

INTRODUCTION

The livelihood of a community is, to a very large extent, dependent upon convenient and efficient access to nearby major trade centers outside the city, major national travel routes and transportation terminals of national importance outside of the city. It is likewise dependent upon efficient circulation of people within the city. Local streets and roads should provide safe, reliable access to work, schools, shopping and residences. A street network, therefore, is of vital importance as it ties a community together and links it to the outside world.

The primary function of a street network is the safe and efficient movement of vehicles and people. The street network of any city operates, in effect, as the skeleton of that city, providing access in varying degrees to all properties abutting the network. Thoroughfare and other rights-of-ways occupy over 11% of Lucas' total developed area and allow for circulation between all areas within the City. In addition to moving traffic, streets provide: access to and drainage for abutting properties; open space between buildings; and right-of-way for various utilities. In this way, the street network is a primary factor in the determination of appropriate land use locations.

The condition of the streets in a city are, perhaps, the item most noticed and for which the city receives the most criticism. While the average citizen cannot see breaks in the water lines or know that an area needs more water storage capacity, they are very aware of the condition of the roads, especially ones near their homes or ones that are in most need of work. Any street problems affect them daily, and can be very aggravating as well as potentially harmful to both themselves and their automobiles.

If adequate facilities are constructed, they can represent the largest single required expenditure of a city because problems within the street system are some of the most complex and costly to repair. The condition of the roads is affected by many factors: the quality of the original road base and pavement surface; the maintenance on the roads needed to seal cracks and prevent water from soaking into the road base; drainage conditions in the area (related to topography); and the city's ability to afford needed improvements. In order to permanently repair the roads to proper standards, many

roads must: be raised or lowered to improve drainage; have additional right-of-way purchased; have improved drainage facilities installed; or have adequate road materials used. All this involves an intensive process.

While a large number of the streets in Lucas are in good condition, many are in need of immediate attention or remain unpaved. Higher priorities, such as upgrading the water system, have prevented the City from making all of the necessary repairs. All of the paved roadways consist of asphalt or concrete. No curb and guttering exists in the City. A significant number of streets have been constructed with adequate right-of-way and pavement widths. However, some roadways were constructed with improper pavement width, preventing normal two-way traffic flow. In addition, many roadways were constructed within little or no right-of-way.

Level ground and poor drainage allows water to collect in some areas, which erodes the road base and causes sections of road to fail, deteriorating the road base. As a result of these factors, the reconstruction and improvement of the roads in Lucas could prove to be a very costly undertaking.

Before beginning major improvements to roadways, it is essential that the City have a street system conditions plan in place. This Street Plan will help ensure that streets in the existing developed areas of Lucas are improved in a uniform and orderly manner. It is through such a plan that completed City projects will provide maximum benefits and will become an integral part of the future City. This should assist in the elimination of duplicate expenditures and assure that possible early obsolescence of improvements can be avoided.

STREET SYSTEM INVENTORY

An inventory survey was conducted in April of 2004 to determine the present condition of all streets and to identify the street system in and around the City of Lucas. The survey included all streets within the City and rated each in terms of suitable right-of-way, pavement width, pavement conditions and pavement composition. Using these standards, streets were classified as being one of four types:

- Type A:
Asphalt or Concrete surface in good condition.
- Type B:
Asphalt or Concrete surface in fair condition.
- Type C:
Asphalt or Concrete surface in poor condition.
- Type D:
Unimproved roadway consisting of dirt or gravel.

This road assessment classified roads according to traffic load. The intent was to prioritize roads for improvements according to the roads that carry the heaviest traffic. This concept was based on the idea that streets with the greatest traffic should be improved first since the money spent will affect the greatest number of people.

Streets classified as fair may have appeared to be in good shape on the surface. However, surface cracks and ragged edges along the roadway often indicate impending failure of the road base due to moisture intrusion. Consequently, these streets were classified as fair. Normal road traffic and rainwater will gradually erode the street pavement until major repair work is needed to make the street safe and usable.

This classification scheme identified streets that were nearing failure so that the City might be able to repair the street before total reconstruction was necessary and identified streets that were in immediate need of reconstruction. The longer repairs or

proper maintenance are deferred, the more expensive it will be to repair a roadway to standard condition.

Furthermore, a street classified as being in good condition does not mean that no action needs to be taken. Instead, most streets classified in good condition, unless new pavement has been laid recently, are good candidates for a process known as "seal coating." Seal coating is a temporary maintenance measure that "seals" the road pavement with a coated or unbolted rock. This protects the pavement from the adverse effects of use and weather and prolongs the life expectancy of the road surface and prevents deterioration of the road base. Preventive measures protect the road base and can save money because it costs more to repair the roadway after both the pavement and road base have begun to deteriorate.

TYPES OF STREET IMPROVEMENTS

There are several different methods of maintaining streets within a City. The appropriate choice will depend upon the condition of the roadway, the anticipated traffic load and available funds.

Generally, paving improvements utilize either a Hot-Mix Asphaltic Concrete (referred to as HMA) or Asphalt Penetration (one course or two course surface treatment). The hot-mix asphaltic concrete road surface consists of a mixture of asphalt and aggregate. This type of asphalt is prepared at an asphalt batch plant, taken to the job site, and laid by street paving contractors. The asphalt is then compacted to a depth of 1-1/2 to 2 inches on a eight to ten inch crushed limestone road base which had been specially prepared. Hot-mix asphaltic concrete is generally expensive. However, its durability and relative ease of installation makes it the required type of surface pavement in most communities.

Asphaltic penetration is generally used for road maintenance or where a community cannot afford the hot-mix asphaltic concrete. Usually, asphalt penetration is used by communities to renew the pavement where the road base is still in good shape. Asphalt penetration is applied on a roadway by spreading oil on either an exposed road

base or on an existing roadway. A gravel or aggregate is spread over the oil and rolled flat. On new roads, two courses of asphaltic penetration may be used. Asphaltic penetration is considered a short-term solution for extending the life of a road until the community can afford to make the proper road improvements.

The specific types of improvements normally utilized include:

- Point Repairs: Excavation of failed pavement sections to a depth of eight inches, back-filled with eight inches of crushed limestone stabilized with 2% cement, primed and sealed with a coarse surface treatment. (Used to treat potholes and other imperfections and roadway hazards.)
- Level-up: Leveling of depressions in pavement with hot mix asphaltic concrete (HMAC) or hot mix/cold laid asphaltic concrete. (Used to even out roadway surface)
- Seal-Coat: Application of asphalt cement and covered with pre-coated aggregate at one cubic yard of aggregate per 90 square yards. Aggregate is rolled after application. (Ideally, used once every three to five years to maintain streets and forestall more costly repairs.)
- Overlay: Depending on the severity of wear, approximately one inch of surface is milled off the existing roadway. The remaining surface material is then overlaid with a minimum of 1.5 to 2 inches of hot mix asphaltic concrete (HMAC) or hot mix/cold laid asphaltic concrete, followed by a surface treatment. (Used to completely replace the surface material of a street to address pavement deterioration and extend street life.)
- Reclaim: Mill existing base and asphalt materials to a depth of six inches, add water-based emulsified asphalt to create a recycled asphalt-enhanced roadway base. A two-course surface treatment or asphalt cement is then applied and covered with pre-coated aggregate. The aggregate is rolled after each

application. (Streets receiving this treatment will last 12 to 20 years, depending on the traffic load and environmental conditions.)

While curb and gutter does not exist in the City, it should be noted that they often improve the appearance of the area by alleviating the problem of moisture seeping through the pavement and into the road base. Extensive deterioration of the road base often leads to a condition termed "alligatoring" which is the cracking of the pavement as a response to the road base failure.

STREET SYSTEM ANALYSIS

GENERAL STREET STATISTICS

Within the City, traffic control consists primarily of stop signs. While the City does not own, operate, or monitor any stoplights to control traffic flow, the Texas Department of Transportation (TXDOT) does control one (1) 4-way flashing light system at the intersection of Farm to Market Parker Road and Southview Drive.

STREET CONFIGURATION

The streets in Lucas function as either arterial, collector or local streets. An arterial street is a primary traffic carrier, usually providing access between cities with traffic volumes in excess of 1,000 vehicles per day. Parking on these streets is generally not permitted. Parker Road / Farm to Market 2514, Southview Drive / Farm to Market 1378, Lucas Road / County Road 190 / Farm to Market 3286, Country Club Road / Farm to Market 1378 and Estates Parkway / Farm to Market 2170 presently function as the only arterial streets in the City. They allow traffic movement to cities such as Allen, McKinney and Plano.

Collector streets collect traffic from residential areas for distribution to arterial streets. Parking is generally permitted on these streets. Traffic volumes typically range from 100 to 1,000 per day. The major collector streets in the City, which provide access to the businesses and schools in Lucas are; Forest Grove Road / County Road 265, Winningkoff, Ore Road, Blondy Jhune and Stinson Road.

The remaining streets in Lucas function as local streets, which generally provide access to adjacent property. Through traffic is normally discouraged and on-street parking is normally permitted. Traffic volumes are normally less than 100 vehicles per day.

The geometric configuration of the City's street system is adequate to meet all current vehicle circulation demands. (Specific details relating to traffic flows can be found in the City's Thoroughfare Plan.) However, some of the roadways in the City are narrow and have pavement conditions unacceptable for current residents. The narrow roadways are hazardous and inconvenient for traffic traveling different directions. Likewise, poor roadway quality presents an unsafe driving environment and prohibits recreational activities such as bicycling or skateboarding.

TRAFFIC COUNTS

The most recent (2002) traffic flow counts for major roadways in Lucas were obtained from the Texas Department of Transportation and are indicated on Figure 7.1. Traffic counts help city, county, and state transportation officials determine traffic patterns and changes in road usage and can help determine the increases in traffic volume and movement through the area. By monitoring the traffic counts, the City and state can plan for growth and expansion of the local roads before the increased traffic begins to rapidly deteriorate the roadways and cause traffic congestion. Traffic counts on roadways show usage over a 24-hour period, establishing demand and providing information to plan future improvements.

EXISTING ROADWAY REPAIR/MAINTENANCE

The City historically budgets less than \$100,000 each year for maintaining the street system. These funds are used for general repairs and/or resurfacing. Current projects include completing the rebuilding of Blondy Jhune Trail (See Figure 7.2).

ROADWAY CHARACTERISTICS

Data was collected for all streets in Lucas in April of 2004. The results of the survey, graphically depicted in Figure 7.1 and detailed in Appendix 7.1, indicate:

- A large number of streets are failing due to improper road base;
- Bar ditches along many roadways are too close to the road base contributing to premature deterioration;
- Trees exist within bar ditches along several road ways in the City. The roots from some of these trees have grown under the road base causing premature deterioration;
- Many streets are experiencing alligating or fatigue cracking and longitudinal or transverse cracking;
- Potholes exist in several areas of the street system;
- Pre-mature weather damage has affected some roadways;
- There are no areas in the City containing curb and gutter;
- The majority of the concrete streets have sufficient rights-of-ways and have adequate pavement widths;
- Some streets are dead-ended; and
- A few streets within the City have never been fully opened.

DEFICIENCIES

The results of the data from the above street survey combined with data obtained from the City of Lucas were utilized to identify deficiencies in need of remedial action. These are ranked below, according to priority of need:

1) Street Paving:

While a large number of streets in the City are paved, have acceptable pavement width, and are in fair to good condition, many are in need of attention or have never been paved. Most of the concrete sections of roadway are in good condition. However, a majority of the asphalt streets, while seemingly in good driving condition, are

demonstrating signs of eminent failure due to inadequate road bases. There are also sections of unpaved roadway, which need to be paved.

2) Street Drainage:

As mentioned earlier, some of the street system has been affected by poor drainage flow. The key areas that need to be addressed are silted and improperly sloped bar ditches along some roadways. These ditches allow water to sheet across roadways causing premature damage. Potholes, cracks, and slumped pavement are examples of what can happen when the road base is allowed to erode. The City has worked to seal and repair potholes, but more extensive improvements need to be made to completely repair the roads.

3) Street right-of-way:

Many of the roadways appear to have been constructed with inadequate right-of-way. As a result, bar ditches appear too close to the road base, allowing water to prematurely deteriorate it. These narrow right-of-ways also allow trees to grow too close to the road ways. Roots from these trees have been found to burrow under the roadway, again, causing premature damage.

4) Seal Coating:

Several of the streets in the City need to be sealed to prolong their life until re-paving can be accomplished. Potholes and cracked pavement appear on many of the City streets. (No seal-coat program exists). It should be noted that, when possible, appropriate road base should be ensured before seal coating.

5) Dead-end Streets:

Some streets in the City dead-end at undeveloped properties or unopened streets. This adversely affects vehicular circulation. As development occurs adjacent to these streets, either the roadway should be extended or a cul-de-sac provided. This could be addressed through the subdivision process.

6) Street Width:

Some roadways in the City are undersized. These extremely narrow streets present a hindrance to vehicular circulation and increase the potential for accidents. There should be a minimum pavement width of 20 feet to allow enough room for passing on the roadway surface.

7) Closed Streets:

A small number of streets, which have previously been platted but never opened, exist throughout the City. These should be abandoned and re-platted at a later date when new development plans are submitted to the City. Necessary streets in the area can then be developed in a comprehensive manner. The platting of new streets could be done during the subdivision process.

If the deficiencies outlined above are addressed, the primary roadway problems will be eliminated. The remaining streets in the City which are State Highways, County and Farm to Market Roads, will continue to operate effectively within their design and function classification.

STATE IMPROVEMENTS

The Texas Department of Transportation (TXDOT) controls several roadways within the City and, consequently, is responsible for ensuring the adequacy and the quality of each. At the time of this study, no projects were scheduled for any of the roadways within the City. The condition of all roadways under their control are reviewed for seal-coating on an annual basis.

PLAN AND RECOMMENDATIONS

PURPOSE

The purpose of the Street Plan is to assist the City in appropriating public funds in a manner which maximizes benefit. The plan identifies those street improvements, which are needed in order to provide an efficient transportation system in the City. Standards for street rights-of-way and paving widths can be set forth by way of a subdivision ordinance. These standards may change from time to time as Lucas develops.

GOALS AND OBJECTIVES

The following goals have been established by the City for the development of a viable street system:

GOAL 1: DEVELOP A PLAN FOR FUTURE TRAFFIC CIRCULATION.

OBJECTIVE 1.1:

Document the enforcement of the City's subdivision ordinance, which requires developers of residential subdivisions to construct streets according to specifications. Since the City assumes responsibility of maintenance of the streets upon completion, it is in the City's best interest to ensure consistency of quality and design throughout the City. Details such as minimum right-of-way and pavement widths, construction of curb and gutter, and cul-de-sac diameters are set by the City and are essential for consistency and quality of the future City.

In addition, the ordinance will require that the developer consult the City's thoroughfare plan to coordinate the developer's plans with the proposed routes for future roads in the City, providing the City with needed right-of-way. This is important, as it affords the City access to the property for road construction at a later date. If development occurs in areas that are intended to be the route of a road, then the City could be faced with the problems and cost of purchasing the land and destroying any buildings.

OBJECTIVE 1.2:

By the end of the year 2004, develop and adopt a thoroughfare plan for future major and minor arteries. By designating the location of future thoroughfares in conjunction with zoning/future land uses, the City can require that developers dedicate right-of-way through proposed developments. When purchasing or platting property, developers can refer to the plan to clearly understand what is required. During review of plats and plans for all types of development, the City must carefully ensure that proper right-of-way locations and widths are dedicated.

GOAL 2: CONTINUE TO MAINTAIN THE CITY'S EXISTING ROAD SYSTEM.

OBJECTIVE 2.1:

Street maintenance should be a continuing program. The paving of streets, especially in developed areas, needs to be completed. All streets to be paved should be widened to at least 20 feet and should be chip-sealed within one year after paving. Likewise, all intersections needing attention should be addressed. Roadways, which encounter unusually heavy vehicles such as garbage trucks, should be constructed to properly handle the loads placed upon them.

OBJECTIVE 2.2:

By the end of 2004, begin ensuring all roadways are constructed with proper road bases by reconstructing those which do not meet minimum standards.

OBJECTIVE 2.3:

Ensure the longevity of re-paved streets by sealing within one year after re-paving and again at six years. This will prolong the life of asphalt roads, which will minimize the need for costly repairs.

OBJECTIVE 2.4:

A drainage system consisting of curbs and gutters is the ultimate drainage solution for localized drainage. Since curbs and gutters do not exist in the street system, adequate bar ditches and culverts need to be provided to eliminate the potential for premature street surface erosion and flooding.

OBJECTIVE 2.5:

By the end of 2004, initiate a ditch maintenance program. This will enable existing drainage facilities to carry the maximum possible flow without entering into a major capital improvements program. This program should include reworking and deepening existing bar ditches and the cleaning out and/or replacement of deteriorated and silted

culverts. The approximate cost for this program is \$3.00/linear foot, excluding driveway drainpipe.

OBJECTIVE 2.6:

By the end of the year 2004, initiate a seal-coating program. This program should only address roadways constructed with proper road bases.

OBJECTIVE 2.7:

By the end of 2008, begin obtaining necessary rights-of-way for all roadways controlled by the City. This may require the review of existing property deeds and the cooperation of state and county agencies.

OBJECTIVE 2.8:

By the end of 2008, consider initiating an “Adopt a Street” program. Such a program may reap benefits beyond keeping a particular street clean. As individuals become involved in cleaning up litter, they often become more aware of the necessity of not littering themselves.

GOAL 3: IMPROVE STREETS TO ACCEPTABLE CONDITION AND PROVIDE PROPER ROAD CONSTRUCTION AND SIGNAGE

OBJECTIVE 3.1:

By the end of the year 2004, begin investigating alternative sources for funds to perform improvements. Since there are no grant funds available for road improvements, the City should establish a fund with an annual allocation for the purpose of making street and/or drainage improvements (this fund should be separate from a seal-coat fund). After several years, the fund will be able to finance projects, which have been identified and prioritized in this Street Plan. Since the City of Lucas is capable of incurring additional debt, the issuance of bonds to pay for the needed repairs should be considered.

OBJECTIVE 3.2:

Throughout the planning period, increase transportation access and safe, convenient movement of motor vehicles, bicycles and pedestrians by: re-paving streets in need; ensuring streets being used as collectors stay at a full collector pavement width (40 feet); and providing lighting and signage to assure high levels of public safety and awareness, particularly around schools and highway access points.

OBJECTIVE 3.3:

Throughout the planning period, monitor state and county maintenance programs that affect arterials and collectors in Lucas for upcoming maintenance programs and funding assistance by incorporating maintenance of State Highways, Farm to Market Roads, Interstate Highways, U.S. Highways and all other county roads into future State Transportation Improvements Plans (TIP) and County rehab/reconstruction projects.

OBJECTIVE 3.4:

By the end of the planning period, ensure appropriate traffic control devices are installed at all intersections in the City. The City should first study their sign ordinances and then verify that each intersection for which traffic control signs are authorized has been properly signed and the signs are in reasonably good condition. It should be noted that each traffic control sign must have an ordinance authorizing the erection of such traffic controls. The City should be canvassed to document the presence and condition of the signs at each intersection. With this information in hand, the City will be in a position to confirm that authorization exists for each control device, and to establish priorities and embark on a replacement or refurbishing program.

OBJECTIVE 3.5:

As necessary, street signs should be added, repaired, or replaced to prevent the potential for vehicle accidents. Street signs should be installed at all intersections to assist with emergency response and general navigation within the City. Street intersections in the City having no form of name identification will require new street signage. Additionally, street signs in poor condition should be repaired or replaced. The cost for each sign is approximately \$100, which includes the cost of the sign and installation. The anticipated source of funding for street condition improvements should

be from the local general fund or from economic development sales tax funds. This cost could be significantly reduced if appropriate street signs were constructed in high school shop classes and installed by local civic groups on a volunteer basis. The City should install approximately 10 signs per year until all intersections have received signage. Highest priority should be given to the arterial and collector streets.

GOAL 4: IMPROVE CURRENT TRAFFIC CIRCULATION

OBJECTIVE 4.1:

Several streets within the City are dead-ended. This limits circulation and could affect emergency access. As development occurs adjacent to these streets, either the roadway should be extended or a cul-de-sac be provided.

OBJECTIVE 4.2:

All streets with substandard widths should be widened. This could be accomplished through subdivision platting and process and by the adoption of a thoroughfare plan. The subdivision ordinance would ensure that future street construction recognized desired standards for both right-of-way and pavement width. The thoroughfare plan would recognize primary streets in the City as being important to circulation and enable the City to acquire additional right-of-way as adjacent development or platting occurred. Gradually, substandard streets could be improved to ensure adequate circulation. This would be an ongoing process.

OBJECTIVE 4.3:

A few platted but unopened streets exist in the City. Before the end of the planning period, the City should consider formally abandoning these streets, and, if necessary, re-plat as these areas develop.

RECOMMENDATIONS

The most important consideration when developing a plan for street rehabilitation is to ensure that all plans for roadway construction also include plans for drainage improvements. In Lucas, as in most small towns, the drainage ditches along the sides of the roads serve as a major route of storm water removal from the City. All plans for road reconstruction must consider the size and slope needs for drainage ditches or the potential construction of curb and gutter as part of an underground storm sewer system. Any program for street improvements without drainage improvements would be futile because of the potential damage to either system from improper design and installation.

The City should also adopt specific street section designs based on the classification of the roadway. Different rights-of-way widths, pavement widths, base thicknesses, curb and gutter and sidewalks, are required for roadways that are expected to serve differing levels of traffic. For example, a four-lane roadway with a center turn lane that is expected to provide access to a major subdivision could require 100 feet of right-of-way while a residential road might require only 50 feet of right-of-way. This is especially useful when enforcing street quality standards and minimums for residential subdivision developments.

To prepare for future development, the City should also consider which roadways would serve the City best as collector or arterial streets. As new residential development begins within the City limits and the extraterritorial jurisdiction, the City can require as a condition of plat acceptance that the developer dedicate right-of-way to the City to construct future roadways that will serve the City and new development. By pre-determining which routes would best serve as thoroughfares in the future, the City can ensure that no development takes place in the ideal location or within the right-of-way needed for the expected size of road.

If several years lapse before projects are undertaken, a new assessment may be necessary to ensure that data is current. Weather, increased traffic due to growth, new commercial and industrial development and changes in City maintenance practices can change the recommendations made in this report. Ideally, street maintenance and repair plans should be reviewed annually to adjust for cost and changes in the road conditions.

Proposed improvements were based on the street analysis, focusing on the improvements that are most in need or will benefit the most people. High priority projects including highly traveled roadways in poor condition or first-time paving should be considered as soon as the City is able to finance the repairs. Typically, roads with the greatest traffic should be improved first since a larger number of people will benefit from the limited tax dollars available. This excludes the state and county roads since they are maintained by the respective entity. For this plan, improvements are phased. Phasing of improvements is designed to help minimize the financial impact on the community, while still realizing the need to make necessary improvements.

PROPOSED IMPROVEMENTS

As part of the Street Plan, a Phased Action Plan listing priorities, estimated costs and possible funding sources has been developed and is presented below. Figure 7.2 illustrates the locations of all recommended improvements to the street system.

PHASE I:

Replace concrete along the following section of roadway:

<u>STREET SECTION</u>	<u>FROM</u>	<u>TO</u>
White Rock Trail	Country Club Road	Approximately 1,700 north

This project should also include the cleaning of the bar ditches along these sections of roadway as recommended in the Drainage System Plan.

Cost: \$155,000

PHASE II:

Reconstruct /Seal Coat the following street sections:

<u>Street</u>	<u>From</u>	<u>To</u>
Winningkoff*	East Lucas Road	Forestview Drive
Rolling Wood Drive**	All	
Rolling Wood Circle**	All	
Hillcrest Drive**	All	
Hillcrest Circle**	All	

* Reconstruct / **Seal Coat

Lime soil stabilization should be utilized for reconstruction activities.

Cost: \$350,000

PHASE III:

Reconstruct /Seal Coat the following street sections:

<u>Street</u>	<u>From</u>	<u>To</u>
Winningkoff*	Forestview Drive	East Winningkoff
McMillen Road**	all	

* Reconstruct / **Seal Coat

Lime soil stabilization should be utilized for reconstruction activities.

Cost: \$450,000

For the remainder of the planning period, the City should continue to reconstruct roadways with inadequate bases. These roadways should then be seal-coated to maximize their life cycles. Priority should be given to roadways serving as collector streets.

It should be noted that while overlay is a viable solution for repairing damaged roadways, it is most effective when done on streets with properly constructed bases. If, for example, a street improperly constructed to handle heavy vehicles is overlaid, it can be expected that continued traffic of this type will accelerate premature roadway damage. Therefore, it is recommended that before overlay is initiated, proper base construction be ensured. This way, maintenance costs will be reduced and the longevity of the roadway will be ensured.

POSSIBLE FINANCIAL SOURCES:

The City should aggressively pursue these, and any other funding sources, available to assist in providing necessary street improvements.

- ✓ City General Fund
- ✓ General Obligation Bonds
- ✓ City Street/Drainage Fund
- ✓ Special Fees/User Fees

ADDITIONAL FINANCIAL SOURCES

- ✓ Grants through the Office of Rural Community Affairs/Texas Community Development Program can be used to re-pave and repair streets. However, while streets are eligible, it is unlikely that a street project alone would be funded. Therefore, it might be possible to incorporate some street work into another, more fundable activity such as water line or sewer line construction where streets must be torn up to bury line.
- ✓ Individuals who are required to perform community service can often be utilized to do some of the required labor. Often times, this can be accomplished by participating with local governmental units such as the county judicial system.
- ✓ The Texas Department of Transportation has a program designed to maintain and improve U.S. Highways, State Highways and Farm to Market Roads within the city limits.

- ✓ Texas Department of Transportation (TXDOT) also has a landscaping cost sharing program through which the department will provide landscaping materials up to 50% of the project cost. The city's contribution may be in-kind in the form of installation of materials. The city must provide the design plan for approval by the department over and above the city's in-kind contribution. Finally, the city must commit to maintaining the landscaping improvements.
- ✓ Loans from the Texas Department of Agriculture. These low interest loans can be utilized in place of bank loans and the issuing of bonds.
- ✓ Assessment Paving Program. In this program, the City has its engineer prepare designs and cost estimates. Afterward, the City then, following carefully prescribed procedures of notices, public hearings and bidding, begins making the street improvements, assessing a portion of the costs against the adjacent property owners. The City may have to advance the cost of the projects, but eventually, the property owners will pay their fair share of the costs. This procedure is governed by the Texas Civil Statutes.

APPENDIX 7.1
CITY OF LUCAS
STREET SYSTEM INVENTORY

STREET NAME	STREET SECTION	PAVEMENT WIDTH (FEET)	CONDITION
Arthur Court	all	20	Good Concrete
Austin Trail	all	20	Good Concrete
Barton Creek	all	20	Good Concrete
Barton Spring Road	all	20	Good Concrete
Blondy Jhune Trail	Winningkoff to 2,000 feet west	18	Fair-Asphalt
Blondy Jhune Trail	2,000 feet west of Winningkoff to Country Club Road	20	Good Asphalt
Bloom Street	all	18	Fair-Asphalt
Blue Moon Drive	all	20	Good Concrete
Boris Court	all	20	Good Concrete
Briarwick Drive	all	20	Good Concrete
Broadmoor Way	all	18	Good Asphalt
Brockdale Park Road	all	18	Fair-Asphalt
Canyon Creek Court	all	20	Good Concrete
Carey Lane	all	18	Good Asphalt
Cedar Bend Circle	all	20	Good Asphalt
Cedar Bend Trail	all	20	Good Asphalt
Chisolm Trail	all	18	Fair-Asphalt
Chisolm Trail	all	18	Fair-Asphalt
Choice Lane	all	18	Good Asphalt
Christian Lane	all	18	Good Asphalt
Cimmaron Trail	all	18	Fair-Asphalt
Citrus Way	all	20	Fair-Asphalt
Country Club Road/Farm to Market 1378	all	24	Good Asphalt
County Road 262	West Lucas Road to Travis Ranch Road	18	Good Asphalt
County Road 262	Travis Ranch Road to McGarity Lane	15	Good Asphalt
County Road 262	McGarity Lane to north city limits		Poor-Gravel
County Road 321	all		Poor-Gravel
Creek Bend	all	18	Good Asphalt
Creek View	all	18	Good Asphalt
Crestland Drive	all	20	Good Concrete
Crestview Circle	all	18	Fair-Asphalt
Danbury Court	all	20	Good Concrete
Doris Drive	all	20	Good Concrete
Drexel Drive	all	20	Good Concrete
E			
Earl Court	all	20	Good Concrete
East Lucas Road	S		
East Lucas Road	Southview Drive East	40	Good Asphalt
East Winningkoff	Welborn Lane to east	15	Poor-Asphalt
East Winningkoff	Welborn Lane to Welborn Lane	20	Good Asphalt
Edgefield Lane	all	20	Good Asphalt
Edmonson Drive	all	20	Good Concrete
Erin Court	all	20	Good Concrete
Estates Parkway	all	20	Good Asphalt
Estelle Lane	Forestview Drive to Wendy Lane	20	Good Concrete
Estelle Lane	Wendy Lane to Country Club Road	20	Good Asphalt
Ewing Court	all	20	Good Concrete
Fairbrook Circle	all	15	Fair-Asphalt
Forest Grove Road	Country Club Road to CR 321	20	Good Asphalt
Forest Grove West	CR 321 to east	18	Good Asphalt
Forestview Drive	all	20	Good Concrete
Glenbrook Circle	all	18	Fair-Asphalt
Glencove Circle	all	18	Fair-Asphalt

APPENDIX 7.1
CITY OF LUCAS
STREET SYSTEM INVENTORY

STREET NAME	STREET SECTION	PAVEMENT	
		WIDTH (FEET)	CONDITION
Golddust Trail	all	20	Good Concrete
Graham Lane	all	18	Poor-Asphalt
Greenfield Way	all	18	Good Asphalt
Hamilton Drive	all	20	Good Concrete
Harvest Way	all	18	Good Asphalt
Hickory Hill Street	all	15	Fair-Asphalt
Highland Circle	all	18	Good Asphalt
Hillcrest Circle	all	18	Fair-Asphalt
Hillcrest Drive	all	18	Fair-Asphalt
Hob Hill Lane	all	10	Good Asphalt
Holly Lane	all	18	Fair-Asphalt
Holyoak Lane	all	18	Good Asphalt
Honeysuckle Lane	all	18	Good Asphalt
Horseman Drive	all	15	Poor-Asphalt
Indian Trail	all	18	Fair-Asphalt
Kennedy Drive	all	20	Good Concrete
King Street	all	20	Good Concrete
Kingswood	King Street to south	20	Good Concrete
Kingswood	Graham Lane to King Street	15	Fair-Asphalt
Lakeview Drive	all	18	Fair-Asphalt
Lamar Drive	all	20	Good Concrete
Leander Court	all	20	Good Concrete
Lemon Cove	all	20	Fair-Asphalt
Lime Cove	all	20	Fair-Asphalt
Long Road	all	18	Fair-Asphalt
Lost Valley	all	15	Good Asphalt
Lucas Creek Drive	all	20	Good Concrete
Lynn Lane	all	18	Fair-Asphalt
Mala Lane	all	20	Good Concrete
Mandarin Cove	all	20	Fair-Asphalt
Mary Lee Lane	all	20	Good Concrete
McMillen Road	Winningkoff to 1,390 feet west	18	Good Asphalt
McMillen Road	1,390 feet west of Winningkoff to end	15	Poor-Asphalt
Meadowbrook Drive	all	18	Good Asphalt
Moonlight Trail	all	18	Good Asphalt
North Folk Lane	all	20	Good Concrete
Northstar Road	all	18	Good Asphalt
Oakbrook Drive	all	20	Good Concrete
O'Hara Drive	all	20	Good Concrete
Orange Cove	all	20	Fair-Asphalt
Orchard Gap Lane	all	20	Good Concrete
Orchard Road	all	20	Fair-Asphalt
Oxford Drive	all	20	Good Concrete
Park Lane	all	20	Good Concrete
Pecan Grove Circle	all	20	Good Concrete
Prado Verde Drive	all	18	Good Asphalt
Ramsay Drive	all	20	Good Concrete
Red Star Road	all	20	Good Concrete
Rising Sun Road	all	20	Good Concrete
Rock Ridge Court	all		Poor-Gravel
Rock Ridge Road	all	18	Poor-Asphalt
Rollingwood Circle	all	18	Fair-Asphalt
Rollingwood Drive	all	18	Fair-Asphalt
Saddle Drive	all	40	Good Concrete

APPENDIX 7.1
CITY OF LUCAS
STREET SYSTEM INVENTORY

STREET NAME	STREET SECTION	PAVEMENT	
		WIDTH (FEET)	CONDITION
Sante Fe Trail	all	18	Fair-Asphalt
Sawmill Drive	all	20	Good Concrete
Scarlet Drive	all	20	Good Concrete
Shiloh Drive	all	18	Good Asphalt
Skyview Drive	all	18	Good Asphalt
St. Johns Drive	all	20	Good Concrete
Stallion Drive	all	20	Good Concrete
Stanford Road	all	20	Good Concrete
Stinson Road	West Lucas Road to 1,235 feet south	18	Good Asphalt
Stinson Road	1,235 feet south of West Lucas Road to Parker Road	18	Fair-Asphalt
Toole Drive	all	18	Good Asphalt
Tractor Trail	all	20	Good Concrete
Travis Ranch Road	all	20	Good Concrete
Tree Row Drive	all	20	Good Concrete
Wendy Lane	Estelle Lane North 915 feet	20	Poor-Asphalt
Wendy Lane	915 feet north of Estelle Lane North to end	20	Fair-Asphalt
West Lucas Road/Farm to Maket 2170	Rising Sun Rd. to Country Club Road	40	Good Asphalt
West Lucas Road/Farm to Maket 2170	Country Club Road to Parker Rd.	20	Good Asphalt
White Rock Trail	Country Club Road to 1,900 feet north	20	Poor-Concrete
White Rock Trail	1,900 feet north of Country Club Road to north	20	Good Concrete
Wilkes Drive	all	20	Good Concrete
Wiltshire Court	all	20	Good Concrete
Windmill Court	all	20	Good Concrete
Winningkoff	East Lucas Road to Forestview Drive	20	Poor-Asphalt
Winningkoff	McMillen to East Winningkof	20	Good Asphalt
Winninkoff	Forestview Drive to McMillen Road	20	Good Asphalt
Woodmore Drive	all	18	Good Asphalt
Woodview Circle	all	15	Fair-Asphalt
Woodview Court	all	15	Fair-Asphalt