

FAR NORTH ARTERIAL No. 1 CORRIDOR ALIGNMENT STUDY

From: US 77/83 To: SH 100/East of FM 1847



Prepared by

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Far North Arterial No. 1 Corridor Study

Prepared in cooperation with the Texas Department of Transportation,
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The contents of this report reflect the views of the authors who are responsible for the opinions, findings and conclusions presented herein. The contents do not necessarily reflect the views and/or policies of the Texas Department of Transportation, the Federal Highway Administration or the Federal Transit Administration.

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PREFACE

All urbanized areas in the United States with a population of 50,000 or more, are required to have a designated Metropolitan Planning Organization, (MPO). The MPO makes both transportation plans and policies that affect how transportation dollars are allocated and how regional and local needs are addressed. The Brownsville MPO area includes the cities of Brownsville, Los Fresnos and the Town of Rancho Viejo, as well as unincorporated areas in southern and southeastern portions of Cameron County.

In 2004, the Brownsville MPO study area had a population of approximately 198,000 persons. Located on the Texas border, north of Matamoros in the Republic of Mexico, the Brownsville MPO is organized into two committees, as follows:

MPO Policy Committee—The Policy Committee approves of all federal funding allocations, as well as transportation plans and policies. The Policy Committee takes action based on recommendations from the Technical Committee.

MPO Technical Committee—This advisory Committee is comprised of transportation planners and other agency staff who are representatives of the same agencies which compose membership of the MPO Policy Committee. This Committee provides technical support and makes recommendations to members of the MPO Policy Committee.

All three municipalities within the MPO study area have experienced rapid growth, and further increases in population, employment and housing are projected for the Brownsville MPO in the coming decades. This report outlines the challenges and opportunities associated with developing a new east:west corridor in the northern quadrant of the Brownsville urbanized area.

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EXECUTIVE SUMMARY

East:west travel represents a major challenge within the Brownsville urbanized area. The northern quadrant of the Brownsville city limits, combined with areas of the City of Los Fresnos, constitute a significant growth area, due to the presence of large parcels that remain undeveloped.

Accordingly, establishment of a new east:west arterial to accommodate future traffic volumes, in the area north of F.M. 511 and south of S.H. 100, is a key goal of the Brownsville Metropolitan Planning Organization (MPO). The distance between the aforementioned east:west roadways (F.M. 511 and S.H. 100) varies from four to eight miles. The recommended spacing of arterial roadways to properly accommodate relatively dense residential (and commercial) development is from one to one and a half miles. It is evident that creation of an additional east:west arterial, or provision of new (additional) east:west roadways is required within this defined area. Additional highway infrastructure is needed to accommodate traffic associated with existing and future subdivisions.

This study outlines various alternative roadway alignments that are feasible for future implementation. Also, this report includes a comparative analysis of these different alignments. This east:west roadway is referred to as the "Far North Arterial No. 1". The proposed right-of-way for this east:west arterial is typically 120 feet. At some locations, this roadway width may have to fit within a smaller cross-section of roadway width due to existing development or constraints.

The proposed roadway width is intended to allow for a five-lane roadway. The proposed roadway cross-section would include four travel lanes and a turning lane at selected locations. For safety purposes, much length of this future roadway could feature a center median to separate vehicular traffic and afford a refuge for pedestrians who seek to cross. Initial establishment of this roadway is likely to involve construction of a pavement width to accommodate two lanes of traffic.

The MPO's Thoroughfare Plan is also referenced by the Subdivision Ordinance of the City of Brownsville and the City of Los Fresnos. For this reason, protection of roadway right-of-way needed for future development of this east:west arterial will occur via adoption of an amended MPO Thoroughfare Plan map.

A. INTRODUCTION

In January 13, 1849, Brownsville was designated as the county seat of Cameron County. Brownsville is located north of the Rio Grande River, across from Matamoros, Tamaulipas-Mexico.

Transportation Planning in the Brownsville urbanized area is coordinated by the Brownsville Metropolitan Planning Organization. The City of Brownsville serves as the administrative agency of the Metropolitan Planning Organization, (MPO). Other government entities represented on the MPO Policy Committee include: Cameron County, the Brownsville Navigation District, Brownsville I.S.D., and TxDOT. Also, the Town of Rancho Viejo and the City of Los Fresnos have voting membership on the MPO Policy Committee, which is the decision-making body for all policies and plans adopted by the MPO.

Brownsville's population increased 41.2% from 98,962 in 1990 to 139,722 residents in 2000 and at the present time is estimated to have 172,000 residents. The MPO study area, as a whole, may have nearly 200,000 persons. Due to rapid growth and development of the northern sector of Brownsville, and within Los Fresnos, accommodating future east:west travel in this study area of the Brownsville MPO will become problematic.

I.(1) CORRIDOR DESCRIPTION

I.1.0 Corridor Location & Thoroughfare Plan Considerations

The proposed roadway corridor is located south of Los Fresnos and on the north side of the City of Brownsville in Cameron County, Texas. No right-of-way parcels for this roadway were established or acquired by a public entity prior to the start of this study. The project limits for this corridor study are from the U.S. 77/83 Expressway East (Northbound) Frontage Road to S.H. 100, as shown in Exhibit G. The proposed alignment will provide an east:west arterial for a sector of the MPO study area that is developing rapidly. The approximate length of the study corridor is 9-10 miles.

The Brownsville MPO's Thoroughfare Plan is a critical element of the transportation planning process. The Thoroughfare Plan helps to foster the orderly growth and expansion of the Brownsville urbanized area. The Thoroughfare Plan represents a balanced system of function classifications for the urban roadway network. The proper functioning of the network depends upon establishment of primary and secondary arterials. Spacing or placement of arterial roadways is a critical consideration.

Within this study area, the connectivity between Los Fresnos and Brownsville relies principally upon north:south corridors, such as F.M. 803, F.M. 1575 and F.M. 1847. East:west travel for the area utilizes S.H. 100 and F.M. 511. However, the spacing of these two roadways is too wide. The resulting function

of traffic flow on these arterials will be insufficient to properly accommodate the future east:west traffic volumes as residential development and growth occurs. Please see Exhibit "A" for a depiction of this corridor study area, as well as a depiction of the city limits for Brownsville and Los Fresnos.

Accordingly, right-of-way for this future east:west corridor must be identified and protected. Establishment of a new roadway corridor will ensure that east:west trips can be accommodated; and that trips won't have to be directed to north:south roadways to access F.M. 511 or S.H. 100.

I.1.1 Proposed Action

The purpose of the study is to document or identify various right-of-way corridor alignment alternatives for a roadway corridor, some 110 to 120 feet in width, extending from the U.S. 77/83 frontage road, opposite the Town of Rancho Viejo and extending many miles eastward to S.H. 100, (close to Share 28 Road).

The proposed Far North Arterial No. 1 represents one of the most important transportation projects in this northern area for several reasons. It is a key element of the transportation network within the growing area of north Brownsville, Los Fresnos and east of Rancho Viejo.

This roadway will help relieve congestion on the already heavily used S.H. 100 corridor and will help alleviate the future congestion on F.M. 511. Traffic volumes are going to continue to increase due to the large amount of development that is occurring in the area, which includes vast acreage of vacant parcels. The projected growth within this sector of the Brownsville MPO Study Area is approximately 8,000 to 10,000 residential units to be built over a 15-20 year period.

I.1.2 Right-of-Way

The proposed right-of-way for the corridor is primarily 120 feet. At or near intersections, it is very important that 120 feet of right-of-way be obtained...with 50 feet corner clips at all intersections with state and city roads, as reflected on Exhibits E through H. This right-of-way width corresponds to an urban primary arterial classification in the Brownsville Thoroughfare Plan, and will provide sufficient width for a five-lane roadway, as well as additional turning lanes at U.S. 77/83 and at F.M. 1847.

Some segments of proposed right-of-way might be narrower due to natural or physical constraints on both sides of the east:west corridor.

Based on the proposed corridor alignments described in this report, it is uncertain how many additional acres of right-of-way will be necessary for development of the corridor and future construction of the project.

This study represents an important step towards implementation by coordination of right-of-way acquisition via donations or platting of subdivisions. There is no commitment from the City of Brownsville or the City of Los Fresnos to fund construction or expend funds for acquisition of right-of-way at this time. It is the intention of both cities to begin the acquisition of right-of-way through the R.O.W. dedication process as new subdivisions develop. Also, voluntary donations of land by private owners will be accepted by the City of Brownsville and the City of Los Fresnos. Another option for City leaders to consider is to build improvements with private developer participation.

The City of Brownsville has approved a number of subdivisions in this study area.

I.1.3 Definition and Consideration of Roadway Segments

For the purposes of analysis, it is useful to consider the proposed roadway as comprising three segments.

Segment One is described as the part of the roadway which would extend from the U.S. 77/83 Expressway eastward to Olmito North Road (F.M. 803).

Segment Two can be considered as the section of roadway which begins at Olmito North Road, (F.M. 803), and extends further east to Paredes Line Road (F.M. 1847).

Segment Three is described as the part of the roadway which extends from F.M. 1847 eastward and thence north to State Highway 100. This location is where the proposed road aligns with Share 28 Road, to the north. Please see Exhibit “B” for depictions of these roadway segments.

It should be noted that an improvement project will be undertaken by TxDOT several years from now, which involves realignment of F.M. 803. In referring (above) to Olmito North Road (F.M. 803), we are concerned ourselves with the existing F.M. 803, not the future (unbuilt) project or revised alignment for F.M. 803. See Exhibits H1 and H2.

For more information about the significance or timing of the F.M. 803 Realignment project, please contact the MPO staff.

Segment One—The study area which encompasses the Segment One Corridor is marked by large tracts of land. Typically, larger parcels make it easier to assemble roadway right-of-way for several reasons. First, when dealing with larger-sized properties, there exists more space to swing or move a proposed roadway alignment. This movement can be done to avoid obstacles (eg. wetlands or other problem areas) and/or to connect to other portions of the proposed roadway located on adjacent parcels. The extra acreage of a large-sized tract provides more flexibility in siting of a roadway. Second, the larger acreage of impacted tracts to be affected or involved in this process is beneficial

for another reason. This factor simplifies the process by limiting the number of property owners, since each owner can help determine a larger piece of this puzzle. It is usually simpler to gain acceptance of a proposed roadway alignment among six to eight persons than it would be among 20-30 property owners. The properties that would be potentially affected by Segment One are, generally speaking, either vacant tracts or land used for agricultural purposes.

Segment Two—This area poses the most difficult conditions for future roadway development; as numerous subdivisions now exist which serve to constrain and limit open space for a new arterial. Old Alice Road, a north:south roadway, features existing residences located on both sides of this roadway. It is important that sufficient right-of-way be acquired to allow future establishment of an intersection of the new roadway (Far North Arterial No. 1) with Old Alice Road. Also, it is important that the City of Brownsville acquire needed right-of-way soon, as vacant parcels still exist adjacent to Old Alice Road.

Other subareas within this area are largely vacant.

Segment Three—This area is generally characterized by large, vacant tracts of land. Some areas have been platted and some residential lots (of relatively small sizes) are present, as a result. Most of the existing development is present near F.M. 1847.

I.1.4 Past Planning Efforts

The Long Range Thoroughfare Plan of Cameron County, adopted by the Cameron County Commissioners Court on September 9, 1994 featured an east:west arterial roadway on the County map in approximately the same rough location as Far North Arterial No. 1, as illustrated on the current (2006) MPO plan.

Some differences between the two plans exist. First, the County-drawn arterial is drawn as almost a straight line, (east of the U.S. 77/83 Expressway), taking no account of the drainage ditches present in this area.

Second, the County's Thoroughfare Plan depicted the roadway's alignment further to the south than the MPO's depiction on its MPO Thoroughfare Plan map. The County's depiction is not feasible due to residential subdivisions that have been platted.

Third, to the east of F.M. 1847...the County map depicts this arterial as connecting to Old Port Isabel Road, as well as to an extension of San Roman Road.

For the last several years, the Brownsville MPO Thoroughfare Plan map has depicted this proposed roadway as stopping its eastward movement at a point further to the west of Old Port Isabel; and then proceeding northward to an

intersection with State Highway 100. MPO staff concluded that a connection further to the east, (to Old Port Isabel Road), was not practical. This area is low-lying and subject to flooding.

It should be noted that the Brownsville MPO's northern boundary was limited to areas south of F.M. 511 until 2001, when the MPO boundary area was expanded substantially northward to the resaca or census tract line (north of Los Fresnos). This lack of MPO jurisdiction (involvement) from 1994 to 2001 is one reason why there was little attention paid to this particular roadway by either County staff and/or MPO staff at that time.

All of the alignment issues associated with this roadway under both Thoroughfare Plans will be re-examined in this study. Our goal is to establish opportunities to develop this roadway, perhaps with multiple paths and/or multiple connections, to serve future east:west mobility needs.

I.1.6 Typical Sections

It is quite common that construction of major roadways in Brownsville is accomplished in two stages: The City of Brownsville's Subdivision requires developers to build new roads to at least a minimum width of 32 feet, ("back-to-back"). Accordingly, during the initial "build-out" period as new homes are built...this roadway will be a two-lane roadway or arterial. However, it is very important that sufficient right-of-way be acquired now.

The MPO, in cooperation with the City of Brownsville and the City of Los Fresnos, seeks to assure the smooth functioning of the roadway network for future decades by obtaining the road right-of-way at the present time. It would be ideal to construct the initial two-lane road cross-section over to one side of the corridor, instead of in the middle of this space. However, as a practical matter, the current reliance on having private developers establish the first segments of this (or any other) roadway means that the initial segments will be constructed in the middle of the cross-section.

I.1.7 Consideration of Alternative Alignments

Exhibit G, which is dated March 30, 2007, depicts three (3) proposed roadway alignments. A series of meetings was held by MPO staff with property owners, (within the areas described herein as Segments I, II and III) to hear their views as to these proposed roadway alignments. From these discussions with property owners and from examination of aerial photos and other analyses, MPO staff have examined the advantages and disadvantages associated with these three alternatives.

Alternative No. 1 (depicted in red) has the shortest roadway alignment—9.38 miles. One advantage is that a shorter distance would make for a lower construction cost in establishing the roadway at this location.

In the Segment I area, this proposed alignment runs generally south of existing drainage ditches (and resaca locations). Also, this proposed roadway alignment is located generally to the north of how this arterial is depicted on the current MPO Thoroughfare Plan map.

Within Segment II, this roadway alignment goes east:west (eastward towards F.M. 1847) at points somewhat north of the proposed Los Fresnos Loop. It should be noted that the aforementioned loop and the Far North Arterial No. 1 share a portion of the same alignment on the MPO's Thoroughfare Plan map. The reason behind placement of the roadway (to the north) in this manner is the desire to connect to the main east:west roadway of The Lakes Subdivision. There are benefits associated with fostering this type of connection. By making travel possible to and from The Lakes Subdivision to U.S. 77/83, to the west, many future trips would be directed from State Highway 100. However, the acquisition of needed right-of-way (between F.M. 1847 and Nogal Street, to the west) seems somewhat problematic for Alternative No. 1.

Alternative No. 2 is depicted in green. The length of this proposed roadway alignment measures a distance of 9.67 miles, which is a bit longer than Alternative No. 1. This roadway alignment traverses north of the resacas (water bodies) present within the Segment I Study Area. While this route is acceptable in terms of its use of open territory located to the west of Olmito North Road, (the existing F.M. 803), it presents some problems at locales further to the east. Here, Alternative No. 2's route would conflict with existing homes found at residential subdivisions located to the east of Olmito North Road. The potential displacements are numerous, so this alternative poses a severe disadvantage on this score.

Alternative No. 3 is marked in blue. This proposed roadway alignment covers a distance of 10.04 miles. This alternative proceeds further south of the No. 1 Alternative. One problem with the proposed alignment of No. 3 is that by traversing to the south, this route would require two bridge structures to cross over the existing drainage ditch. The other two roadway alignments avoid this problem by utilizing routes which are located north of this ditch.

East of Old Alice Road, Alternative No. 3 would utilize Lemon Street for a portion of the route to the east. Lemon Street has been featured on the MPO's Thoroughfare Plan map for several years now. Then, at a point east of Nogal Street, the Alternative No. 3 alignment turns northward and traverses to the north on a route parallel to Nogal Street. Whereas, Alternatives 1 and 2 pass to the north of the intermittent resaca (water body), Alternative No. 3 passes to the south of this natural feature. Alternatives 2 and 3 both intersect with F.M. 1847 at a location roughly equivalent to a site opposite Papaya Street. By utilizing this proposed location, the routing intention (above) is to avoid conflicts with existing development to the north.

Alternative No. 1 utilizes a proposed F.M. 1847 intersection location to the north...via a parcel which contains existing development. At first glance...this proposal may appear to be unrealistic. However, in some cases, a property owner will accept this concept...or even grant a donation of land to the municipality to make the remaining property more valuable. Commercial lots, which front on the future intersection of two major roadways, are usually quite valuable. For this reason, this type of future scenario could transpire. However, given the uncertainty of reliance upon this type of outcome...it makes more sense to favor either of the other two alternatives as a better choice for establishment at this future intersection.

I.2.2 UPRR Railroad Located Parallel to F.M. 1847

An existing Union Pacific Railroad line extends from north of Los Fresnos, to the south, parallel to F.M. 1847. One overpass, which permits north:south travel over the rail line is located at Paredes Line Road (F.M. 1847). Another overpass exists on F.M. 511 and enables east:west travel to take place on F.M. 511. This rail line poses some problems within the study area.

At the present time, the rail crossing located furthest to the south of State Highway 100, is located at W. 8th Street. The lack of other (existing) rail crossings to the south of W. 8th Street serves to limit or preclude future use (by motorists) of any new east:west arterial to be established in that area. However, there are several reasons why planning efforts to establish such an east:west roadway should proceed.

First, the need to provide east:west mobility options to local residents in this part of the MPO's study area will not diminish. Due to on-going population growth and associated economic development...the MPO's needs to accommodate future east:west travel will substantially increase.

Accordingly, officials at the local municipalities and at Cameron County should work cooperatively to identify viable strategies or solutions to deal with these rail problems. One potential solution involves closure of several existing rail crossings within the County, to secure a permit from the Union Pacific Railroad Company for construction of a new crossing at a location south of W. 8th Street. Typically, three existing crossings must be closed in order to secure a new crossing from the Union Pacific Railroad Company.

Another solution that merits further investigation involves the cessation of rail service at this particular rail line. The Redland Rock Plant in Los Fresnos was the only rail customer located alongside this line, which was originally a Southern Pacific Railroad line.

The North Cameron County Railroad Plan, completed in September 2001 by JWH & Associates, Inc., addresses this question of rail operations. At that time (2001)...the aforementioned document reported:

“The Union Pacific Railroad indicated their plan is to abandon a portion of this route, the segment between the Port of Harlingen and the materials yard south of Los Fresnos. Those customers in Harlingen would be served along the existing east-west line from the switchyard to the Port of Harlingen. Customers south of Los Fresnos would be served from the new Olmito yard.”

The new Olmito yard (switchyard) was placed into service some years ago, yet this former Southern Pacific line continues to be in service—with three to four trains traveling north:south through the Los Fresnos Community on a typical weekday. This former rail customer (above) now receives shipments via truck deliveries. Perhaps, local officials can secure a commitment from Union Pacific Railroad staff to examine the eventual abandonment of this north:south rail line. This could set up some of several beneficial outcomes:

- Right-of-way becomes available for the establishment of the new east:west arterial, (Far North Arterial No. 1);
- Right-of-way becomes available for establishment of north:south roadway(s) to be located within the former rail corridor;
- Right-of-way becomes available for establishment of Rail-To-Trail conversion(s);
- Rail accidents, noise and air pollution and near Los Fresnos would cease with the cessation of rail traffic;
- Property valuations would increase due to the cessation of rail traffic.

Analyzing all of the possible rail outcomes is beyond the scope of this study. However, addressing these future rail operational issues is of critical importance. Rail exerts a huge influence upon this particular corridor study and it looms quite large in terms of its impact upon the future growth of Los Fresnos and Brownsville in this part of the MPO’s study area.

I.2.3 Accommodating Future Growth/The Area Roadway Network

The MPO’s Thoroughfare Plan is an essential building block to allow for the orderly growth and expansion of this community. The Thoroughfare Plan represents a balanced system of functional classifications for the urban roadway network. The proper functioning of this network depends upon establishment of primary and secondary arterials. Brownsville’s reliance on the U.S. 77/83 Expressway for north:south travel thereby places huge importance on the east:west arterials for accommodating traffic volumes as the urban area grows and develops. Los Fresnos relies on State Highway 100 for east:west travel, but an alternative east:west route would be very helpful to spread the demand and lessen future congestion on S.H. 100.

I.2.4 Traffic Volumes

Existing Traffic: No traffic volumes are present at the current time.

Projected Traffic: (Year 2030) Far North Arterial No. 1
10,922 ADT—(to the west); 9,727 ADT—(west of F.M. 1847);
8,811 ADT—(east of F.M. 1847)

Please see Exhibits “F1” thru “F4” for more information.

I.2.5 Explanation of the Purpose and Project Need

The desirable spacing of the primary arterials as part of development of the Brownsville MPO’s roadway network should be a distance for one to one and a half miles. It is evident that future reliance on just two east:west roadways, (S.H. 100 and F.M. 511), will not suffice to accommodate the high traffic volumes associated with growth (in northern Brownsville and parts of Los Fresnos) within this study area.

These two roadways are located some 1.8 miles apart at their closest point where F.M. 511 intersects with the U.S. 77/83 Expressway. For this point, moving eastward, these two arterials further diverge and the distance between them grows larger. These two roads or highways are more than seven miles apart when one measures the distance at another location (about 1/2 mile east of the eastern boundary of the Palo Alto Battlefield N.H.S.). This existing spacing will not adequately serve the mobility needs as new growth occurs. Establishment of a new east:west arterial (Far North Arterial No. 1) is intended to serve these mobility needs.

II. ADJACENT ROADWAYS: TRAFFIC VOLUMES

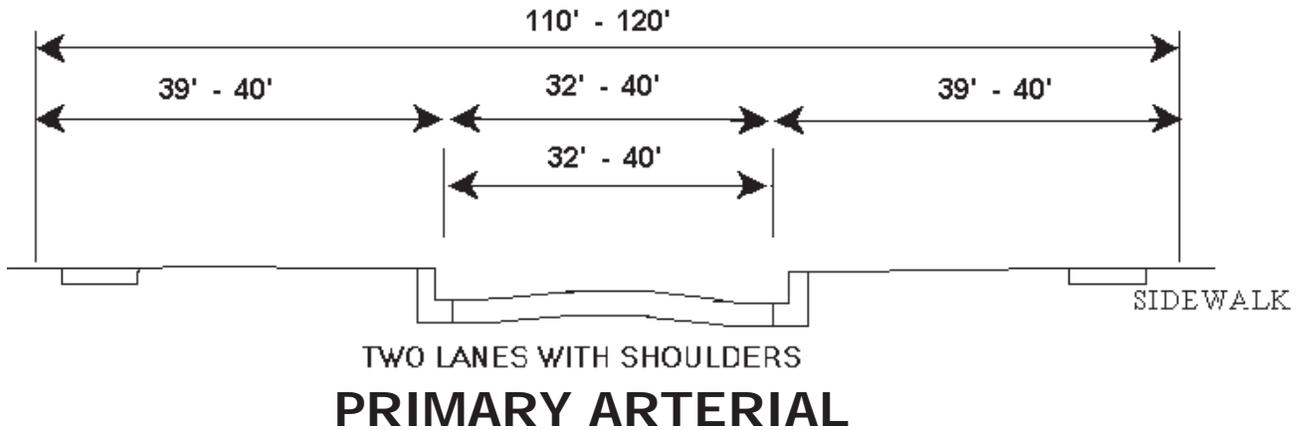
See Exhibit E.

Roadway Cross Sections

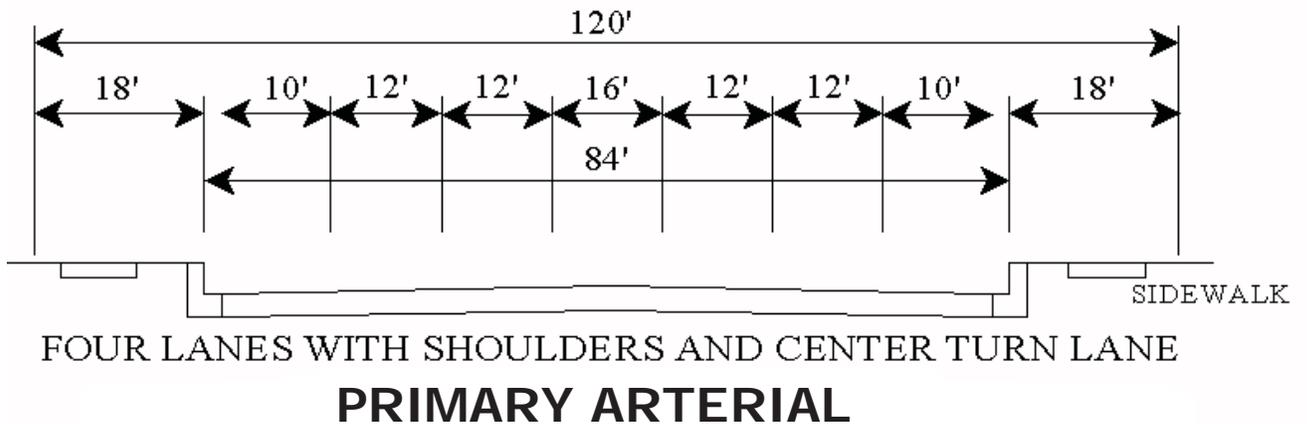
The proposed right-of-way of the Far North Arterial No. 1, as a Primary Arterial, would be 120 feet in width.

The initial stage of Far North Arterial No. 1 would be a two-lane roadway. Subsequently, sometime in the long-range time-frame (12 to 15 years hence) the road will be developed as a divided highway. In some locations...the roadway might feature or utilize a continuous left turn lane at commercial areas.

Short-Range Time-frame:



Long-Range Time-frame:



Far North Arterial No. 1 will be designed to accommodate three functions:

1. It will serve trips to and from future residential subdivisions within the northern sector of the Brownsville area, including Los Fresnos.
2. It will carry east:west traffic volumes and trip movements from or to U.S. 77/83, and
3. It will distribute trips to F.M. 1847 to serve north:south travel.

Roadway sections of narrower widths may need to be considered for at least one section of this arterial. Specifically, the proposed roadway segment which is adjacent to the north:south rail line may need to fit within a smaller width.

An absolute minimum roadway section can be established through this area of 56-60 feet in width. This section would allow for four (4) undivided 11 foot wide thru lanes, with a sidewalk on one side of the street.

II.2.2 Existing Constraints

Near the areas east of Olmito North Road...many residential lots have been platted. In this case...the development of the Far North Arterial No. 1 is limited a great deal by the presence of physical barriers, such as existing residential subdivisions.

II.2.4. Environmental

II.2.4.1 Logical Termini

The logical termini for this project are the U.S. 77/83 Expressway, (to the west), and S.H. 100, to the east. Another possibility that was examined considers adding Old Port Isabel Road as a second terminus, to the east.

Due to the presence of low-lying areas, near Old Port Isabel Road, this option is not recommended.

II.2.4.2 Urban Area

All alternatives involve some urban areas. Some of the vacant (rural) land is expected to be platted within 5-10 years.

II.2.4.3 Environmental Assessment

In a decade or two from now...a City-sponsored Environmental Assessment (EA) will need to be prepared. The Federal Highway Administration will not allow the expenditure of federal funds for construction of this project, until such time as environmental studies and public involvement procedures for the proposed roadway are complete. Potential impacts of proposed roadway construction, (and the “no action” alternative or “no build”), would need to be discussed at public hearings.

Impacts upon the environment of such proposed activities must be identified and closely evaluated. These factors include potential impacts or disruptions of private properties, added traffic noise, changes in air quality, existing and planned land use, drainage impacts and likely impacts on cultural and natural resources. The Engineering staff at the City of Brownsville, at some date in the future, will need to start the process of securing professional services to assist with these studies.

III. POTENTIAL UTILITY ADJUSTMENTS

The Brownsville Public Utilities Board provides water service and sanitary sewer for most, if not all, of the Far North Arterial No. 1 Corridor Study area. PUB staff should undertake an examination of the proposed alternative roadway alignments to assess if the existing utilities will need to be moved by virtue of future roadway development and/or roadway expansion.

IV. POTENTIAL IMPACTS TO WILDLIFE/VEGETATION

At some date in the future, when federal funding is closer at hand, a field survey should be conducted to determine the presence or absence of endangered plants or wildlife, (such as the ocelot and jaguarondi). At the present time, private property owners have been developing residential lots (housing), on some parcels. As a result of clearing of the brush, which occurs in small patches scattered throughout the corridor study area, the character of the study area is changing as a result of private (developer) actions.

V. PREFERRED ALTERNATIVE ALIGNMENT (EXHIBIT H)

MPO staff have selected or recommended a preferred alternative for the alignment of Far North Arterial No. 1. This recommended roadway alignment is depicted (in blue) on Exhibit H. The map is dated October 19, 2007.

The fact is that the City of Brownsville acquisition of needed roadway right-of-way is dependent on voluntary donations and platting of dedicated roadway as part of the subdivision process. Accordingly, due to the width and length of the study area, it is likely that (over the years) a number of subsequent modifications in this alignment will occur. It is difficult work to try to achieve consensus (on the roadway's alignment) from all affected property owners. In addition, property ownership is subject to change as various parcels are purchased and sold to different owners. Nonetheless, the preferred roadway alignment represents a better opportunity to develop this roadway, compared to the current alignment on the MPO's Thoroughfare Plan map.

The City of Brownsville employs a Right-of-Way Specialist at the City Engineering & Traffic Department. Future coordination with private owners and acceptance of donations for Far North Arterial No. 1 will be directed by this City staff person, although MPO staff will continue to play a role through participation and service on the Plat Advisory Committee. This committee screens and makes comments on all plats submitted for approval to the Brownsville Planning & Zoning Commission. The City Manager at the City of Los Fresnos, or his designee, will oversee the acquisition of parcels (donations or subdivision dedications) within that municipality.

STUDY RECOMMENDATIONS:

Segment One

The current depiction or alignment of the Far North Arterial No. 1 on the MPO Thoroughfare Plan map needs to be changed. The current alignment, which dates back to 2004, shows the proposed roadway further to the south, (relatively close to Meyers Road), than is reasonable. This alignment (above) is problematic as this route would pass through an existing residential subdivision, which is located west of Olmito North Road.

The proposed roadway alignment needs to be shifted northward to avoid this type of conflict. Furthermore, care should be exercised to ensure that this new east:west roadway is placed to intersect with the new (revised) alignment of F.M. 803 at a right angle. The MPO's Thoroughfare Plan map needs to be amended with these considerations taken into account.

Segment Two

Within this area, the current alignment of this east:west roadway on the MPO map needs to be amended or changed. Shifting (or revising) the roadway by moving it northward may eliminate a need to cross the drainage ditch and it places this future roadway further away from existing residences.

Further, the extension of the Far North Arterial No. 1 eastward to Old Alice Road poses a large problem. Specifically, to pass from one side of Old Alice Road to the other will require a financial commitment (from the City of Brownsville) to purchase right-of-way. This difficulty is not an insurmountable problem, but it is a significant hurdle. All of the parcels, to the east, on this section of Old Alice Road are small lots. Large portions of the new roadway can be obtained (at no cost) through Brownsville's Subdivision Ordinance. This ordinance makes reference to the MPO's Thoroughfare Plan. The ownership of the future Delta Farms Division are favorably disposed to dedicate future roadway right-of-way.

The opportunity to gain land via the subdivision process at Old Alice Road did not occur. This possible outcome departed some years ago on the eastern parts of Old Alice Road. So, monies need to be set aside for the purpose of acquisition of real property at this location. Given the need for establishment of a 9-10 mile transportation corridor, it is not prudent to allow a 50 foot by 100 foot residential lot to remain as an obstacle to this achievement. A willing seller of property can be identified. By acting on this issue soon, City officials stand to gain by making a proper connection, to the west, with the large Delta Farms tract. If this private tract of land can be afforded good roadway connectivity...it will in all likelihood be developed with substantially higher valuations than the adjacent Old Alice Road properties.

The establishment of the proposed loop around Los Fresnos is needed. This loop is an essential part of the transportation network which will help meet future east:west travel demand. It is recommended that a new north:south collector should be established, in order to provide connectivity between the Far North Arterial No. 1 and the Los Fresnos Loop. This new collector is labeled as "Far North Collector #3 and it is depicted on Exhibit GSUBS.

Other new north:south collectors should be shown (incorporated) as part of the MPO's Thoroughfare Plan. In the case of the proposed Delta Farms Subdivision, the owners have forwarded correspondence to the MPO staff asking that the location of Far North Collector #2 be shifted to the middle of their parcel. Since the proposed location of the aforementioned north:south collector connects to State Highway 100...(and this is an important feature)...the MPO staff endorse this change. The current depiction of Far North Collector #2 in this vicinity on the MPO's Thoroughfare Plan is not feasible, due to the presence of existing development, (to the north).

Also, Nogal Street should be established as a new MPO Collector on the MPO's Thoroughfare Plan map. Nogal Street, as a new collector, should extend further south, (to the drainage ditch), beyond the intersection with the Far North Arterial No. 1. Establishment of this collector provides connectivity with Lemon Street, which is a Secondary Arterial. This will enable motorists to have options about how to travel east and west.

Segment Three

It is recommended that the intersection of the proposed Far North Arterial No. 1 with F.M. 1847 be moved further to the south as compared to the existing alignment (intersection) depicted on the MPO Thoroughfare Plan map. This would place the future intersection within an open area. By taking advantage of the presence of vacant tracts...it becomes more likely that sufficient right-of-way will be acquired by a public entity.

Also, the MPO staff recommend that the arterial's proposed connection with State Highway 100 be effected further to the east. The Master Plan of "The Lakes Subdivision" will accommodate expected residential growth to the north, near S.H. 100. The proposed roadway network associated with "The Lakes Subdivision" will be built with private monies obtained by the developer. This "privately-funded" roadway will serve the public's need for roadway connectivity by establishing a portion of the (new) Los Fresnos Loop.

Also, the developer's network features a large east:west boulevard as a future "spine" and this boulevard features (3) three north:south (collectors) connectors which go up to State Highway 100. By accommodating the expected growth to the north, The Lakes Master Plan document enables the MPO's roadway network to focus more on the long-range mobility needs further to the south. For this reason, the MPO staff recommend that the arterial be extended further to the

east. By making this eastern extension in this manner...the future (Far North Arterial:S.H. 100) roadway intersection or terminus is placed well east of The Lakes Subdivision.

Another MPO staff recommendation concerns the need for depiction of an additional collector on the MPO Thoroughfare Plan map. By extending the arterial itself further to the east, the residential (service) area to be covered by the roadway network has been substantially enlarged.

For this reason, the MPO staff recommend the establishment of another north:south collector. This additional north:south collector would be located approximately 1,100 to 1,200 west of the arterial. We refer to the (north:south) easternmost portion of the Far North Arterial No. 1, south of its S.H. 100 intersection point.

Naming of the Far North Arterial No. 1: Juan Seguin Boulevard

The MPO staff adopted the “Far North Arterial No. 1” moniker as a working title...for the sake of convenience. Given that the bulk of the Brownsville MPO’s study area lies south of Los Fresnos, for some years, that has been the main frame of reference. Hence, this new roadway was termed the Far North Arterial, due to its location of north of Brownsville. However, the addition of the City of Los Fresnos to the voting membership of the MPO’s Policy Committee significantly broadens the MPO’s study area and its frame of reference.

Accordingly, it is appropriate to bestow a permanent name for this important east:west roadway. This topic was briefly discussed by the MPO Policy Committee members at the meeting held in April 2007. To honor a figure in Texas history, the members agreed at that date to name this arterial roadway—Juan Seguin Boulevard.

Therefore, when the MPO Policy Committee members consider (months from now) the proposed (recommended) roadway alignment under an amendment of the MPO’s Thoroughfare Plan...this process will include the aforementioned renaming of this arterial.

Future Activities Forwards the Establishment of this New Roadway

After this corridor study document is finalized, other steps will need to occur to develop this new roadway. The critical step is that the MPO Policy Committee should take action to adopt an MPO Thoroughfare Plan Amendment, which incorporates the new (preferred) alignment for this arterial roadway. If new information is developed by MPO staff or others about the existing conditions within the study area...more adjustments in the proposed route alignment can be effected. This can be done (after this study is finalized), prior to the MPO Policy Committee’s action on adoption of an amended MPO Thoroughfare Plan.

Also, it should be noted that the scale of the MPO Thoroughfare Plan map is so large that this feature usually allows developers some leeway to shift the roadway's alignment. Minor adjustments are acceptable as long as the tangent(s) of roadway curves conform to the intended roadway design speed and that suitable connections to the roadway's location (on adjacent properties) are properly fashioned. Thus, it is not unusual for such minor adjustments to occur, after consultation with MPO staff, when new subdivision plats are submitted. These plats include roadway dedications...so as to comply with MPO/City Thoroughfare Plan requirements.

TABLE OF CONTENTS
(Exhibits & Maps)

	Exhibit
Study Area	“A”
Parcels & Roadway Segments	“B”
Traffic Analysis Zones	“D”
TAZ Population Area (2000-2050)	“D-1”
TAZ Population Area (2000-2050 Graphics)	“D-2”
Cities/Population (2000-2050)	“D-3”
Traffic Volumes (1995-2050) Adjacent Roadways.....	“E”
ADVT: 1995 Traffic Volumes	“E-1”
ADVT: 2005 Traffic Volumes	“E-7”
Roadway Type	“F”
1999 Travel Demand Model (without Far North Arterial No. 1)	“F-1”
1999 Travel Demand Model (with Far North Arterial No. 1)	“F-2”
2030 Travel Demand Model (without Far North Arterial No. 1)	“F-3”
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Proposed (Preferred) Alternative at Existing F.M. 803 "H-1"
Proposed (Preferred) Alternative at Revised F.M. 803 "H-2"
Proposed (Preferred) Alternative at Old Alice Road..... "L"
Proposed (Preferred) Alternative at F.M. 1847) "M"

**BROWNSVILLE MPO
AUGUST 30, 2007**



Map Layers

- Brownsville ETJ
- 2004 Brownsville City Limits
- Water Area
- National Park Service
- Study Area

PROPOUSE

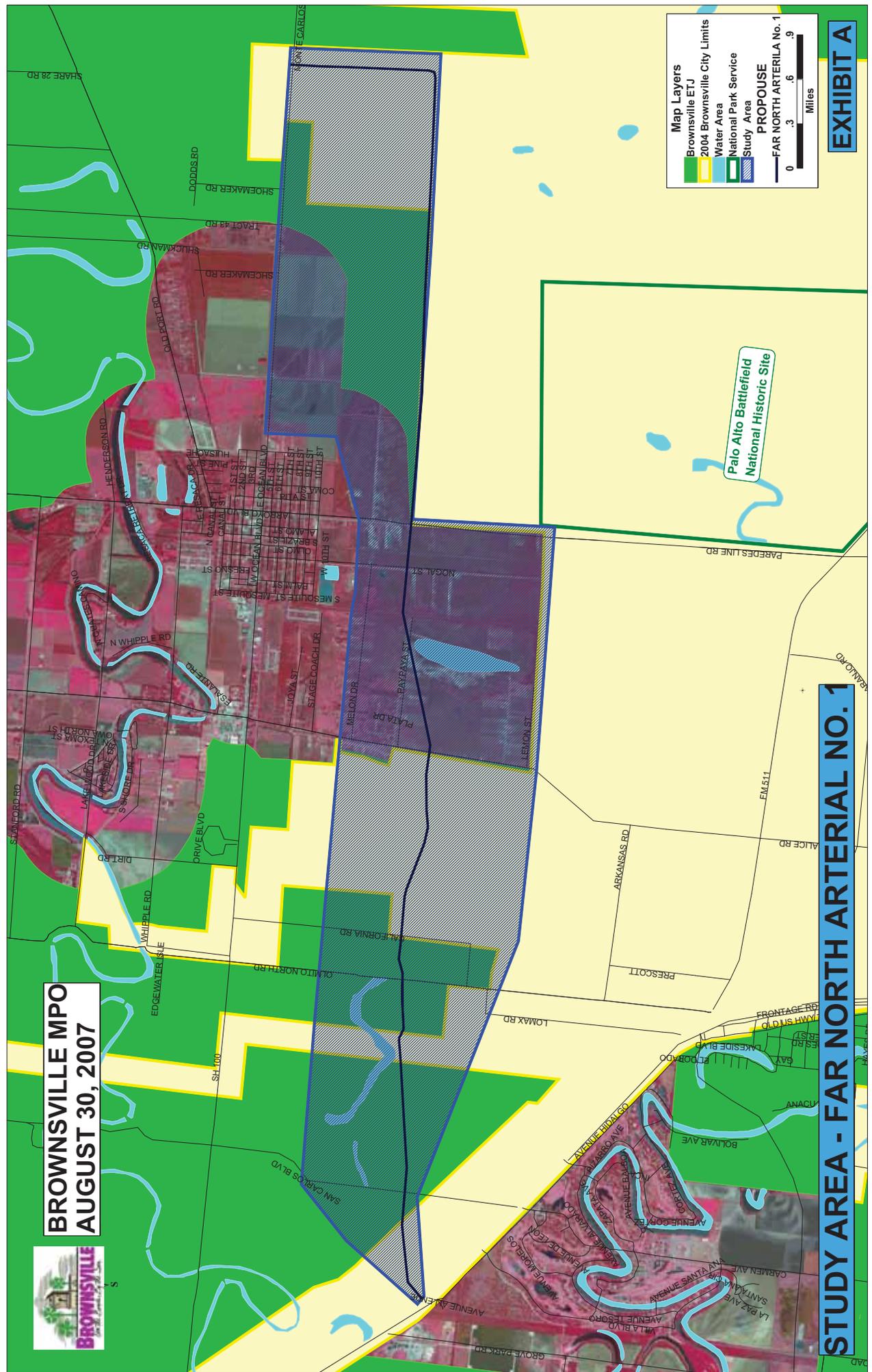
FAR NORTH ARTERIAL No. 1

0 .3 .6 .9
Miles

EXHIBIT A

Palo Alto Battlefield
National Historic Site

STUDY AREA - FAR NORTH ARTERIAL NO. 1



CITY OF BROWNSVILLE

BROWNSVILLE MPO OCTOBER 16, 2007

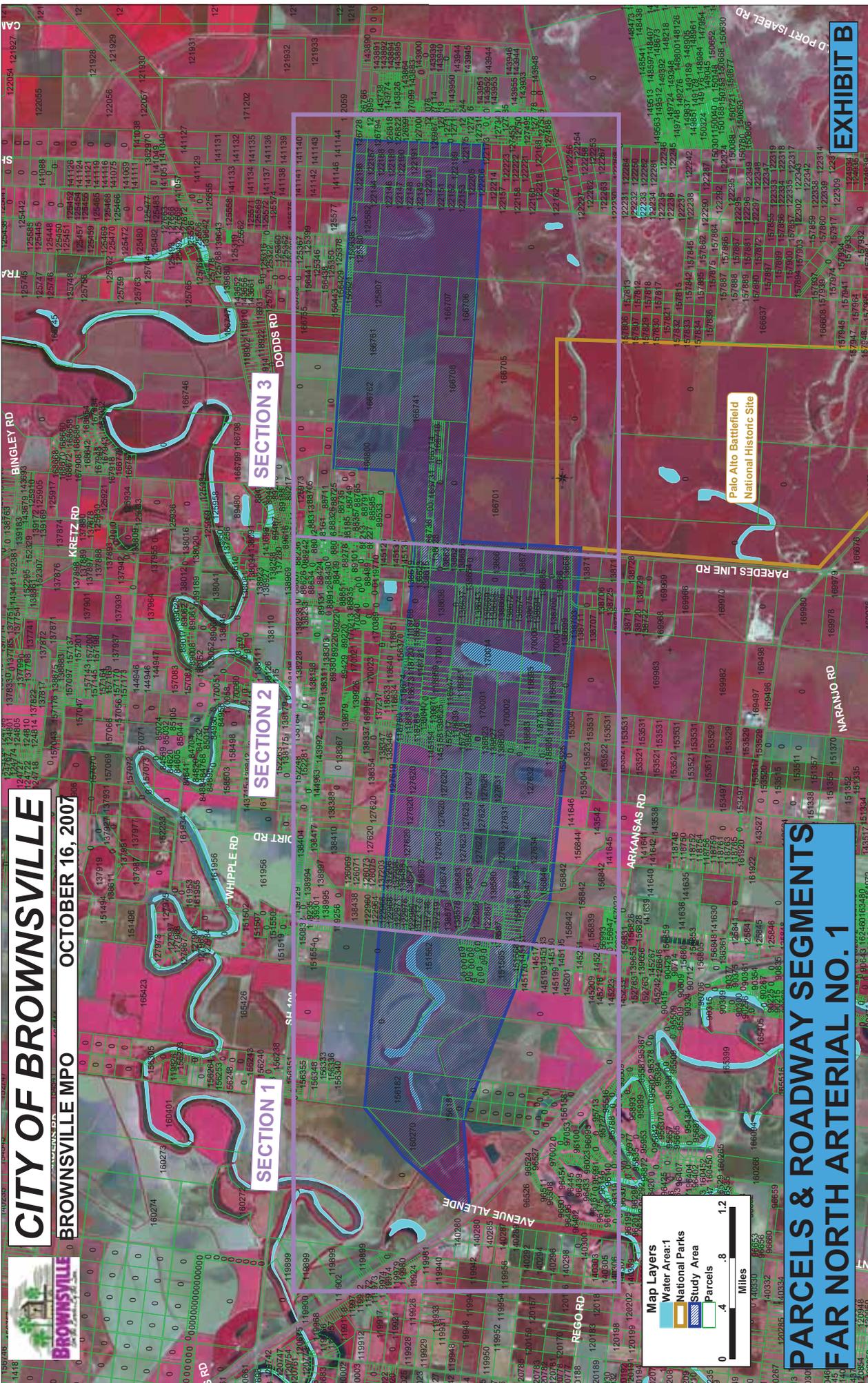


EXHIBIT B

PARCELS & ROADWAY SEGMENTS FAR NORTH ARTERIAL NO. 1

Map Layers:

- National Parks
- Study Area
- Parcels

Scale: 0 .4 .8 1.2 Miles

SECTION 3

SECTION 2

SECTION 1

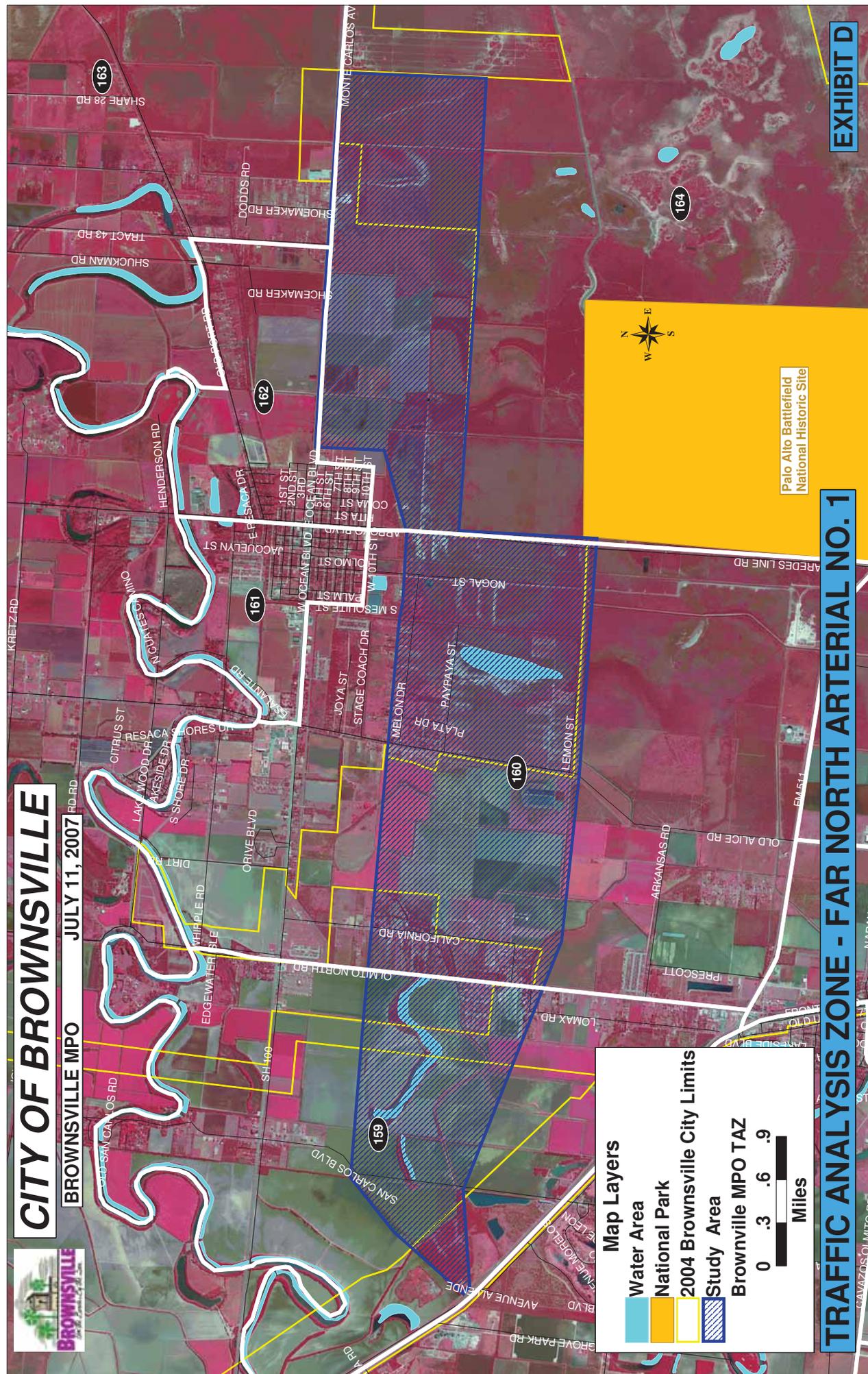
Palo Alto Battlefield
National Historic Site

REGARD



CITY OF BROWNSVILLE

BROWNSVILLE MPO JULY 11, 2007



Map Layers

-  Water Area
-  National Park
-  2004 Brownsville City Limits
-  Study Area

Brownsville MPO TAZ

0 .3 .6 .9

Miles

Palo Alto Battlefield National Historic Site

TRAFFIC ANALYSIS ZONE - FAR NORTH ARTERIAL NO. 1

EXHIBIT D

FAR NORTH ARTERIAL No. 1 - TAZ POPULATION AREA 2000-2050

No	TAZ	AREA	ACRES	2000 POP	2001 POP	2002 POP	2003 POP	2004 POP	2005 POP	2006 POP	2007 POP	2008 POP	2009 POP	2010 POP	
1	159	8.07	5,162.88	1,141	1,173	1,206	1,238	1,270	1,302	1,336	1,370	1,404	1,438	1,472	
2	160	12.3	7,869.50	2,486	2,556	2,626	2,696	2,767	2,837	2,911	2,985	3,059	3,133	3,208	
3	164	23.05	14,752.09	481	495	508	522	536	549	563	578	592	607	621	
TOTAL:				43.42	27,784.47	4,109	4,340	4,456	4,572	4,688	4,810	4,933	5,056	5,178	5,301

No	TAZ	AREA	ACRES	2010 POP	2011 POP	2012 POP	2013 POP	2014 POP	2015 POP	2016 POP	2017 POP	2018 POP	2019 POP	2020 POP	
1	159	8.07	5,162.88	1,472	1,507	1,542	1,577	1,611	1,646	1,680	1,714	1,748	1,782	1,817	
2	160	12.3	7,869.50	3,208	3,283	3,359	3,434	3,510	3,586	3,660	3,734	3,809	3,883	3,957	
3	164	23.05	14,752.09	621	636	650	665	679	694	708	723	737	752	766	
TOTAL:				43.42	27,784.47	5,301	5,551	5,676	5,801	5,926	6,049	6,171	6,294	6,417	6,540

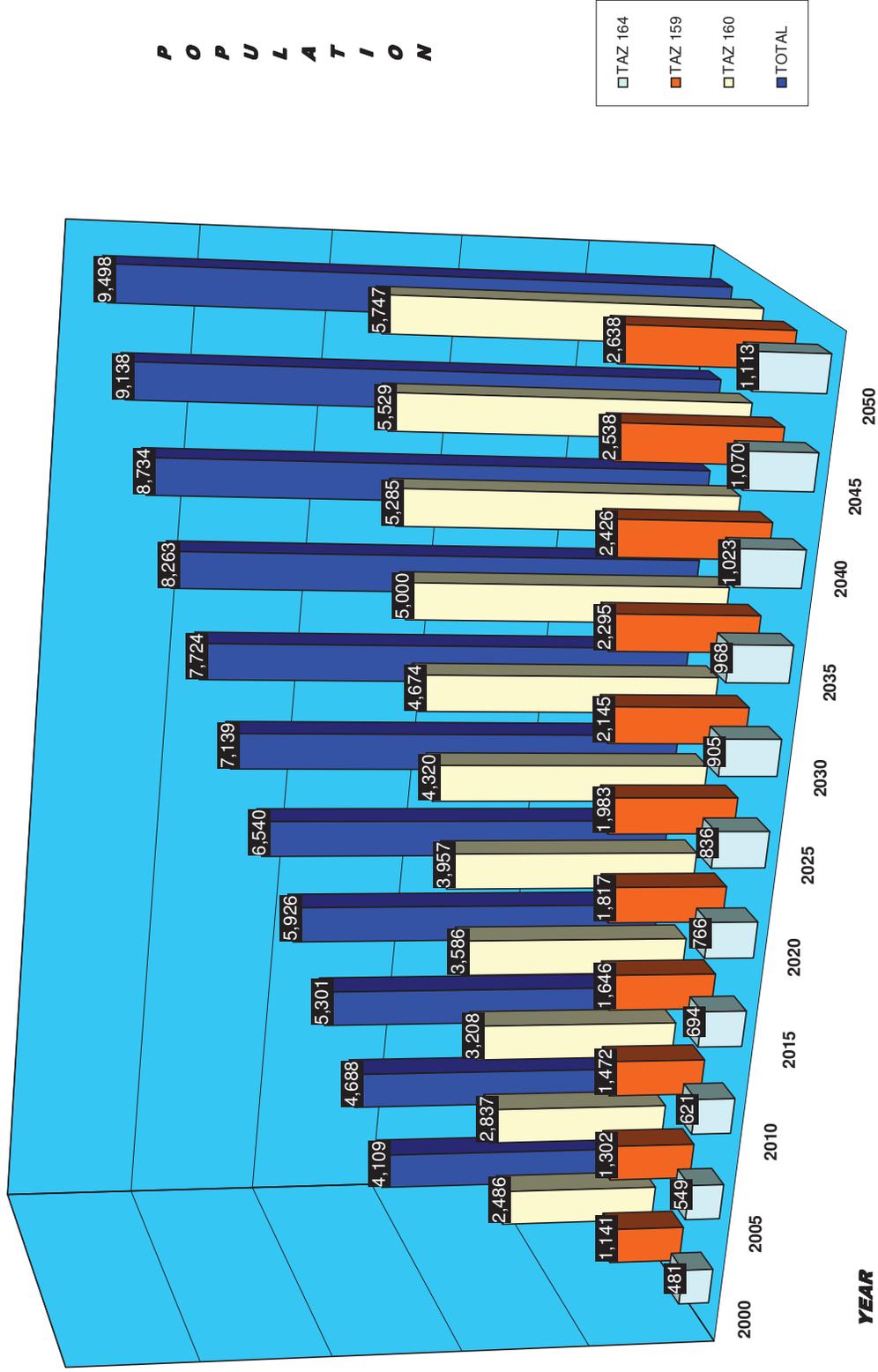
No	TAZ	AREA	ACRES	2020 POP	2021 POP	2022 POP	2023 POP	2024 POP	2025 POP	2026 POP	2027 POP	2028 POP	2029 POP	2030 POP	
1	159	8.07	5,162.88	1,817	1,850	1,883	1,916	1,950	1,983	2,015	2,048	2,080	2,113	2,145	
2	160	12.3	7,869.50	3,957	4,030	4,102	4,175	4,247	4,320	4,390	4,461	4,532	4,603	4,674	
3	164	23.05	14,752.09	766	780	794	808	822	836	850	864	877	891	905	
TOTAL:				43.42	27,784.47	6,540	6,779	6,899	7,019	7,139	7,256	7,373	7,490	7,607	7,724

No	TAZ	AREA	ACRES	2030 POP	2031 POP	2032 POP	2033 POP	2034 POP	2035 POP	2036 POP	2037 POP	2038 POP	2039 POP	2040 POP	
1	159	8.07	5,162.88	2,145	2,175	2,205	2,235	2,265	2,295	2,321	2,347	2,374	2,400	2,426	
2	160	12.3	7,869.50	4,674	4,739	4,804	4,869	4,934	5,000	5,057	5,114	5,171	5,228	5,285	
3	164	23.05	14,752.09	905	917	930	943	955	968	979	990	1,001	1,012	1,023	
TOTAL:				43.42	27,784.47	7,724	7,831	7,939	8,047	8,155	8,263	8,357	8,451	8,545	8,640

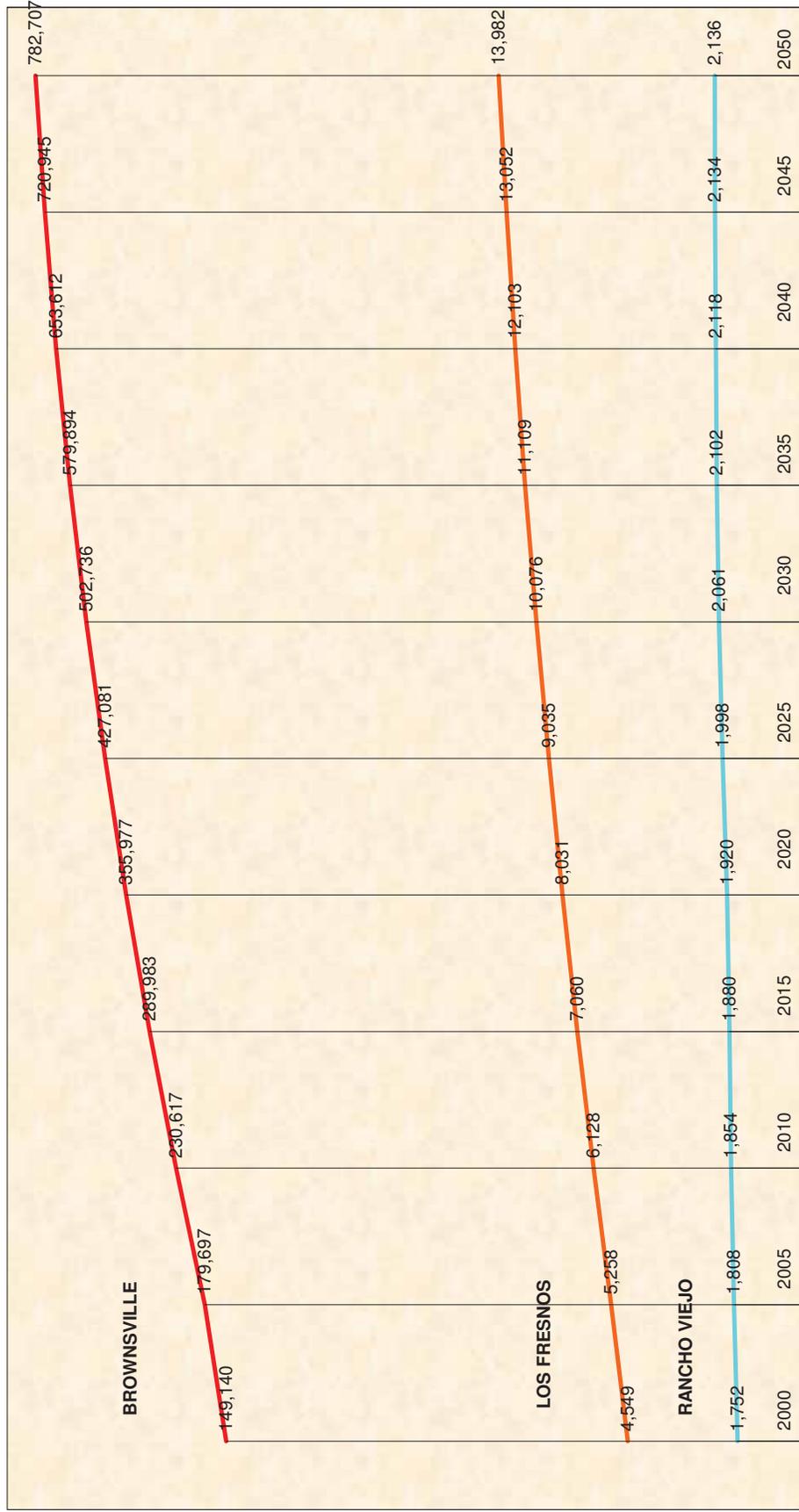
No	TAZ	AREA	ACRES	2040 POP	2041 POP	2042 POP	2043 POP	2044 POP	2045 POP	2046 POP	2047 POP	2048 POP	2049 POP	2050 POP	
1	159	8.07	5,162.88	2,426	2,448	2,471	2,493	2,516	2,538	2,558	2,578	2,598	2,618	2,638	
2	160	12.3	7,869.50	5,285	5,334	5,383	5,432	5,480	5,529	5,573	5,617	5,660	5,704	5,747	
3	164	23.05	14,752.09	1,023	1,032	1,042	1,051	1,061	1,070	1,079	1,087	1,096	1,104	1,113	
TOTAL:				43.42	27,784.47	8,734	8,815	8,895	8,976	9,057	9,138	9,210	9,282	9,354	9,426

NOTE: Source: U.S. Census Bureau, Texas State Data Center, Travel Demand Model & MPO's.
 FAR NORTH ARTERIAL No. 1 area has TAZ 159, 160 & 164.

FAR NORTH ARTERIAL No. 1 - TAZ POPULATION AREA



FAR NORTH ARTERIAL No. 1 - CITIES POPULATION 2000-2050



PEOPLE

— BROWNSVILLE — LOS FRESNOS — RANCHO VIEJO

FAR NORTH ARTERIAL No. 1 - TRAFFIC VOLUME AREA 1995-2050

No.	ROADS	LOCAL NAME	AREA	ADVT - 1995	ADVT - 2000	ADVT - 2001	ADVT - 2002	ADVT - 2003	ADVT - 2004	ADVT - 2005	ADVT - 2010	ADVT - 2020	ADVT - 2030	ADVT - 2040	ADVT - 2050
1	US 77/83	US HWY.	NORTH	26,000	33,000	37,000	38,000	37,000	37,000	37,350	43,853	55,276	66,698	78,121	89,543
2	US 77/83	US HWY.	SOUTH	28,000	36,000	38,000	41,000	40,000	38,000	39,090	43,546	52,789	62,031	71,274	80,517
3	FM 803	OLMITO NORTH ROAD	NORTH	3,500	3,900	6,700	5,300	6,400	6,700	7,120	12,388	21,868	31,348	40,828	50,308
4	FM 803	OLMITO NORTH ROAD	SOUTH	3,800	3,900	7,200	6,200	7,200	7,200	7,740	14,031	25,417	36,803	48,189	59,575
5	FM 1847	PAREDES LINE ROAD / ARROYO ROAD	NORTH	6,000	7,500	9,500	6,200	8,600	9,500	10,020	14,400	22,567	30,733	38,900	47,066
6	FM 1847	PAREDES LINE ROAD / ARROYO ROAD	SOUTH	5,900	7,400	8,900	7,500	8,900	8,900	9,140	11,658	16,254	20,851	25,448	30,044
7	SH 100	STATE HWY. 100 / OCEAN BOULEVARD WEST	WEST	8,600	10,100	11,300	9,800	11,000	11,300	11,500	13,429	16,976	20,524	24,072	27,619
8	SH 100	STATE HWY. 100 / OCEAN BOULEVARD CENTRAL	CENTRAL	12,300	15,000	15,300	16,100	14,900	15,300	15,400	16,448	18,362	20,275	22,188	24,102
9	SH 100	STATE HWY. 100 / OCEAN BOULEVARD EAST	EAST	6,400	8,700	8,800	7,900	9,100	8,800	8,900	9,780	11,414	13,048	14,681	16,315
10	FM 511	SENATOR EDDIE LUCIO JR. HWY. WEST	WEST	5,100	9,400	14,800	14,200	14,600	14,800	15,270	26,287	45,433	64,579	83,725	102,870
11	FM 511	SENATOR EDDIE LUCIO JR. HWY. CENTRAL	CENTRAL	3,800	6,400	9,400	7,200	8,900	9,400	9,400	15,640	26,040	36,440	46,841	57,241
12	FM 511	SENATOR EDDIE LUCIO JR. HWY. EAST	EAST	5,900	6,400	8,700	8,000	8,200	8,700	9,270	12,592	19,079	25,565	32,052	38,539

NOTE: Source: Texas Department of Transportation
 FAR NORTH ARTERIAL No. 1 area has US 77/83, FM 803, FM 1847, SH 100 and FM 511 ROADS.
 ADVT - ANNUAL AVERAGE DAILY TRAFFIC (Daily Traffic Volumes).
 For ADVT 2010, 2020, 2030, 2040 & 2050 were forecasted by annual average.

No.	% A YEAR	2000/1995	2001/2000	2002/2001	2003/2002	2004/2003	2005/2004	AVERAGE
1	US 77/83	105.38%	112.12%	102.70%	97.37%	100.00%	100.95%	103.09%
2	US 77/83	105.71%	105.56%	107.89%	97.56%	95.00%	102.87%	102.43%
3	FM 803	102.29%	171.79%	79.10%	120.75%	104.69%	106.27%	114.15%
4	FM 803	100.53%	184.62%	86.11%	116.13%	100.00%	107.50%	115.81%
5	FM 1847	105.00%	126.67%	65.26%	138.71%	110.47%	105.47%	108.60%
6	FM 1847	105.08%	120.27%	84.27%	118.67%	100.00%	102.70%	105.16%
7	SH 100	103.49%	111.88%	86.73%	112.24%	102.73%	101.77%	103.14%
8	SH 100	104.39%	102.00%	105.23%	92.55%	102.68%	100.65%	101.25%
9	SH 100	107.19%	101.15%	89.77%	115.19%	96.70%	101.14%	101.86%
10	FM 511	116.86%	157.45%	95.95%	102.82%	101.37%	103.18%	112.94%
11	FM 511	113.68%	146.88%	76.60%	123.61%	105.62%	100.00%	111.06%
12	FM 511	101.69%	135.94%	91.95%	102.50%	106.10%	106.55%	107.46%



CITY OF BROWNSVILLE 400

Brownsville MPO DECEMBER 31, 2006

RUSSELLTOWN

(100)

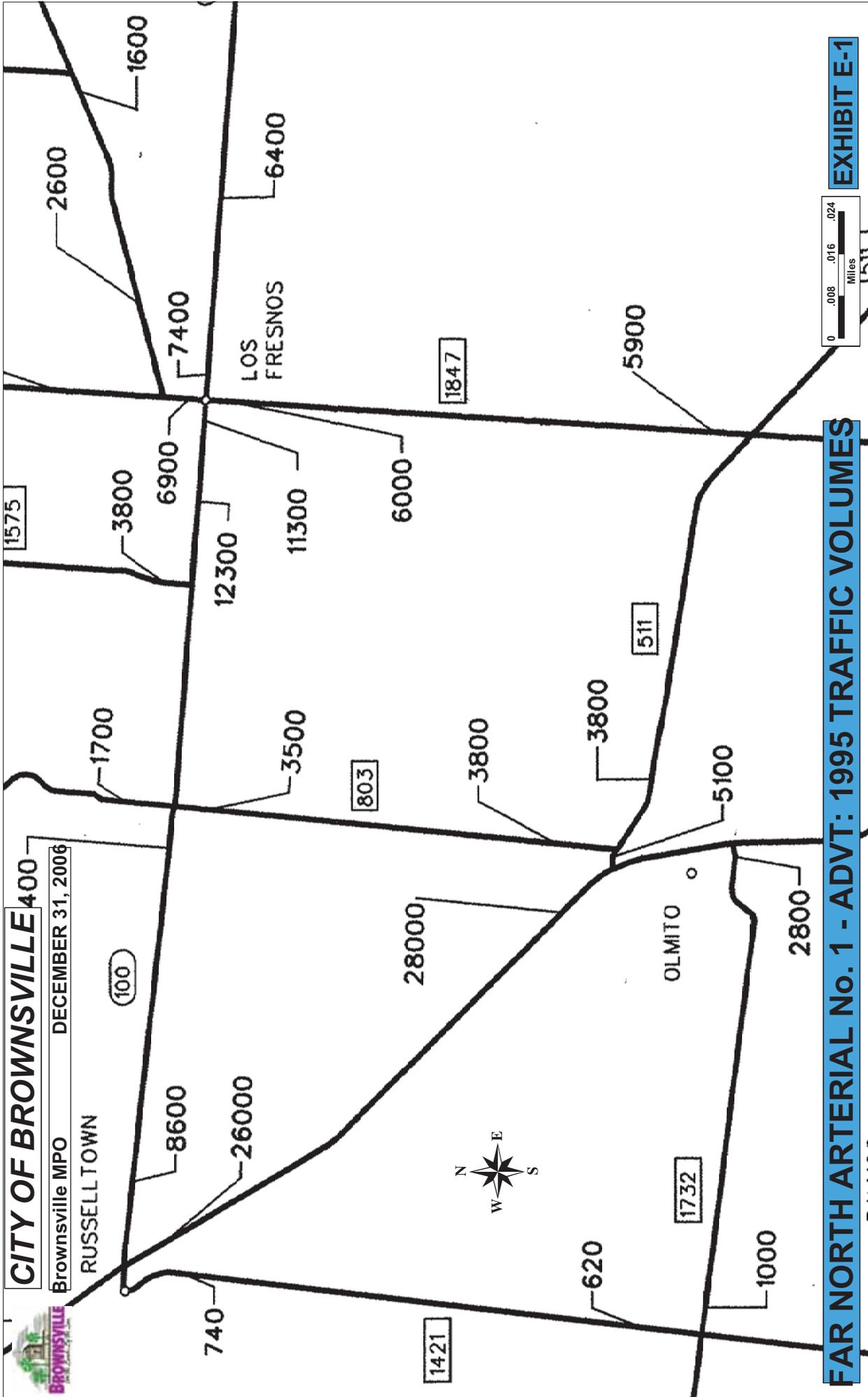


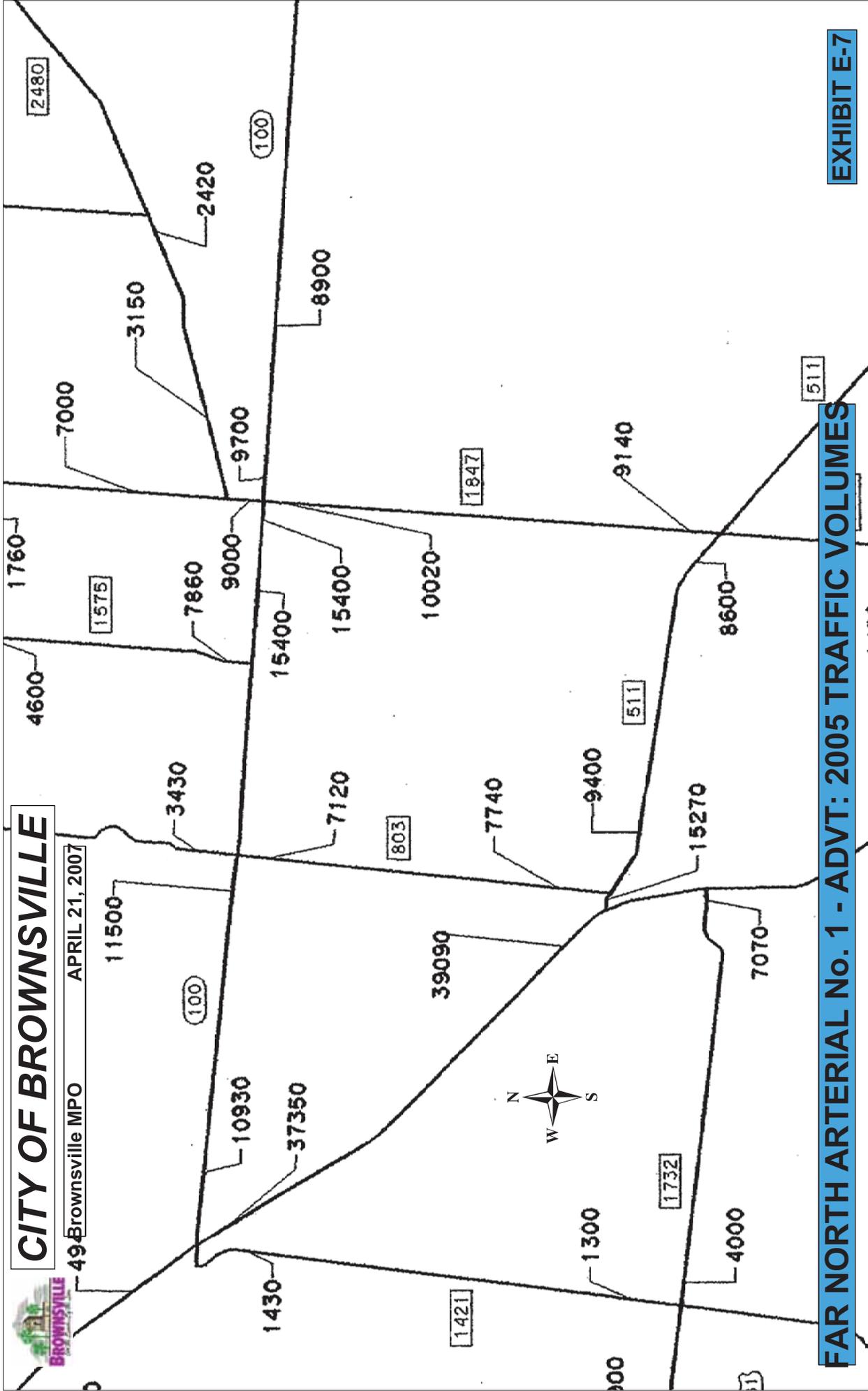
EXHIBIT E-1

FAR NORTH ARTERIAL No. 1 - ADVT: 1995 TRAFFIC VOLUMES

CITY OF BROWNSVILLE



49 Brownsville MPO APRIL 21, 2007

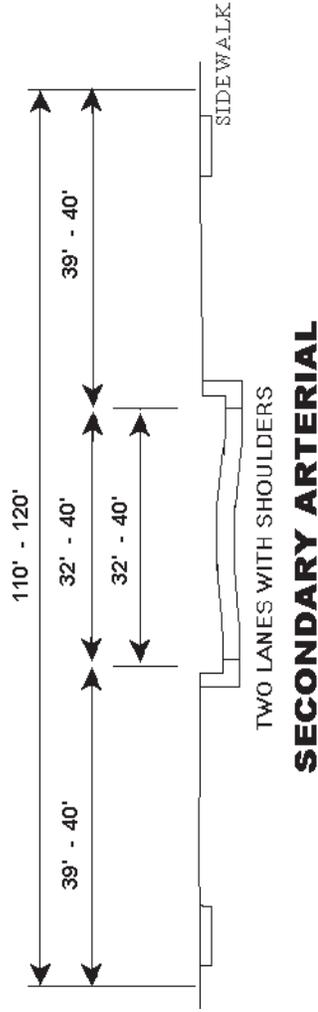


FAR NORTH ARTERIAL No. 1 - ADVT: 2005 TRAFFIC VOLUMES

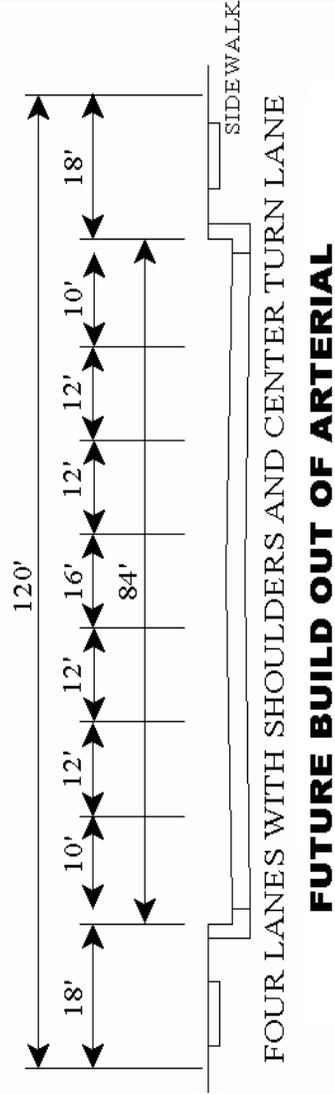
EXHIBIT E-7

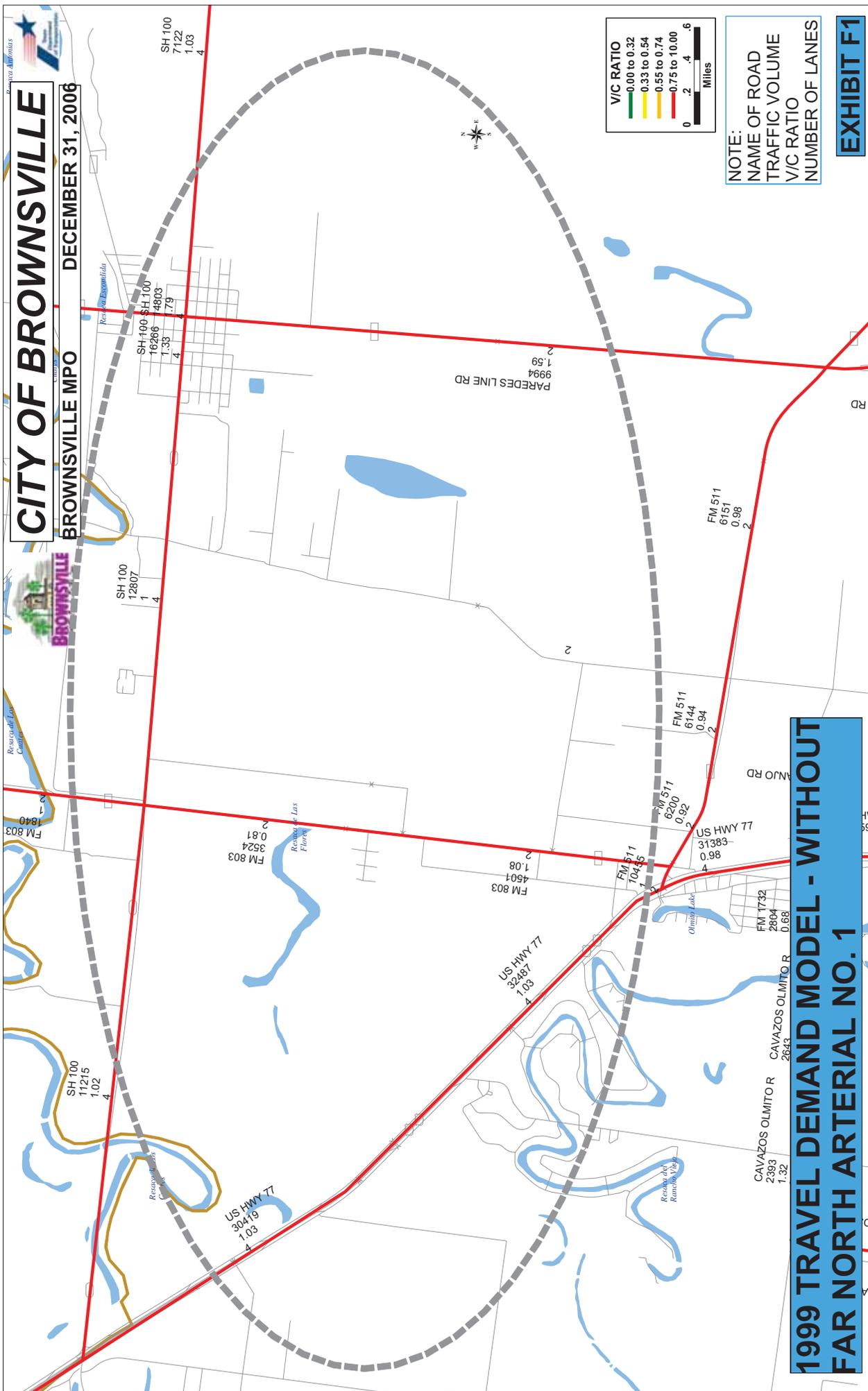
The initial stage of Far North Arterial No. 1 would be two lanes undivided. In the long range plan, 15 to 20 years in the future, the road will be developed as a Primary Arterial.

Short Range Plan:



Long Range Plan:





CITY OF BROWNSVILLE

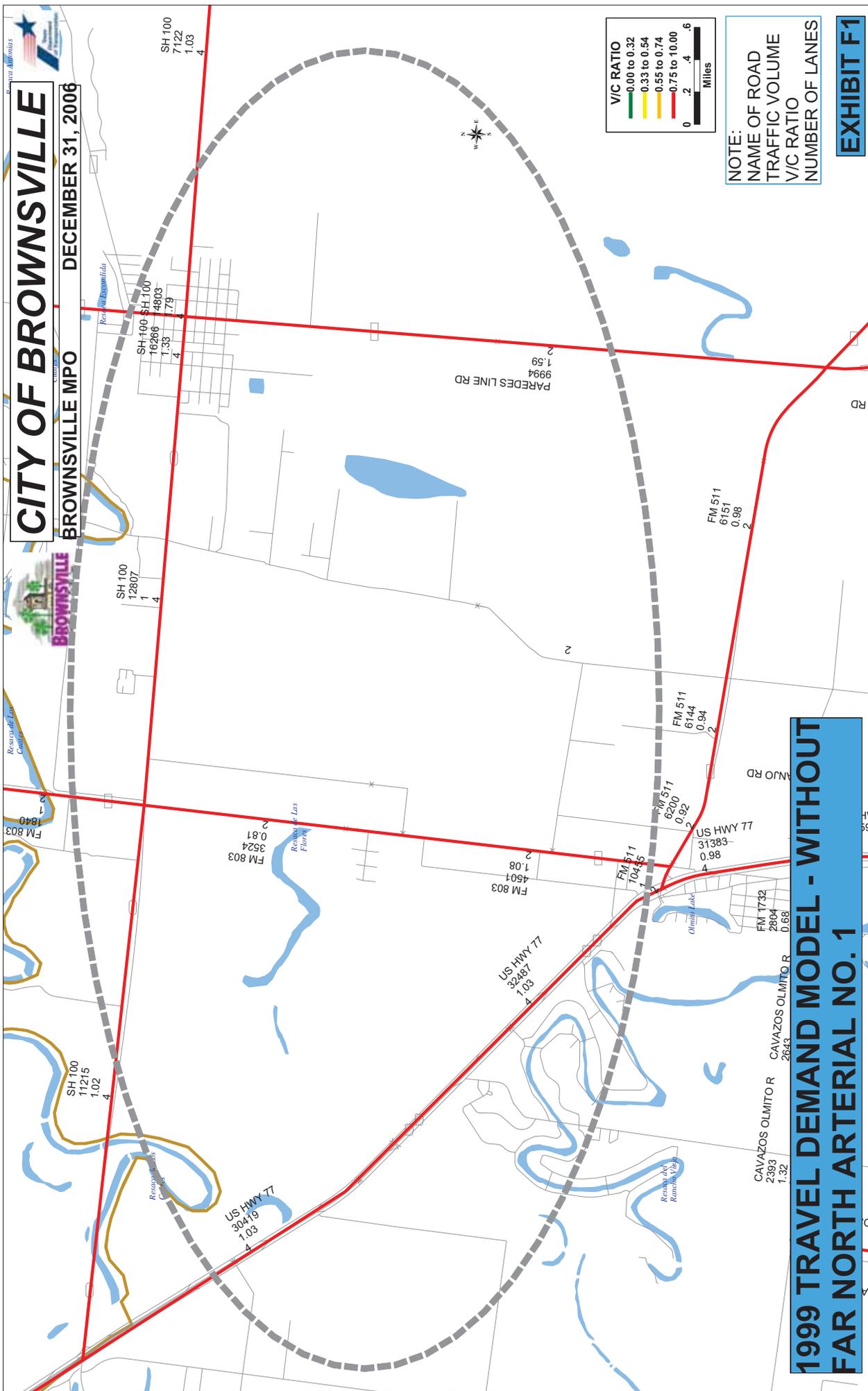
BROWNSVILLE MPO DECEMBER 31, 2006

V/C RATIO	
0.00 to 0.32	Green
0.33 to 0.54	Yellow
0.55 to 0.74	Orange
0.75 to 10.00	Red

NOTE:
 NAME OF ROAD
 TRAFFIC VOLUME
 V/C RATIO
 NUMBER OF LANES

EXHIBIT F1

1999 TRAVEL DEMAND MODEL - WITHOUT FAR NORTH ARTERIAL NO. 1



CITY OF BROWNSVILLE

BROWNSVILLE MPO DECEMBER 31, 2006

V/C RATIO	
0.00 to 0.32	Green
0.33 to 0.54	Yellow
0.55 to 0.74	Orange
0.75 to 10.00	Red

NOTE:
 NAME OF ROAD
 TRAFFIC VOLUME
 V/C RATIO
 NUMBER OF LANES

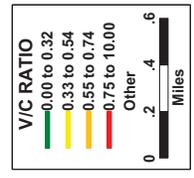
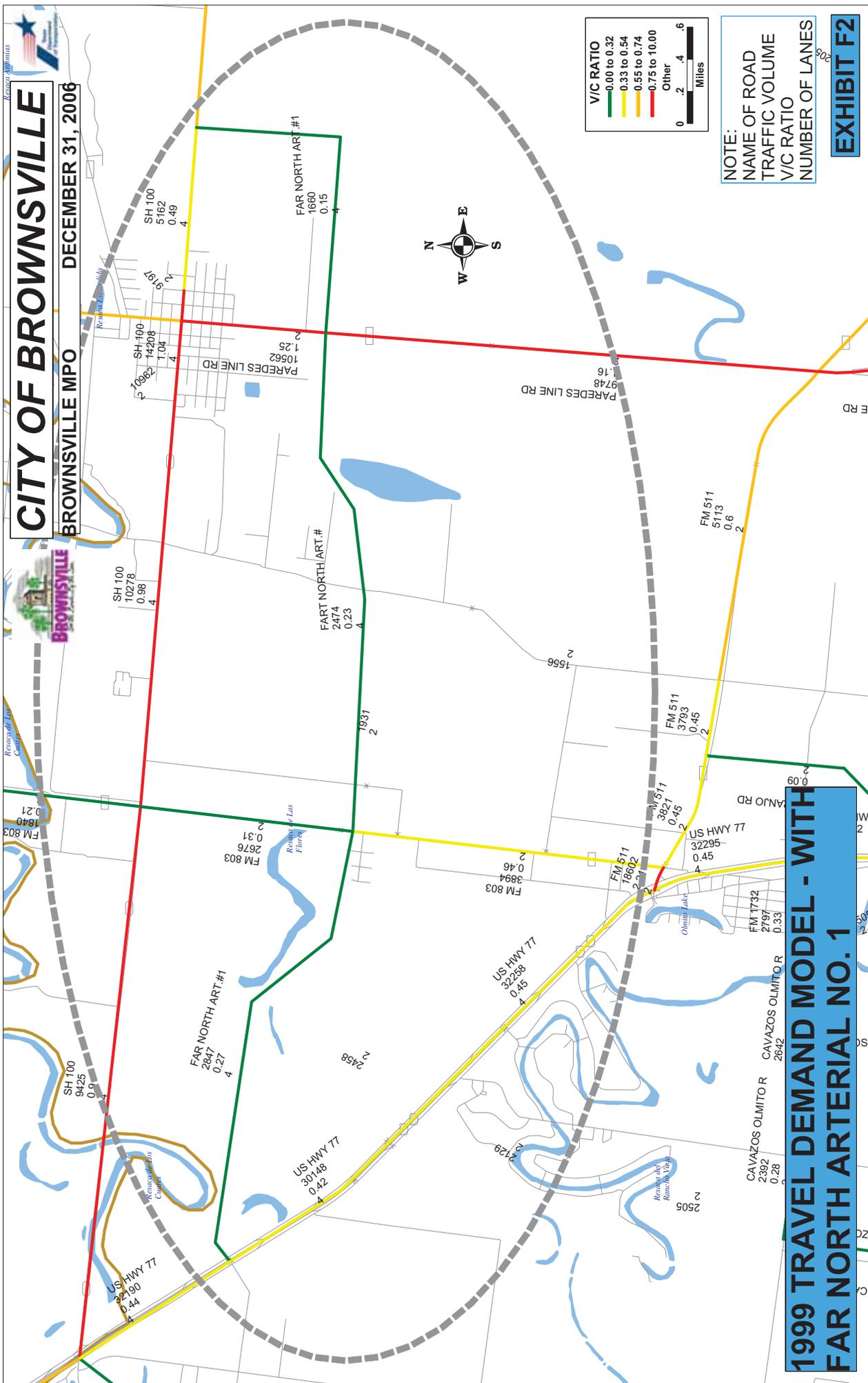
EXHIBIT F1

1999 TRAVEL DEMAND MODEL - WITHOUT FAR NORTH ARTERIAL NO. 1



CITY OF BROWNSVILLE

BROWNSVILLE MPO DECEMBER 31, 2006



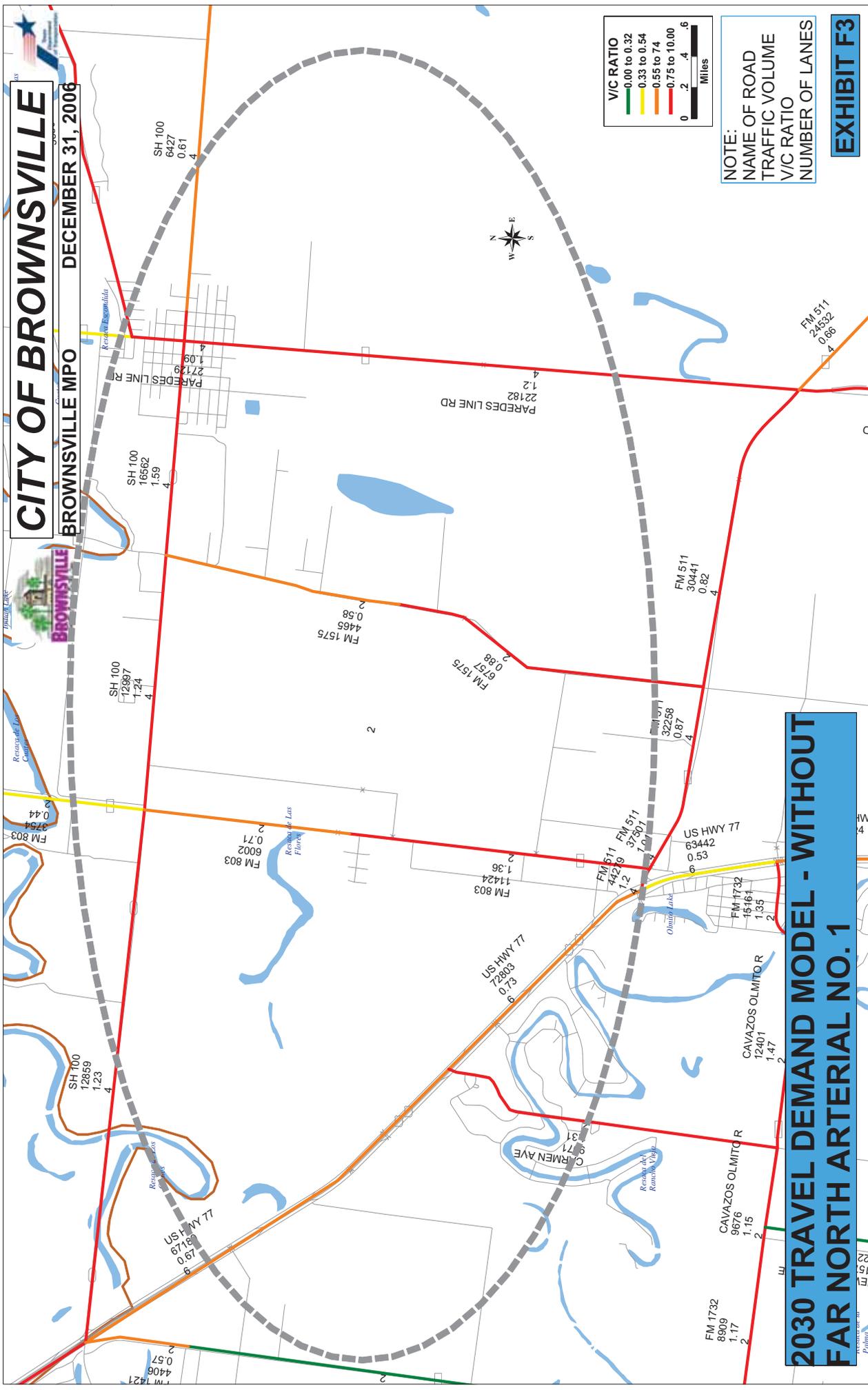
NOTE:
 NAME OF ROAD
 TRAFFIC VOLUME
 V/C RATIO
 NUMBER OF LANES

EXHIBIT F2

1999 TRAVEL DEMAND MODEL - WITH FAR NORTH ARTERIAL NO. 1

CITY OF BROWNSVILLE

BROWNSVILLE MPO DECEMBER 31, 2006



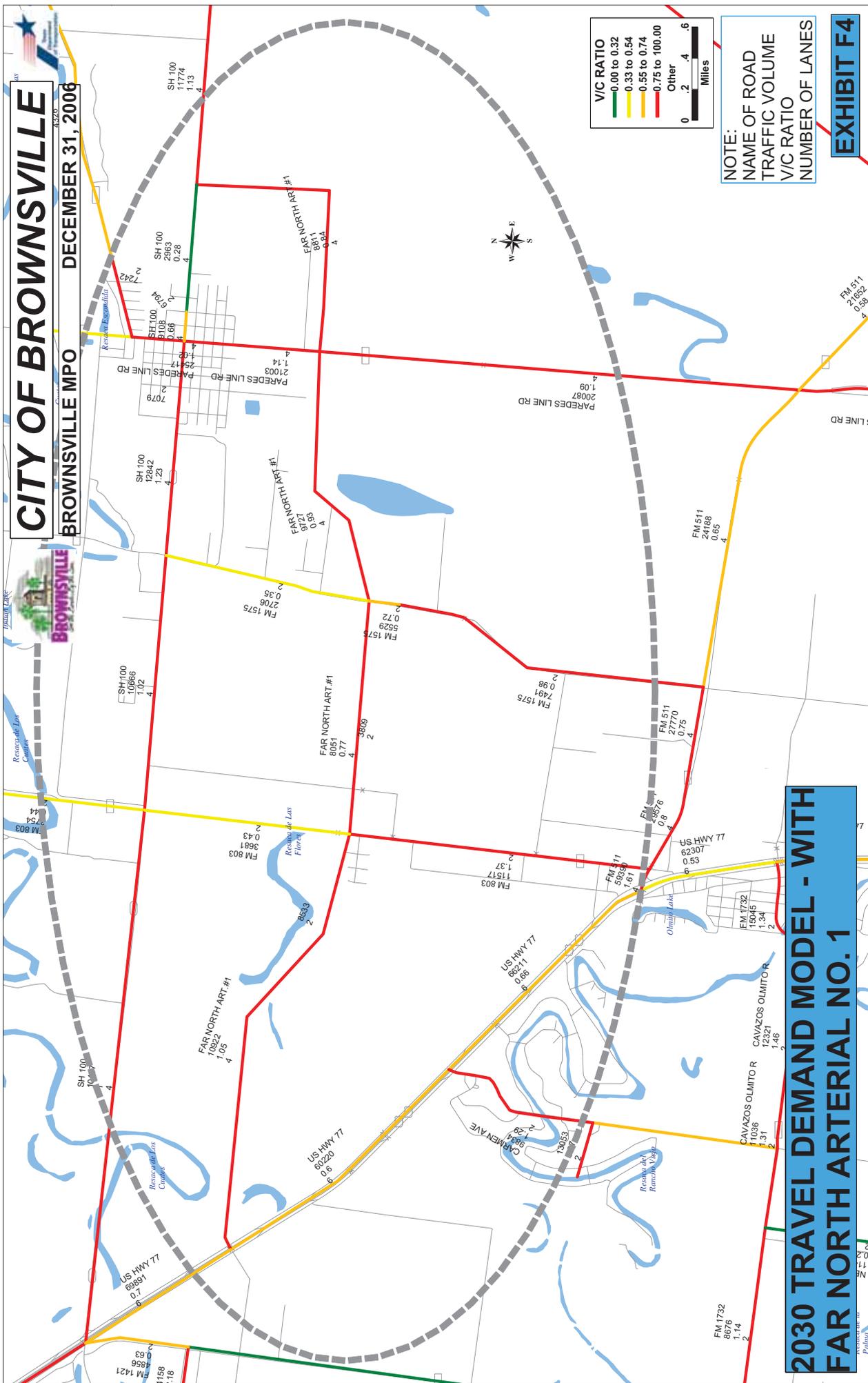
NOTE:
 NAME OF ROAD
 TRAFFIC VOLUME
 V/C RATIO
 NUMBER OF LANES

EXHIBIT F3

2030 TRAVEL DEMAND MODEL - WITHOUT FAR NORTH ARTERIAL NO. 1

CITY OF BROWNSVILLE

BROWNSVILLE MPO DECEMBER 31, 2006



NOTE:
 NAME OF ROAD
 TRAFFIC VOLUME
 V/C RATIO
 NUMBER OF LANES

EXHIBIT F4

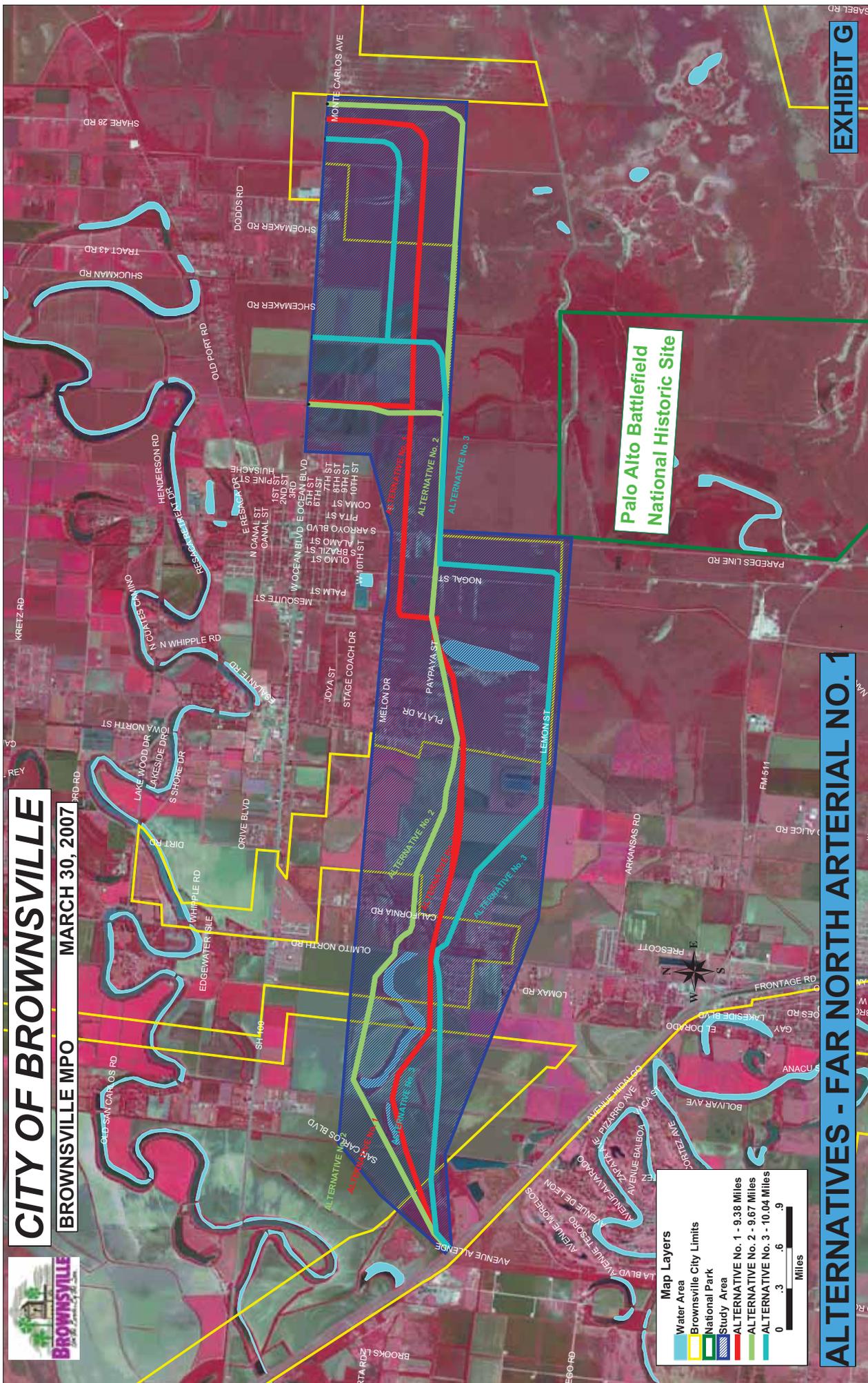
2030 TRAVEL DEMAND MODEL - WITH FAR NORTH ARTERIAL NO. 1

PREPARED BY: [Illegible]



CITY OF BROWNSVILLE

BROWNSVILLE MPO MARCH 30, 2007



Palo Alto Battlefield
National Historic Site

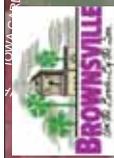
Map Layers

- Water Area
- Brownsville City Limits
- National Park
- Study Area
- ALTERNATIVE No. 1 - 9.38 Miles
- ALTERNATIVE No. 2 - 9.67 Miles
- ALTERNATIVE No. 3 - 10.04 Miles

0 .3 .6 .9 Miles

ALTERNATIVES - FAR NORTH ARTERIAL NO. 1

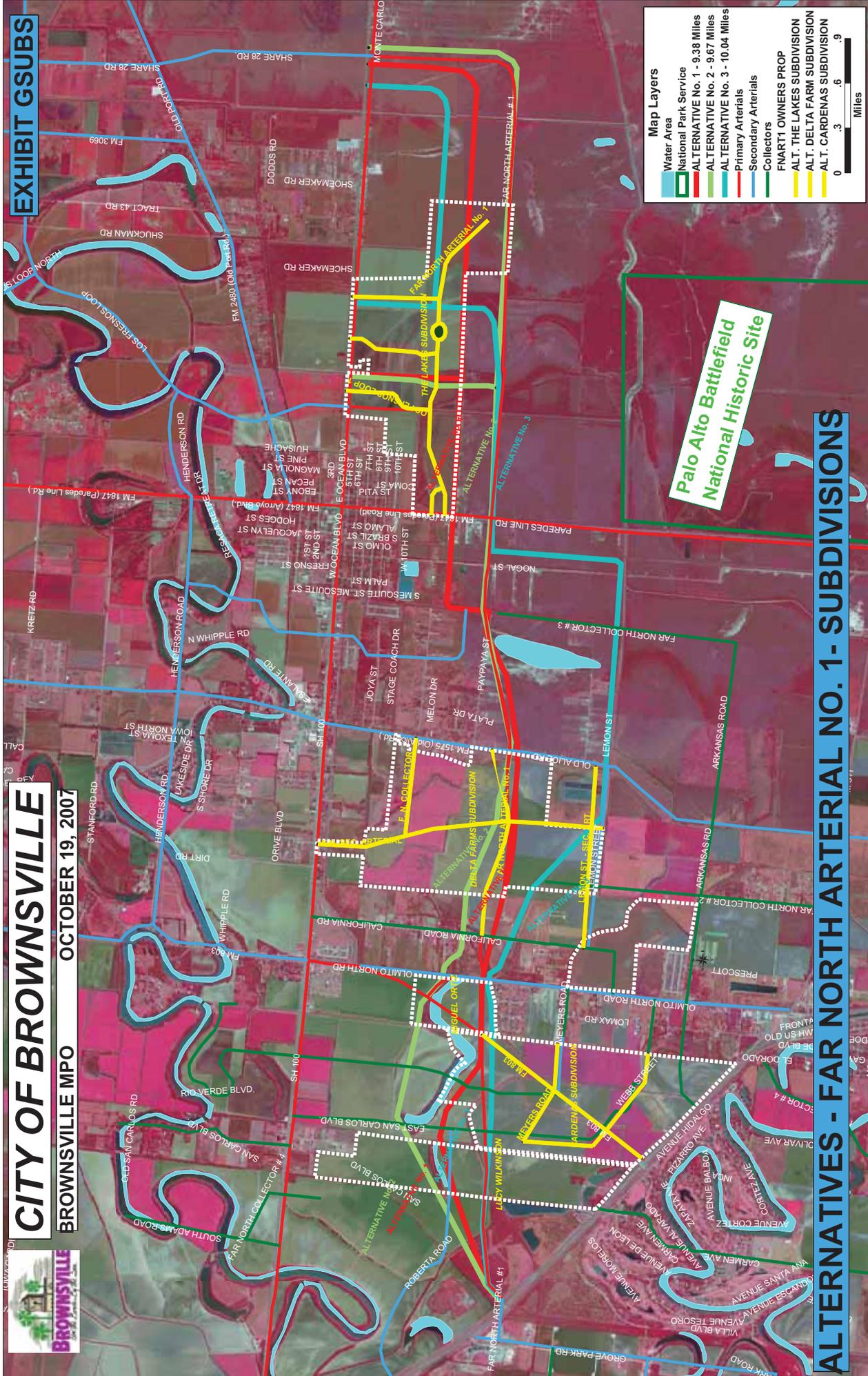
EXHIBIT G



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EXHIBIT GSUBS

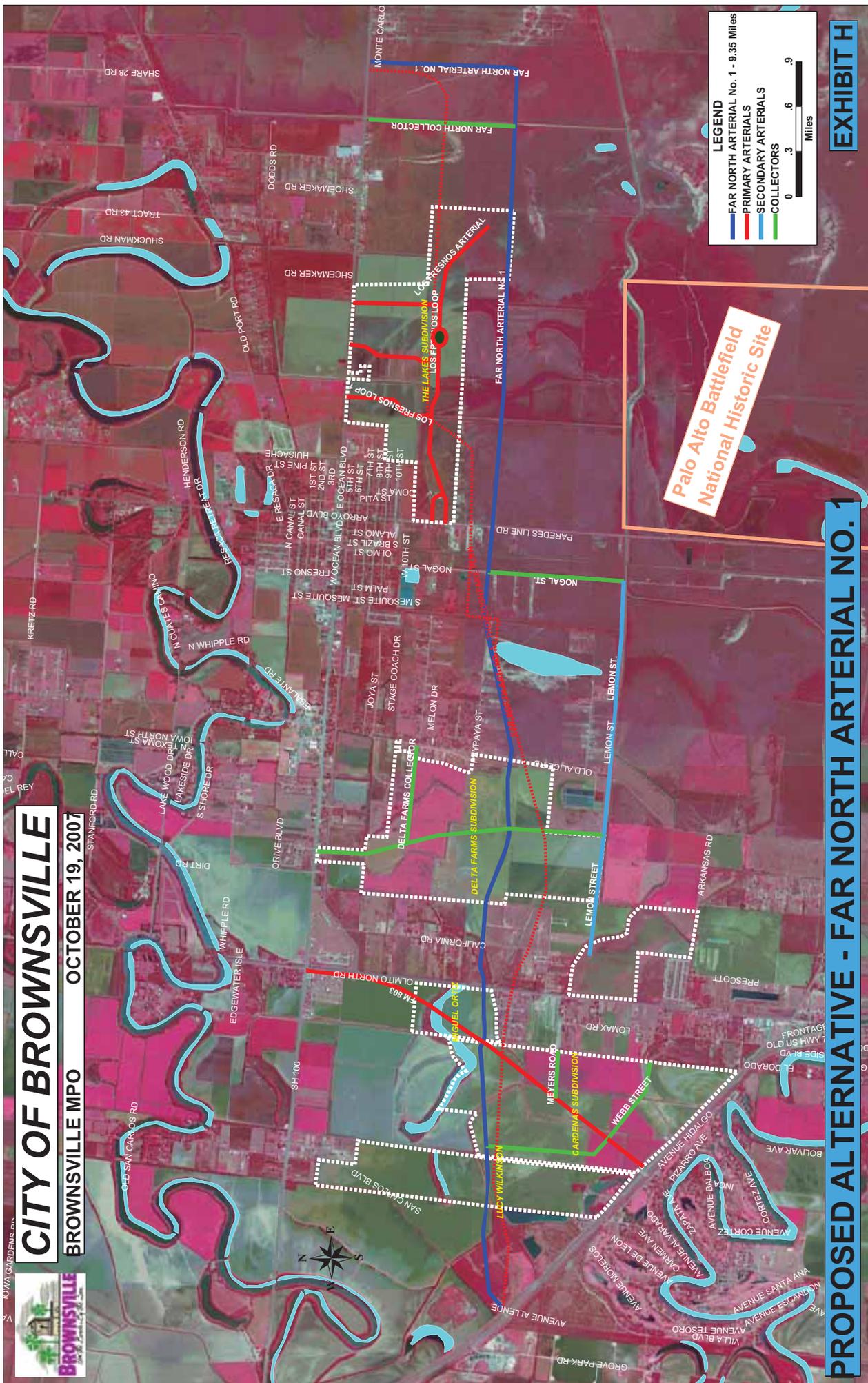


Palo Alto Battlefield National Historic Site

ALTERNATIVES - FAR NORTH ARTERIAL NO. 1- SUBDIVISIONS

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BROWNSVILLE MPO OCTOBER 19, 2007



LEGEND

- FAR NORTH ARTERIAL No. 1 - 9.35 Miles
- PRIMARY ARTERIALS
- SECONDARY ARTERIALS
- COLLECTORS

0 .3 .6 .9 Miles

Palo Alto Battlefield
National Historic Site

PROPOSED ALTERNATIVE - FAR NORTH ARTERIAL NO. 1

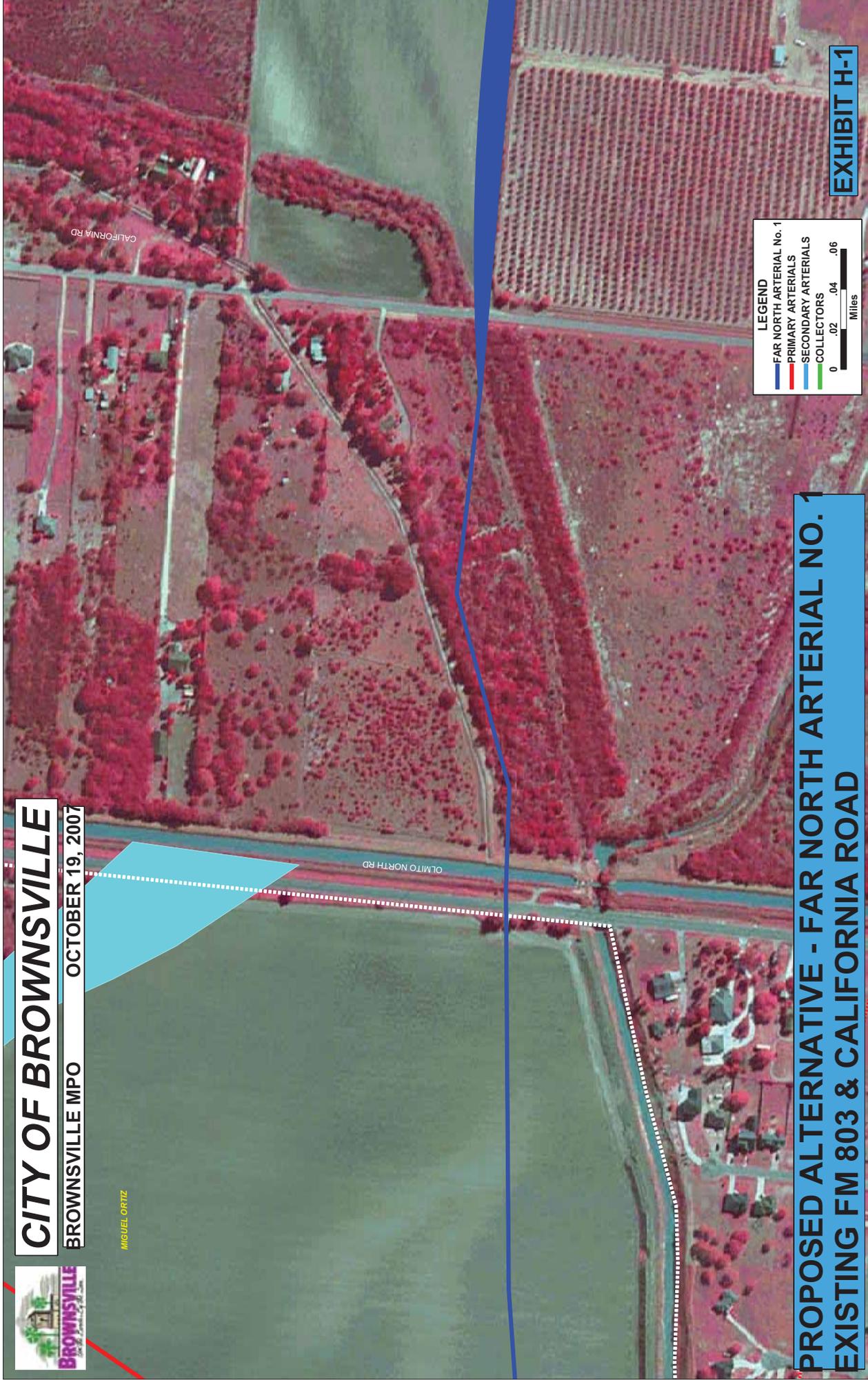
EXHIBIT H



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MIGUEL ORTIZ



LEGEND

- FAR NORTH ARTERIAL No. 1
- PRIMARY ARTERIALS
- SECONDARY ARTERIALS
- COLLECTORS

0 .02 .04 .06 Miles

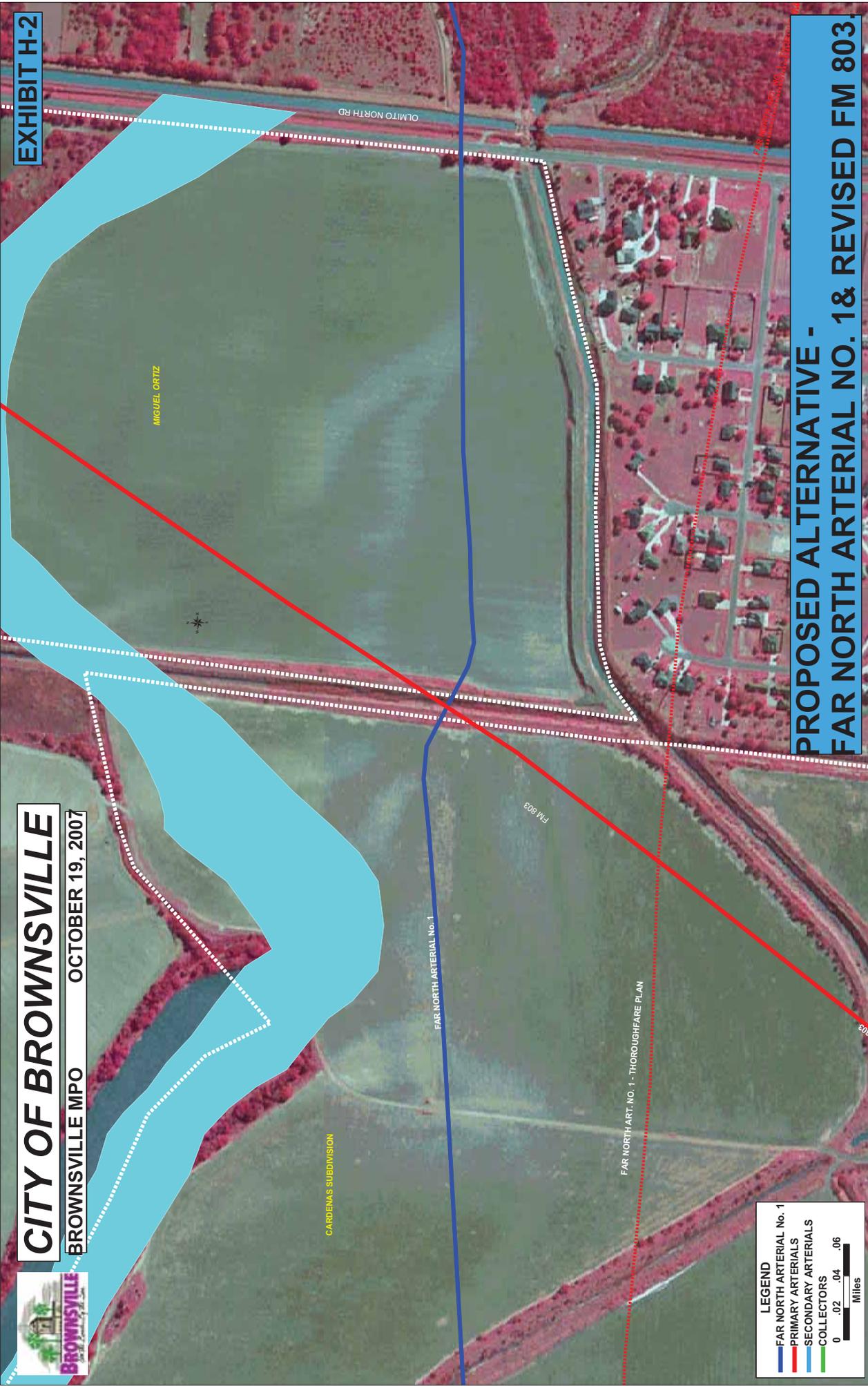
PROPOSED ALTERNATIVE - FAR NORTH ARTERIAL NO. 1 EXISTING FM 803 & CALIFORNIA ROAD

EXHIBIT H-1

EXHIBIT H-2

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**PROPOSED ALTERNATIVE -
FAR NORTH ARTERIAL NO. 18 REVISED FM 803.**

LEGEND

- FAR NORTH ARTERIAL No. 1
- PRIMARY ARTERIALS
- SECONDARY ARTERIALS
- COLLECTORS

0 .02 .04 .06
Miles

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PROPOSED ALTERNATIVE - FAR NORTH ARTERIAL NO. 1

EXHIBIT L

OLD ALICE ROAD

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FAR NORTH ART. NO. 1 - THOROUGHFARE PLAN



NOGAL ST

PAREDES LINE RD

FAR NORTH ARTERIAL No. 1

LEGEND

- FAR NORTH ARTERIAL No. 1
- PRIMARY ARTERIALS
- SECONDARY ARTERIALS
- COLLECTORS

0 .02 .04 .06
Miles

EXHIBIT M

PROPOSED ALTERNATIVE - FAR NORTH ARTERIAL NO. 1 FM 1847 - PAREDES LINE ROAD

