



# Section 5. Plano Critical Facilities

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## Importance of Critical Facilities

Hazard mitigation plans often focus on critical facilities vulnerable to hazards simply because it is usually most cost-effective to mitigate the assets that are the most important to the community. These could be facilities critical to emergency operations, or ones that house important government functions or vulnerable populations, or ones simply deemed important to the community for their economic or cultural value. Consequently, these facilities are considered high-priority when evaluating structures for the purpose of increasing their disaster resistance. Critical and essential facilities include:

- Essential Facilities
- Critical Transportation, Utility and Communications Infrastructure
- High Potential Loss Facilities
- Hazardous Materials Facilities
- Facilities to assist Vulnerable Populations
- Key Assets
- Areas of Special Consideration

In general, for most of the hazards addressed in this study, the potential for significant damage exists primarily at critical facilities located in flood-prone areas. Critical facilities that happen to be in the





tornado path or nearby energy pipelines where incidents could occur also may sustain considerable damage.

In order to understand what assets can be affected by hazard events, an inventory of critical facilities was compiled for the City of Plano. Using the Department of Homeland Security's *The National Strategy for the Physical Protection of Critical Infrastructures and Key Assets* as a guide, the NCTCOG organized the region's assets into the categories listed above. An extensive set of presentation maps using NCTCOG's Geographical Information System (GIS) has been assembled for critical facilities at a scale that demonstrates general spatial relationships but does not reveal specific spatial information that could endanger the facilities. The maps can be viewed [here](#). ArcGIS shape files are also available from the NCTCOG.

In addition to the data provided by the NCTCOG, FEMA maintains a database of critical facilities in their HAZUS ("Hazards U.S.") model. The default data from HAZUS is presented in Appendix K. (Note: the HAZUS default data is incomplete).

## Essential Facilities

Essential facilities are those facilities that are essential to the health and welfare of the whole population of the City of Plano and are especially important during and after hazard events. Essential facilities include:

- ◆ Hospitals
- ◆ Medical facilities
- ◆ Nursing homes/group homes
- ◆ Police stations
- ◆ Fire stations
- ◆ Emergency operations centers
- ◆ Evacuation shelters
- ◆ Schools

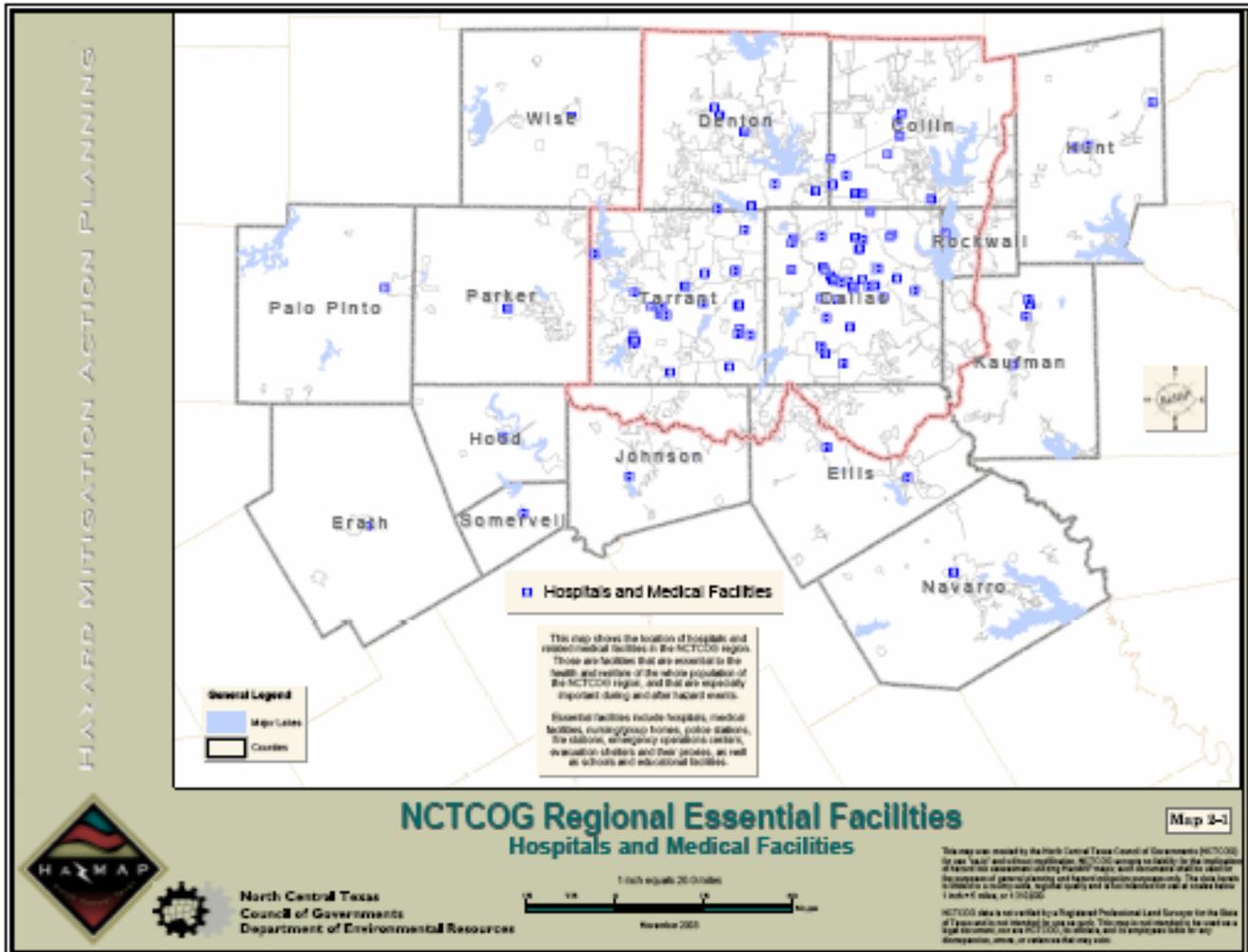


Figure 5-1. Hospitals and Medical Facilities in the NCTCOG Region

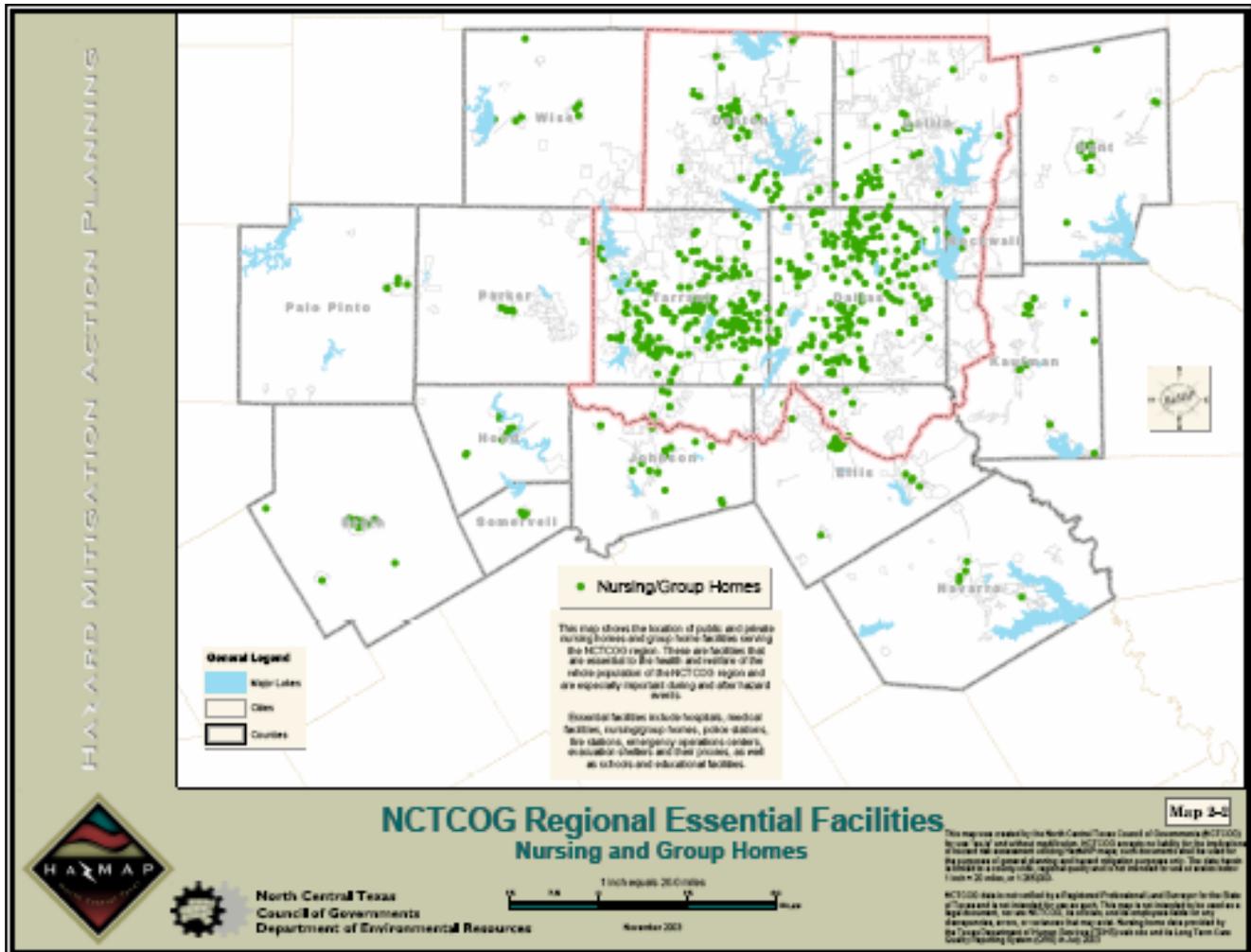


Figure 5-2. Nursing and Group Homes in the NCTCOG Region

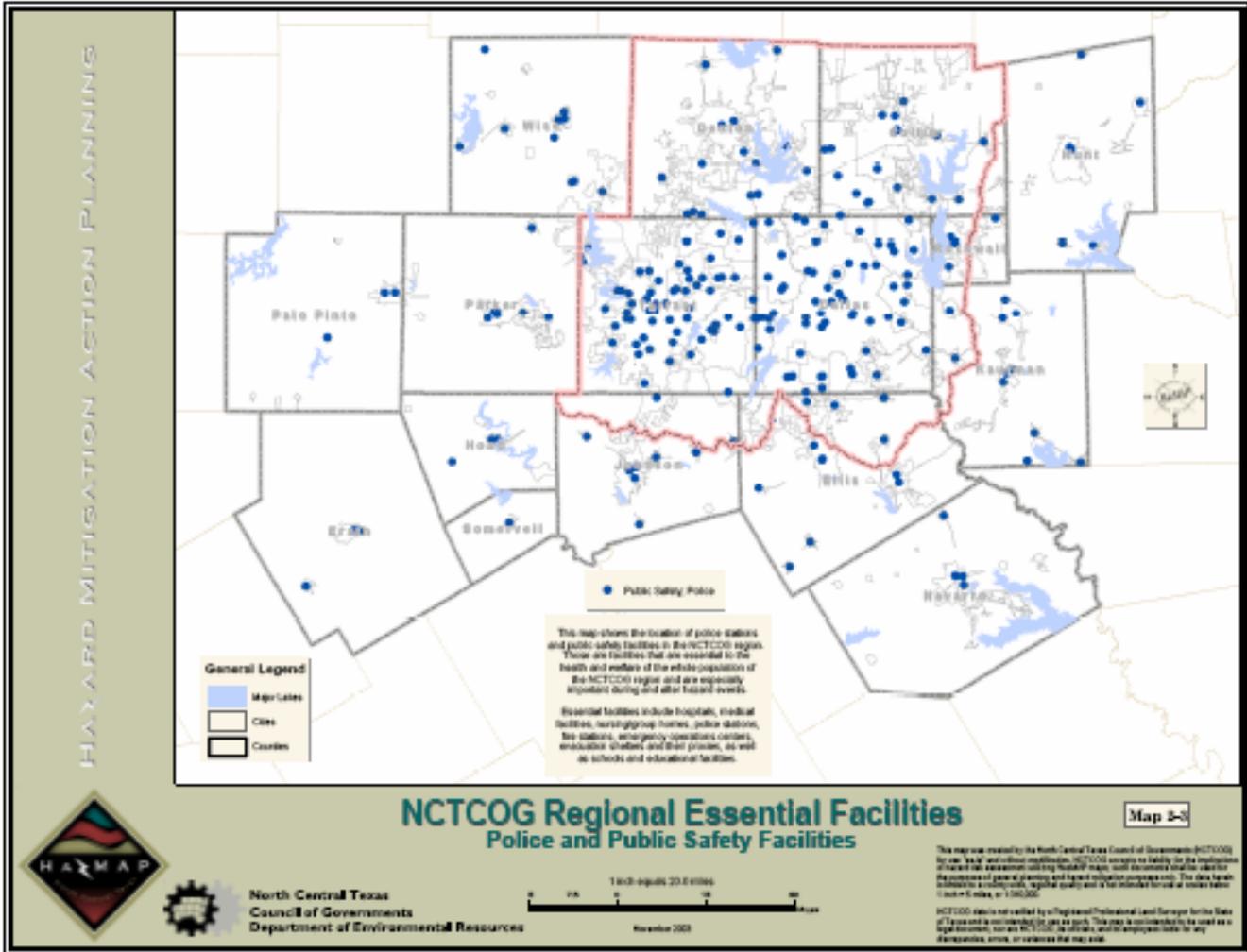


Figure 5-3. Police and Public Safety Facilities in the NCTCOG Region

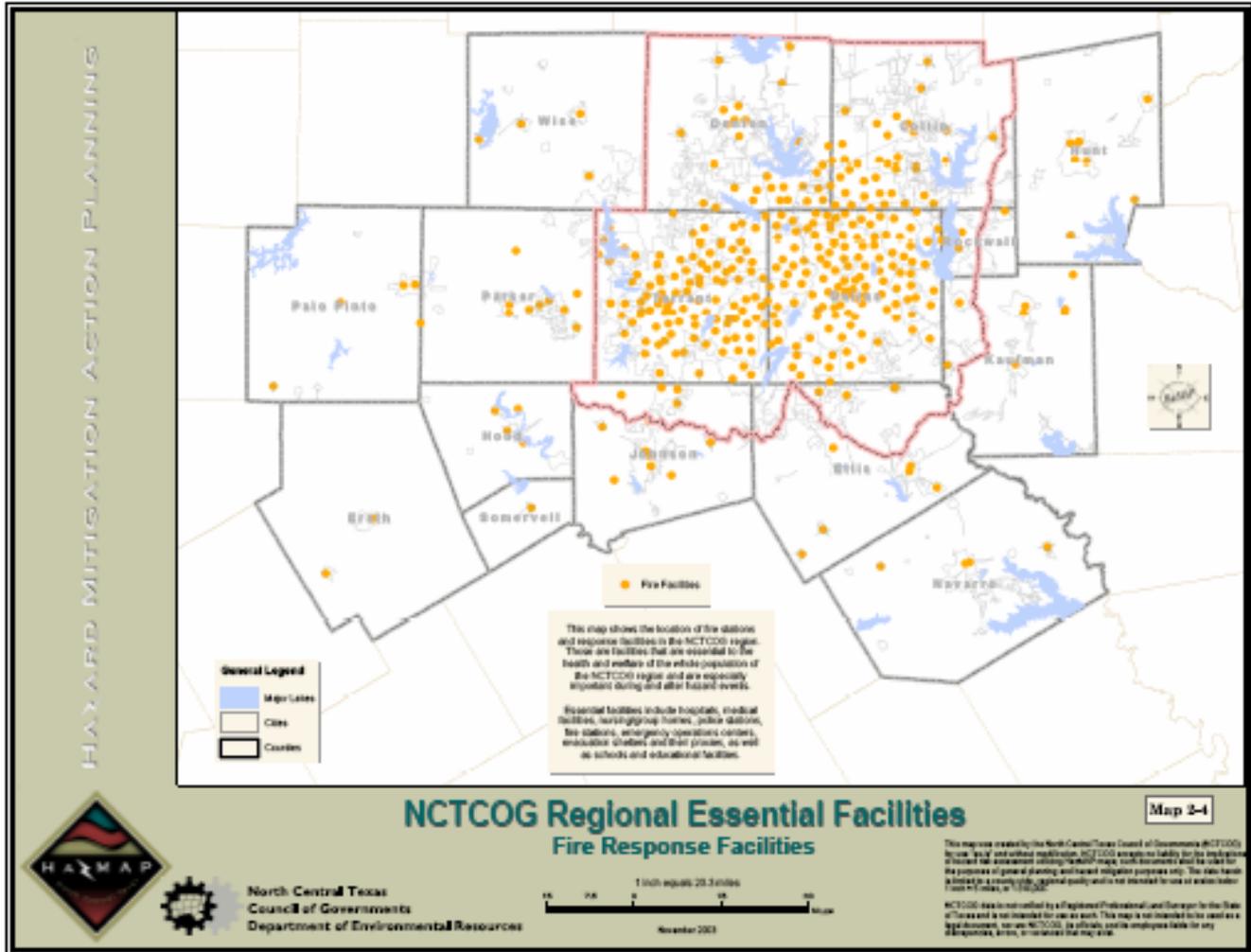


Figure 5-4. Fire Response Facilities in the NCTCOG Region

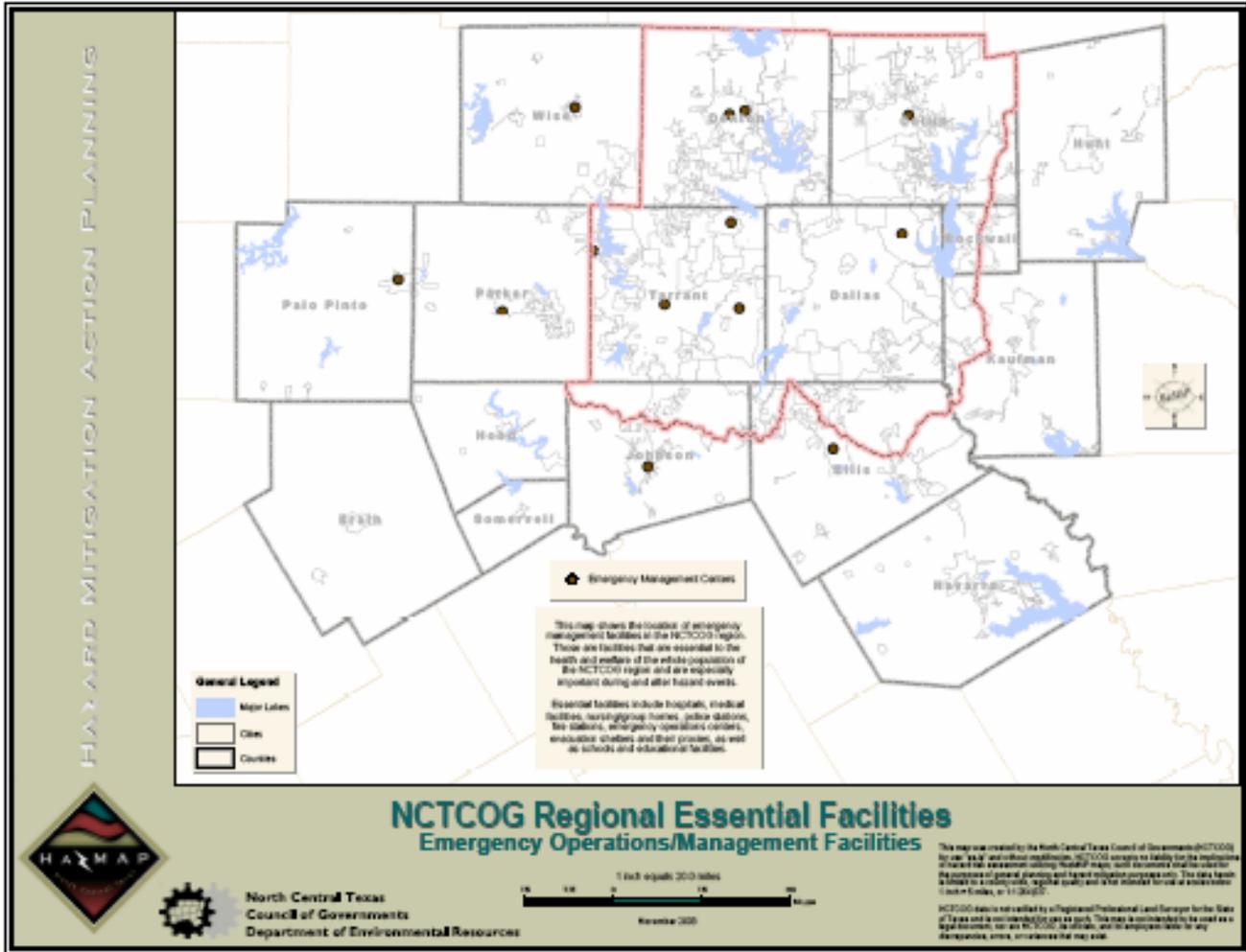


Figure 5-5. Emergency Operations/Management Facilities

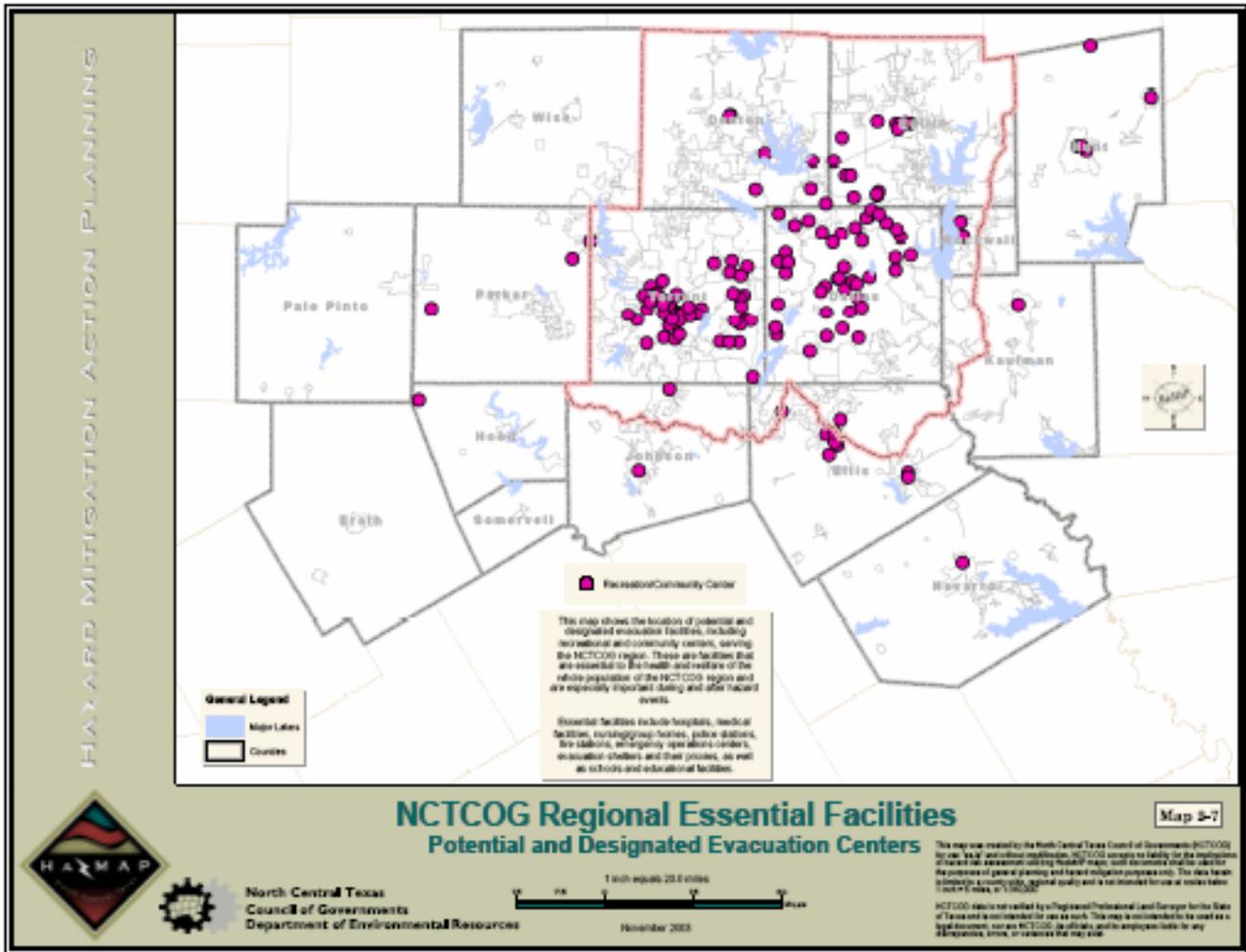


Figure 5-6. Potential and Designated Evacuation Centers

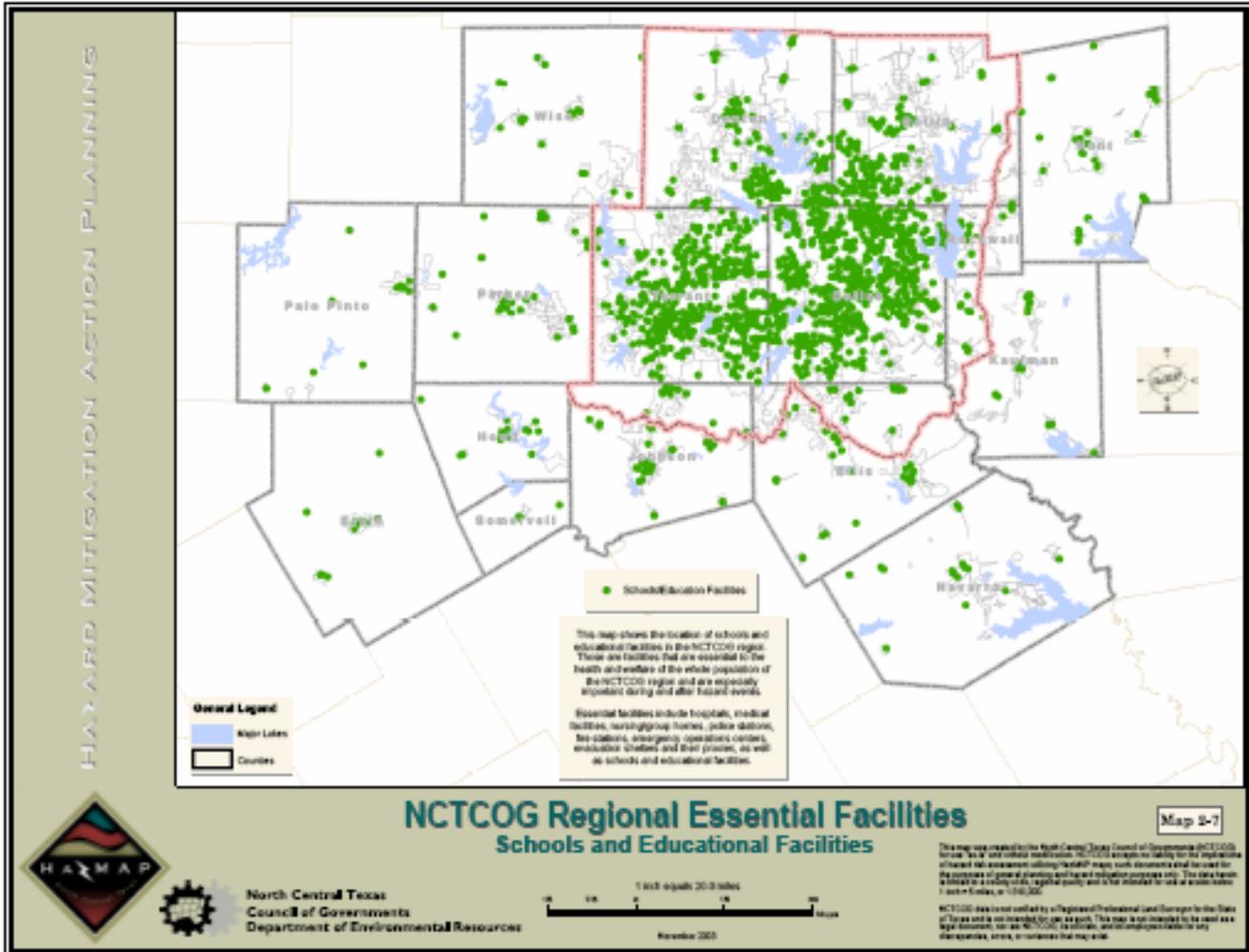


Figure 5-7. Schools and Educational Facilities



# Critical Transportation, Utility, and Communications Infrastructure

Critical transportation, utility, and communications infrastructure are those facilities whose loss of service/use would significantly disrupt the region and would have cascading effects on other types of critical facilities. Critical Transportation Infrastructure consists of:

- ◆ Airways (airports, heliports)
- ◆ Highways (roads, bridges, overpasses, tunnels)
- ◆ Railways (railroad tracks, bridges, tunnels, rail yards, depots/stations)
- ◆ Waterways (canals, locks, ports, ferries, harbors, dry docks, piers, marinas)

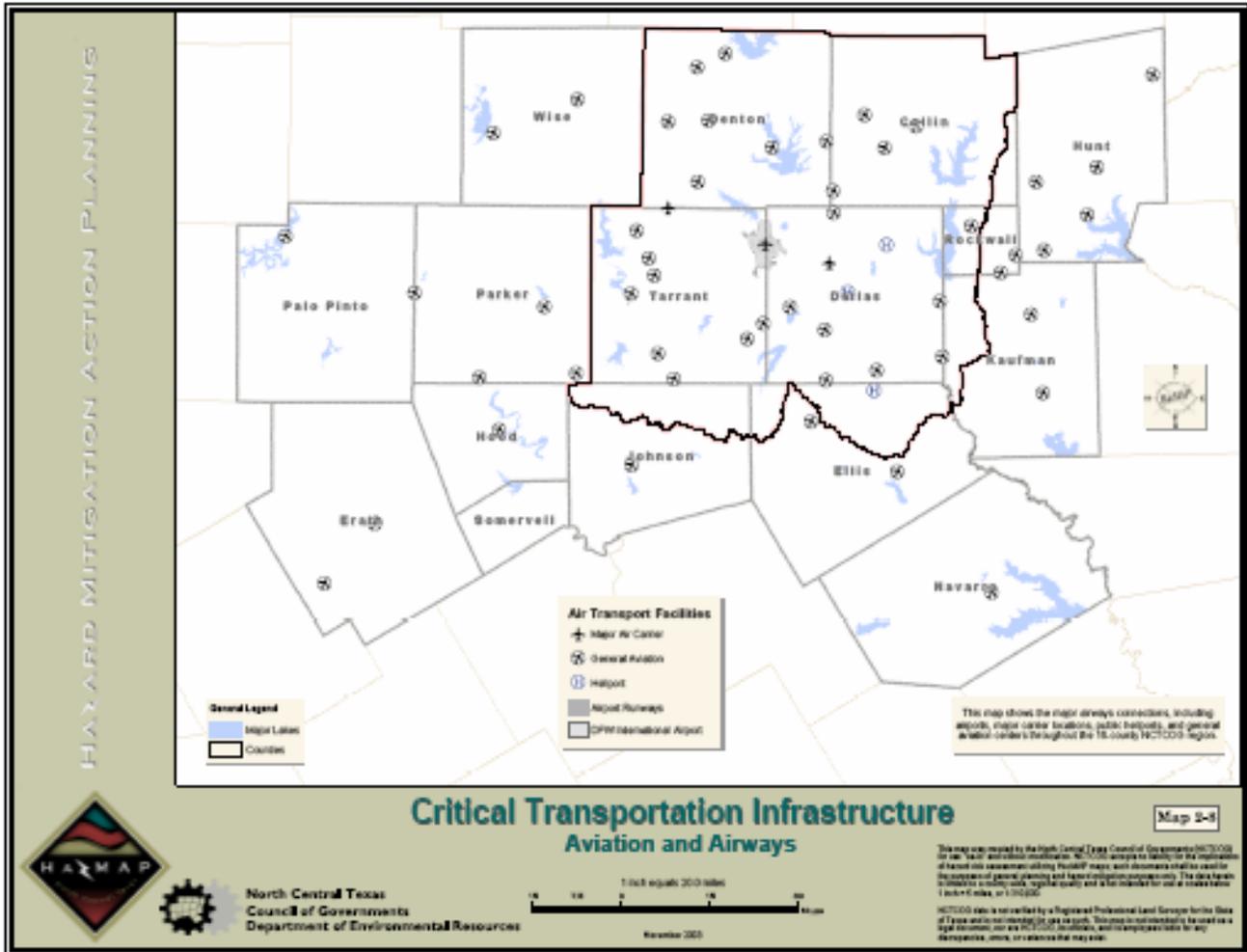


Figure 5-8. Aviation and Airways in the NCTCOG Region

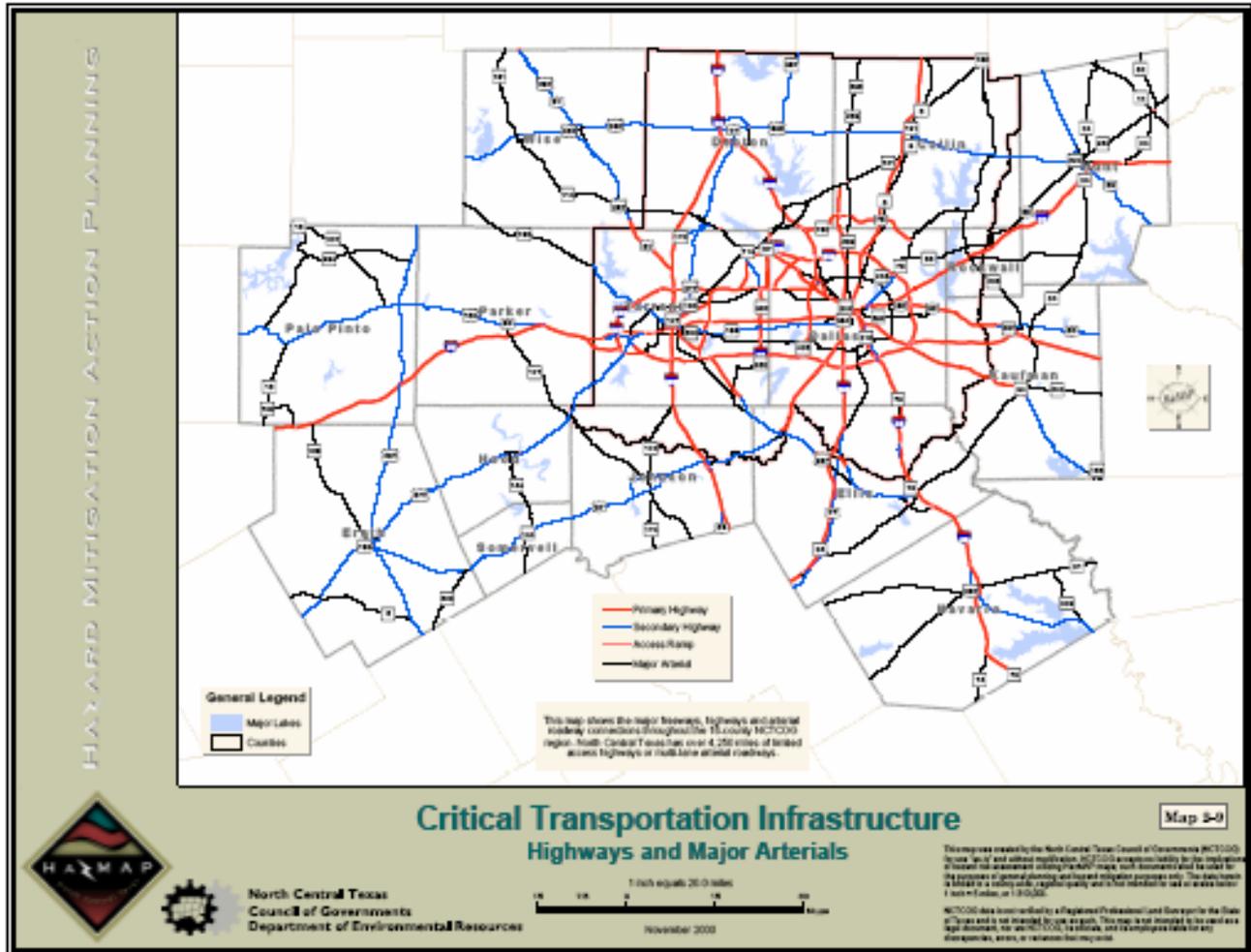


Figure 5-9. Highways and Major Arterials in the NCTCOG Region

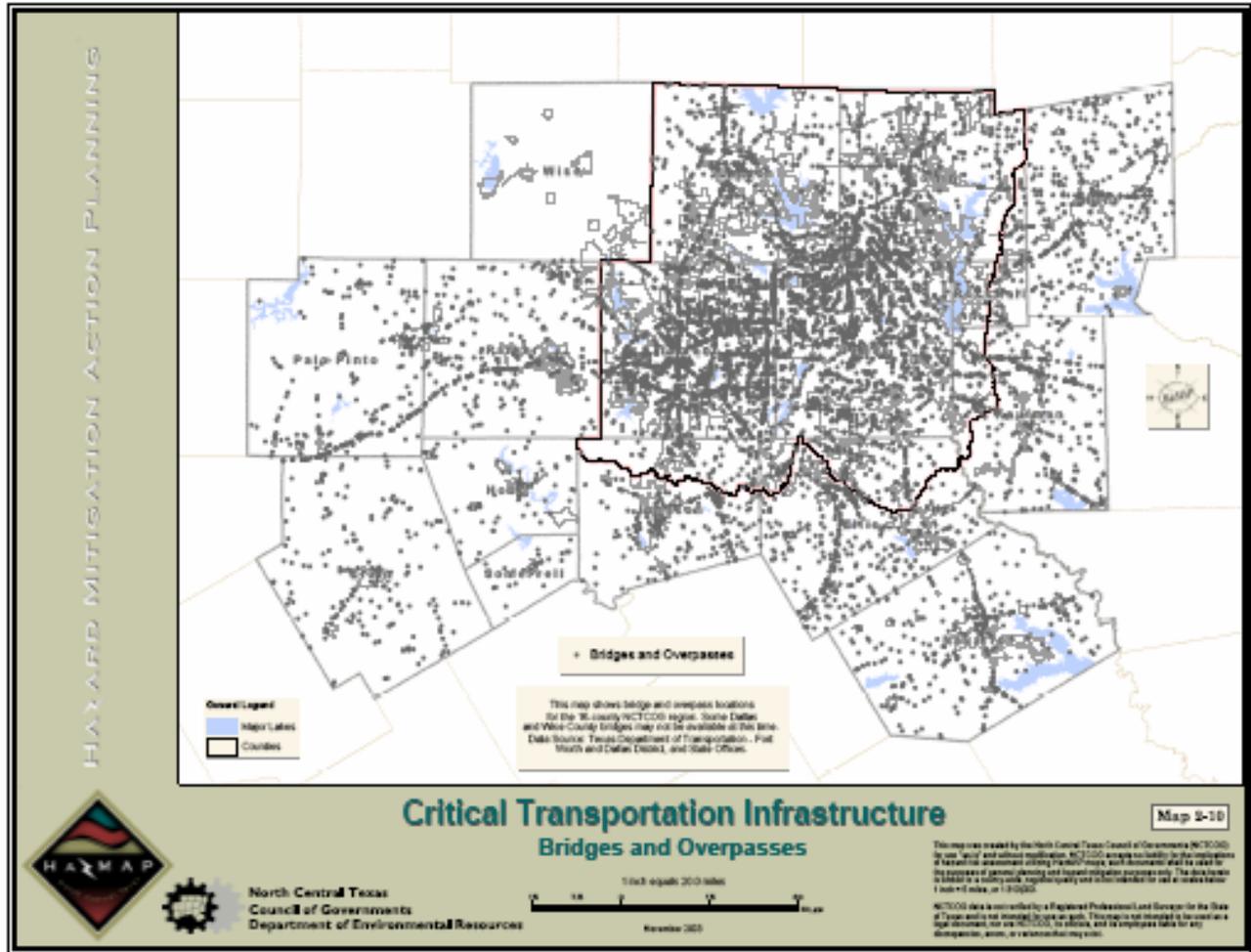


Figure 5-10. Bridges and Overpasses in the NCTCOG Region



Figure 5-11. Railroads and Railway Facilities in NCTOG Region

Critical Utility Infrastructure consists of:

- ◆ Water production, transmission, and distribution (reservoirs, treatment plants, towers, transmission lines, groundwater aquifers, public wells, administrative districts)
- ◆ Energy production, transmission, and distribution (oil/natural gas wells, electric power plants, oil/natural gas pipelines, electric transmission lines, electric substations)

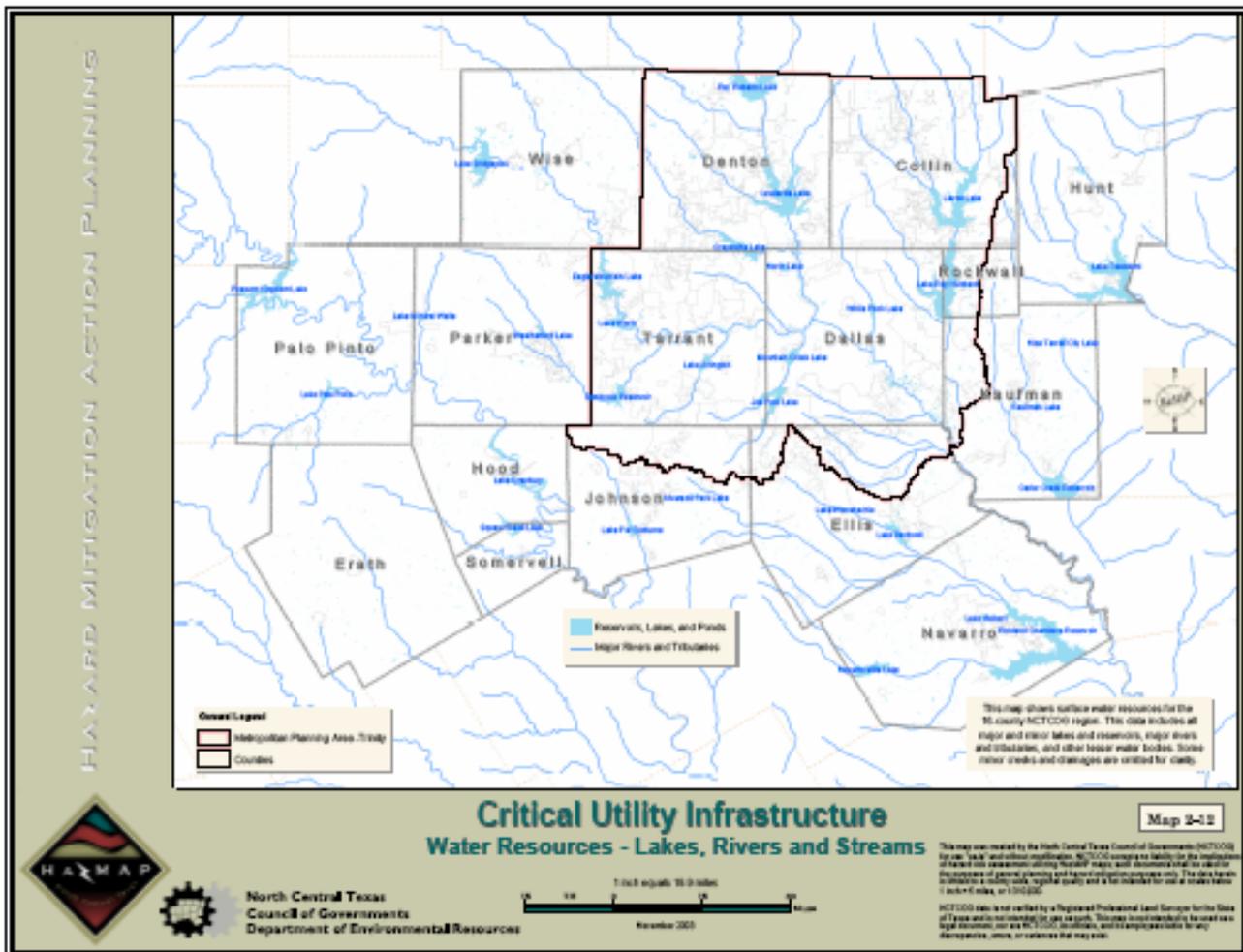


Figure 5-12. Water Resources – Lakes, Rivers and Streams in the NCTCOG Region

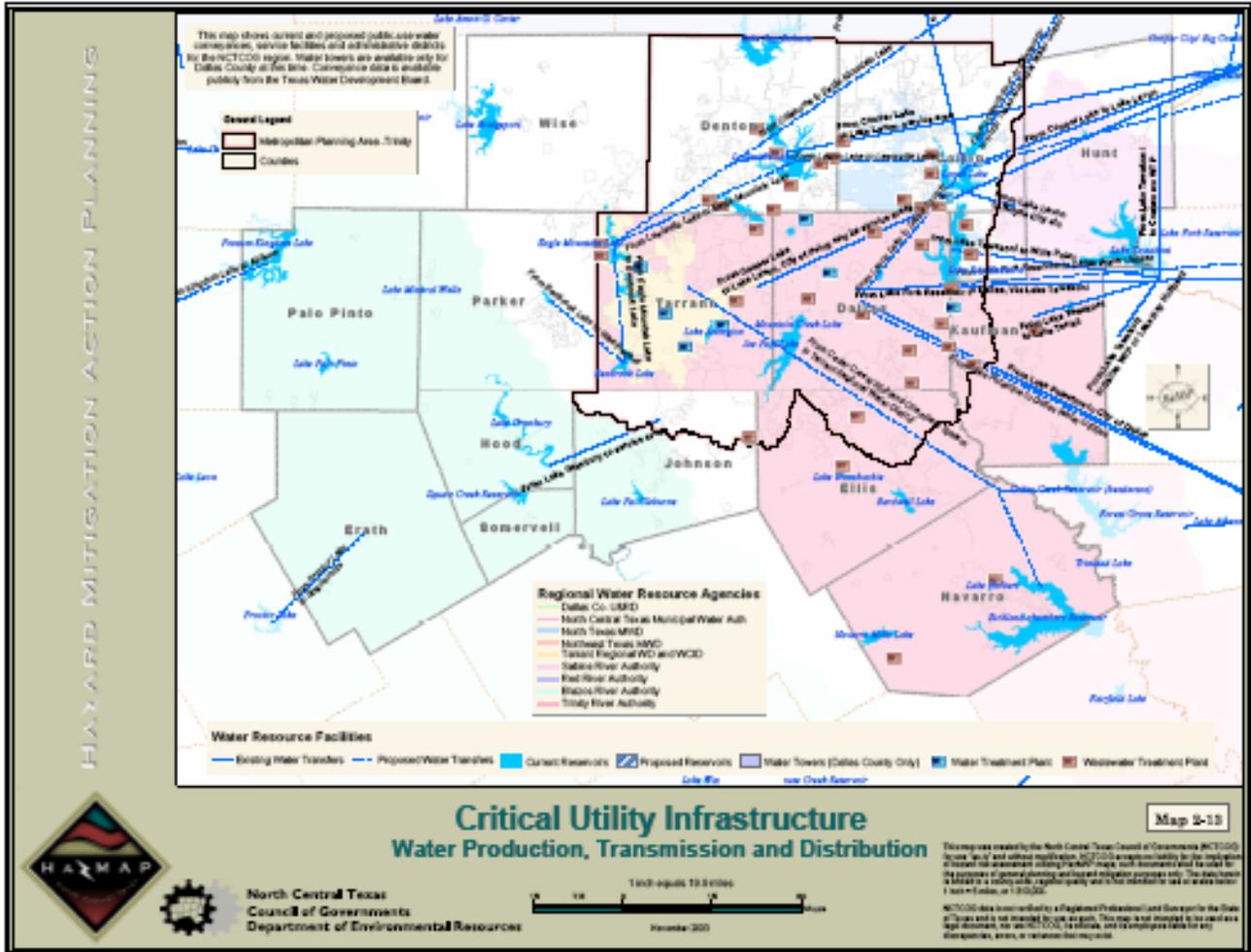


Figure 5-13. Water Production, Transmission and Distribution in the NCTCOG Region

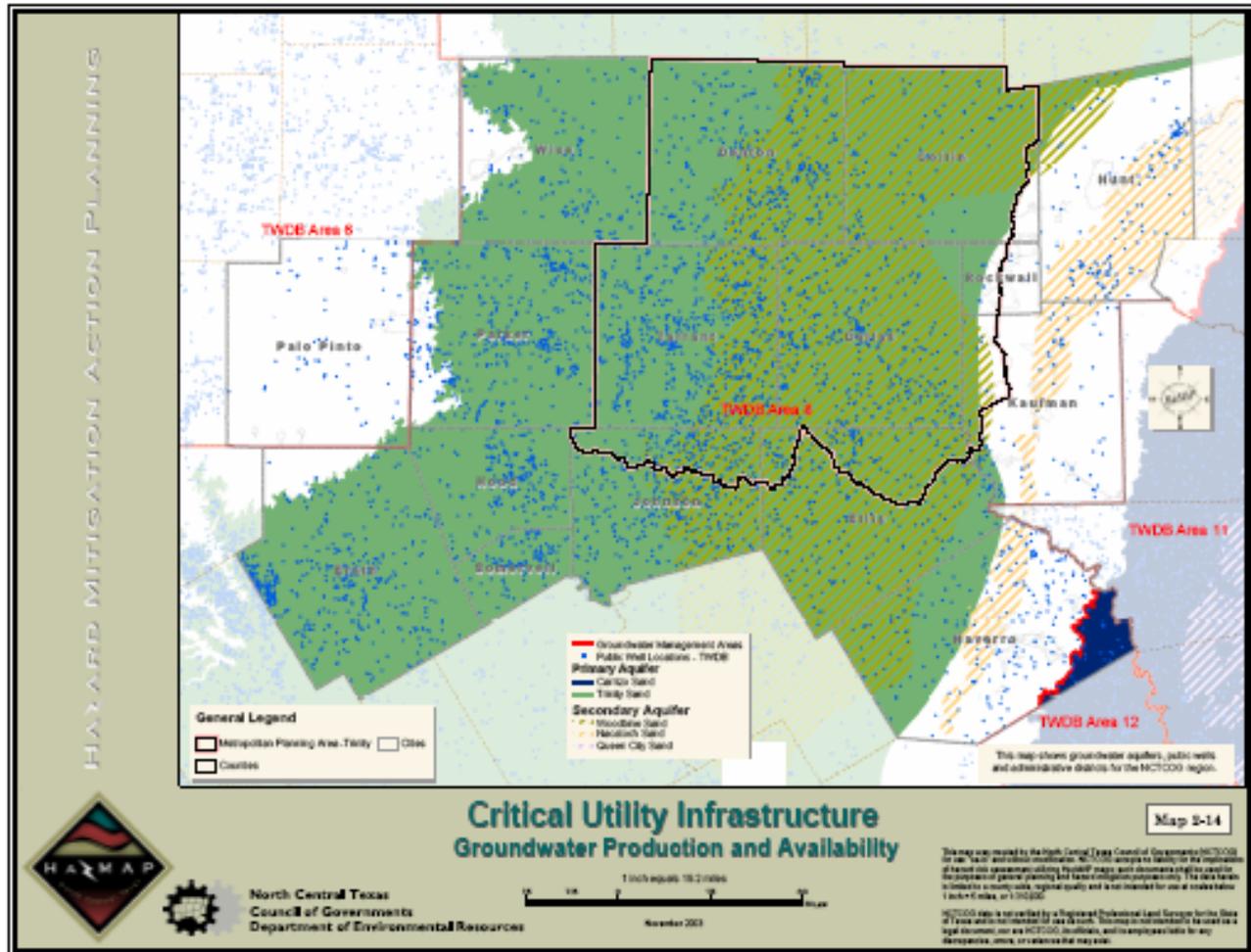


Figure 5-14. Groundwater Production and Availability in the NCTCOG Region

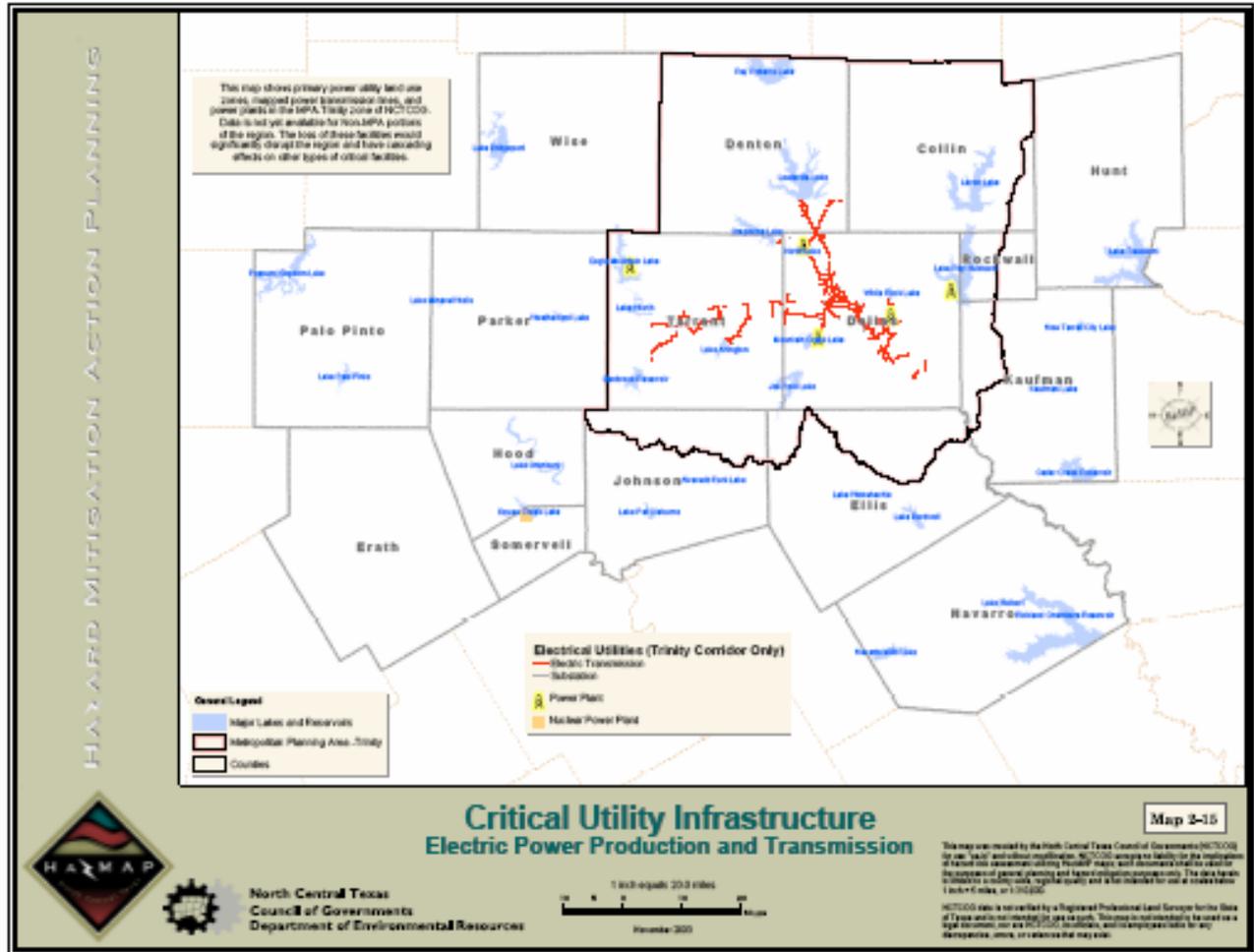


Figure 5-15. Electrical Power Production and Transmission in the NCTCOG Region

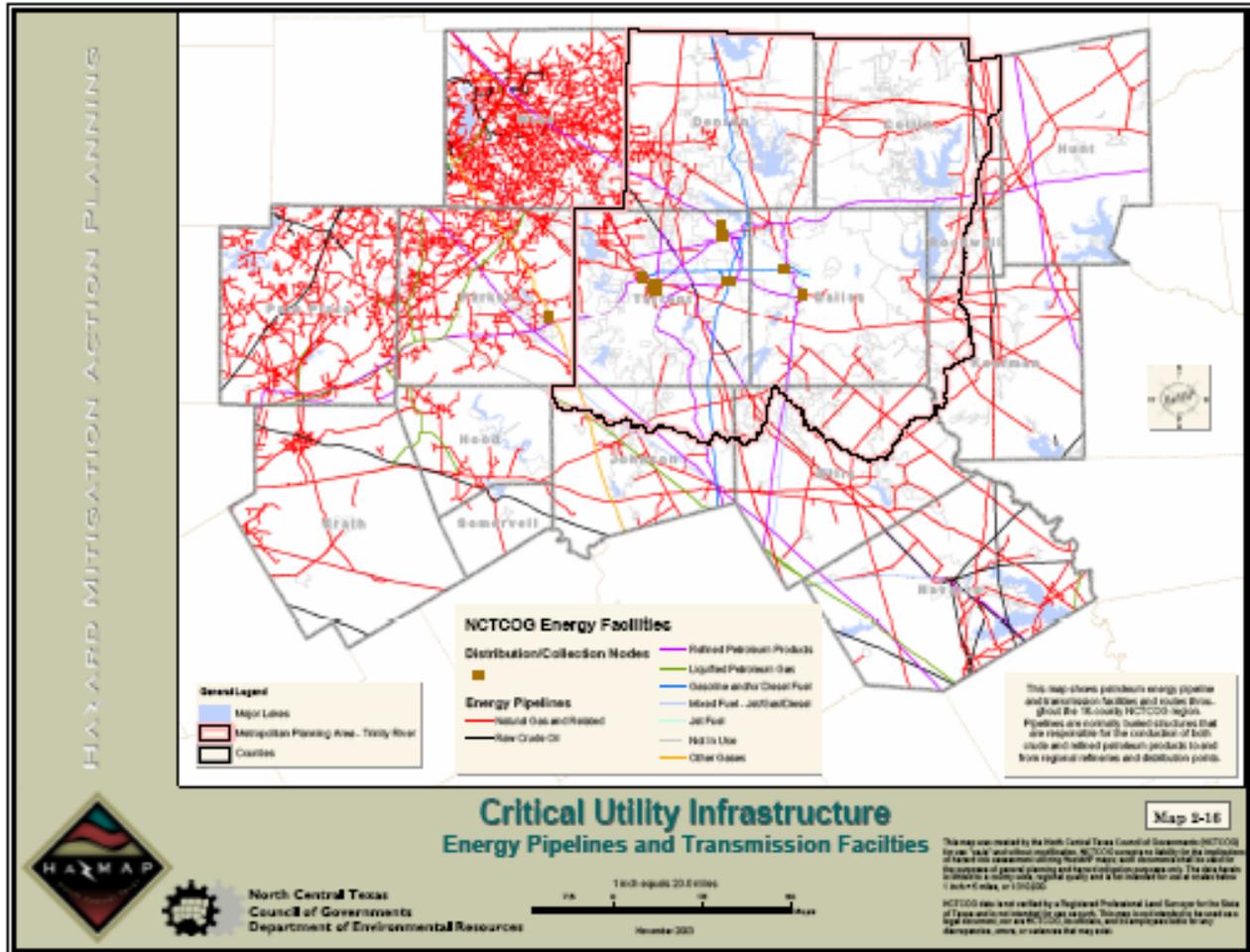


Figure 5-16. Energy Pipelines and Transmission Facilities in the NCTCOG Region

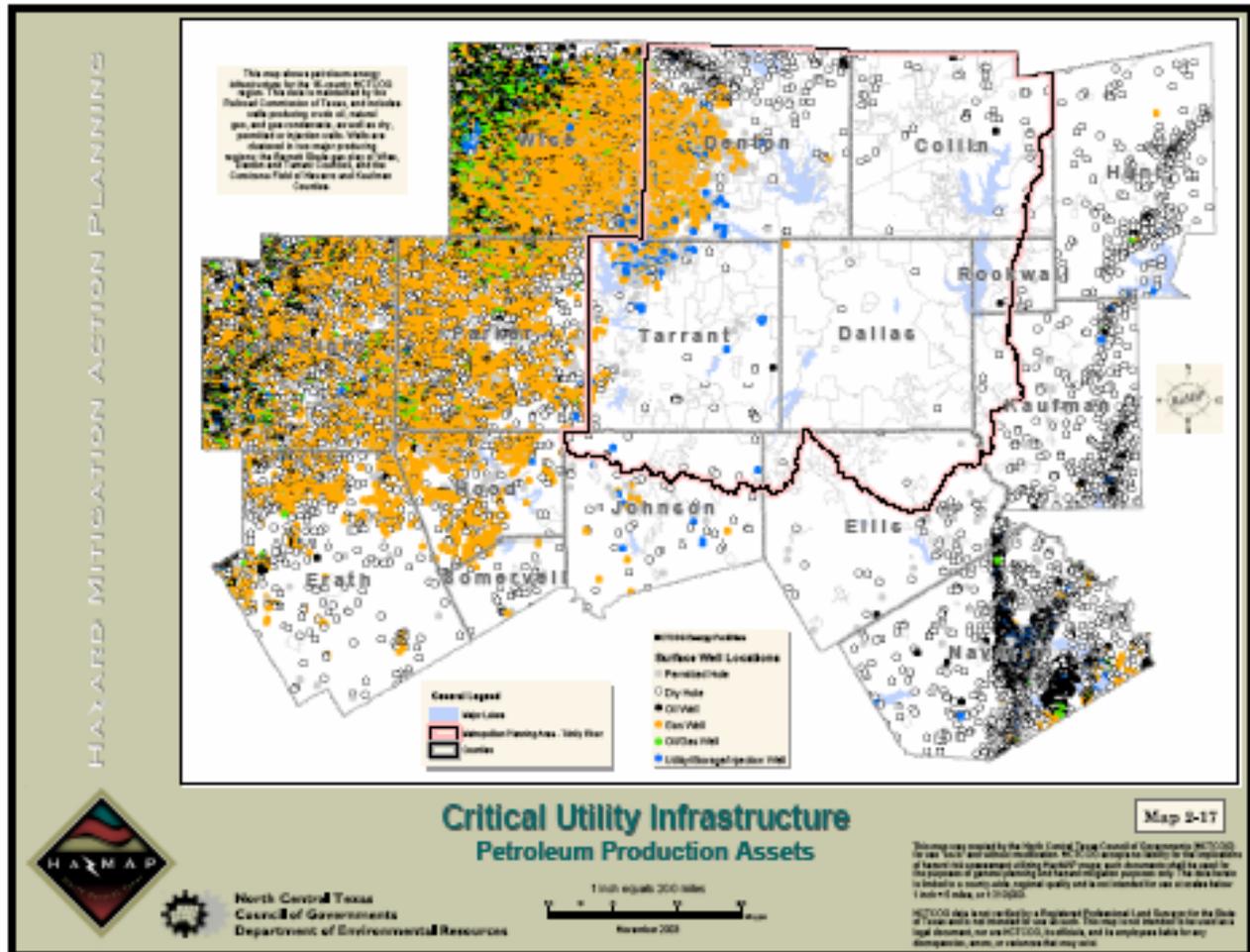


Figure 5-17. Petroleum Production Assets in the NCTCOG Region

Critical Communications Infrastructure consists of:

- ◆ Equipment storage facilities
- ◆ Transmission dishes, towers, cable



# High Potential Loss Facilities

High potential loss facilities are facilities that may not be vital to the continuity of critical services but, if affected by a hazard event, may result in significant loss of life and property and adverse impacts to public health and safety in the long-term.

High Potential Loss Facilities consist of:

- ◆ Nuclear Power Plants
- ◆ Dams and Levees
- ◆ Military Installations

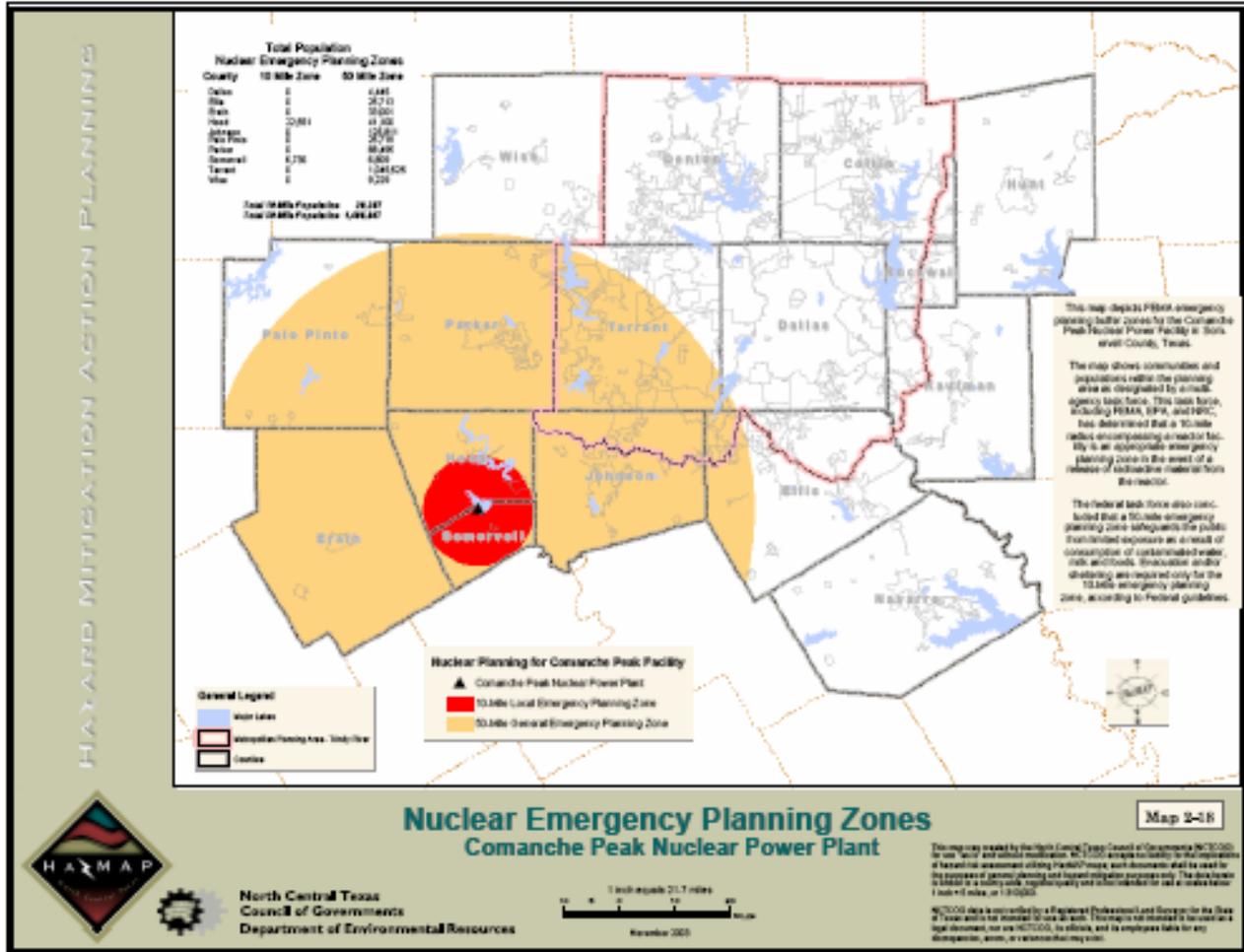


Figure 5-18. Comanche Peak Nuclear Power Plant

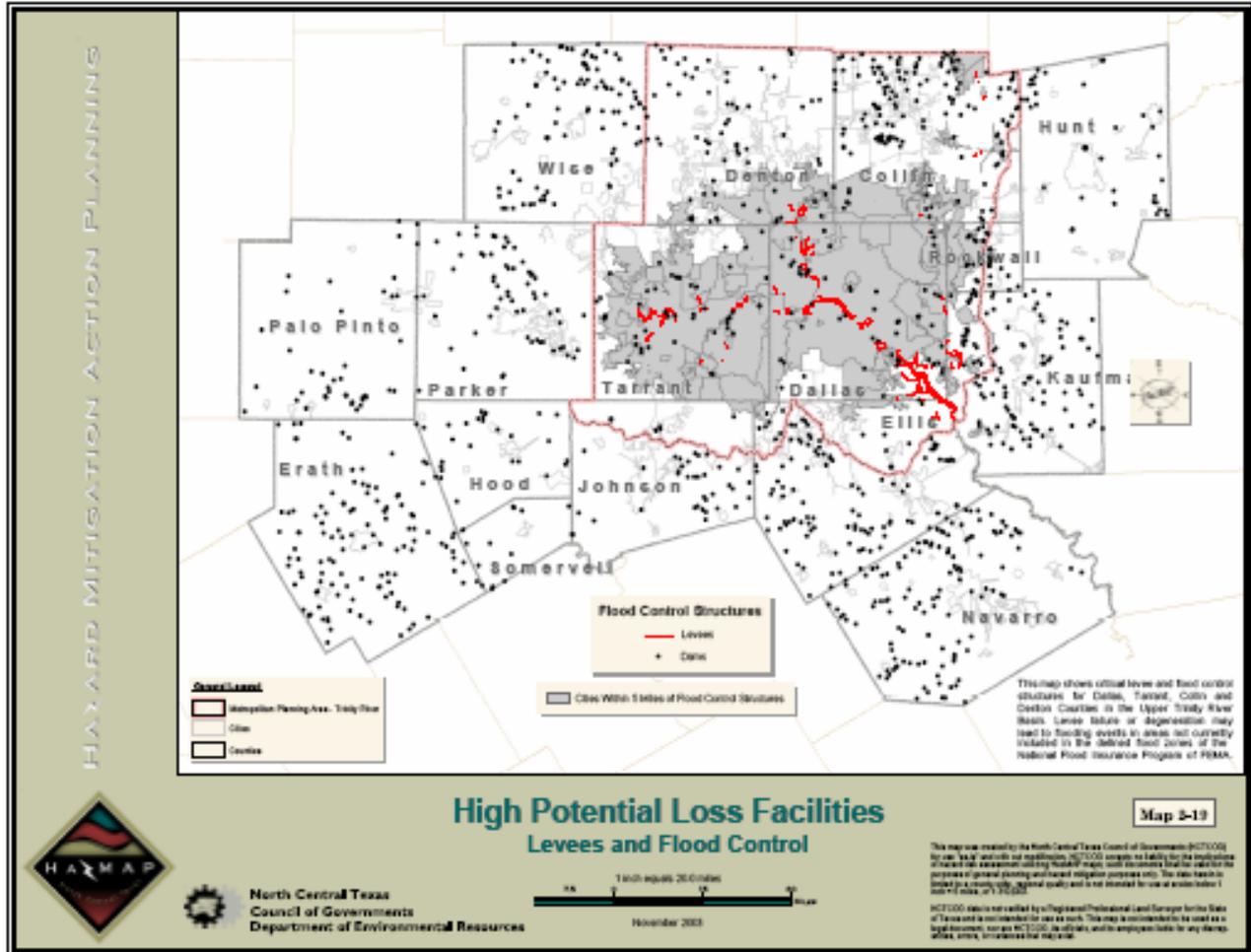


Figure 5-19. Levees and Flood Control Facilities

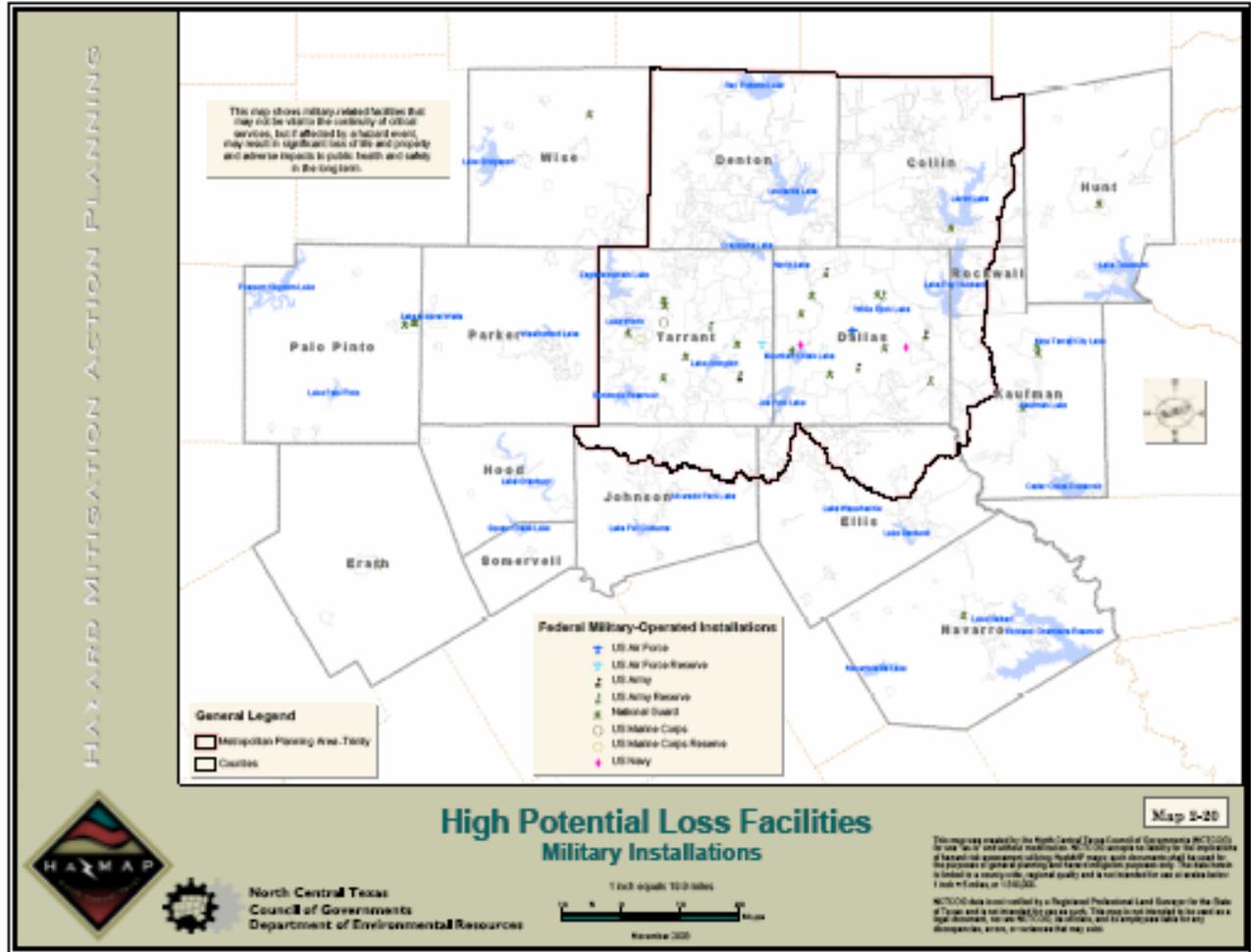


Figure 5-20. Military Installations in the NCTCOG Region

# Hazardous Material Facilities

Hazardous material facilities are those industrial facilities that store hazardous materials such as corrosives, explosives, flammable materials, radioactive materials, and toxins. Hazardous Materials Facilities include:

- ◆ Toxic Release Inventory sites
- ◆ Landfills
- ◆ Hazardous Materials Transportation Routes

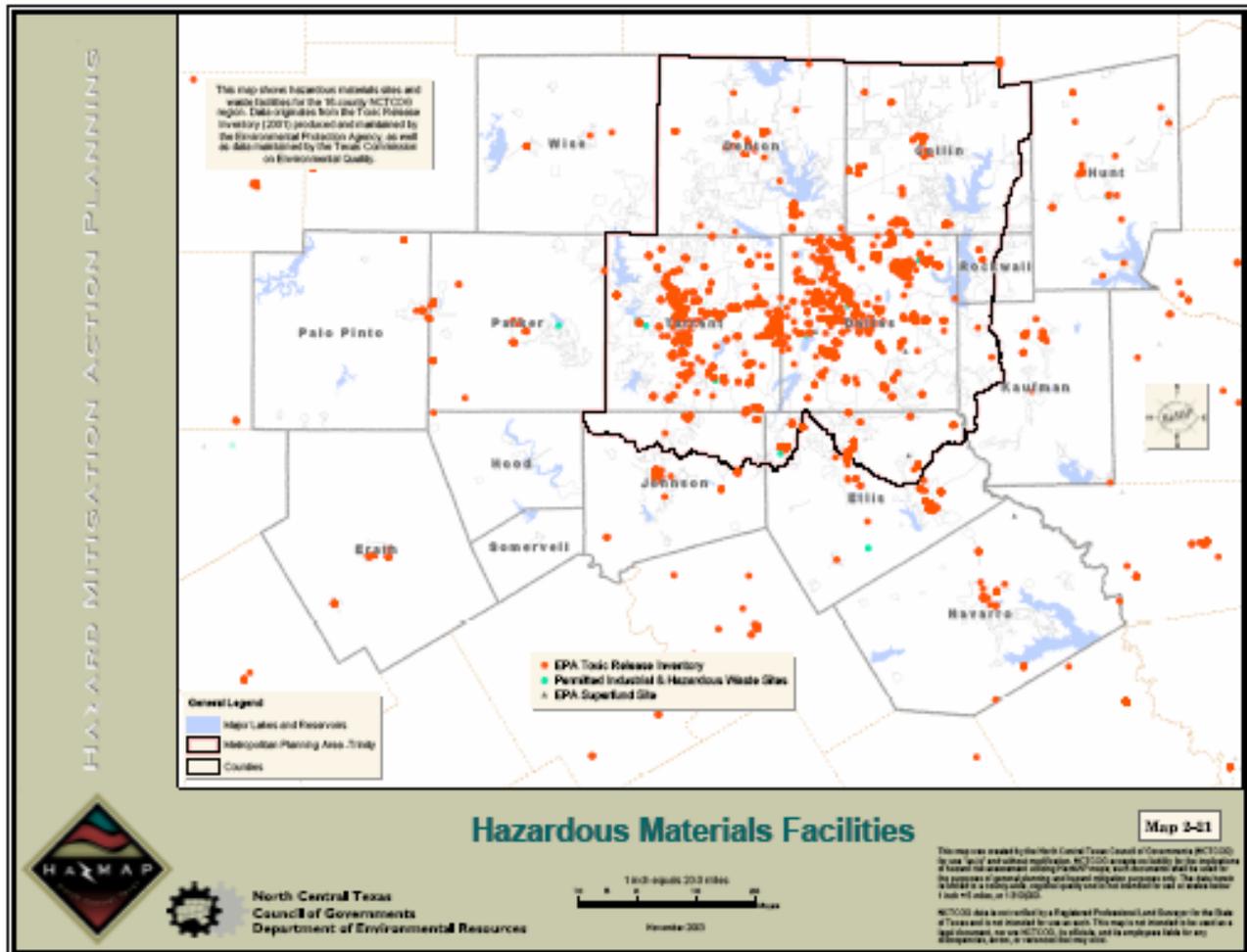


Figure 5-21. Hazardous Materials Facilities in the NCTCOG Region

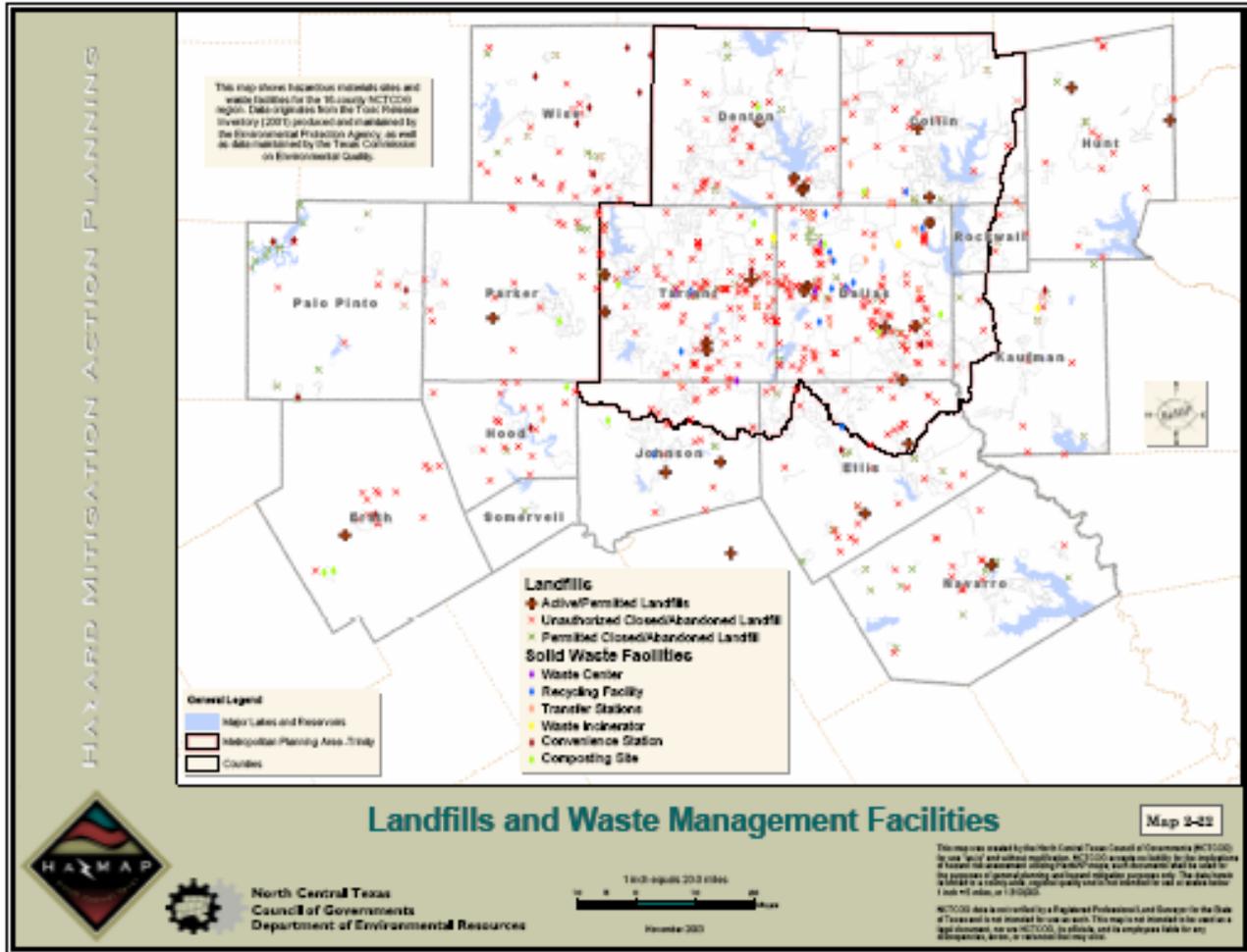


Figure 5-22. Landfills and Waster Management Facilities in the NCTCOG Region

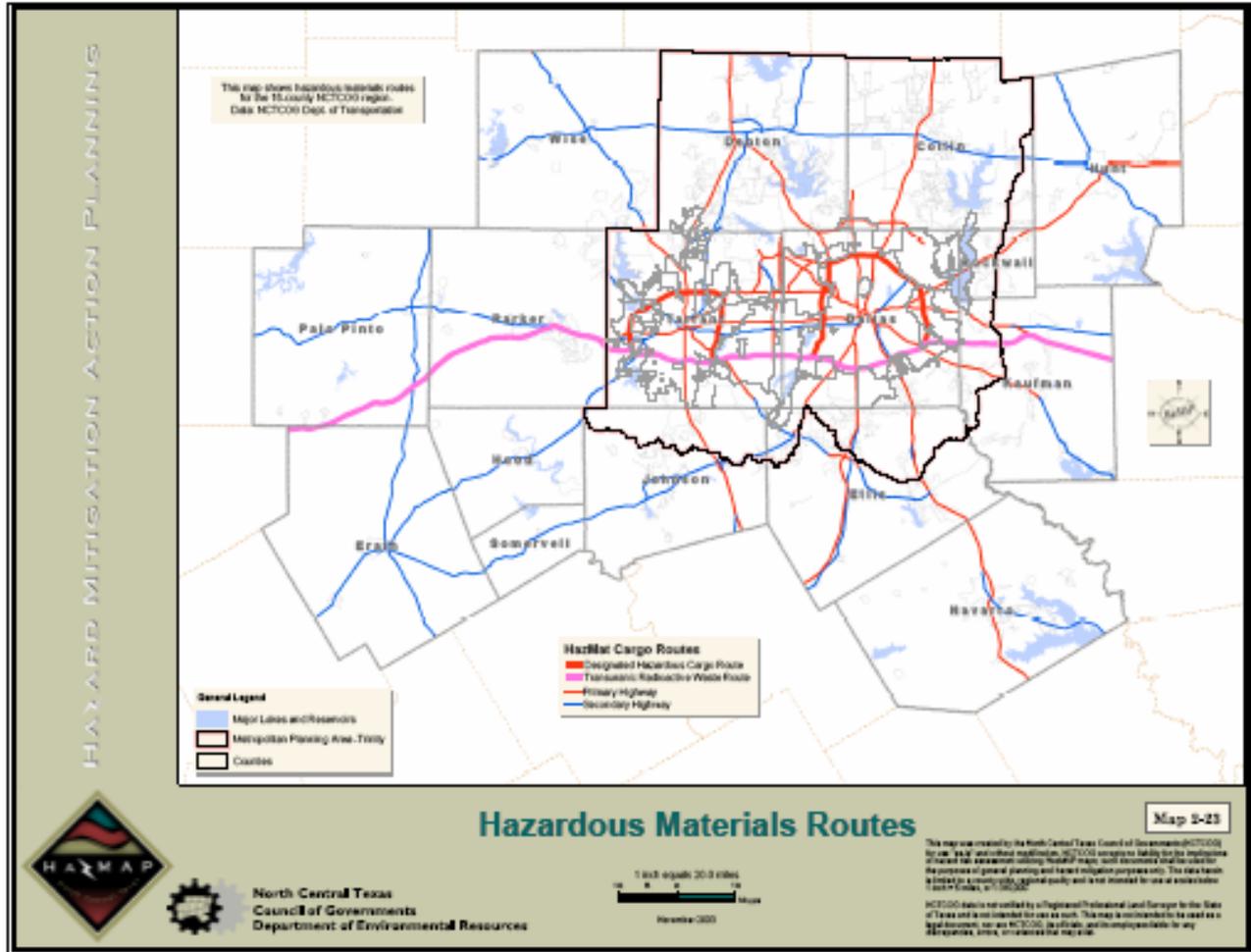


Figure 5-23. Hazardous Materials Routes in the NCTCOG Region

# Vulnerable Populations

Vulnerable populations are those groups of people who may require special response assistance or special medical attention after a hazard event. Vulnerable Populations include:

- ◆ Non-English speaking
- ◆ Non-English and Non-Spanish speaking
- ◆ Elderly

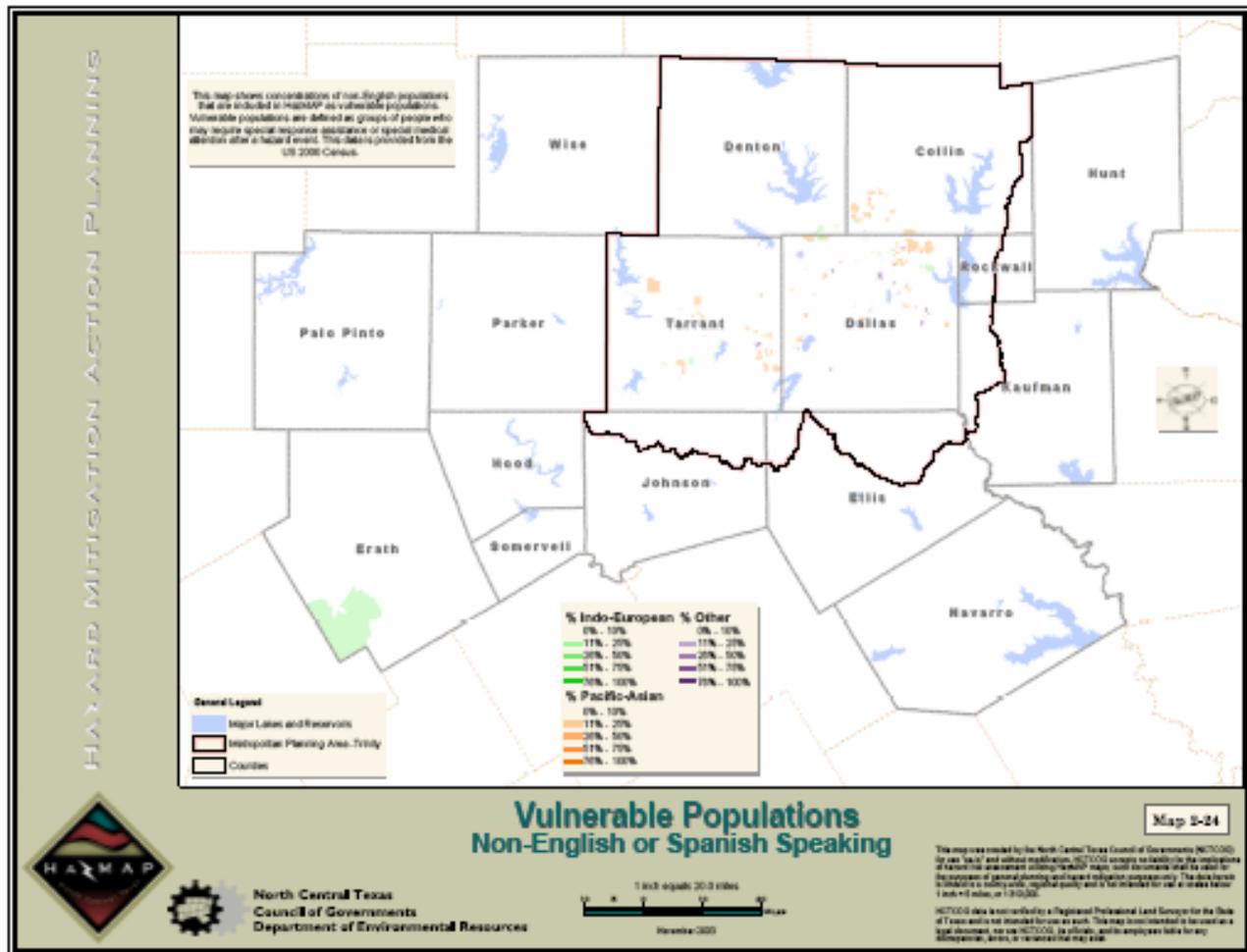


Figure 5-24. Non-English or Spanish Speaking Populations in the NCTCOG Region



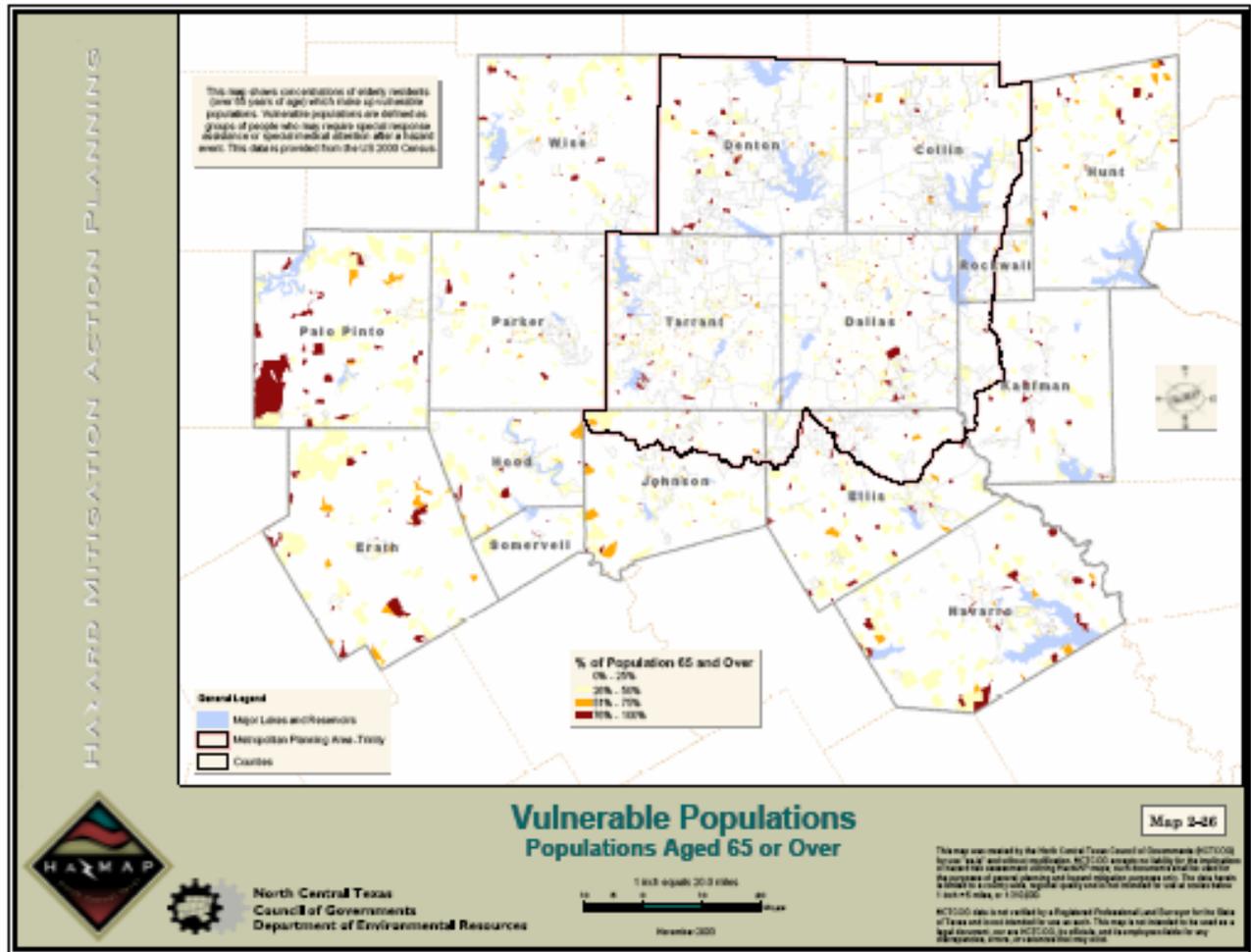


Figure 5-26. Populations Aged 65 or Over in the NCTCOG Region



## Key Assets

Key assets represent a broad range of unique facilities, sites, and structures whose damage, disruption, or destruction could have significant consequences across multiple dimensions. Key assets may represent heritage, traditions, values and political power. Key assets may draw large amounts of tourism. Key assets may represent our national economic power and technological advancement. Key assets may include places where large numbers of people regularly congregate to conduct business or personal transactions, shop, or recreate. Given the regional and/or national-level fame of these sites and facilities, protecting them is important in terms of both preventing loss of life and preserving public confidence.

Key Assets include:

- ◆ Economic assets (major employers, major financial/commercial centers, downtowns, skyscrapers, sports stadiums, amusement parks)
- ◆ Agricultural assets (farms, food-processing plants)
- ◆ Historical assets (historic buildings, icons, monuments)
- ◆ Cultural assets (museums, cemeteries, archaeological sites, burial grounds)
- ◆ Governmental assets (city halls, courthouses, post offices)
- ◆ Natural resource assets

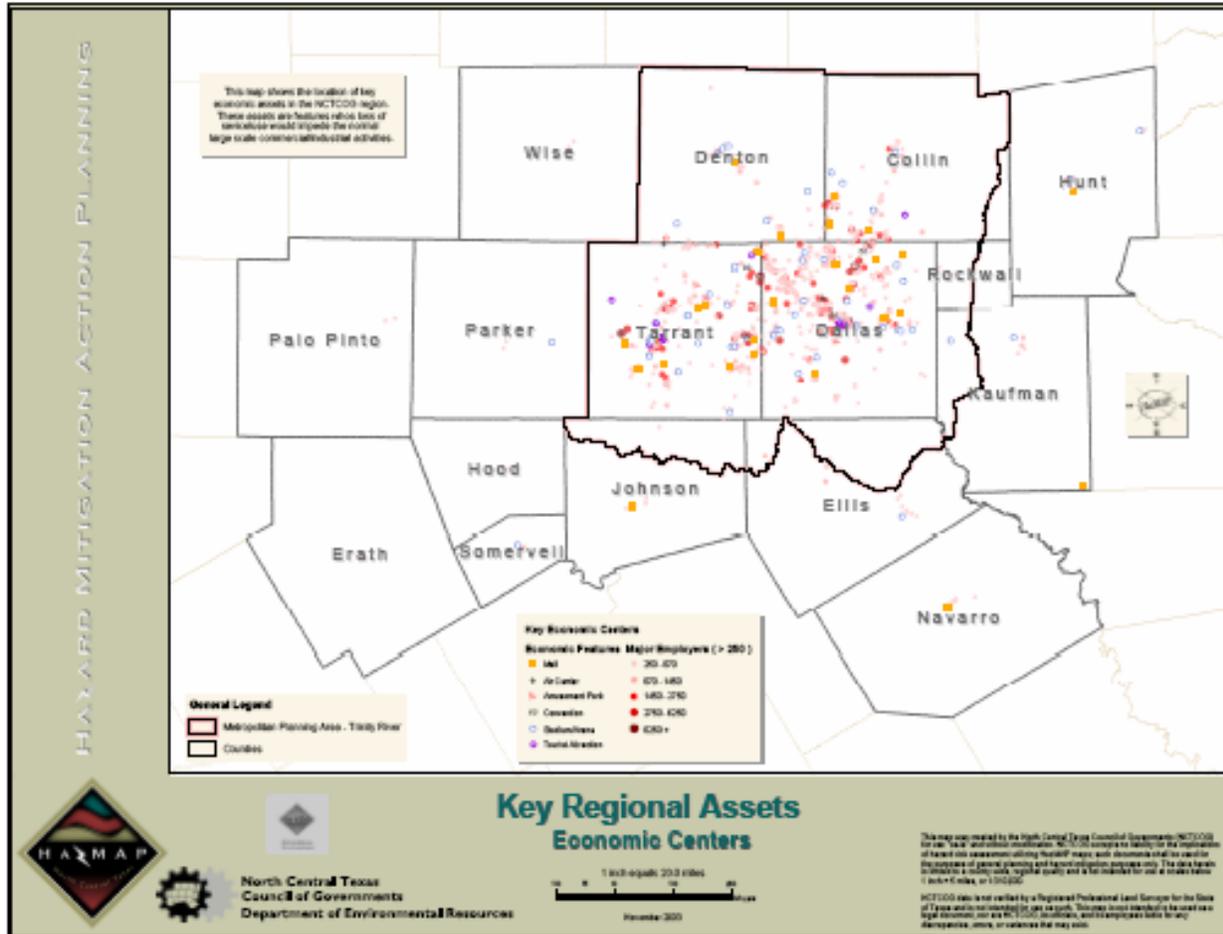


Figure 5-27. Economic Centers in the NCTCOG Region

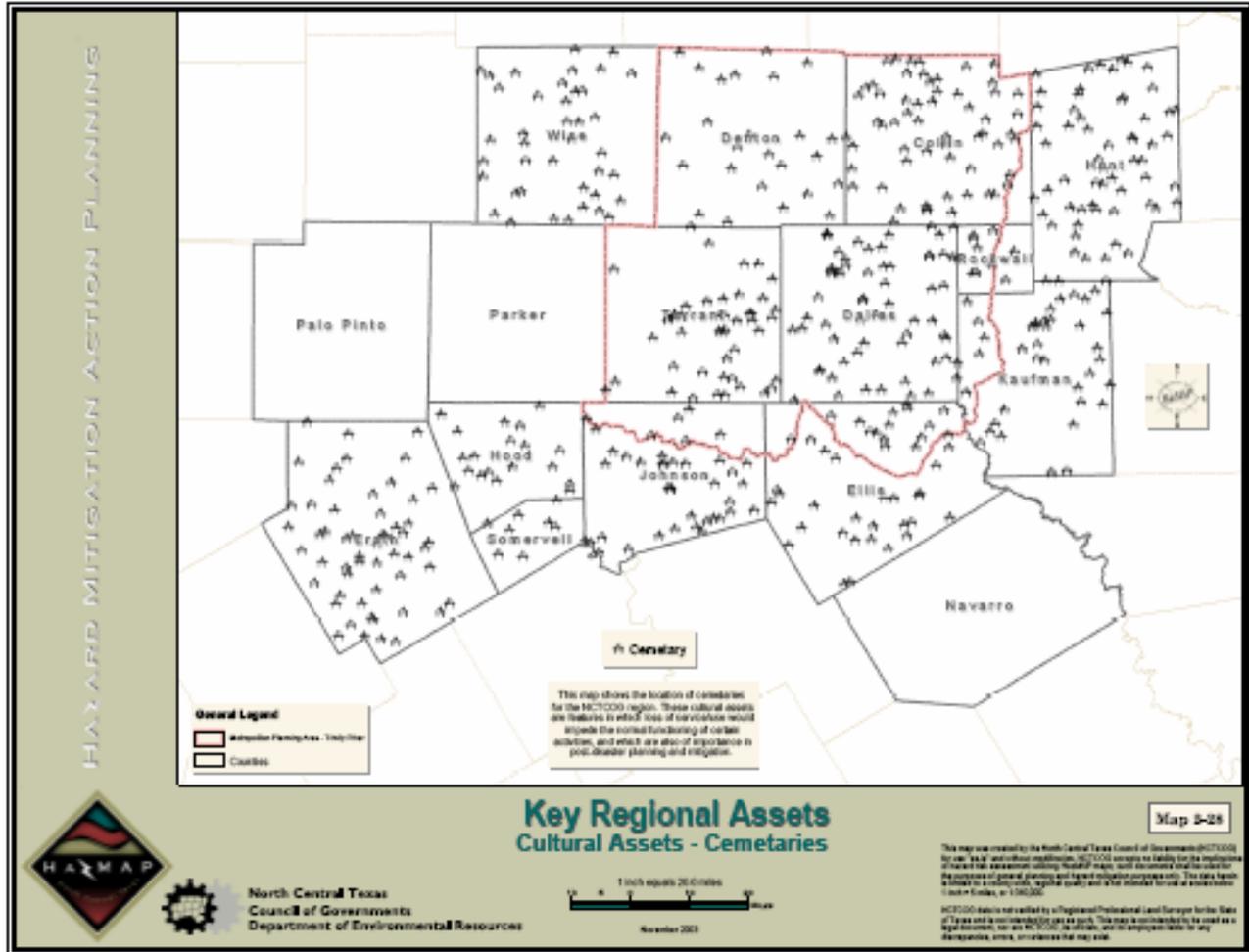


Figure 5-28. Cemeteries in the NCTCOG Region

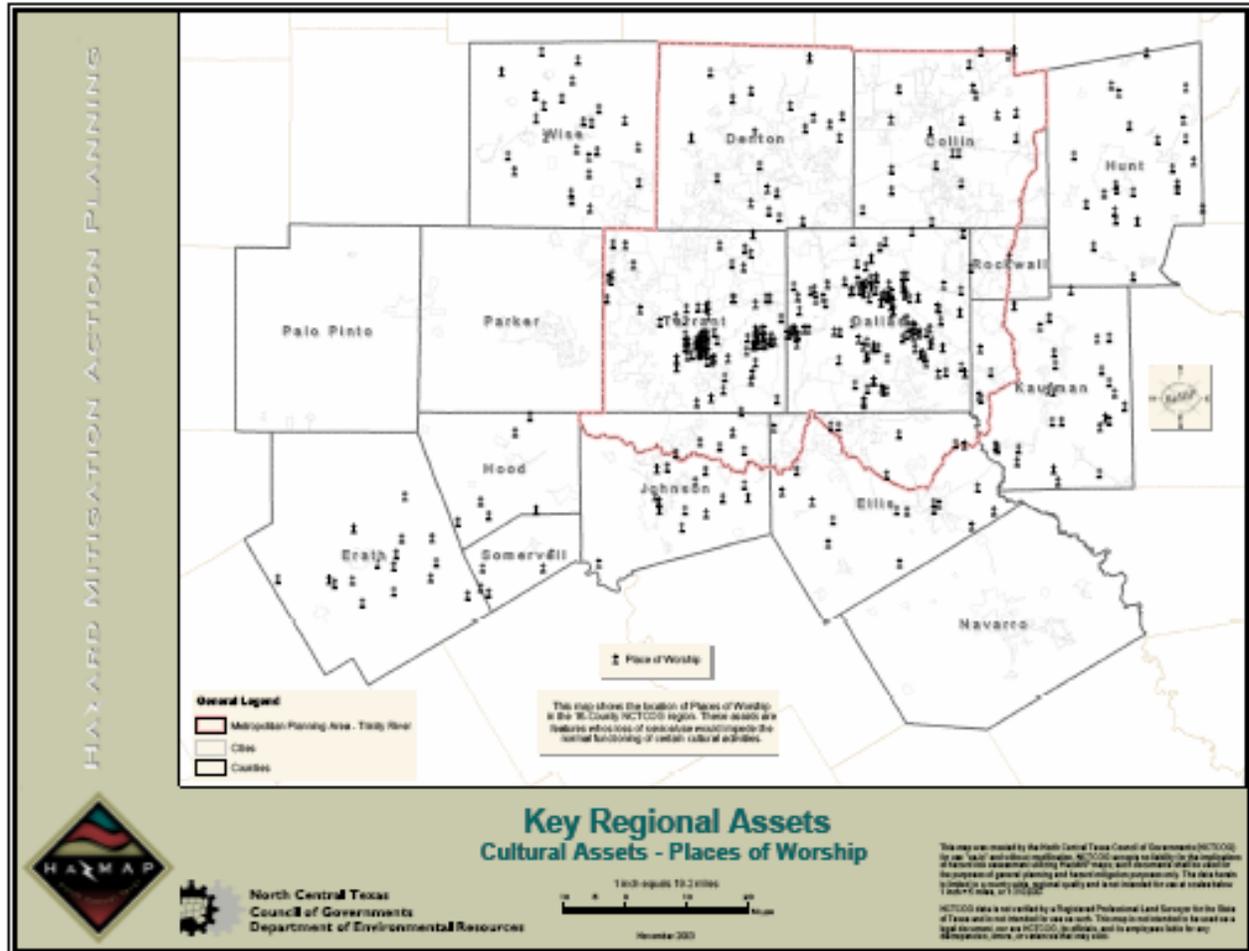


Figure 5-29. Places of Worship in the NCTCOG Region

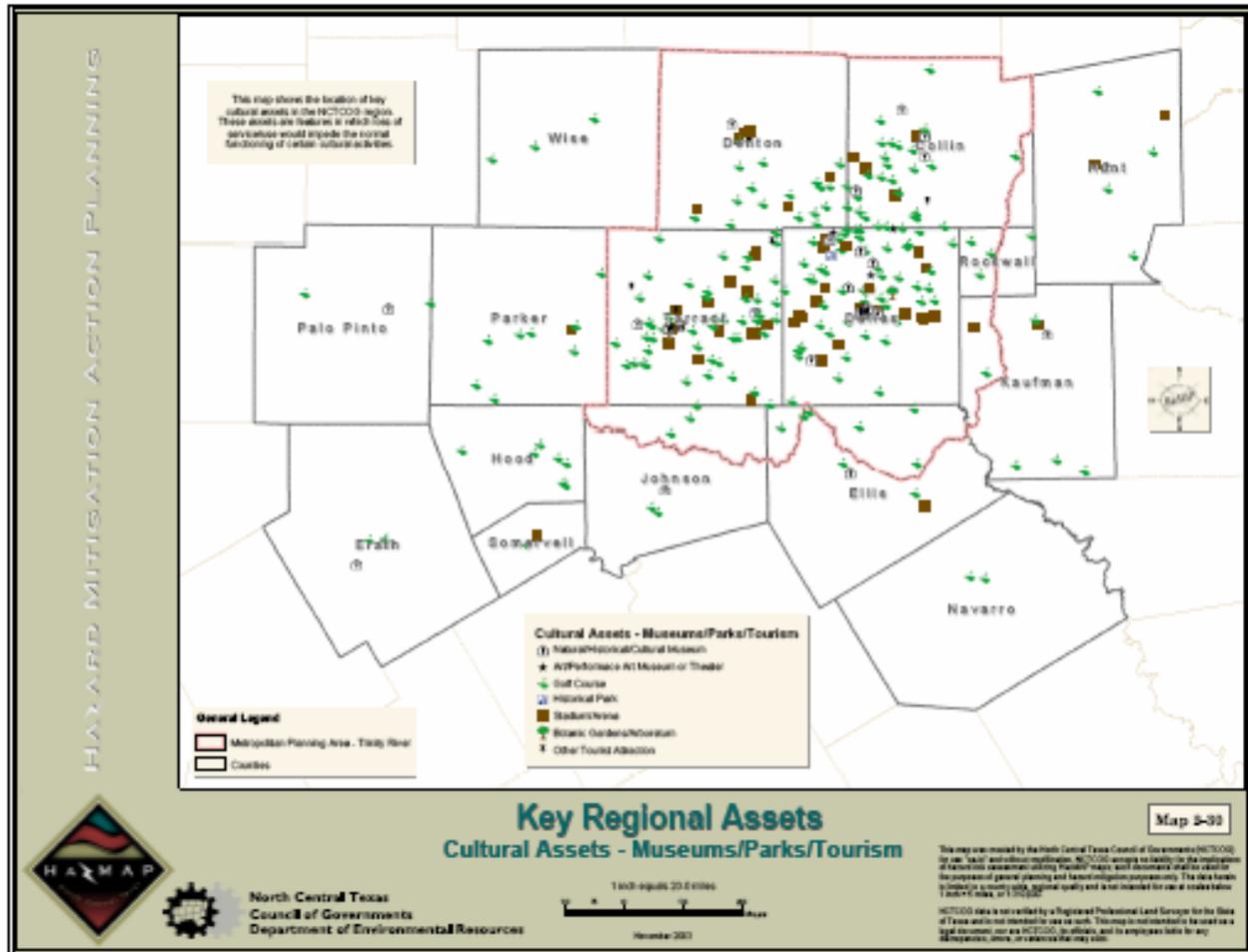


Figure 5-30. Museums, Parks and Tourism in the NCTCOG Region

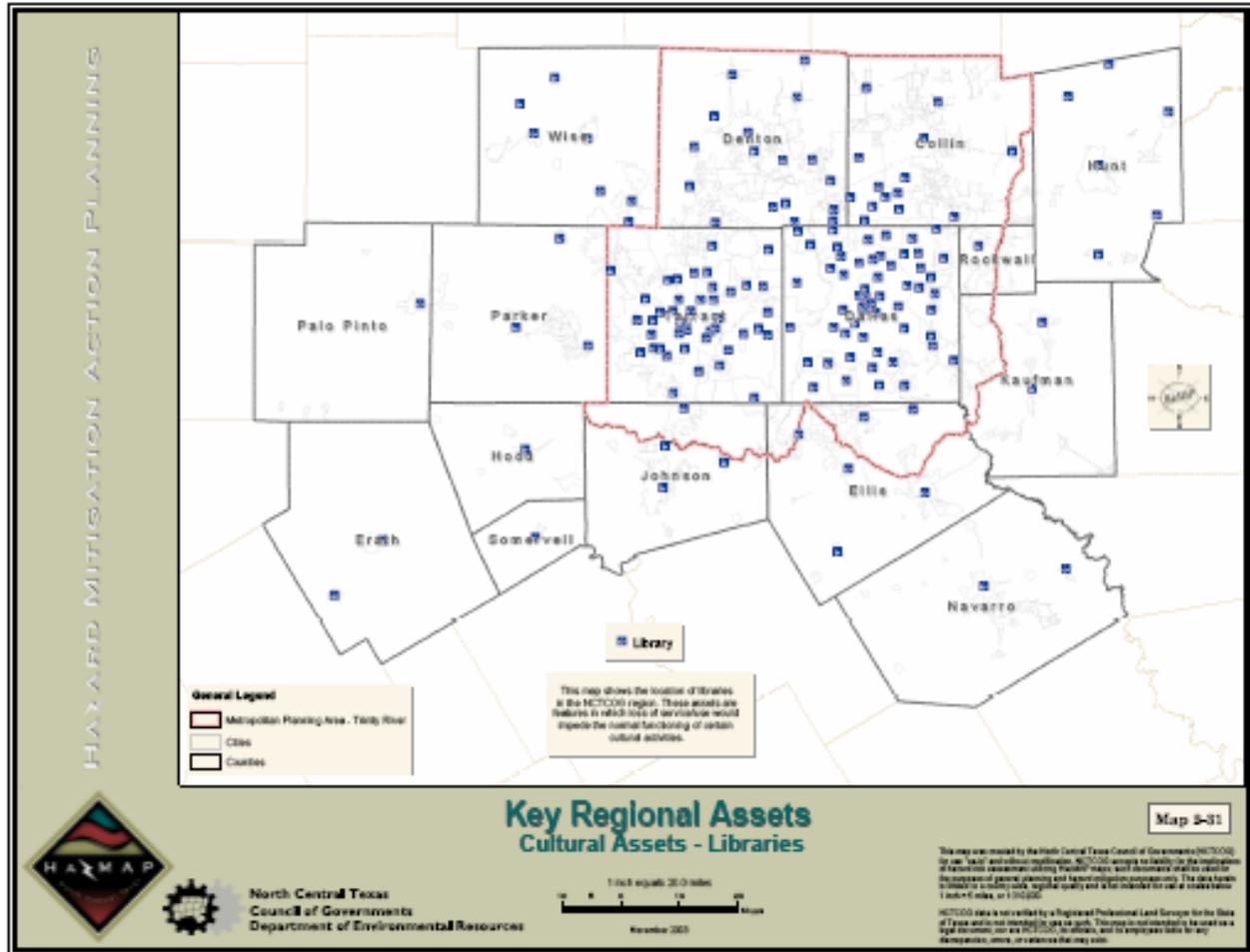


Figure 5-31. Libraries in the NCTCOG Region

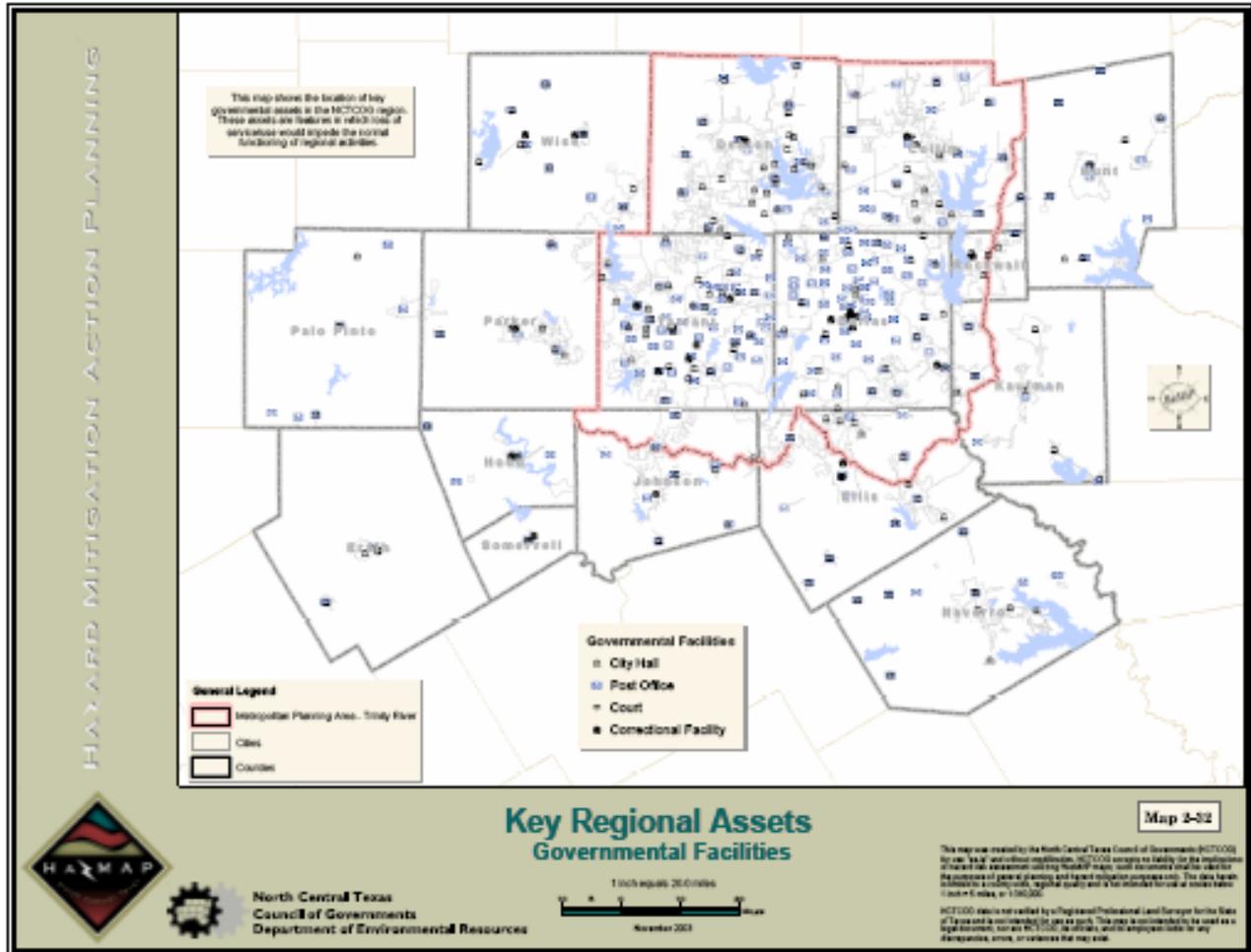


Figure 5-32. Governmental Facilities in the NCTCOG Region

## Areas of Special Consideration

Areas of Special Consideration are areas of the region that could sustain relatively higher loss levels in terms of lives and dollars. These areas are delineated by factors such as density of development, land use and land/structural value. Without the resources to specifically characterize building stock at a local level of detail, the NCTCOG developed and mapped areas of special consideration across the MPA-Trinity. The map entitled “Estimated Total Structural Values” shows the spatial representation of the total estimated structural value for the Metropolitan Planning Area-Trinity as distributed in uniform 2400 by 2400 foot grid cells. The total value of each grid cell is a function of

