorado City	69					
4	China Grove - Radium M	138					
5	Bluff Creek - Oak Creek	138					
6	Abilene Northwest - Mulberry Creeek	138					
7	TEC Scott - Trent	69					
8	Abilene South - TEC Potosi Tap	138					
9	Ballinger - Lake Ivey Pump Tap	138					
10	Yellowjacket - Hext	69					
11	Fort Mason - Fredonia Tap	69					
12	Fredonia Tap - Castell	69					
13	Eldorado Live Oak - Eldorado	69					
14	Evant - Goldthwaite	138					
15	Gillespie Autotransformer	138/69					
16	Hamilton Road - Maverick	138					
17	Wirtz - Ferguson	138					
18	Sandy Creek Autotransformer	138/69					
	West Export Limit	345					

Level of Congestion	High	Medium	Low	None

7. CONTACTS AND INTERNET LINKS

7.1 Contacts

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7.2 Internet Links

ERCOT Home Page

http://www.ercot.com

Information Requests. For general communications and queries, the public can submit a request for information at:

http://www.ercot.com/about/contact/inforequest.cfm

Generation Interconnection or Change Request Procedure

http://www.ercot.com/gridinfo/generation/index.html

Operations and System Planning Data Area

http://oldercot.ercot.com/tmaps/login.cfm

Users must register for access to this area.

Major data folders of interest in this area

- **Power System Planning Charter and Processes**
- **Capacity, Demand, and Reserves Reports** (information on generation capacity, projected demand and reserve margins)
- **Demand and Energy Reports (D&E) Monthly Actuals** (historical data about load and energy)
- **Generation Project Interconnection Information** (data on generation interconnection projects)
- **Maps of ERCOT Transmission System** (in many formats including AutoCad and PowerPoint)
- **Regional Planning Group NORTH**
- **Regional Planning Group SOUTH**
- **Regional Planning Group WEST**
- **Regional Planning Group (Combined Interest)**
- **Steady-State Base Case Info and Old Data**
- **Steady-State Power Flow Base Cases**
- **System Protection Short-Circuit Data**
- **Transmission Project and Information Tracking (TPIT)** (detailed data about transmission projects)

8. DISCLAIMER

This report was prepared by the Electric Reliability Council of Texas (ERCOT) staff. It is intended to be a report of the status of the transmission system in the ERCOT Region and ERCOT's recommendations to address transmission constraints. Transmission system planning is a continuous process. Conclusions reached in this report can change with the addition (or elimination) of plans for new generation, transmission facilities, equipment, or loads.

Information on congestion costs presented herein is based on the most recent settlement calculations at the time of the development of this report. Future settlements as well as ERCOT Board of Directors and Public Utility Commission of Texas directives may change the figures presented herein.

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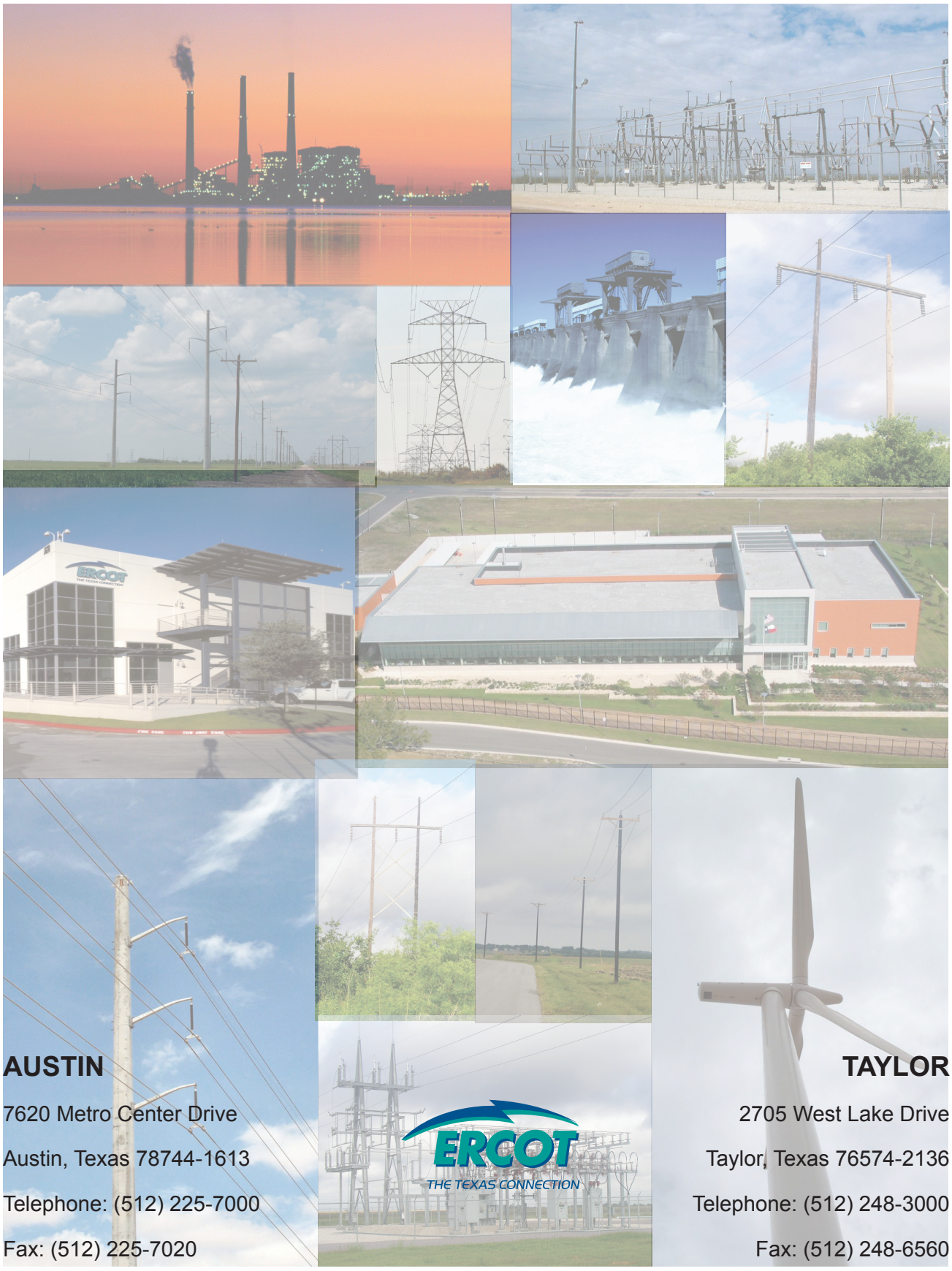

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