

Transportation



SECTION 8 – TRANSPORTATION

Introduction

The Transportation section of the Navasota Comprehensive Plan concentrates on transportation by roads, rail, and air, as well as non-motorized modes such as walking and bicycling. This part focuses on the existing state of the transportation system in Navasota.

Street Network

The information for Navasota's Transportation network was compiled using data from various sources such as the City of Navasota, the Texas Department of Transportation (TxDOT), and a windshield survey conducted in November of 2003 by the Texas Target Cities Team.

Based on ownership, the streets of the city were divided into three categories - state highways, city roads, and private roads. Table 8.1 shows the distribution of roads according to the ownership.

Table 8.1: Road Ownership Data

Ownership	Length (in miles)	Percentage
City Roads	54.98	65.70%
State Highways	26.74	31.96%
Private Roads	1.96	2.34%
Total	83.68	100.00%

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Average Annual Daily Traffic

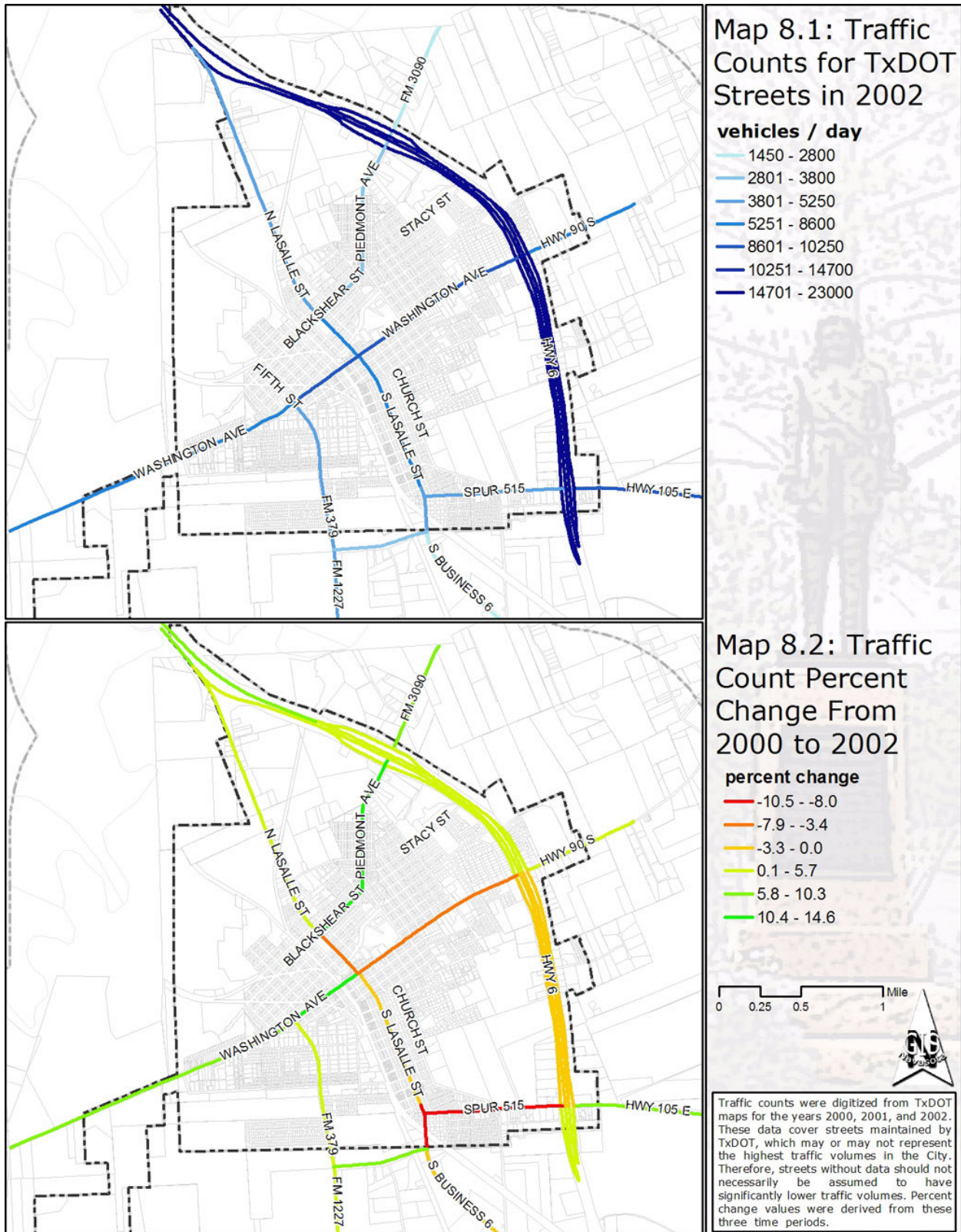
The data for the average annual daily traffic volume for Highway 6 and major arterials was obtained from TxDOT. Table 8.2 summarizes the average annual daily traffic counts for these routes for the years of 2000, 2001, and 2002 (Map 8.1 and Map 8.2).

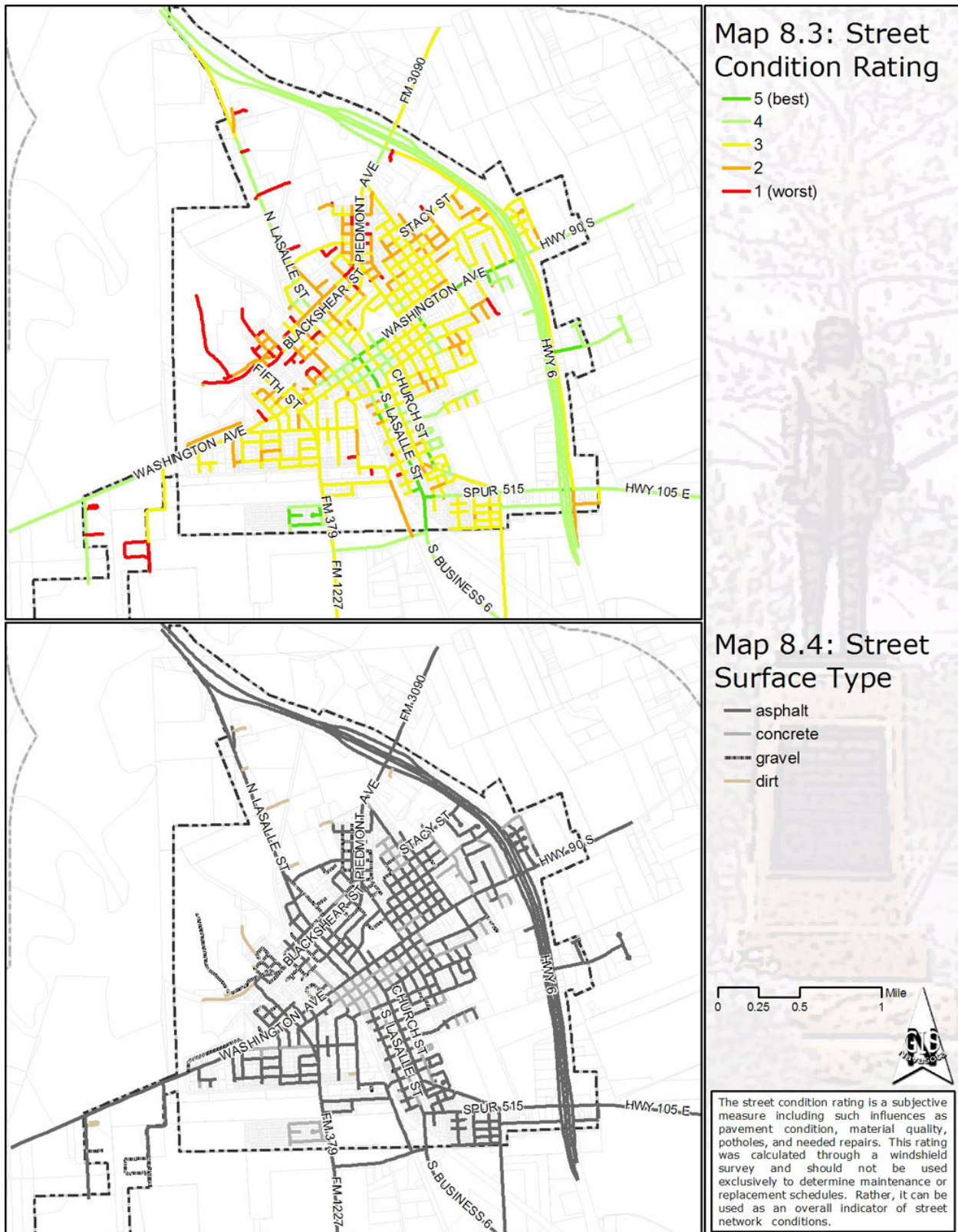
In general, roadways associated in close proximity with Highway 6 experienced the highest increase in traffic volumes. Those roadways located near the downtown area experienced moderate increases while the remaining roads experienced very low increases. However, some roads did experience decreases.

Table 8.2: Average Annual Daily Traffic Volumes (DTV)

Route	From	To	DTV 2000	DTV 2001	DTV 2002	% Change 2000-2002
N. LaSalle Street	Hwy 6	Blackshear Street	4700	4350	4750	1.06%
N. LaSalle Street	Blackshear Street	Washington Avenue	8600	8500	8100	-5.81%
S. LaSalle Street	Washington Avenue	Spur 515	7400	7100	7400	0.00%
S. LaSalle Street	Spur 515	FM 379	5000	4600	4600	-8.00%
S. Business 6	FM 379	CR 420	2600	2300	2600	0.00%
FM 379	S. Business 6	Jct FM 1227/379	2800	3100	3000	7.14%
FM 379	Washington Avenue	Jct FM 1227/379	3800	4150	3850	1.32%
FM 1227	Jct FM 1227/379		3800	4150	3850	1.32%
Hwy 105W	FM 379		5200	5600	5600	7.69%
Hwy 105W	FM 379	N. LaSalle Street	8200	8800	9400	14.63%
Hwy 105W	N. LaSalle Street	Hwy 6	10250	10650	9900	-3.41%
Hwy 90 S	Hwy 6		7000	7800	7400	5.71%
Spur 515	S. LaSalle Street	Hwy 6	5000	4600	4600	-8.00%
Hwy 105E	Hwy 6		8100	8300	8800	8.64%
Piedmont Avenue	N. LaSalle Street	Hwy 6	2550	2750	2900	13.73%
FM 3090	Hwy 6		1450	1600	1600	10.34%
Hwy 6 N bound	FM 3090		20400	21000	22000	7.84%
Hwy 6 S bound		Piedmont Avenue	18800	18600	19200	2.13%
Hwy 6	FM 3090	Washington Avenue	20900	20300	21100	0.96%
Hwy 6	Washington Avenue	Spur 515	23000	22000	23000	0.00%
Hwy 6	Spur 515		14700	14400	15400	4.76%

TxDOT





Road Conditions

The road condition category helps identify those areas that are stressed and may benefit from increased maintenance and repair. The road condition rating system was a compilation of multiple factors including the presence or absence of potholes, large cracks in the material that affect vehicles, lane width appropriateness, and overall quality of the driving surface. Other attributes included elsewhere in this section were also used to derive the overall condition rating. According to the ratings, the road network is in good condition. Detailed local street conditions can be found on Map 8.3. Table 8.3 summarizes the overall condition for all roadways.

Table 8.3: Road Conditions

	Condition	Length in Miles	% of Total
Best Worst	5	4.15	4.80%
	4	26.11	30.21%
	3	40.45	46.79%
	2	11.30	13.08%
	1	4.43	5.12%
	Total	86.44	100.00%

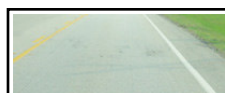
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Road Materials

The road material types were classified into four categories – concrete, asphalt, gravel, and dirt roads (Map 8.4). Table 8.4 summarizes the road materials. Asphalt roads provide the best overall solution as a roadway surface based on characteristics such as, cost, speed of installation, durability, ability to be recycled, and ability to provide a smooth ride. Concrete is another viable option, which provides for long term durability. Most of the roads in Navasota are asphalt. The remaining roads are comprised of concrete, gravel, or dirt.



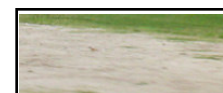
Concrete



Asphalt



Gravel



Dirt

Table 8.4: Road Materials

Material	Length in Miles	% of Total
Concrete	8.98	10.73%
Asphalt	65.97	78.84%
Gravel	7.13	8.52%
Dirt	1.60	1.91%
Total	83.68	100.00%

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Curb-and-Gutters

Curbs and gutters provide storm water drainage and are a desired feature to maintain the condition of the roadways (Map 8.5). The survey found that two-thirds of the streets in Navasota lack curb-and-gutter. The data is summarized in Table 8.5.



Curb & Gutter

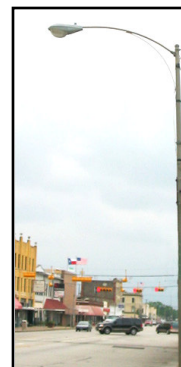
Table 8.5: Existing Curb-and-Gutters

Curb/Gutter	Length in Miles	% of Total
Yes	29.28	34.99%
No	54.40	65.01%
Total	83.68	100.00%

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Street Lighting

Street lighting provides a safe environment for drivers, pedestrians, and neighborhoods. According to the windshield survey, the City needs improvement in this area because approximately two thirds of the streets did not have adequate lighting (Map 8.6 and Table 8.6).



Navasota Street Lighting

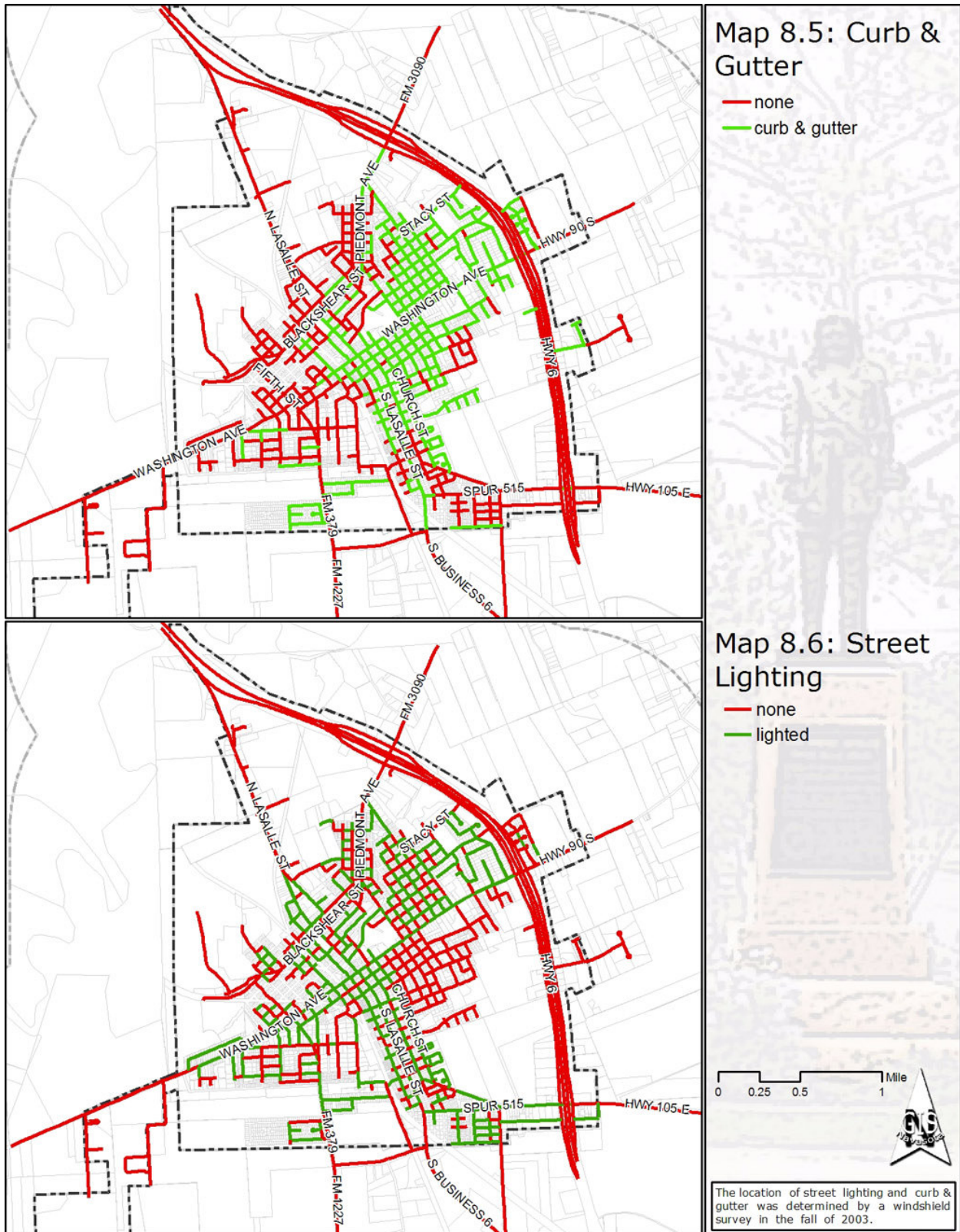


Table 8.6: Street Lighting Conditions

Street Lights	Length in Miles	% of Total
Yes	28.87	34.50%
No	54.81	65.50%
Total	83.68	100.00%

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Sidewalks/Bikeways

Sidewalks promote pedestrian scale streetscapes and can encourage walking as an alternative mode of travel. Pedestrian walkways, such as sidewalks, are important to neighborhoods and busy streets for user-friendliness. The majority of the City lacks sidewalks along streets. The Downtown area appears to have adequate sidewalks (Map 8.7). In addition to the sidewalks, there is a hike/bike nature trail available that provides connectivity between the parks located along Cedar Creek. The Community Facilities section (Section 11) discusses the state of this trail.

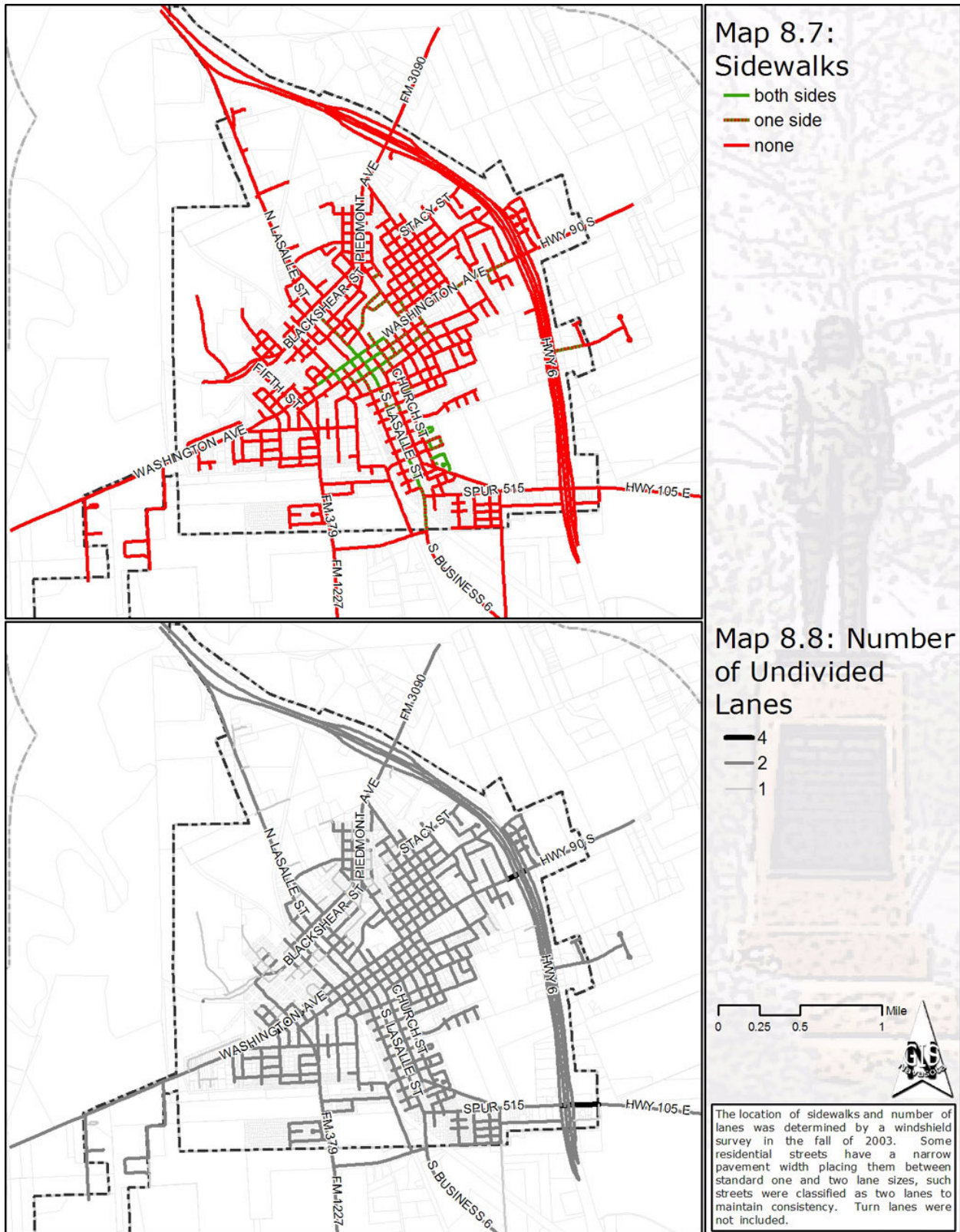
Number of lanes

The number of lanes on a roadway relates to traffic capacity and is one element in determining roadway classification. The majority of streets in Navasota have two lanes. However, in some residential areas the streets are single lane. Table 8.7, summarizes the number of lanes for the streets of Navasota (Map 8.8).

Table 8.7: Streets by Number of Lanes

Number of Lanes	Length in Miles	% of Total
1 Lane	9.01	10.77%
2 Lanes	73.77	88.16%
4 Lanes	0.90	1.08%
Total	83.68	100.00%

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On-street Parking

Only the Downtown and Church Street areas in the City of Navasota have notable quantities of designated on-street parking (Map 8.9) Table 8.8 summarizes the parking conditions based on the categories of designated parking on both sides of the street, parking on one side of the street, and no parking on either side.



On-Street Parking

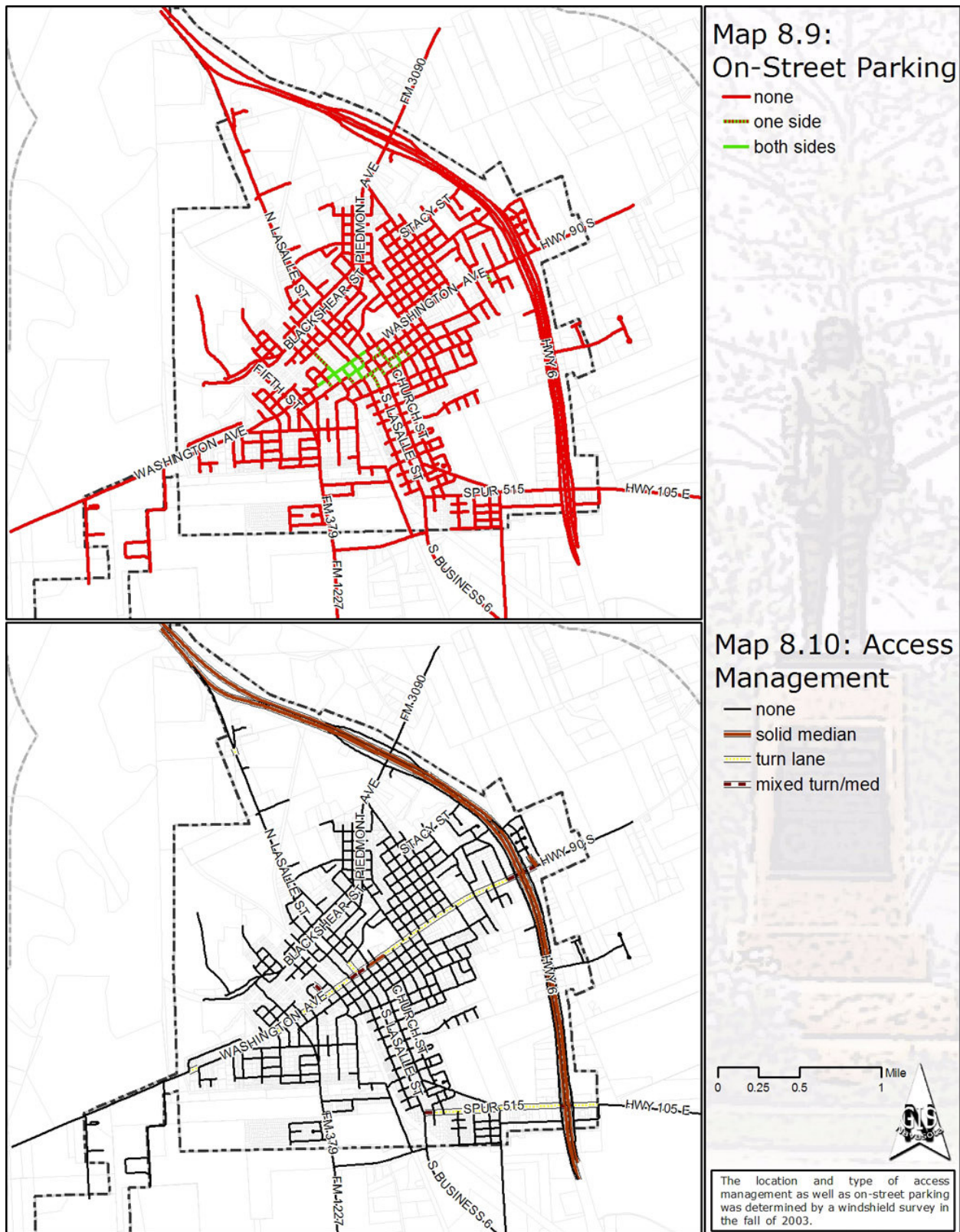
Table 8.8: On-Street Parking Conditions

Parking Condition	Length in Miles	% of Total
None	83.06	99.26%
One side	0.07	0.08%
Two side	0.55	0.66%
Total	83.68	100.00%

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Transit

Navasota currently does not have a fixed route for public transportation. Demand/Response and Para-transit services are provided through "The District," formerly known as Brazos Valley Transit. The District provides service for anyone wanting to travel within the service area. In order for a passenger in Navasota to receive service they must contact The District 24 hours prior to when such service is needed. The passenger then gives the dispatcher their origin and destination. If a vehicle is available, it is dispatched with service cost varying based upon destination points. If a passenger is traveling within the same county the price is \$2.00 and \$2.50 for inter-county travel. Greyhound Bus Lines has a stop in Navasota at the Circle H Store at the intersection of Highway 105 East and Highway 6. The store is open for the sale of bus tickets weekly from 5:30 a.m. till 10:00 p.m.



Taxi

There is not an operating taxi service available within the City of Navasota. However, several taxi companies in the College Station/Bryan area do provide service.

Railroads

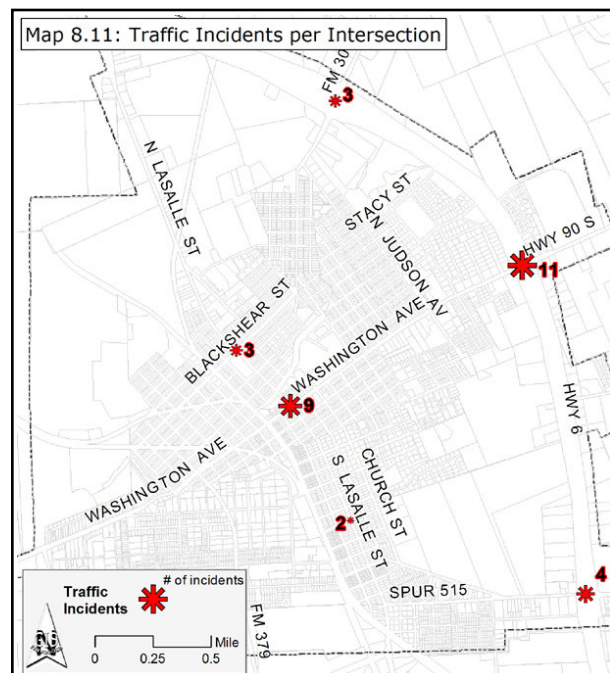
The City of Navasota currently has two rail lines traveling through it. The two rail companies are the Burlington Northern Santa Fe (BNSF) and Union Pacific (UP). Each of these rail lines originates in other areas and travel through Navasota. Cargo service is available, however, passenger rail is not.



Navasota Railroad

Traffic Incidents

For the year of 2003, there were seven intersections that had the highest reports of accidents. The intersection of Washington Avenue and Highway 6 had eleven incidents. Nine incidents were reported at the intersection of Washington Avenue and LaSalle Street Street. Highway 6 and SPUR 515 reported four incidents. Three incidents were reported at Highway 6 and FM 3090. The intersection of LaSalle Street Street and Blackshear Street also reported three accidents. Two accidents were reported at the intersections of LaSalle Street Street and Anderson Street.



The intersection of Washington Avenue and 5th Street also had two. The information concerning accidents was provided by the police department and the causes of these accidents were not given.

Table 8.9: Traffic Incidents

Intersection	Number of Incidents
Washington Avenue & Highway 6	11
Washington Avenue & LaSalle Street	9
Highway 6 & SPUR 515	4
Highway 6 & FM 3090	3
LaSalle Street & Blackshear Street	3
Washington Avenue & 5 th Street	2

Navasota Police Department

Aviation Transportation

Navasota Municipal Airport

The Navasota Municipal Airport is located approximately 2 miles southwest of Downtown Navasota on Highway 105 West. It is an unattended public-use General Aviation (GA) airport owned by the City of Navasota. It is part of the Federal Aviation Administration (FAA) Airport System and TxDOT's Texas Aviation Commission (TAC) Airport System.



Navasota Municipal Airport

The airport maintains one, 60-foot by 3,204-foot asphalt paved runway. The runway is limited to an axle weight of 12,000 pounds and can only serve propeller-driven and some small business jet aircraft. The airport is also qualified for night operations through a remote control lighting system.

The facilities provide aviation gas with one 4,500 gallon and one 2,000 gallon fuel storage tanks. There are approximately



Fuel Storage Tank

12 hangars at the airport that are fully occupied. Additional plane parking is available outside with tie down parking on the remaining apron. There are two businesses at the airport.

Currently, there are 16 aircraft based at the airport, with approximately 90 aircraft movements a week. Airport traffic in the past year has increased significantly with the arrival of West Wings, Inc. Currently there is no Fixed-Base Operator (FBO).

An Economic Impact Assessment for the Navasota Municipal Airport was prepared by Wilbur Smith Associates for TxDOT. This study reported that the airport supported 10 jobs with a payroll of \$211,000 and it could have a direct economic impact of \$528,000.

The closest regional-commercial passenger service is provided by Easterwood Airport, located approximately 25 miles to the north in College Station. The closest major domestic/international airport is at Bush Intercontinental Airport (IAH), approximately 65 miles to the southeast of Navasota in Houston.

According to TxDOT's Aviation Division, there is desire to add additional facilities at Navasota Municipal Airport. Suggested facilities would include a pilot's lounge/terminal building with restrooms, weather information, Jet A fuel services, a parallel taxiway next to the existing runway, and additional parking apron space. The City of Navasota is working on plans to add some 20 additional hangars. The City is also in the process of installing an infrared camera at the airport to begin monitoring traffic and security. The City is also preparing a five-year development plan for the airport.

Navasota Heliport

The Grimes St. Joseph Heath Center and operates Navasota's only heliport, located just south of Washington Avenue between downtown Navasota and the Highway 6 Bypass. The heliport is constructed of concrete with a wind indicator and edge lights.



Navasota Heliport

Conclusion

The users of Navasota's transportation network concentrate on the roads, railroads, and airways. Overall, the roadways are in fairly good condition. Information also indicates that the railroads and the airport bring vital additional economic sources to Navasota; with growth potential through possible commuter railway connections from the Houston area, and recommended airport expansion. Navasota has a small hike/bike trail system.

Sources & Methodology:

The information for analysis of the street network of Navasota was obtained by two methods – 1) GIS data showing street centerlines from the Brazos Valley Council of Governments 9-1-1 Addressing Division and 2) a site survey conducted to determine physical conditions. Additional data related to the road ownership, the Average Annual Daily Traffic (AADT) for various streets was obtained from the Texas Department of Public Transportation (TxDOT). All obtained information was converted to GIS format, and will be available for future use by city staff.

AirNav (2003) Navasota Municipal Airport (60R). Retrieved Oct., 7, 2003 from website: <http://www.aimav.com/airport/60R> and <http://www.aimav.com/airport/7TA1>

Greyhound Bus Line information came from the website: <http://www.greyhound.com>

The District provided all information concerning transit in Navasota.

Texas Transportation Institute. (Oct. 20, 2003.) "Draft of the Brenham Regional Planning Meeting, Grimes County – Navasota Municipal Airport," Texas Transportation Institute (TTI), Texas A&M University, draft prepared for the TxDOT, Aviation Division.

Texas Transportation Institute (TTI). (2003.) *Grimes County Community Data*, TAMU, College Station, Texas.

Texas Transportation Institute (TTI). (2003.) *Navasota Municipal Airport (60R)*, TAMU, College Station, Texas.

Traffic Incident Information was retrieved from the Navasota Police Department, 2004.

Union Pacific and Burlington Northern Santa Fe (2003) Navasota Rail Lines. Retrieved Nov. 7, 2003 from Texas Railroad Commission website: <http://wwwrrc.state.tx.us>.

Wilbur Smith Associates. (2003.) "The Economic Impact of Navasota Municipal Airport."