

City of Lucas City Council Meeting June 18, 2020 7:00 PM

City Hall – Council Chambers 665 Country Club Road – Lucas, Texas

On March 16, 2020 Governor Abbott suspended some provisions of the Open Meetings Act in response to the COVID-19 emergency. To comply with Government Abbott's latest Executive Order, GA 18, and to practice safe distancing, Lucas City Council meetings will not be open to onsite visitors. In the interim, City Council meetings will be available through Ring Central Webinar from your computer or smartphone. To join the meeting, go to https://webinar.ringcentral.com/j/1496005696?pwd=SDFGcHF6WmdmOGFYTU5nYzByVj https://webinar.ringcentral.com/j/1496005696?pwd=SDFGcHF6WmdmOGFYTU5nYzByVj https://webinar.nd.email.address.to.join <a href="https://www.name.nd.

If the public desires to speak during a specific agenda item, they must email shenderson@lucastexas.us by 4:30 pm on the day of the meeting. The email must contain the person's name, address, phone number, and the agenda item(s) for which comments will be made.

Notice is hereby given that a meeting of the Lucas City Council will be held on Thursday, June 18, 2020 at 7:00 pm at Lucas City Hall, 665 Country Club Road, Lucas, Texas 75002-7651 at which time the following agenda will be discussed. As authorized by Section 551.071 of the Texas Government Code, the City Council may convene into closed Executive Session for the purpose of seeking confidential legal advice from the City Attorney on any item on the agenda at any time during the meeting.

Call to Order

- Roll Call
- Determination of Quorum
- Reminder to turn off or silence cell phones
- Pledge of Allegiance

Citizen Input

1. Citizen Input

Community Interest

Pursuant to Section 5510415 of the Texas Government Code, the City Council may report on the following items: 1) expression of thanks, congratulations or condolences; 2) information about holiday schedules; 3) recognition of individuals; 4) reminders about upcoming City Council events; 5) information about community events; and 6) announcements involving imminent threat to public health and safety.

2. Items of Community Interest

Consent Agenda

All items listed under the consent agenda are considered routine and are recommended to the City Council for a single vote approval. If discussion is desired, an item may be removed from the consent agenda for a separate vote.

- 3A. Approval of the minutes of the June 4, 2020 City Council meeting. (City Secretary Stacy Henderson)
- 3B. Adopting Ordinance 2020-06-00916 granting Atmos Energy Corporation, a Texas and Virginia corporation franchise to construct, maintain, and operate pipelines and equipment in the City of Lucas for the transportation, delivery, sale, and distribution of gas in, out of, and through said City for all purposes. (Development Services Director Joe Hilbourn)

Regular Agenda

- 4. Discuss the City of Lucas Broadband Project including: (City Council)
 - A. Review the preliminary financial model prepared by Magellan Advisors.
 - B. Receive and discuss information from the City's Financial Advisor Mark McLiney regarding funding strategies.
 - C. Review and discuss the timetable regarding a bond election.
- 5. Consider information provided by Lee Engineering for two draft traffic studies: 1) Estelle Lane/Gold Dust Trail/Forestview Drive area and 2) Winningkoff Road/Blondy Jhune Road area and direct the City Manager on same. (City Council, City Engineer Stanton Foerster)
- 6. Consider authorizing the City Manager to negotiate and enter into an agreement with Collin County for reimbursement for repairs needed to Forest Grove Road from Country Club Road to Orr Road if utilized as a detour for the construction of Orr Road north of the Lucas city limits. (City Engineer Stanton Foerster)
- 7. Consider appropriating \$361,355.69 to revenue account 11-4984 and expense account 11-6999-499 regarding funding received as part of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) for expenses incurred between March 1 through December 30, 2020 related to COVID-19 and provide guidance to staff. (City Manager Joni Clarke)

8. Consider postponement of proposed amendments to the City's Home Rule Charter from the November 3, 2020 special election to the May 1, 2021 special election. (Mayor Jim Olk, City Secretary Stacy Henderson)

Executive Session Agenda

9. An Executive Session is not scheduled for this meeting. (Mayor Jim Olk)

As authorized by Section 551.071 of the Texas Government Code, the City Council may convene into closed Executive Session for the purpose of seeking confidential legal advice from the City Attorney regarding any item on the agenda at any time during the meeting. This meeting is closed to the public as provided in the Texas Government Code.

- 10. Reconvene from Executive Session and take any action necessary as a result of the Executive Session. (Mayor Jim Olk)
- 11. Adjournment.

Certification

I do hereby certify that the above notice was posted in accordance with the Texas Open Meetings Act on the bulletin board at Lucas City Hall, 665 Country Club Road, Lucas, TX 75002 and on the City's website at www.lucastexas.us on or before 5:00 p.m. on June 12, 2020.

Stacy Henderson, City Secretary

In compliance with the American with Disabilities Act, the City of Lucas will provide for reasonable accommodations for persons attending public meetings at City Hall. Requests for accommodations or interpretive services should be directed to City Secretary Stacy Henderson at 972.912.1211 or by email at shenderson@lucastexas.us at least 48 hours prior to the meeting.



City of Lucas City Council Agenda Request June 18, 2020

Requester:	Mayor Jim Olk	
Agenda Ite	rem Request	
Citizen Input	t	
Backgroun	nd Information	
NA		
Attachmen	nts/Supporting Documentation	
NA		
Budget/Fin	nancial Impact	
NA		
Recommen	ndation	
NA		
Motion		
NA		



City of Lucas Council Agenda Request June 18, 2020

Requester: Mayor Jim Olk

Agenda Item Request
Items of Community Interest
Background Information
NA
Attachments/Supporting Documentation
NA
Budget/Financial Impact
NA
Recommendation
NA
Motion
NA



City of Lucas Council Agenda Request June 18, 2020

Requester: City Secretary Stacy Henderson

Development Services Director Joe Hilbourn

Agenda Item Request

3. Consent Agenda:

- A. Approval of the minutes of the June 4, 2020 City Council meeting.
- B. Consider adopting Ordinance 2020-06-00916 granting Atmos Energy Corporation, a Texas and Virginia corporation franchise to construct, maintain, and operate pipelines and equipment in the City of Lucas for the transportation, delivery, sale, and distribution of gas in, out of, and through said City for all purposes.

Background Information

Agenda Item 3B:

In 2015, development of the Wendy's and Starbucks prompted the need for an Atmos franchise agreement. An agreement was taken to the City Council and approved in 2015 and was forwarded to Atmos, but an executed contract was never received. Staff reached out to Atmos to initiate the proposed agreement attached. The agreement would become effective January 1, 2020 and Section 6 of the agreement covers back pay for use and occupancy of public rights-of-way through December 31, 2019. The agreement has been reviewed and approved by City Attorney Joe Gorfida and the attorney for Atmos Energy. The agreement is needed to serve various businesses in Lucas that includes the following locations:

- Angel Parkway between Estates and West Lucas Road
- Estates Road between Angel Parkway and the proposed Allison Lane
- West Lucas Road from Angel Parkway to proposed Allison Lane
- Parker Road from 1378 to Stinson Road
- 1378 from Parker Road to roughly the entrance of Seis Lagos

To finalize the Atmos agreement, upon adoption of the ordinance, an acceptance letter will be sent to Atmos requiring approval within 60 days.

Attachments/Supporting Documentation

- 1. Minutes of the June 4, 2020 City Council meeting
- 2. Ordinance 2020-06-00916 Atmos Franchise Agreement



City of Lucas Council Agenda Request June 18, 2020

Budget/Financial Impa	ict
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NA

Recommendation

City Staff recommends approval of the Consent Agenda.

Motion

I make a motion to approve the Consent Agenda as presented.



City of Lucas City Council Meeting June 4, 2020 Video Conference Meeting 7:00 P.M.

City Hall - 665 Country Club Road - Lucas Texas

MINUTES

Call to Order

Mayor Olk called the video conference meeting to order at 7:00 p.m.

City Councilmembers Present:

Mayor Jim Olk Mayor Pro Tem Kathleen Peele Councilmember Wayne Millsap Councilmember Tim Baney Councilmember Steve Duke Councilmember Philip Lawrence Councilmember Debbie Fisher

City Staff Present:

City Manager Joni Clarke
City Attorney Joe Gorfida
City Secretary Stacy Henderson
Development Services Director Joe Hilbourn
Assistant to the City Manager Kent Souriyasak

Mayor Olk determined that a quorum was present. Everyone was reminded to silence their cell phones and the Pledge of Allegiance was recited.

This meeting was conducted by video conference.

Citizen Input

1. Citizen Input.

There was no citizen comment at this meeting.

Community Interest

2. Items of Community Interest.

Mayor Olk noted the following items of community interest:

- The Farmers Market was scheduled to reopen June 13 at the Lucas Community Park. Handwashing/sanitizing stations would be available.
- The City Council would be holding their budget workshop on July 30 at 6pm.
- Reminder that it was illegal to discharge fireworks within the City limits of Lucas.

Consent Agenda

3. Consent Agenda:

- A. Approval of the minutes of the May 21, 2020 City Council meeting.
- B. Adopt Ordinance 2020-06-00913 amending the Lucas Code of Ordinances by amending Chapter 5 titled "Fire Prevention and Protection" by repealing Article 5.02 titled "Fire Marshal" and Sections 5.02.01 through 5.02.07 in their entirety and reserving Article 5.02 for future use.

MOTION: A motion was made by Councilmember Fisher, seconded by Mayor Pro Tem Peele to approve the Consent Agenda as presented. The motion passed unanimously by a 7 to 0 vote.

Public Hearing Agenda

4. Public hearing to consider adopting Ordinance 2020-06-00916 approving the request by Alvin and Kimberly Harrison to rezone a 3-acre tract of land situated in the Lewis P. Turner 160 acre Survey, Abstract No. 901, Collin County, Texas, same being a portion of that tract of land conveyed to Hugh McCreery and Dorothy C. McCreery, by deed recorded in Volume 1124, Page 871, Deed Records of Collin County, Texas from Residential (R1.5) to Commercial (C). The parcel of land is located on the north side of Parker Road approximately 800 feet west of Stinson Road located at 7403 Parker Road.

Mayor Olk explained that the Planning and Zoning Commission denied the request for rezoning and without an appeal filed from the applicant, the Council could not hear the case.

There was no action taken on this item.

Regular Agenda

5. Consider information provided by Birkhoff, Hendricks & Carter regarding Lemontree Estates and Kingswood Estates drainage and related watershed and direct the City Manager on same.

Joe Grajewski, Birkhoff, Hendricks & Carter reviewed the drainage analysis report conducted in the Lemontree Estates and Kingswood Estates neighborhoods and included the following items:

- A. Lynn Lane Culvert:
 - The culvert is too small but does provide detention during heavy rains. This culvert inlet is located at 1595 Lynn Lane and the outlet is between 1520 and 1580 Lynn Lane.
- B. Drainage Channel behind 2, 3, and 4 Kingswood Drive:
 The open channel is too narrow and flat. The small culvert behind 2 Kingswood Drive is an element that was not contemplated in the original design of the Kingswood Estates drainage. It is a restriction to the stormwater flow.
- C. Citrus Way Culvert:
 - The culvert is too small but does provide detention during heavy rains. The culvert inlet is located between 1 and 3 Citrus Way and the outlet is between 6 and 8 Citrus Way at the southwest corner of Citrus Way.

- D. Crossflow from Lemontree Country Estates into Kingswood Estates: The original berm has not been maintained along the west side of 3, 5, 7, 9, and 11. The berm is needed to direct stormwater south along the common line between Lemontree Country Estates and Kingswood Estates. Kingswood Drive was not designed to accept this stormwater.
- E. Reversing Orchard Lane Stormwater Flow: Currently there is approximately five feet of fall between the northeast corner of Estates Parkway/Orchard Road intersection and the Orchard Road culvert between 8 and 10 Orchard Road. The natural flow is from Estates Parkway to the culvert (south to north). The flow can be reversed to flow from the culvert to Estates Parkway by constructing a new roadside ditch. The ditch would need to be five feet deep and 40 feet wide and have a slope of 0.3%.
- F. Lemontree Country Estates Drainage Discharge into Kingswood Estates: The original design for Kingswood Estates contemplated 15 acres of drainage from Lemontree Country Estates into Kingswood Estates. The actual acreage is 46 acres.
- G. Redirecting the Claremont Springs Stormwater to the East: Currently the top of the hill on the south side of Estates Parkway is immediately west of Ingram Lane. To redirect the Claremont Springs stormwater flow from under Estates Parkway to the south side of Estates Parkway can be done if the top of the hill is moved to the west side of the exiting culvert under Estates Parkway. The new roadside ditch along Estates Parkway would need to be four feet deep and 32 feet wide and have a slope of 0.4%. Additional right-of-way/easements would be required and the reconstruction of seven street/driveway culverts including the culvert under Country Club Road would also be necessary. This redirection would require approval from the Texas Department of Transportation; the Texas Commission on Environmental Quality; and the Federal Emergency Management Agency.

Mayor Olk read two emails into the record from the following individuals regarding drainage comments:

- Mike Aguirre, 1 Santa Fe Trail
- Jim Iannucci, 9 Kingwood

Mr. Jim Iannucci joined the meeting via video conference and asked if drainage could be run down Estates Parkway or if it could be split so as to not intrude in other peoples yards.

Mr. Bill Gunn joined the meeting via video conference and asked if drainage could be rerouted going south or east to Orchard Road then head south. Mr. Gunn also discussed addressing drainage concerns that occur from the high school.

City Engineer Stanton Foerster discussed how water was intended to travel in that area. He noted that water could be redirected but needed to be cautious of diverting water flow into someone else's yard. Mr. Foerster stated that the high school had diverted ten acres that was diverted to the northwest to White Rock Creek.

3 | P a g e City Council The Council discussed various ways to divert and improve drainage as well as which areas may be the best place to begin making changes.

Mayor Olk directed City staff to come back with a proposal of what needs to be done first, identify if the area is located on private property or within an easement, the associated cost, and the impact it would have on the neighborhood.

There was no formal action taken on this item.

The City Council moved to Agenda Item No. 9 at this time.

9. Discuss and Consider the City of Lucas Broadband Project including:

- A. Timelines and milestones associated with the Lucas Broadband project.
- B. Recent Broadband Project Review meeting and next phase of the planning process, including development of a financial model and feedback received from the City's Financial Advisor Mark McLiney with SAMCO and funding strategies.
- C. Submitting a grant application for the Public Works and Economic Adjustment Assistance Programs through the Economic Development Administration (EDA), U.S. Department of Commerce (DOC).
- D. The on-going role of the Technology Committee and City staffing to support the Lucas Broadband project.
- E. Review timetable options regarding a Bond Election.

Kent Souriyasak, Assistant to the City Manager gave an update to the broadband project noting that the financial model was expected to be received by Magellan Advisors in July. Mr. Souriyasak stated that the broadband network comprised two main design features, first being the fiber network that would encompass approximately 20.2 miles of fiber; and the second component being the distribution network of approximately 87.7 miles of fiber throughout the City. The estimated cost was \$13,885,317 for the fiber and distribution network. Additional costs for equipment and working capital would be determined in the financial model.

Councilmember Fisher reminded everyone that the initial cost outlined was only for the fiber, not any additional equipment or personnel needed.

Mr. Souriyasak stated that he was made aware of a of a Federal grant through the Public Works and Economic Adjustment Assistance Program through the Economic Development Administration, but was informed that obtaining funding may be difficult as the project was dependent on voter approval. Mr. Souriyasak explained that the grant calls for beginning construction within one year and completing the project with in five years. Mr. Souriyasak stated that that he would be applying for the grant later this month.

Mayor Olk asked the Council if consideration should be given to holding a bond election in November given the timing of the grant.

4 | P a g e City Council Mayor Pro Tem Peele believed that holding a bond election in November could be premature given the City did not have the financial model to review and all the necessary information to make an informed decision and convey that information to residents.

The City Council discussed the upfront costs associated with installing a fiber network, how the bond would be paid for, and how Lucas taxpayers would be affected. Several Councilmembers expressed their concern about not having enough financial information before calling a November 2020 bond election.

City Manager Joni Clarke suggested Mark McLiney, the City's financial advisor come to the next City Council meeting to discuss the financial impact regarding the issuance of bonds to install a broadband network.

The City discussed the number of residents that work from home, the increasing number of residents working from home, including students, using internet services given the COVID-19 pandemic.

Paul Rathgeb, Chairman of the Technology Committee suggested in the future, the Technology Committee may need to be disbanded in order for committee members to be able to discuss the broadband project with Lucas residents.

City Attorney Joe Gorfida stated that the Technology Committee could not go out and promote the broadband network, but as a committee member, they could speak to the facts and remain neutral.

There was no formal action taken on this item.

The City Council moved back to Agenda Item No. 6.

6. Consider adopting Ordinance 2020-06-00914 creating regulations on private and public property for illicit discharge into the City's stormwater drainage system.

Development Services Director Joe Hilbourn explained that the Planning and Zoning Commission was asked to review regulations pertaining to illicit discharge and made the following recommended updates:

- No person shall introduce or cause to be introduced into the MS4 any discharge that (a) causes or contributes to causing the City to violate a water quality standard, the City's Texas Pollutant Discharge Elimination System (TPDES) permit, or any state-issued discharge permit for discharges from its MS4.
- (b) No person shall dump, drain, spill, leak, pump, pour, emit, empty, discharge, leach, dispose, throw, place or otherwise introduce or cause, allow, or permit to be introduced any of the following substances in or on any public street, alley, storm sewer, drainage structure, drainage channel, stream, river, pond or any other public property. See attached Proposed Illicit Discharge Regulations for a listing of illicit discharges.

Mr. Hilbourn discussed various code requirements with Mayor Pro Tem Peele clarifying their definition and discussed examples of illicit discharge and illegal dumping.

5 | P a g e City Council **MOTION:** A motion was made by Councilmember Baney, seconded by Councilmember Duke to adopt Ordinance 2020-06-00914 creating regulations (a) and (b) above on private and public property for illicit discharge into the City's stormwater drainage system. The motion passed unanimously by a 7 to 0 vote.

7. Consider adopting Ordinance 2020-06-00915 relating to amendments to Section 6.02.002 Prohibited Acts and Section 6.02.003 Abatement making it a violation of the City of Lucas Code of Ordinances to obstruct or fail to maintain drainage on properties in the City.

Development Services Director Joe Hilbourn explained that the Planning and Zoning Commission was asked to review regulations pertaining to stormwater runoff requirements and made the following recommended updates related to homeowner maintenance of drainage on private property:

Section 6.02.002 - Prohibited Acts

(d) It shall be unlawful for any person owning, claiming, occupying or having supervision or control of any real property in the city, including any adjacent and contiguous rights-of-way or easements, to permit or allow a ditch, water course, culvert, or other earthen structure, to obstruct, contribute to obstructions, through either direct action or failure to maintain and prevent flooding, or the accumulation or ponding of standing, stagnant, or non-maintained water thereon.

Section 6.02.003 - Abatement

(b) Draining, filling or re-grading any lots, cleaning/repairing/replacing driveway culverts, ground, or yards which have standing or stagnant water thereon.

MOTION: A motion was made by Councilmember Duke, seconded by Councilmember Lawrence to adopt Ordinance 2020-06-00915 approving amendments to Section 6.02.002 (d) Prohibited Acts and Section 6.02.003 (b) Abatement making it a violation of the City of Lucas Code of Ordinances to obstruct or fail to maintain drainage on properties in the City. The motion passed unanimously by a 7 to 0 vote.

8. Consider nominations of a primary and alternate member to the Regional Transportation Council.

Mayor Olk stated that he had reached out to Allen Councilmember, Mr. Schulmeister nominated for the primary position at the Regional Transportation Council and shared Lucas' concerns. Mayor Olk stated that he would recommend Ms. Schulmeister for the appointment.

MOTION: A motion was made by Councilmember Millsap, seconded by Mayor Olk to nominate Chris Schulmeister, City of Allen as the primary member, and Mayor Hogue, City of Wylie as the alternate member. The motion passed unanimously by a 7 to 0 vote.

10. Consider canceling the July 2, 2020 City Council meeting or modifying the meeting date.

6 | Page City Council June 4, 2020 The Council was in agreement to maintain the July 2, 2020 meeting and to place an item on a future agenda regarding whether the City Council will continue to hold meetings by video conference, in person or a hybrid of both.

City Attorney Joe Gorfida explained that certain suspensions of the Open Meetings Act will continue for at least another 30 days if not possibly longer.

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Mayor Jim Olk

11. **Executive Session.**

An Executive Session was not held at this meeting.

12. Reconvene from Executive Session and take any action necessary as a result of the **Executive Session.**

An Executive Session was not held at this meeting, and no action was taken.

Adjournment		
13. Adjou	rnment.	
MOTION:	A motion was made by Councilmember Millsap, seconded by Mayor Olk to adjourn the meeting at 9:16 pm. The motion passed unanimously by a 7 to 0 vote.	
APPROVED:	ATTEST:	

7 | Page City Council

Stacy Henderson, City Secretary



ORDINANCE 2020-06-00916 [GRANTING ATMOS ENERGY CORPORATION A FRANCHISE]

AN ORDINANCE GRANTING TO ATMOS ENERGY CORPORATION, A TEXAS AND VIRGINIA CORPORATION, ITS SUCCESSORS AND ASSIGNS, A FRANCHISE TO CONSTRUCT, MAINTAIN, AND OPERATE PIPELINES AND EQUIPMENT IN THE CITY OF LUCAS, COLLIN COUNTY, TEXAS, FOR THE TRANSPORTATION, DELIVERY, SALE, AND DISTRIBUTION OF GAS IN, OUT OF, AND THROUGH SAID CITY FOR ALL PURPOSES; PROVIDING FOR THE PAYMENT OF A FEE OR CHARGE FOR THE USE OF THE PUBLIC RIGHTS-OF-WAYS; AND PROVIDING THAT SUCH FEE SHALL BE IN LIEU OF OTHER FEES AND CHARGES, EXCEPTING AD VALOREM TAXES; AND REPEALING ALL PREVIOUS GAS FRANCHISE ORDINANCES.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF LUCAS, TEXAS:

SECTION 1. GRANT OF AUTHORITY: The City of Lucas, Texas, hereinafter called "City," hereby grants to Atmos Energy Corporation, Mid-Tex Division, hereinafter called "Atmos Energy" or "Company," its successors and assigns, consent to use and occupy the present and future streets, alleys, highways, public utility easements, public ways and other public places ("Public Rights-of-Way"), for the purpose of laying, maintaining, constructing, protecting, operating, and replacing therein and thereon pipelines and all other appurtenant equipment (the "System") to deliver, transport, and distribute gas in, out of, and through City for persons, firms, and corporations, including all the general public, and to sell gas to persons, firms, and corporations, including all the general public, within the City corporate limits, as such limits may be amended from time to time during the term of this franchise, said consent being granted for a term ending December 31, 2039. This Franchise does not authorize Atmos Energy to use any property owned by the City that is not considered Public Rights-of-Way.

SECTION 2. CONSTRUCTION, MAINTENANCE, OPERATION & RELOCATION OF ATMOS ENERGY FACILITIES:

A. <u>General Provisions</u>: Atmos Energy shall lay, maintain, construct, operate, use, extend, remove, repair, and replace its pipes, mains, laterals, and other equipment to minimize interference with the proper and intended use of the Public Rights-of-Way. Upon request by the City, Atmos Energy shall furnish the City information relevant to such matters which is prepared,

maintained, and available in the ordinary course of business and not deemed confidential or proprietary.

B. <u>Location and Construction:</u> The location of all Company's pipes, mains, laterals, and other equipment in the present and future Public Rights-of-Way in the City shall be fixed under the supervision of the City or an authorized agent appointed by the City. In addition, Atmos Energy shall comply with applicable permitting requirements, except that in no event shall Atmos Energy or contractors working on behalf of Atmos Energy be required to pay for street cutting permits, street excavation permits or other permits related to work in Public Rights-of-Way in connection with Atmos Energy's operations in Public Rights-of-Way.

Upon reasonable request from the City for a public health or safety purpose, Atmos Energy shall identify for the City the location of its System Facilities located in the City. Any maps provided by Company to the City shall be deemed confidential and shall be clearly identified as such by Atmos Energy when provided to the City, and will be provided solely for the City's use. The City agrees to maintain the confidentiality of any non-public information obtained from Atmos Energy to the extent allowed by law. If the City receives a request under the Texas Public Information Act that includes Atmos Energy's previously designated proprietary or confidential information, City will request an opinion from the Texas Attorney General as to the confidential or the proprietary nature of the document(s). The City also will provide Atmos Energy with notice of the request, and thereafter Company is responsible for establishing that an exception under the Texas Public Information Act allows the City to withhold the information. Atmos Energy shall provide all location and "as built" plans on a going forward basis if required through the City's permitting process.

Except to the extent a conflict with this Franchise exists, Atmos Energy agrees to comply with all other City laws, rules, or ordinances that govern the use of Public Rights-of-Way that currently exist or may be applicable during the term of this Franchise.

In determining the location of Company's pipeline within City, Company shall minimize interference with then existing underground structures of City or other utility franchisees. Likewise, in determining the location of the facilities of the City and other users of Public Rights-of-Way within City, City shall minimize interference with then existing Facilities of Company and shall require other users of Public Rights-of-Way to minimize interference with existing Facilities of Atmos Energy. In the event of a conflict between the location of the Facilities of Company and the location of the facilities of City or other users of Public Rights-of-Way within Public Rights-

of-Way that cannot otherwise be resolved, City Manager and/or his or her designee or an authorized agent of City shall resolve the conflict and determine the location of the respective facilities within the Public Rights-of-Way.

City agrees to provide Atmos Energy with its annual capital improvements plan as well as any material updates or changes within a reasonable time after they become available. City shall notify Atmos Energy as soon as reasonably possible of any projects that will affect Atmos Energy's Facilities located in the Public Rights-of-Way. Atmos shall comply with Chapter 251 of the Texas Utilities Code with respect to the identification and location of Facilities in the City's Public Rights-of-Way. In the event that Company fails to provide the necessary information, and damage is caused to Company Facilities as a direct result of withholding said information, the Company shall hold the City harmless from all liability, damage, cost or expense resulting from any City action in this regard.

C. <u>Restoration</u>: The surface of any Public Rights-of-Way disturbed by Atmos Energy in laying, maintaining, constructing, operating, replacing and removing shall be restored to approximate original condition as soon as is reasonably possible.

When Company makes, or causes to be made, excavations, or places, or causes to be placed, obstructions in any Public Rights-of-Way, Company shall place, erect, and maintain appropriate barriers and lights to identify the location of such excavations or obstructions In the event of emergency requiring excavations in the Public Rights-of-Way, notice shall be made to the City as soon as practicable after such emergency excavation.

In addition to providing the location of Company's Facilities, Company shall obtain facilities location information from other users of the Public Rights-of-Way prior to Company's construction, reconstruction, maintenance, operations and repair of its Facilities.

D. <u>Relocation</u>: When the Company is required by City to remove, modify, alter or relocate its mains, laterals, and other Facilities lying in the Public Rights-of-Way to accommodate construction, repair, maintenance, removal, or installation of sewers, drainage, water lines, streets or utilities, such removal, modification, alteration, or relocation shall be promptly made by Company when directed in writing to do so by the City and shall do so at its own expense when Facilities are deemed to be in conflict, unless such work is for the primary purpose of beautification or to accommodate a private developer. Facilities are deemed to be in conflict to the extent that the proposed City facilities are determined by Atmos Energy to be inconsistent with gas

distribution industry standard safe operating practices for Company's existing facilities. Atmos shall have the right to propose alternative plans regarding City requested relocations to the extent that the Company deems City proposed placement of Facilities to be inconsistent with gas distribution industry standard safe operating practices for existing Facilities. Atmos Energy shall not be required to relocate facilities to a depth of greater than four (4) feet unless prior agreement is obtained from Atmos Energy.

Company shall pay the cost of such relocation unless there are funds specifically made available to affected users of the Public Right-of-Way for reimbursement of such costs, in which case Company shall be entitled to its share of such funding. When Atmos Energy is required by City to remove or relocate its mains, laterals, and other facilities lying within Public Rights-of-Way to accommodate a request by City, and costs of utility removals or relocations are eligible under federal, state, county, local or other programs for reimbursement of costs and expenses incurred by Atmos Energy as a result of such removal or relocation, and such reimbursement is required to be handled through City, Atmos Energy costs and expenses shall be included in any application by City for reimbursement if Atmos Energy submits its cost and expense documentation to City prior to the filing of the application. City shall provide reasonable written notice to Atmos Energy of the deadline for Atmos Energy to submit documentation of the costs and expenses of such relocation to City. Company shall be required to notify City of the availability and request that City make application on Company's behalf. Upon receipt of an amount of reimbursement intended for utility relocations including gas utilities, the City shall remit to the Company, within thirty (30) days of receipt, its portion related to the relocation or removal of Company's facilities. However, nothing in this agreement shall require City to make such application.

When Atmos Energy is required to remove or relocate its mains, laterals or other facilities to accommodate construction by City without reimbursement Atmos Energy shall have the right to seek a surcharge to recover relocation costs pursuant to applicable state and/or federal law. Nothing herein shall be construed to prohibit, alter, or modify in any way the right of Atmos Energy to seek or recover a surcharge from customers for the cost of relocation pursuant to applicable state and/or federal law. City shall not oppose recovery of relocation costs when Company is required by City to perform relocation. City shall not require that Company document a request to the City for reimbursement as a pre-condition to recovery from customers of such

relocation costs. When required by City to remove or relocate its mains, laterals, and/or other facilities lying within Public Rights-of-Way, Atmos Energy shall do so as soon as practically possible with respect to the scope of the project. In no event shall Atmos Energy be required to remove or relocate its facilities in less than thirty (30) days from the time notice is given to Atmos Energy by City. In the event Company, after notice, fails or refuses to commence, pursue, or complete such relocation work within a reasonable time, the City may require the Company to attend a meeting that establishes a formal record of the reasons for the delay and the timeframe in which the Company will complete the relocation work. If Atmos Energy is required by City to remove or relocate its mains, laterals, or other facilities lying within Public Rights-of-Way for any reason other than the construction or reconstruction of sewers, drainage, water lines, streets or utilities by City, Atmos Energy shall be entitled to reimbursement from City or others of the cost and expense of such removal or relocation. If the City requires Atmos Energy to remove, modify, alter or relocate its mains, laterals, and other Facilities specifically for the purpose of enabling the use of the Public Rights-of-Way by another person or corporation and not the City, the Company shall not be bound to make such changes until the other person or corporation has agreed to reimburse the Company for relocation expenses, provided however, that the City shall not be liable for the reimbursement.

E. <u>Abandonment</u>: If City abandons any Public Rights-of-Way in which Atmos Energy has facilities, such abandonment shall be conditioned on Atmos Energy's right to maintain its use of the former Public Right-of-Way and on the obligation of the party to whom the Public Right-of-Way is abandoned to reimburse Atmos Energy for all removal or relocation expenses if Atmos Energy agrees to the removal or relocation of its facilities following abandonment of the Public Right-of-Way. If the party to whom the Public Right-of-Way is abandoned requests Atmos Energy to remove or relocate its facilities and Atmos Energy agrees to such removal or relocation, such removal or relocation shall be done within a reasonable time at the expense of the party requesting the removal or relocation. If relocation cannot practically be made to another Public Right-of-Way, the expense of any right-of-way acquisition shall be considered a relocation expense to be reimbursed by the party requesting the relocation.

SECTION 3. INDEMNITY & INSURANCE:

- General Provisions: In consideration of the granting of this Franchise, Atmos A. Energy agrees that the City, its agents and employees shall not be liable or responsible for any costs, expenses (including attorney fees) or any other damages to persons or property by reason of Atmos Energy's construction, operation, maintenance, or replacement of Atmos Energy's System within Public Rights-of-Way, and Atmos Energy does hereby release, agree to indemnify and keep harmless the City, its agents and employees from and against all suits, actions, or claims of injury to any person or persons, or damages to any property brought or made for or on account of any death, injuries, to or damages received or sustained by any person or persons or for damage to or loss of property arising out of, or occasioned by any acts or omissions by Atmos Energy, its agents or employees in connection with their operations, except to the extent such death, injury or damage is attributable to the City's negligent or intentional acts or omissions. In the event that any action, suit, or proceeding is brought against the City, its agents and employees, upon any liability arising out of Atmos Energy's operations, the City shall give notice in writing to Atmos Energy. Upon receipt of such notice, Atmos Energy, at its sole expense, shall defend such action and take all such steps as may be necessary or proper to prevent the obtaining of a judgment against the City and/or to satisfy said judgment. The City agrees to reasonably cooperate with Atmos Energy in connection with such defense. In the event of joint and concurrent negligence or fault of both Atmos Energy and the City, responsibility and indemnity, if any, shall be apportioned comparatively in accordance with the laws of the State of Texas without, however, waiving any of the defenses of the parties under Texas law. It is understood that it is not the intention of the parties hereto to create liability for the benefit of third parties, but that this section shall be solely for the benefit of the parties hereto and shall not create or grant any rights, contractual or otherwise, to any person or entity.
- B. <u>Damage to City Property</u>: If, as a result of negligence or intentional acts or omissions Atmos Energy employees damage the facilities owned by City within the Public Rights-of-Way, Atmos will be responsible for repairing the damages without charge to the City. However, if such damage by Atmos Energy's employees is due to inaccurate information with respect to the location or description of City's facilities within the Public Rights-of-Way, City will be responsible for all costs associated with such repair or related consequences. Atmos Energy agrees to notify the appropriate City official as soon as reasonably possible after the occurrence of such damage.

- C. <u>Damage to Atmos Energy Property by City</u>: If, as a result of negligence or intentional acts or omissions, including failure to obtain location information from the Company, the City's employees damage Facilities owned by Atmos Energy within the Public Rights-of-Way, the City shall be responsible for the repair of such damage without charge to the Company. However, if such damage by the City's employees is due to inaccurate information with respect to the location or description of Atmos Energy's Facilities within the Public Rights-of-Way, Atmos Energy will be responsible for all costs associated with such repair or related consequences. City agrees to notify the appropriate personnel of Atmos Energy as soon as reasonably possible after the occurrence of such damage.
- D. <u>Damage to Atmos Energy Property Due to Work by Others</u>: The City reserves the right to permit to be laid, sewer, water, electric, and other utilities, pipe lines, cables, and conduits, and to do and permit to be done any underground or aboveground work that may be necessary or proper within the Public Rights-of-Way. The City also reserves the right to change any curb, sidewalk, grade of the street or other changes due to a publicly funded city project. In permitting this work to be done, the City shall not be liable to the Company for any resulting damage, but nothing herein shall relieve any other person or corporation from being responsible for the damages to Atmos Energy Facilities.
- E. <u>Insurance</u>: Company shall maintain adequate insurance covering its obligations of indemnity under this Franchise. Such insurance shall be at the Company's sole expense. Atmos Energy's insurance of its obligations and risks undertaken pursuant to this Franchise may be in the form of self-insurance to the extent permitted by applicable law, but in no instance shall such self-insurance be less than \$10,000,000 in commercial insurance coverages. An insurance certificate shall be provided to the City initially and upon any substantial change in the nature of its coverage under this Section. This Franchise shall satisfy any requirements in the City of Lucas Code of Ordinances with respect to proof of appropriate insurance or other financial assurance required for receipt of a permit to perform work within the Public Rights-of-Way.

SECTION 4. QUALITY OF SERVICE, RATES, INSTALLATION CHARGES, DEPOSITS AND OTHER COMPANY CHARGES

A. <u>General Provisions</u>: Atmos Energy shall at all times furnish service which is safe, modern and sufficient to meet reasonable demands without undue interruption or fluctuations to any person, firm, or corporation that demands service within the City. The service provided shall be equal to or better in all instances to those required within the Mid-Tex Tariff – Service Rules and Regulations as may be amended from time to time, and as kept on file with the City. In addition to the rates charged for gas supplied, Company may make and enforce reasonable charges for service rendered in the conduct of its business, including a charge for services rendered in the inauguration of natural gas service.

B. <u>Service Rates</u>: The City hereby expressly reserves the right, power, and authority to fully regulate and fix the rates and charges for the services of Atmos Energy to its customers located within the City as provided by State law. Atmos Energy shall at all times have current rates and charges on file with the City Secretary and shall update such within fifteen (15) days of any changes thereto.

SECTION 5. <u>NON-EXCLUSIVE FRANCHISE</u>: The rights, privileges, and franchises granted by this ordinance are not to be considered exclusive, and City hereby expressly reserves the right to grant, at any time, like privileges, rights, and franchises as it may see fit to any other person or corporation for the purpose of transporting, delivering, distributing, or selling gas to and for City and the inhabitants thereof.

SECTION 6. PAYMENTS TO CITY:

A. Atmos Energy agrees to pay and City agrees to accept, a one-time payment of two hundred and fifty dollars (\$250.00) in consideration of the use and occupancy of the Public Rights-of-Way during the prior period ending December 31, 2019. Atmos Energy, its successors and assigns, agrees to pay and City agrees to accept, on or before the 15th day of February, 2021 and on or before the same day of each succeeding year during the term of this franchise the last payment being made on the 15th day of February, 2040, a sum of money which shall be equivalent to five percent (5%) of the Gross Revenues, as defined in 6.B below, received by Atmos Energy during the preceding calendar year.

B. "Gross Revenues" shall mean:

- (1) all revenues received by Atmos Energy from the sale of gas to all classes of customers (excluding gas sold to another gas utility in the City for resale to its customers within City) within the City;
- (2) all revenues received by Atmos Energy from the transportation of gas through the System of Atmos Energy within the City to customers located within the City (excluding any gas transported to another gas utility in City for resale to its customers within City);and
- (3) "Gross Revenues" shall not include:
 - (a) revenues billed but not ultimately collected or received by Atmos Energy;
 - (b) contributions in aid of construction;
 - (c) the revenue of any affiliate or subsidiary of Atmos Energy;
 - (d) sales tax and franchise fees paid to the City;
 - (e) interest or investment income earned by Atmos Energy; and
 - (f) monies received from the lease or sale of real or personal property, provided, however, that this exclusion does not apply to the lease of facilities within the City's right of way.
- C. <u>Privilege Period</u>: The initial payment for the rights and privileges herein provided shall be for the privilege period January 1 through December 31, 2020, and each succeeding payment shall be for the privilege period of the calendar year preceding the year in which the payment is made.
- D. Payment in Lieu of: It is also expressly agreed that the aforesaid payments shall be in lieu of any and all other and additional occupation taxes, easement, franchise taxes or charges (whether levied as an ad valorem, special, or other character of tax or charge), municipal license, permit, and inspection fees, bonds, street taxes, and street or alley rentals or charges, and all other and additional municipal taxes, charges, levies, fees, and rentals of whatsoever kind and character that City may now impose or hereafter levy and collect from Atmos Energy or Atmos Energy's agents, excepting only the usual general or special ad valorem taxes that City is authorized to levy and impose upon real and personal property. If the City does not have the legal power to agree that the payment of the foregoing sums of money shall be in lieu of taxes, licenses, fees, street or

alley rentals or charges, easement or franchise taxes or charges aforesaid, then City agrees that it will apply so much of said sums of money paid as may be necessary to satisfy Atmos Energy's obligations, if any, to pay any such taxes, licenses, charges, fees, rentals, easement or franchise taxes or charges aforesaid.

E. <u>Effect of Other Municipal Franchise Ordinance Fees Accepted and Paid by Atmos Energy</u>

If Atmos Energy should at any time after the effective date of this Ordinance agree to a new municipal franchise ordinance, or renew an existing municipal franchise ordinance, with another municipality in Atmos Energy's Mid-Tex Division, which municipal franchise ordinance determines the franchise fee owed to that municipality for the use of its public rights-of-way in a manner that, if applied to the City, would result in a franchise fee greater than the amount otherwise due City under this Ordinance, then the franchise fee to be paid by Atmos Energy to City pursuant to this Ordinance may, at the election of the City, be increased so that the amount due and to be paid is equal to the amount that would be due and payable to City were the franchise fee provisions of that other franchise ordinance applied to City. The City acknowledges that the exercise of this right is conditioned upon the City's acceptance of all terms and conditions of the other municipal franchise *in toto*. The City may request waiver of certain terms and Company may grant, in its sole reasonable discretion, such waiver.

F. Atmos Energy Franchise Fee Recovery Tariff

- (1) Atmos Energy may file with the City a tariff or tariff amendment(s) to provide for the recovery of the franchise fees under this agreement.
- City agrees that (i) as regulatory authority, it will adopt and approve the ordinance, rates or tariff which provide for 100% recovery of such franchise fees as part of Atmos Energy's rates; (ii) if the City intervenes in any regulatory proceeding before a federal or state agency in which the recovery of Atmos Energy's franchise fees is an issue, the City will take an affirmative position supporting 100% recovery of such franchise fees by Atmos Energy and; (iii) in the event of an appeal of any such regulatory proceeding in which the City has intervened, the City will take an affirmative position in any such appeals in support of the 100% recovery of such franchise fees by Atmos Energy.

- (3) City agrees that it will take no action, nor cause any other person or entity to take any action, to prohibit the recovery of such franchise fees by Atmos Energy.
- G. <u>Lease of Facilities Within City's Rights-of-Way</u>. Atmos Energy shall have the right to lease, license or otherwise grant to a party other than Atmos Energy the use of its facilities within the City's public rights-of-way provided: (i) Atmos Energy first notifies the City of the name of the lessee, licensee or user; the type of service(s) intended to be provided through the facilities; and the name and telephone number of a contact person associated with such lessee, licensee or user and (ii) Atmos Energy makes the franchise fee payment due on the revenues from such lease pursuant to Section 5 of this Ordinance. This authority to Lease Facilities within City's Rights-of-Way shall not affect any such lessee, licensee or user's obligation, if any, to pay franchise fees.

SECTION 7. DEFAULT AND FORFEITURE.

In the event Atmos Energy has failed or refused to correct a defect, impairment or substandard condition after written notice by the City and such failure has continued for longer than thirty (30) days from the date the notice was received by the Company, the City shall have the right to file a claim through the Company's claims department. The City shall notify the Company, in writing, of an alleged failure to comply with a material provision of this Franchise, which notice shall specify the alleged failure with reasonable particularity. The Company shall, within thirty (30) days after receipt of such notice or such longer period of time as the City may specify in such notice, either cure such alleged failure or, in a written response to the City, either present facts and arguments in refutation or excuse of such alleged failure or state that such alleged failure will be cured and set forth the method and time schedule for accomplishing such cure. In the event that such cure is not forthcoming, such default shall entitle the City to compel compliance by suit in any court of competent jurisdiction and if, upon final judgment, not subject to further appeal, being entered in favor of the City, the Company remains in default of any material provision of this Franchise or the final judgment, the City may declare this Franchise to be forfeited and canceled. Prior to a decision from such court, the Company shall have the right to operate its Facilities pursuant to the provisions of this Franchise.

Atmos Energy further agrees, that if, for any reason other than an event of force majeure, the Company fails to pay the regularly scheduled franchise fees as provided in this Franchise within thirty (30) days following written notice from the City that the Company has failed to make payment, such failure shall be sufficient to permit the City to forfeit this Franchise without court action. For the purposes of this section, an event of force majeure means any event or circumstance or combination of events or circumstances beyond the reasonable control of the Company that materially and adversely affects or affect the performance by the Company of its obligations under or pursuant to this Franchise including but not limited to, an act of God; act of civil or military authority; act of war; (whether declared or undeclared); act (including delay, failure to act, or priority) of any governmental authority (including the City); civil disturbance; insurrection or riot; sabotage; fire; inclement weather conditions; earthquake; flood; strike; work stoppage or other labor difficulty; embargo; or other failure or delay beyond it's reasonable control. The Company's financial inability to perform shall expressly be excluded from force majeure events. In the event that any of the above force majeure circumstances prevent the timely payment of franchise fees, the Company shall notify the City within five (5) business days.

SECTION 8. CONFORMITY TO LAWS AND REGULATIONS.

- A. <u>Applicable Laws</u>. Notwithstanding Section 13.B below, this Franchise is subject to applicable provisions of the Constitution and Laws of the United States and the State of Texas. This Franchise shall in no way affect or impair the rights, obligations, or remedies of the parties under the Public Utility Regulatory Act of Texas, as it may be amended from time to time. Except as expressly provided herein, Atmos Energy shall not recover costs or expenses directly from the City (exclusive of charges related to the City's billings as a customer) for taking any actions mandated by this Franchise or by any order or request issued by authority of this Franchise.
- B. Reservation of Right to Adopt Rules and Regulations: The City reserves the right to adopt, in addition to the provisions included in this Franchise, such additional reasonable regulations as it shall find necessary with respect to governing the use of its Public Rights-of-Way, provided, however, that such regulations are not in conflict with the privileges granted by this Franchise.

SECTION 9. <u>ACCEPTANCE OF FRANCHISE</u>: In order to accept this franchise, Atmos Energy must file with the City Secretary its written acceptance of this franchise ordinance within

sixty (60) days after its final passage and approval by City. If such written acceptance of this franchise ordinance is not filed by Atmos Energy, the franchise ordinance shall be rendered null and void.

When this franchise ordinance becomes effective, all previous ordinances of City granting franchises for gas delivery purposes that were held by Atmos Energy shall be automatically canceled and annulled, and shall be of no further force and effect.

SECTION 10 PARAGRAPH HEADINGS. CONSTRUCTION: The paragraph headings contained in this ordinance are for convenience only and shall in no way enlarge or limit the scope or meaning of the various and several paragraphs hereof. Both parties have participated in the preparation of this ordinance and this ordinance shall not be construed either more or less strongly against or for either party.

SECTION 11. <u>EFFECTIVE DATE</u>: If Atmos Energy accepts this ordinance, it becomes effective as of January 1, 2020.

PASSED AND APPROVED on this the	day of	,2020.
ATTEST:		
Stacy Henderson, City Secretary	Jim Olk, Mayor	
City of Lucas Texas	City of Lucas Texas	

STATE OF TEXAS	§				
COUNTY OF COLLIN	§				
CITY OF LUCAS	§				
I, Stacy Henderson, City	y Secretary of th	e City of L	ucas, Collin Cou	ınty, Texas,	do hereby
certify that the above and foreg	oing is a true an	d correct co	opy of an ordina	nce passed b	y the City
Council of the City of Lucas, To	exas, at a		session, held	l on the	day of
, 2020,	as it appears of	record in	the Minutes in I	Book	
page					
WITNESS MY HAN	D AND SEA	L OF S	AID CITY, th	is the	_ day of
, 2020.					
		_	Stacy Henderso	on, Citv Secr	etarv
			City of Lucas,	•	,



City of Lucas Council Agenda Request June 18, 2020

Requester: City Council

Agenda Item Request

Discuss the City of Lucas Broadband Project including:

- A. Review the preliminary financial model prepared by Magellan Advisors.
- B. Receive and discuss information from the City's Financial Advisor Mark McLiney regarding funding strategies.
- C. Review and discuss the timetable regarding a bond election.

Background and Financial Information

Due to concerns raised by citizens about the lack of adequate and reliable internet service in Lucas, the City has made efforts to research solutions that would improve broadband. The City Council appointed residents to form the Technology Committee to provide recommendations on issues of community-wide interests relating to information technology and internet service. The Technology Committee has met and discussed with various internet providers regarding the lack of adequate internet service. The internet providers indicated that they are unwilling to improve or expand internet service due to low-density housing and large lots which would not be an economical rate of return.

In 2019, the City conducted an internet speed test survey to map internet speeds from household respondents. The internet speed test revealed that 61% (or 316 out of 514 households) of respondents reported having internet speed below 25 Mbps. The Federal Communications Commission considers an internet speed of 25 Mbps or less to be below the benchmark for adequate internet service. The Technology Committee explored the possibility of municipal broadband and recommended that the City pursue a broadband feasibility study. The City Council approved acquiring the services of Magellan Advisors who are currently preparing the broadband feasibility study which includes a conceptual network design and financial model.

This agenda item is to provide the City Council additional information about the Lucas Broadband project including a review and discussion of the preliminary costs and financial model prepared by Magellan Advisors. Magellan Advisors has scheduled a Zoom meeting on June 17, 2020 to review the preliminary financial model with City Council. An agenda item will be tentatively scheduled for the July 2, 2020 City Council meeting to obtain additional feedback from the City Council in order to finalize the financial model and feasibility study. Assistant to the City Manager Kent Souriyasak will collect any feedback from the City Council to provide to Magellan Advisors.



City of Lucas Council Agenda Request June 18, 2020

Below is a tentative meeting schedule regarding the broadband project:

June 17, 2020	Magellan Advisors reviews preliminary financial model with City Council
June 22 or 23, 2020	Magellan Advisors provides a project update
July 2, 2020	City Council meeting to provide additional feedback regarding the
	financial model and feasibility study
July 13, 2020	Magellan Advisors reviews the draft of the feasibility study
July 16, 2020	City Council meeting to provide any feedback regarding the draft of the
	feasibility study
To Be Determined	Magellan Advisors provides the final feasibility study

Magellan Advisors has completed the first phase of the feasibility study to determine the buildout cost for the fiber backbone and distribution network. The buildout cost has been adjusted in the pending financial model to represent the construction of 80% underground and 20% aerial fiber within city limits. The financial model will include additional costs for operations, equipment, and working capital.

Magellan Advisors is continuing work on the financial model that will include total costs for the construction, operation, and maintenance of a broadband network over a recommended time period. Magellan Advisors indicated that the primary factors to adjust the financial model are the uptake for internet service, rate structure, and cost structure for capital and operating expenses. Magellan Advisors will review details of the financial model with City Council at the June 17, 2020 meeting.

The broadband project would be similar to the City's water service and set up as a separate enterprise fund where it can be self-sustaining through the revenue generated by the customer base for the services provided. The City Council indicated funding for the project would need to be approved by the citizens through a bond election. Bond elections are limited to uniform election dates which are Tuesday, November 3, 2020 or Saturday, May 1, 2021. The key date for calling a bond election is the adoption of an ordinance which must be done no more than 90 days and no less than 78 days prior to either election date.

Possible funding sources for the broadband project would be through (1) bond funds, (2) federal grant(s), and (3) reserves. City staff is pursuing a grant from the Economic Development Administration (EDA), U.S. Department of Commerce (DOC) that may fund a portion of the broadband project if awarded. Reserves could be used or loaned with interest to the Technology Fund as a means of reducing the amount of debt funding.

Discussions with Magellan Advisors, SAMCO Capital Markets, and the Bond Counsel at Norton Rose Fulbright have occurred to discuss funding strategies, timelines, and gain insight on similar broadband projects at the Cities of Dayton and Mont Belvieu. The Bond Counsel indicated that the working capital funding is limited to 10% of the total project/bond amount, there is no anticipated impact on the City's bond rating, and the ad valorem tax base provides the underlying credit support in the event that the project does not perform as expected.



City of Lucas Council Agenda Request June 18, 2020

Attachments/Supporting Documentation

- 1. Lucas Internet Speed Test Map
- 2. Timetable for a Bond Election on Tuesday, November 3, 2020
- 3. Timetable for a Bond Election on Saturday, May 1, 2021

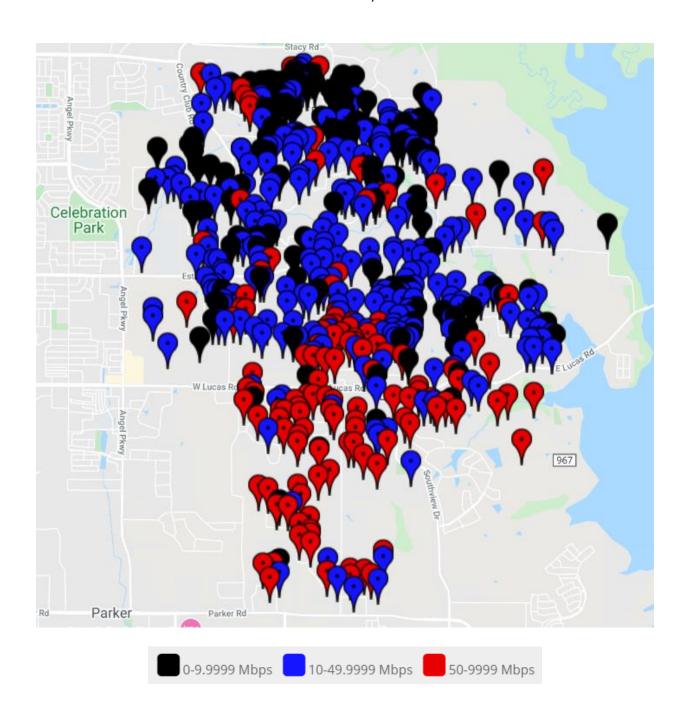
Budget/Financial Impact

The preliminary financial model will be sent out to City Council prior to the June 17, 2020 meeting with Magellan Advisors. The financial impact will be based on the finalization of the financial model and feasibility study by Magellan Advisors.

Recommendation			
NA			
Motion			

There is no motion required.

City of Lucas Internet Speed Test Map Dated June 10, 2020





City of Lucas, Texas

Timetable for a Bond Election on Tuesday, November 3, 2020 – to be Called August 5-17, 2020

Event	Time Required	Date	Done
City staff confers with financial advisor/bond counsel	At least 4 weeks before calling election	June 2020	
City staff explores possible polling locations	At least 3 weeks before calling election	July 2020	
City Council adopts ordinance calling election	Not more than 90 days or less than 78 days prior to election ¹	August 6, 2020 (Thurs.)	
Bond counsel orders translations (Spanish, etc.)	Immediately after calling the election	August 7, 2020 (Fri.)	
Bond counsel delivers ballot to election official	Deadline determined by election official	Est. August 31, 2020 (Mon.)	
Bond counsel delivers notice of election to the county election official ²	Not later than 60 days before election	September 4, 2020 (Fri.)	
Last day to register to vote	30 days prior to election ³	October 4, 2020 (Sun.)	
City staff publishes first notice of election in English, Spanish, and other applicable languages	Not more than 30 days or less than 14 days prior to election ⁴	Submit by October 7 (Weds.) October 8, 2020 (Thurs.)	
City staff posts notice of election (all applicable languages) prominently on the City's website	Not later than 21 days before election until after election	October 13, 2020 (Tues.)	
City staff posts sample ballot on the City's website	Not later than 21 days before election until after election	October 13, 2020 (Tues.)	
City staff posts notice of election (all applicable languages) at City Hall's bulletin board	Not later than 21 days before election until after election	October 13, 2020 (Tues.)	
City staff posts notice of election and voter information document (all applicable languages) at three public places in the City	Not later than 21 days before election until after election	October 13, 2020 (Tues.)	
City staff publishes second notice of election (all applicable languages)	Exactly one week after first publication	Submit by October 14 (Weds.) October 15, 2020 (Thurs.)	
Early voting begins	17 days prior to election day ⁵	October 19, 2020 (Mon.)	
Early voting ends	4 days prior to election day	October 30, 2020 (Fri.)	
Election day	1st Tuesday after the 1st Monday in November	November 3, 2020 (Tues.)	
City Council canvasses election returns	Not later than 14 days after election and not earlier than the later of: (1) the 3rd day after election; (2) the date the provisional ballots have been counted; or (3) the date that all timely cast overseas ballot have been counted ⁶	November 6, 2020 (Fri.) through November 17, 2020 (Tues.)	
End of election contest period	Later of 30 days after canvassing or 15 days after electronic records publicly available	Generally no later than December 17. 2020 (Thurs.)	

¹ This window is Wednesday, August 5, 2020 to Monday, August 17, 2020. Notice of the meeting must be posted at least 72 hours prior to the meeting. In home-rule cities, charter requirements for election notices must be followed. Ordinance reading requirements need not be followed but may be. Gov't Code § 1201.028. If so, all readings should occur within the "call window."

² Bond counsel will provide the election official with appropriate notices of election for each polling location, typically after this deadline.

³ Because the deadline falls on Sunday, October 4, the Secretary of State typically moves the date to the next business day. The deadline is not affected by the Columbus holiday (October 12, 2020).

⁴The first day to publish the first time is Sunday, October 4, 2020, and the last day to publish the first time is Tuesday, October 20, 2020. The second publication must occur one week after the first publication on the same day of the week as the first publication. The *Allen American* publishes legal notices on Thursdays. Notice must be submitted by 1:00 pm the Wednesday before publication. Payment may also be required at that time. The entire notice must be published in both languages.

⁵ The early voting period for a November election is typically longer than a May election. Because the first day of the early voting period falls on Saturday, October 17, 2020, the date moves to the next business day. The results from early voting are not available until 7:00 p.m. on election day.

⁶ This canvass period applies to a November election in even-numbered years. Notice of the canvass meeting should be posted at least 72 hours prior to the meeting. Final results including mailed and provisional ballots may not be available until the last two days of the canvassing period. An election with close results may be affected.



City of Lucas, Texas

Timetable for a Bond Election on Saturday, May 1, 2021 – to be called January 31-February 12, 2021

Event	Time Required	Date	Done
City confers with financial advisor/bond counsel	At least 4 weeks before calling election	January 2021	
City staff explores polling locations	At least 2 weeks before calling election	January 2021	
City Council adopts an ordinance calling the	Not more than 90 days or less than	February 4, 2021 (Thurs.)	
election	78 days prior to election ¹	-	
Bond counsel orders translations (Spanish, etc.)	Immediately after calling the election	February 5, 2021 (Fri.)	
Bond counsel delivers ballot language to election	determined by the election official	Estimated	
official		February 17, 2021 (Mon.)	
Bond counsel delivers notice of election to the	Not later than 60 days before election	March 2, 2021 (Tues.)	
county election official ²			
City staff publishes first notice of election in	Not more than 30 days or less than	Submit by March 31 (Weds.)	
English, Spanish, and other applicable languages	14 days prior to election ³	April 1, 2021 (Thurs.)	
Last day to register to vote	30 days prior to election	April 1, 2021 (Thur.)	
City posts sample ballot on the City's website	Not later than 21 days prior to election	April 9, 2021 (Fri.)	
	until after election day4		
City staff posts notice of election (all applicable	Not later than 21 days prior to election	April 9, 2021 (Fri.)	
languages) prominently on the City's website	until after election day		
City staff posts sample ballot on the City's website	Not later than 21 days prior to election	April 9, 2021 (Fri.)	
	until after election day		
City staff posts notice of election (all applicable	Not later than 21 days prior to election	April 9, 2021 (Fri.)	
languages) at City Hall on the bulletin board used	until after election day		
for posting meeting notices			
City staff posts notice of election and voter	Not later than 21 days prior to election	April 9, 2021 (Fri.)	
information document (all applicable languages) at	until after election day		
three public places within the City			
City staff publishes second notice of election (all	Exactly one week after first publication	Submit by April 7 (Weds.)	
applicable languages)		April 8, 2021 (Thurs.)	
Early voting begins	12 days prior to election ⁵	April 19, 2021 (Mon.)	
Early voting ends	4 days prior to election	April 27, 2021 (Tues.)	
Election day	First Saturday in May	May 1, 2021 (Sat.)	
City Council canvasses election returns	Not later than 11 days after election and not	May 4, 2021 (Tues.)	
	earlier than the later of: (1) the 3rd day after election; (2) the date the provisional ballots have	through	
	been counted; or (3) the date that all timely cast	May 12, 2021 (Wed.) ⁷	
	overseas ballot have been counted ⁶		
End of election contest period	Later of 30 days after canvassing or 15	Generally no later than	
·	days after electronic records publicly	June 11, 2021 (Fri.)	
	available	· · ·	

¹ This window is January 31, 2021 to February 12, 2021. Notice of the meeting to call the election should be posted at least 72 hours prior to the meeting. In home-rule cities, charter requirements for election notices must be followed. Ordinance reading requirements need not be followed but may be. Gov't Code § 1201.028. If so, all readings should occur within the "call window."

² Bond Counsel will provide the election official with appropriate Notices of Election for each polling location.

³ The first day to publish the notice is April 1, 2021, and the last day is April 21, 2021. The second publication must occur one week after the first publication on the same day of the week as the first publication. The *Allen American* publishes legal notices on Thursdays. Notice must be submitted by 1:00 pm the Wednesday before publication. Payment may also be required at that time. The entire notice must be published in both languages.

⁴ Because this deadline falls on Saturday, April 10, the Secretary of State typically rolls the deadline forward to Monday, April 13. We recommend early compliance.

⁵ This early voting period applies only to the May election date.

⁶ This canvassing time applies only to the May election date. Notice of the meeting to canvass the election should be posted at least 72 hours prior to the meeting.

⁷ Due to recent changes in state and federal law, final results including mailed and provisional ballots may not be available until the last two days of the canvassing period. An election with close results may be affected.



City of Lucas City Council Agenda Request June 18, 2020

Requester: City Council

City Engineer Stanton Foerster

Agenda Item Request

Consider information provided by Lee Engineering for two draft traffic studies: 1) Estelle Lane/Gold Dust Trail/Forestview Drive area and 2) Winningkoff Road/Blondy Jhune Road area and direct the City Manager on same.

Background Information

Councilmember Wayne Millsap raised a concern regarding the stop signs and road humps on Forestview Drive and Gold Dust Trail within the Huntwick neighborhood. With the purchase of a new fire engine and construction closure of Blondy Jhune Road, the potential problem of stop signs and road humps has not been addressed. Councilmember Millsap's primary concern was the emergency calls that Lucas Fire-Rescue will need to respond to in the Huntwick neighborhood and beyond. There are possibly three stop-sign intersections and three road humps that could present a hazard to the fire engines and ambulance. There is also a time delay that could occur when sufficiently slowing down in order to avoid damage. A larger apparatus will be slower in slowing down to proceed over the road humps.

The new fire engine was delivered in March of 2019, and construction closure of Winningkoff Road is planned for this year. With the new fire engine and timing of the road construction, it is important to discuss how to reduce the potential problem of stop signs and road humps as it can directly affect Lucas Fire-Rescue apparatus during an emergency response.

During the April 4, April 18, June 6, and June 20, 2019, City Council meetings, this issue was discussed in various forms and from numerous points of view.

As directed by the City Council, the City Manager requested the City Engineer to contact Lee Engineering to request a proposal based on the criteria listed on the Item 9 June 20, 2019, cover sheet. Lee Engineering responded with a proposal on July 26, 2019, and the proposal was emailed to the City Council on July 29, 2019, for review.

On September 5, 2019, the City Council authorized the City Manager to enter into an agreement with Lee Engineering for the said study. The agreement was executed on October 14, 2019.

During the week of March 2, both turning movement counts and speed/count data was collected on a 24-hour basis along Winningkoff Road, Blondy Jhune Road, Forestview Drive, and Estelle Lane by Lee Engineering.



City of Lucas City Council Agenda Request June 18, 2020

On April 4, Mayor Jim Olk, City Manager Joni Clarke, and City Engineer Stanton Foerster visited remotely with Lee Engineering staff to discuss the draft information obtained and reviewed for the 1) Estelle/Forestview/Huntwick study and 2) the Blondy Jhune/Winningkoff study. Lee Engineering staff was working from their homes due to Dallas County Covid-19 restrictions and was not able to access all of their equipment. Some of this equipment was needed to complete the final report. Lee Engineering was able to complete their measurements the week on May 21, 2020.

Based on the draft report, the City Engineer requested that Public Works do the following: 1) add the trimming of the vegetation north and south of Blondy Jhune Road along Winningkoff Road be added to the routine Public Works activities and 2) replace the eastbound Blondy Jhune Road Yield sign with a Stop sign.

Task 3 of the Lee Engineering agreement contemplates additional work by Lee for the City of Lucas. During the various discussions, the need for Origin and Destination data collection and analysis was considered as possible additional work. Other items of additional work might include:

- 1) Stop sign control at other intersections,
- 2) calculation of 85% speeds,
- 3) implantation/removal of traffic control devices, and
- 4) implantation/removal of traffic calming devices.

Attachments/Supporting Documentation

- 1. Draft W. Estelle Lane Traffic Study dated June 1, 2020
- 2. Draft Memorandum and Analysis for the Multiway Stop Control Warrant for Blondy Jhune Road at Winningkoff Road Study dated May 28, 2020
- 3. Lee Engineering Professional Service Agreement dated September 10, 2019

Budget/Financial Impact		
NA		
Recommendation		
NA		
Motion		

NA



June 1, 2020

Mr. Stanton Foerster, P.E. Public Works Director City Engineer City of Lucas 665 Country Club Road Lucas, Texas 75002

Re: W. Estelle Lane Traffic Study, Lucas, Texas

Dear Mr. Foerster:

Lee Engineering has completed a study of the existing conditions along W. Estelle Lane between Country Club Road and Winningkoff Road in Lucas, Texas. The study includes documentation of existing traffic volumes, speeds, field observations, and roadway network.

Background Information

The City of Lucas has received complaints regarding cut-through traffic and speeding along W. Estelle Lane between Country Club Road and Winningkoff Road. An aerial view of the study area is shown in **Figure 1**.

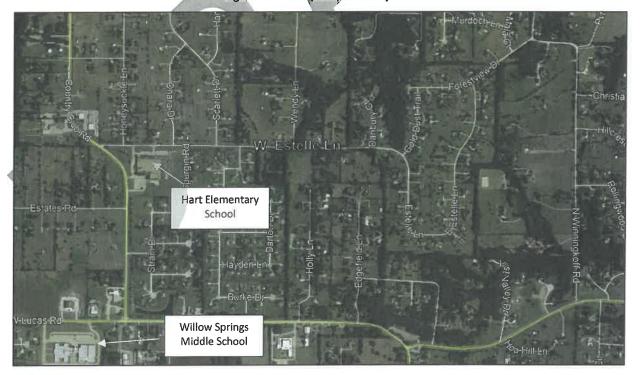


Figure 1: Vicinity Map of Study Area

W. Estelle Lane is a two-lane undivided roadway with a posted speed limit of 30 miles per hour (mph). W. Estelle Lane runs from Country Club Road eastward for approximately 4,600 feet to Gold Dust Trail, where it turns to the south and eventually returns northward to intersect Forestview Drive. Forestview Drive and Gold Dust Trail are also two-lane undivided roadways with a speed limit of 30 miles per hour.

Forestview Drive, Gold Dust Trail, and Estelle Lane east of God Dust Trail all have houses fronting along them. W. Estelle Lane west of Gold Dust Trail has minimal residential driveways along it. Hart Elementary School is located on the southeast corner of the intersection of W. Estelle Lane and Country Club Road. There is also a 20-mph reduced speed school zone along W. Estelle Lane for approximately 1,000 feet east of Country Club Road. It appears that driveways on W. Estelle Lane and on Country Club Road are both utilized for pick-up/drop-off procedures, as shown in **Figure 2** for reference.

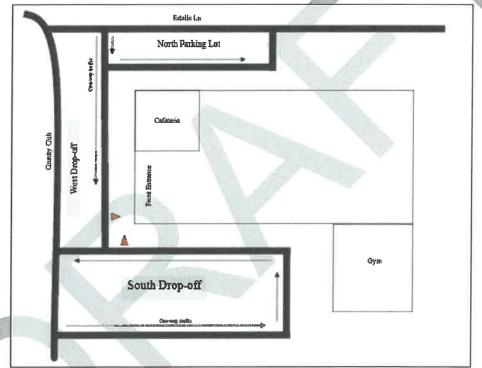


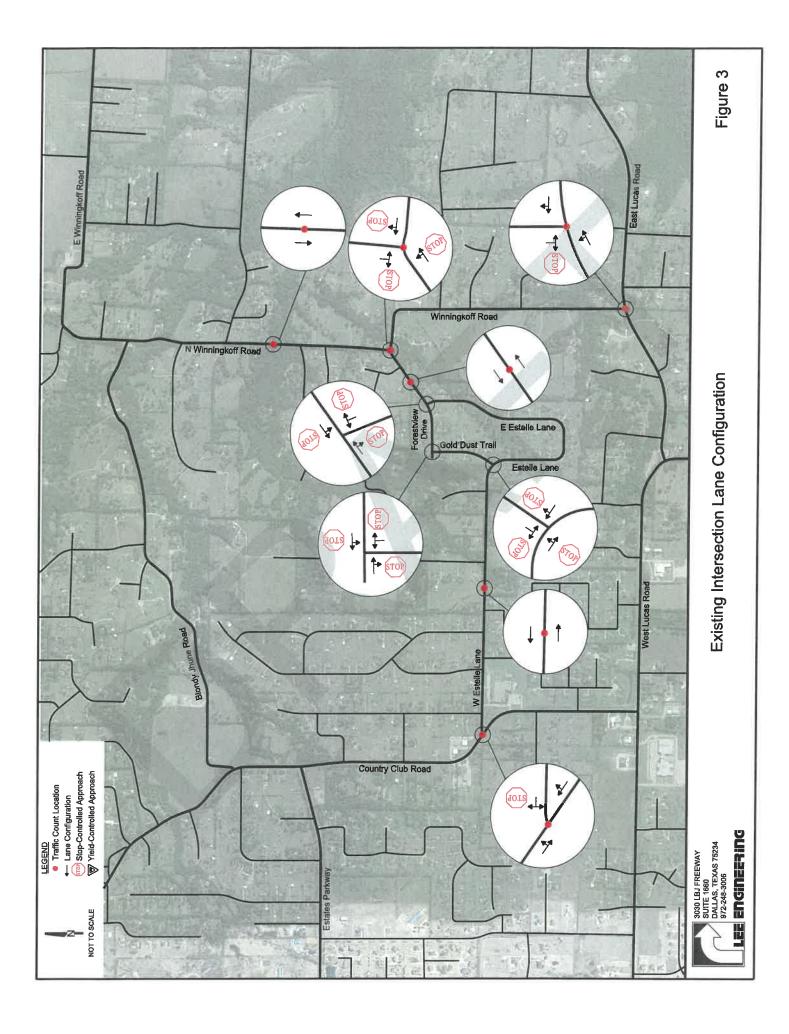
Figure 2: Hart Elementary Circulation Plan

Source: Lovejoy YSD, https://1.cdn.edl.io/zjNgoDTqf1mXx3T093LsGZVdqeRb6BPublYzQbjzkeCfqUaB.pdf

Country Club Road is a two-lane undivided north-south roadway with a posted speed limit of 50 mph. There is also a 35-mph school speed limit on Country Club Road adjacent to the elementary school. Finally, Winningkoff Road is a two-lane undivided north-south roadway with a posted speed limit of 35 mph.

The intersection of W. Estelle Lane at Country Club Road is stop-controlled on the westbound (W. Estelle Lane) approach. The intersection of Estelle Lane at Forestview Drive is multiway stop-controlled, with stop signs on all three approaches. Similarly, the intersections of Forestview Drive with Winningkoff Road, Forestview Drive with Gold Dust Trail, and W. Estelle Lane with Gold Dust Trail also operate with multiway stop control. The existing lane configurations and traffic control in the study area are shown in Figure 3.





Traffic Volumes and Speed Data

Existing 24-hour turning movement volumes were collected on Tuesday, March 3, 2020, at the following intersections within the study area:

- W. Estelle Lane at Country Club Road;
- Forestview Drive at Winningkoff Road; and
- Winningkoff Road at E. Lucas Road.

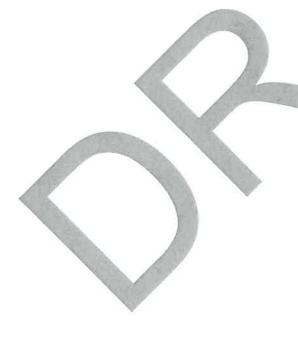
Similarly, existing daily traffic volumes and speeds were collected on Tuesday, March 3, 2020, at the following locations within the study area:

- W. Estelle Lane between Country Club Road and Gold Dust Trail;
- Forestview Drive between E. Estelle Lane and Winningkoff Road; and
- Winningkoff Road north of Forestview Drive.

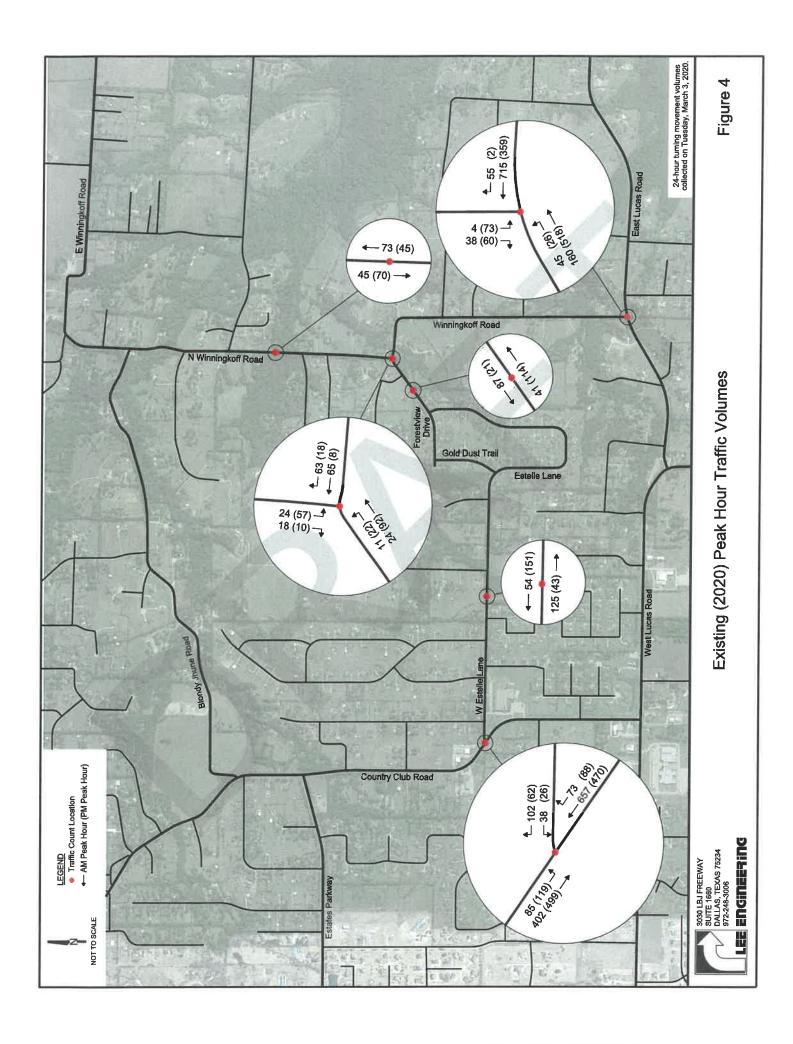
It should be noted that all this traffic data was collected in early March prior to school closures and shelter-in-place orders which occurred in late March.

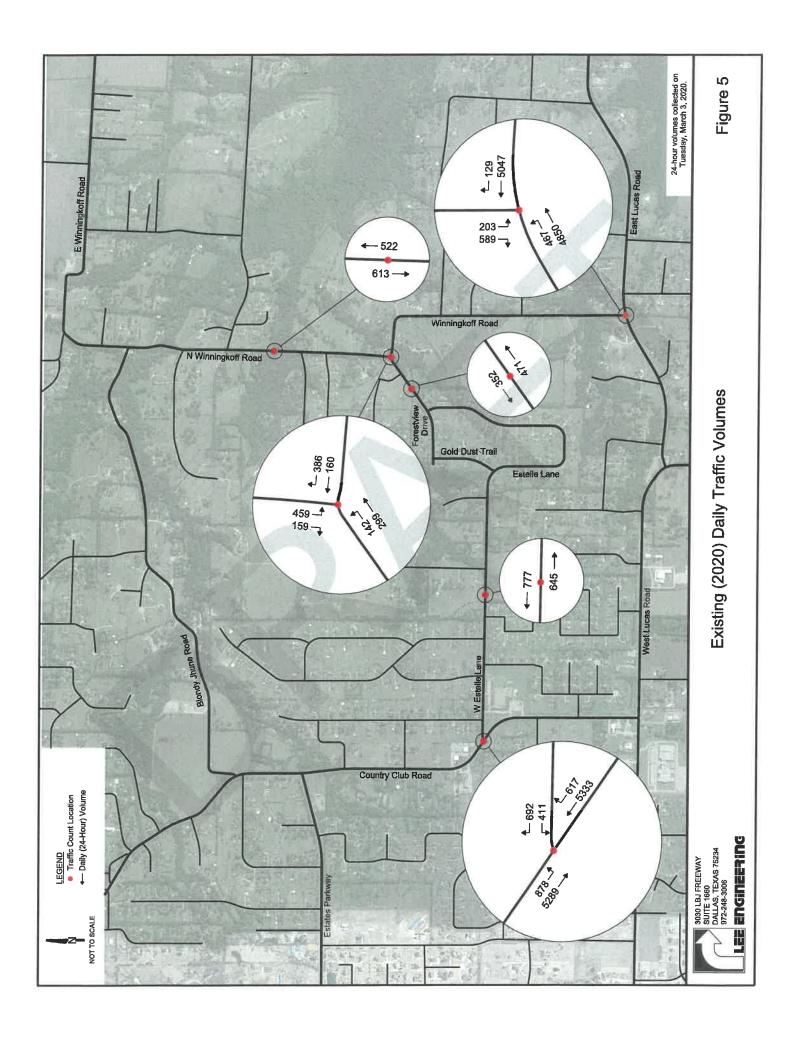
The existing AM peak hour and PM peak hour volumes for study locations are shown in **Figure 4**. The total daily volume for each study locations is shown in **Figure 5**.

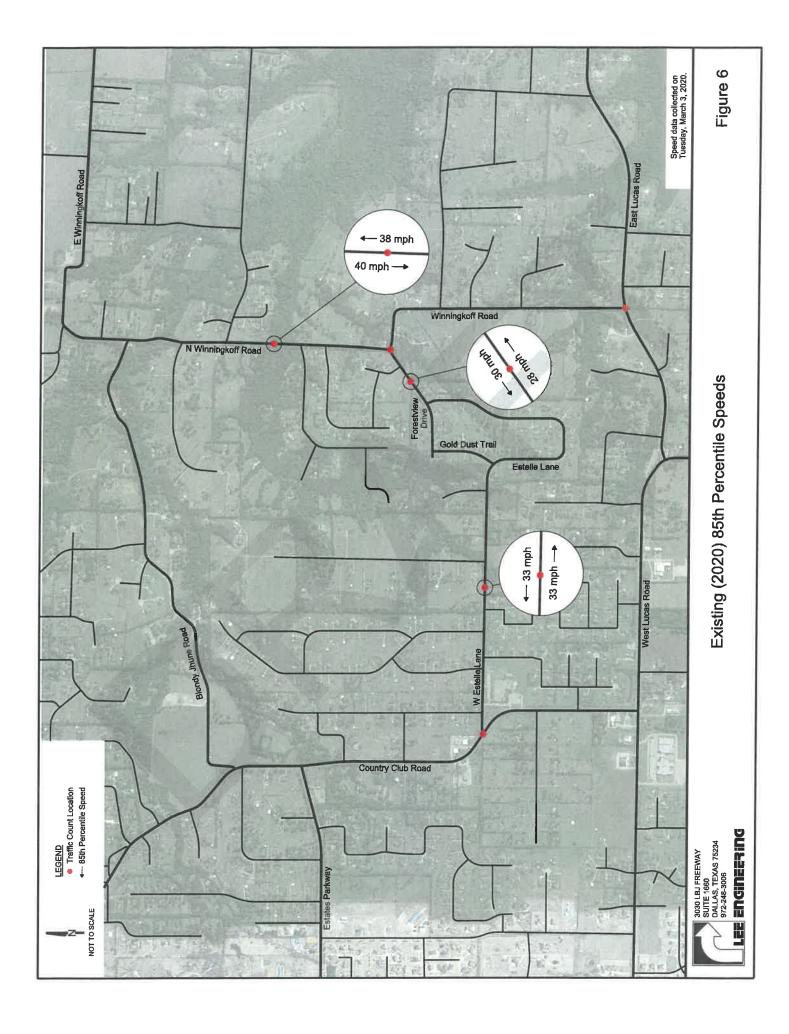
The 85th percentile speeds and the average speeds for each location are shown in **Figure 6** and **Figure 7**, respectively. The 85th percentile speed is the speed at or below which 85 percent of drivers are traveling and is often used as a traffic engineering measure.

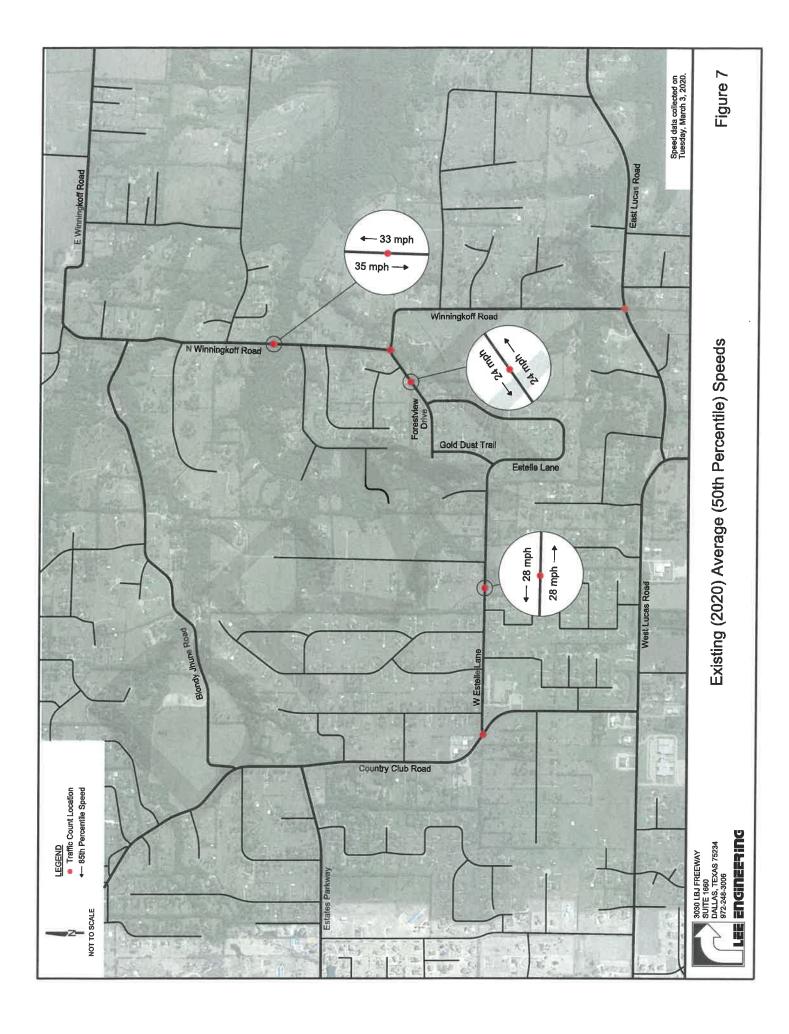












Finally, a graph was developed for speed data on W. Estelle Lane and on Forestview Drive, as speeds on those roads appears to be the primary area of concern. Speed data was classified into eight speed bins. **Figure 8** shows the number of free-flowing vehicles (greater than a four second headway between vehicles) for each location.

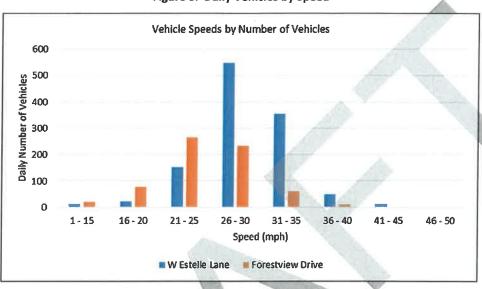


Figure 8: Daily Vehicles by Speed

As shown, most vehicles on Forestview Drive are traveling at or below a speed of 30 mph. Both the average and 85th percentile speed on W. Estelle Lane was approximately 4 mph higher than on Forestview Drive, likely due to the multiple stop signs along Forestview Drive. However, approximately 95% of vehicles observed in the 24-hour period were traveling 35 mph or less on W. Estelle Lane. The posted speed limit on both roads is 30 mph.

Raw volume data and speed data is included as an attachment to this letter for reference.

Planned Construction

LEE also identified any recent or planned construction within the study area. Based on this review, there do not appear to be any planned capacity improvements in the near future. The following projects were identified:

- Country Club Road—currently under construction for addition of shoulders, drainage improvements, and repaying. Construction is anticipated to end in July 2020.
- Winningkoff Road construction planned for June to November 2020, to include pavement and drainage improvements from Snider Lane to Forestview Drive.
- Future improvements to the intersection of W. Lucas Road/E. Lucas Road and Southview Drive, which is currently under study by TxDOT.
- Widening of W. Lucas Road from Country Club Road to Southview Drive within 10 or more years.

Thoroughfare Plan

As part of this study, LEE reviewed the City of Lucas *Master Thoroughfare Plan* (dated March 2017) to identify major roadways and connectivity in the study area. A clip of the study area on the thoroughfare plan map is shown in **Figure 9**. As shown, Country Club Road is a Type B Thoroughfare and Winningkoff Road is a Type C



Neighborhood Connector. W. Estelle Lane and Forestview Drive are shown as local roadways on the thoroughfare plan. However, there are three other east-west roadways on the thoroughfare plan connecting Winninkoff Road/Orr Road and Country Club Road:

- E. Lucas Road (Type B Thoroughfare);
- Blondy Jhune Road (Type C Neighborhood Connector); and
- Forest Grove Road (Type C Neighborhood Connector).

ORR RD FOREST GROVE RD - C 877 BLONDY IHUNE RD . C E WINNINGKOFF RD - C 78 Right-of-Thoroughfare Type No. of Divided Pavement Width Way or (Feet) Easement Width (Feet) 78 Plus a 16-Foot Median Six 120 WINNINGKOFF RD-C **ESTATES PKWY - B** 52 to 54 Four W. Estelle COUNTRY CLUB RD - B Neighbo 24 to 28 50 Two Lane NGRAM LN - C 24 50 4LLISON LN E LUCAS RD - B V LUCAS RD - B EDGEWOOD DR - C LEWIS LIN - C. BROCKDALE PARK RD - C

Figure 9: City of Lucas Master Thoroughfare Plan Clip

Source: City of Lavon 2017 Comprehensive Plan, https://storage.googleapis.com/proudcity/lucastx/uploads/2017/04/Final-Version-Comp-Plan-4.pdf

Crash Data

Crash data was obtained from the Texas Department of Transportation Crash Record Information System for 2015 to present. A summary of the crashes which occurred at the intersection of W. Estelle Lane and Country Club Road is shown below in **Table 1**. The crash which occurred at the intersection of Forestview Drive and Winningkoff Road is shown in **Table 2**. Finally, one additional crash was identified within the study area, which occurred on E. Estelle Lane and is summarized in **Table 3**. It should be noted that, of the crashes which occurred at W. Estelle Lane and Country Club Road, only one involved a vehicle on W. Estelle Lane.



Table 1x TxDOT Crash History (2015-2020) at W. Estelle Lane and Country Club Road

Crash ID	Crash	Day	Time	Crash Description	Crash	Contributing Factors	Light	Weather	Pavement	Crash
14340405	2015	2015 THURS	1:19 PM	SOUTH - SOUTH - SAME DIRECTION - ONE STRAIGHT-ONE STOPPED	REAR	SLOWING/STOPPING-TO MAKE LEFT TURN; DRIVER INATTENTION	DAYLIGHT CLOUDY	CLOUDY	DRY	C - POSSIBLE
14543500	2015	FRI	5:46'PM	SOUTH - SAME DIRECTION - ONE STRAIGHT-ONE STOPPED	REAR	SLOWING/STOPPING-FOR TRAFFIC; DRIVER INATTENTION	DAYLIGHT	CLEAR	DRY	N - NOT
15459897	2016	MON	7.40 AM	NORTH ONE MOTOR VEHICLE -	FIXED	FAILED TO CONTROL SPEED	DAYLIGHT	RAIN	WET	C - POSSIBLE INJURY
15531609	2017	MON	4:32 PM	SOUTH - SAME SIRECTION - SOUTH - SAME SIRECTION -	REAR END	SLOWING/STOPPING-TO MAKE LEFT TURN; DRIVER INATTENTION	DAYLIGHT	CLEAR	DRY	N - NOT
15652276	2017	TUES	7:41 PM	WEST - NORTH - ANGLE - ONE STRAIGHT-ONE LEFT TURN	RIGHT	FAILED TO YIELD RIGHT OF WAY - TURNING LEFT; ATTENTION DIVERTED DAYLIGHT FROM DRIVING	DAYLIGHT	CLEAR	DRY	N - NOT INJURED
15764318	2017	WED	7:54 AM	NORTH ONE MOTOR VEHIBLE - GOING STRAIGHT	FIXED OBJECT	LOST CONTROL OR SKIDDED (ICY OR SLICK ROAD, ETC.)	DAYLIGHT CLOUDY	CLOUDY	WET	N - NOT
16206851	2018	SAT	10:06 AM	NORTH ONE MOTOR VEHICLE - GOING STRAIGH年	FIXED OBJECT	ATTENTION DIVERTED FROM DRIVING; EALLED TO CONTROL SPEED	DAYLIGHT CLOUDY	CLOUDY	WET	99 - UNKNOWN
16226654	2018	2018 THURS	8:08 AM	SOUTH - SOUTH - SAME DIRECTION - BOTH GOING STRAIGHT-REAR END	REAR END	SLOWING/STOPPING-FOR TRAFFIC; DRÍVER INATTENTION	DAYLIGHT	CLEAR	DRY	N - NOT INJURED
16575830	2018	MON	6:13 PM	NORTH ONE MOTOR VEHICLE - GOING STRAIGHŢ	PIXED OBJECT	ATTENTION DIVERTED FROM DRIVING; FAILED TO CONTROL SPEED	DAYLIGHT CLOUDY	CLOUDY	WET	N - NOT INJURED
16624553	2018	SAT	4:38 PM	SOUTH - NORTH - OPPOSITE DIRECTION - BOTH GOING STRAIGHT	HEAD	ATTENTION DIVERTED FROM DRIVINGY FAILED TO CONTROL SPEED	DAYLIGHT	RAIN	WET	N - NOT INJURED

Table 2: TxDOT Crash History (2015-2020) at Forestview Drive and Winningkoff Road

						The state of the s	The state of the s			
Crash 1D	Crasn	Dav	Time	Crash Description	Crash	Contributing Cortors	Light	Monthon	Pavement	Crash
	Year				Type	Solitaring rations	Condition	אבפרוובו	Condition	Severity
4 10 10 10	0,500	2	7.70	SOUTH ONE MOTOR VEHICLE -	FIXED		>	$^{+}$		C - POSSIBLE
	NIOS OTOZ	NOS	/:T9 AIVI	GOING STRAIGHT	OBJECT	FAMLED TO CONTROL SPREED	DAYLJGHT CLEAR	CLEAR	DRY	INIIBY
										10000

Table 3: TxDOT Crash History (2015-2020) on E. Estelle Lane South of Forestview Drive

Crash Type HICLE - UNKNOWN						
5:45 PM SOUTH ONE MOTOR VEHICLE - UNKNOWN	n Crash Type	Contributing Factors	Light Condition	Weather	Light Weather Condition	Crash Severity
5:45 PM SOUTH ONE MOTOR VEHICLE -						
NAMONING FIGURATS CAICO	INVIONAINI	PERSON FELL OR JUMPED FROM	- NO. IN. I			A - SUSPECTED
GOING STRAIGHT)	VEHICLE	DAYLIGHI	CLEAK	DRY	SERIOUS INJURY

Conclusions

Based on the data collected and field observations, Lee Engineering makes the following conclusions. The conclusions are numbered for reference only and do not imply any ranking.

- Operating speeds on W. Estelle Lane and Forestview Drive were generally consistent with the posted 30 mph speed limit. The 85th percentile speed on W. Estelle Lane was 33 mph. Approximately 95% of vehicles were traveling 35 mph or lower in both directions.
- 2. Peak hour traffic volumes on W. Estelle Lane, Forestview Drive, and Winningkoff Road were relatively low. On W. Estelle Lane, total volume averaged approximately three (3) vehicles per minute during both the AM and PM peak hours.
- 3. Based on the thoroughfare plan, there are three other east-west roadways connecting Winninkoff Road/Orr Road and Country Club Road classified as a Type B or Type C roadway. W. Estelle Lane and Forestview Drive are shown as local roadways on the thoroughfare plan.
- 4. Relatively few crashes occurred within the study area within the previous five years. It should be noted that, of the crashes which occurred at W. Estelle Lane and Country Club Road, only one involved a vehicle on W. Estelle Lane.

Recommendations

Based on the data collected, field observations, and study presented above, Lee Engineering does not recommend any changes for the study area at this time.

If you have any questions regarding this study, please contact me at (972) 248-3006. We appreciate the opportunity to provide these services:

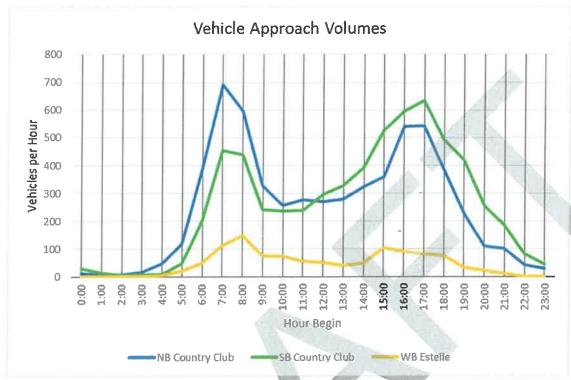
Sincerely,

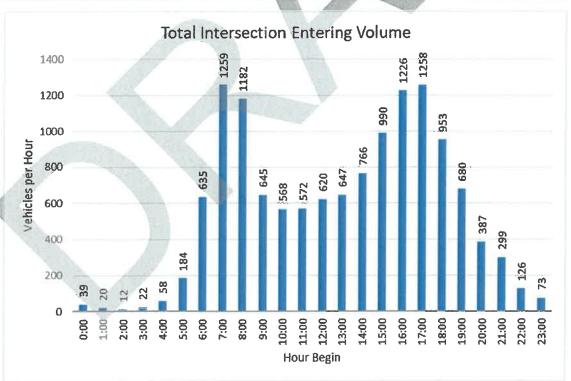
Dharmesh Shah, P.E., PTOE Vice President Lee Engineering, LLC TBPE Firm F-450

Attachments



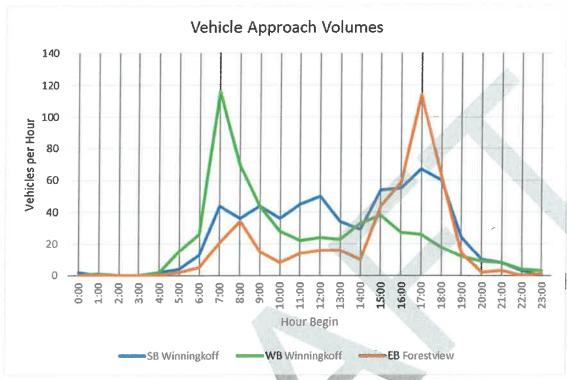
Country Club Road at Estelle Lane

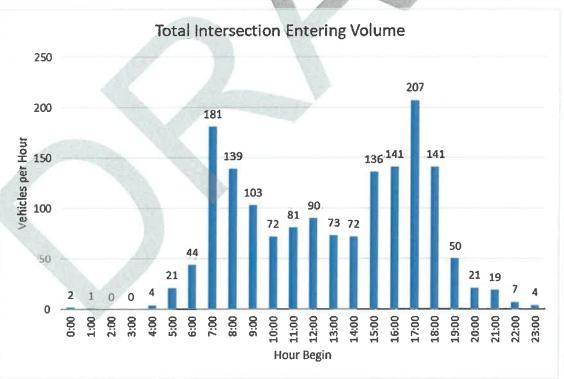




	со	UNTRY CLUE	3 RD		ESTELLE LA	V
Hour Begin	NB	SB	Total	WB V	/olume	Total
Degin	Volume	Volume	Volume	Left	Right	Volume
0:00	11	28	39	0	0	0
1:00	6	13	19	1	0	1
2:00	7	5	12	0	0	0
3:00	15	6	21	0	1	_1
4:00	46	8	54	1	3	4
5:00	117	47	164	11	9	20
6:00	386	201	587	28	20	48
7:00	692	454	1,146	33	80	113
8:00	595	439	1,034	60	88	148
9:00	329	241	570	21	54	75
10:00	257	238	495	24	49	73
11:00	278	239	517	26	29	55
12:00	270	298	568	26	26	52
13:00	280	327	607	12	28	40
14:00	324	392	716	19	31	50
15:00	358	527	885	34	71	105
16:00	541	595	1,136	30	60	90
17:00	543	633	1,176	21	61	82
18:00	386	491	877	35	41	76
19:00	228	418	646	18	16	34
20:00	111	254	365	6	16	22
21:00	101	186	287	5	7	12
22:00	42	83	125	0	1	1
23:00	28	44	72	0	1	1
TOTAL	5,951	6,167	12,118	411	692	1,103

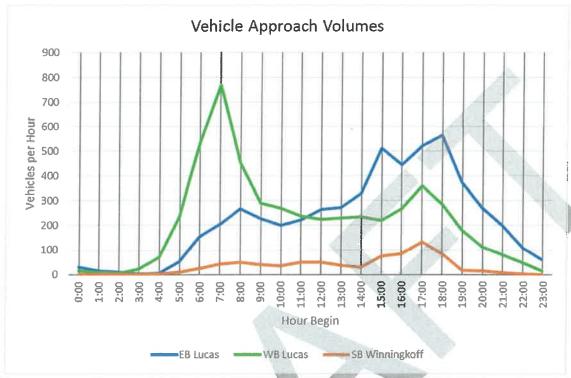
Forestview Drive at Winningkoff Road





	WINNING	KOFF RD	FORESTVIEW DR
Hour Begin	SB Volume	WB Volume	EB Volume
0:00	2	0	0
1:00	0	1	0
2:00	0	0	0
3:00	0	0	0
4:00	2	2	0
5:00	4	15	2.
6:00	13	26	5
7:00	44	116	21
8:00	36	69	34
9:00	44	44	15
10:00	36	28	8
11:00	45	22	14
12:00	50	24	16
13:00	34	23	16
14:00	29	33	10
15:00	54	38	44
16:00	55	27	59
17:00	67	26	114
18:00	60	18	63
19:00	24	12	14
20:00	10	9	2
21:00	8	8	3
22:00	3	4	0
23:00	0	3	1
TOTAL	620	548	441

Lucas Road at Winningkoff Road

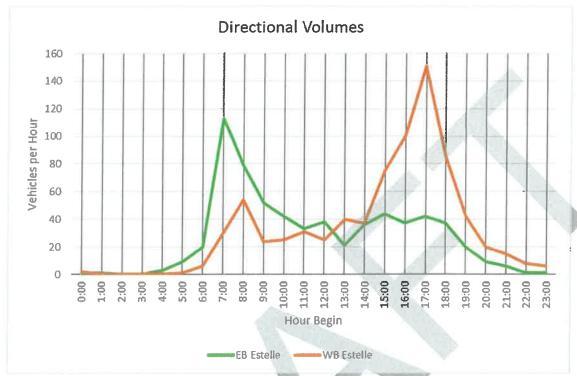


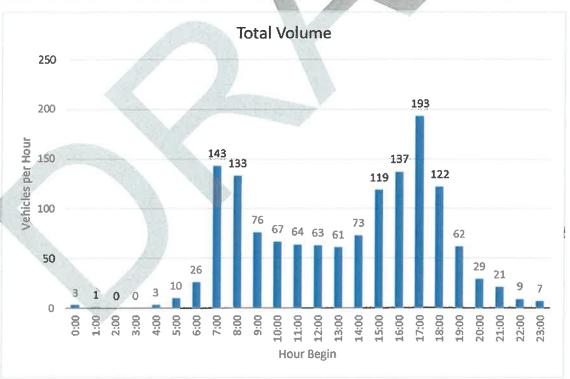


		LUCAS RD		W	INNINGKOF	F RD	
Hour Begin	EB	WB	Total	SB V	olume	Total	
Degiii	Volume	Volume	Volume	Left	Right	Volume	
0:00	31	16	47	0	1	1	
1:00	14	8	22	0	0	0	
2:00	10	5	15	0	0	0	
3:00	3	23	26	0	1	1	
4:00	6	70	76	0	2	2	
5:00	52	238	290	0	(11	11	
6:00	156	538	694	1	23	24	
7:00	205	770	975	4	38	42	
8:00	267	452	719	15	34	49	
9:00	228	290	518	6	34	40	
10:00	201	270	471	2	34	36	
11:00	223	238	461	8	43	51	
12:00	266	225	491	3	48	51	
13:00	272	231	503	3	34	37	
14:00	330	234	564	0	29	29	
15:00	513	221	734	26	50	76	
16:00	445	268	713	33	51	84	
17:00	521	360	881	66	66	132	
18:00	565	286	851	28	56	84	
19:00	372	180	552	3	15	18	
20:00	271	112	383	4	11	15	
21:00	19,8	80	278	1	6	7	
22:00	108	47	155	0	2	2	
23:00	60	16	76	0	0	0	
TOTAL	5,317	5,178	10,495	203	589	792	

Estelle Lane West of Wendy Lane

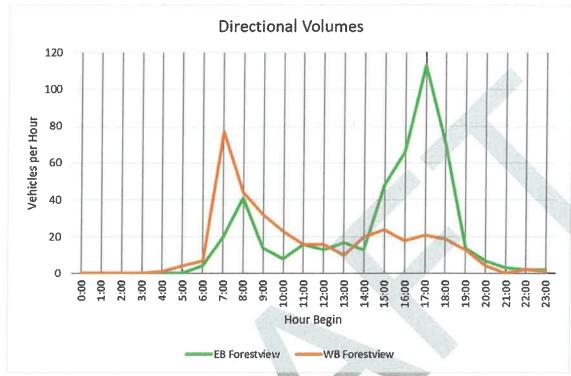
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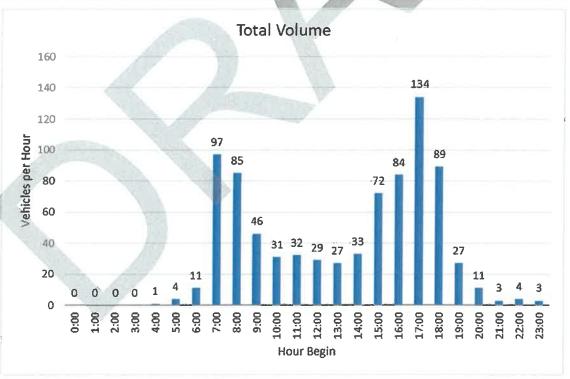




	ESTE	LLE WEST OF W	ENDY
Hour Begin	EB Volume	WB Volume	TOTAL
0:00	1	2	3
1:00	1	0	1
2:00	0	0	0
3:00	0	0	0
4:00	3	0	3,4
5:00	9	1	10
6:00	20	6	26
7:00	113	30	143
8:00	79	54	133
9:00	52	24	7,6
10:00	42	25	67,
11:00	33	31	64
12:00	38	25	63
13:00	21	40	61
14:00	36	37	73
15:00	44	75	119
16:00	37	100	137
17:00	42	151	193
18:00	37	85	122
19:00	20	42	62
20:00	9	~20	29
21:00	6	15	21
22:00	1	8	9
23:00	1	6	7
TOTAL	645	777	1422

Forestview Drive West of Winningkoff Road





	FORESTVIE	/IEW WEST OF WINNINGKOF								
Hour Begin	EB Volume	WB Volume	TOTAL							
0:00	0	0	0							
1:00	0	0	0							
2:00	0	0	0							
3:00	0	0	0							
4:00	0	1	1,/							
5:00	0	4	4							
6:00	4	7	11							
7:00	20	77	97							
8:00	41	44	85							
9:00	14	32	46							
10:00	1 8	23	31							
11:00	16	16	32							
12:00	13	16	29							
13:00	17	10	27							
14:00	13	20	33							
15:00	48	24	72							
16:00	66	18	84							
17:00	113	21	134							
18:00	70	19	89							
19:00	14	13	27							
20:00	7	4	11							
21:00	3	0	3							
22:00	2	2	4							
23:00	2	1	3							
TOTAL	471	352	823							

Winningkoff Road North of Forestview Drive





	WINNINGKO	OFF NORTH OF	FORESTVIEW
Hour Begin	NB Volume	SB Volume	TOTAL
0:00	0	2	2
1:00	1	0	1
2:00	0	0	0
3:00	0	0	0
4:00	1	2	3
5:00	11	4	15
6:00	23	13	36
7:00	65	42	107
8:00	57	36	93
9:00	46	45.	91
10:00	30	35	65
11:00	28	45	73
12:00	19	47	66
13:00	32	33	65
14:00	29	26	55
15:00	37	56	93
16:00	37	55	92
17:00	38	67	105
18:00	30	60	90
19:00	14	23	37
20:00	9	·11	20
21:00	9	8	17
22:00	3	3	6
23:00	3	0	3
TOTAL	522	613	1135

Arlington, Texas, United States 76013 817.265.8968

Count Name: COUNTRY CLUB RD @ ESTELLE LN Site Code: Start Date: 03/03/2020 Page No: 1

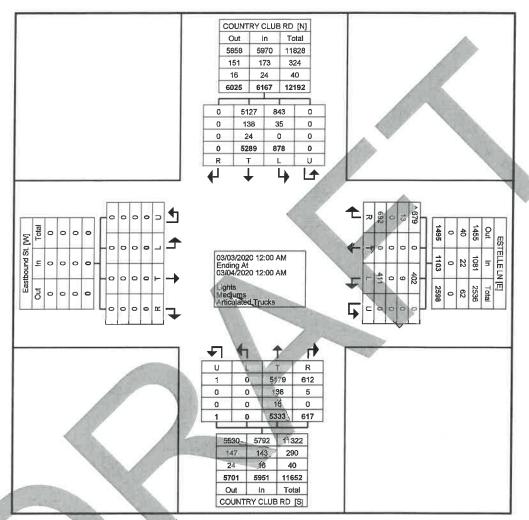
Turning Movement Data

	4					7	- 1	urni	ng M	love	men	t Da	ta			VI					No.
		COUN	NTRY CI	UB RD			E8	STELLE	LN			COUN	NTRY CI	LUB RD			E	astbound	d St.		
		8	Southbou	ınd			V	Vestbou	nd			N	Northbou	ind			All	Eastbou	nd		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Tum	App. Total	Int. Total
12:00 AM	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	10
12:15 AM	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6 /	0	0	0	0	0	12
12:30 AM	0	6	0	0	6	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6
12:45 AM	0	8	0	0	8	0	0	0	0	0	0	3	0	0 /	3	0	0	0	0	0	11
Hourly Total	0	28	0	0	28	0	0	0	0	0	0	11	0	0	-11	0	0	0	0	0	39
1:00 AM	0	2	0	0	2	1	0	0	0	11	0	2	_1_	0	3	0	0	0	0	0	6
1:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0,	0	0	0	0	0	0	1
1:30 AM	1	4	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
1:45 AM	0	5	0	0	5	0	0	0	0	0	0	1/	0	0	1	0	0	0	0	0	6
Hourly Total	1 0	12	0	0	13	1	0	0	0	0	0	5	0	0	6	0	0	0	0	0	20
2:00 AM	0	3	0	0	3	0	0	0	0	0	0	4	0	0 /	4	0	0	0	0	0	7
2:15 AM 2:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
2:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hourly Total	0	5	0	0	5	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	12
3:00 AM	0	3	0	0	3	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	5
3:15 AM	0	0	0	0	0	0	0	0	_0	0	0	5	0	0	5	0	0	0	0	0	5
3:30 AM	0	2	0	0	2	0	0	0.4	0	0	0	4	0	0	4	0	0	0	0	0	6
3:45 AM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
Hourly Total	0	6	0	0	6	0	0	1	. 0	1	0	15	0	0	15	0	0	0	0	0	22
4:00 AM	0	3	0	0	3	0	0	0	0	0	0	7	0	0	2	0	0	0	0	0	10
4:15 AM	0	1	0	0	1	0	0	0	0	0	0	8	- 1	0.	9	-0	0	0	0	0	10
4:30 AM	0	2	0	0	2	1	0	1	0	,2	0	11	0	0	11	0	0	0	0	0	15
4:45 AM	0	2	0	0	2	0	0	2	0	2	0	19	0	0	19	0	0	0	0	0	23
Hourly Total	0	8	0	0	8	1	0	3	0	4	0	45	1-	0	46	0	0	0	0	0	58
5:00 AM	0	10	0	0	10:	2	0	2	0	4	0	13	0	0	13	0	0	0	0	0	27
5:15 AM	1_	7	0	0	8	3	0	1	0	4	0	24	0	0	24	0	0	0	0	0	36
5:30 AM	0	8	0	0	8	3	0	2	0	5	0	40	0	0	40	0	0	0	0	0	53
5:45 AM	1	20	0	0	21	3	0	4	0	7	Q.	40	0	0	40	0	0	0	0	0	68
Hourly Total	2	45	0	0	47	11	0	9	0	20	0	117	0	0	117	0	0	0	0	0	184
6:00 AM	1	25	0	0	26	6	0	3	0	- 9	0	60	0	0	60	0	0	0	0	0	95
6:15 AM	2	31	0	0	33	7	0	2	0	9	0	87 106	1	0	107	0	0	0	00	0	129
6:30 AM	10	63 67	0	0	65 77	9	0	13	0	22	0	126	6	0	132	0	0	0	0	0	231
6:45 AM Hourly Total	15	186	0	0	201	28	0	20	0	48	0	379	7	0	386	0	0	0	0	0	635
7:00 AM	10	78	0	0	88	7	0	10	0	17	0	153	8	0	161	0	0	0	0	0	266
7:15 AM	18	97	0	0	115	11	0	26	0	37	0	170	16	0	186	0	0	0	0	0	338
7:30 AM	22	89	0	0	111	8	0	26	0	34	0	151	16	0	167	0	0	0	0	0	312
7 45 AM	33	107	0	0	140	7	0	18	0	25	0	152	26	0	178	0	0	0	0	0	343
Hourly Total	83	371	0	0	454	33	0	80	0	113	0	626	66	0	692	0	0	0	0	0	1259
8,00 AM	12	109	0	0	121	12	0	32	0	44	0	184	15	0	199	0	0	0	0	0	364
8:15 AM	11	101	0	0	112	16	0	24	0	40	0	123	11	0	134	0	0	0	0	0	286
8:30 AM	8	106	0	0 /	114	24	0	21	0	45	0	141	7	0	148	0	0	0	0	0	307
8:45 AM	13	79	0	9/	92	8	0	11	0	19	0	104	10	0	114	0	0	0	0	0	225
Hourly Total	44	395	0	0	439	60	0	88	0	148	0	552	43	0	595	0	0	0	0	0	1182
9:00 AM	8	62	0	.0	70	4	0	14	0	18	0	75	10	0	85	0	0	0	0	0	173
9:15 AM	17	53	0	0	70	5	0	15	0	20	0	74	8	0	82	0	0	0	0	0	172
9:30 AM	2	47	0	0	49	6	0	12	0	18	0	92	2	0	94	0	0	0	0	0	161
9:45 AM	8	44	0	0	52	6	0	13	0	19	0	62	6	0	68	0	0	0	0	0	139
Hourly Total	35	206	0	0	241	21	0	54	0	75	0	303	26	0	329	0	0	0	0	0	645
10:00 AM 10:15 AM	3 12	50 47	0	0	53 59	9	0	16	0	19	0	62	3	0	67	0	0	0	0	0	142
10:15 AM 10:30 AM	10	58	0	0	68	6	0	9	0	15	0	75	6	0	81	0	0	0	0	0	164
10:30 AM	7	51	0	0	58	3	0	14	0	17	0	42	4	0	46	0	0	0	0	0	121
Hourly Total	32	206	0	0	238	24	0	49	0	73	0	239	18	0	257	0	0	0	0	0	568
11:00 AM	11	52	0	0	63	9	0	8	0	17	0	65	9	0	74	0	0	0	0	0	154
11:15 AM	7	54	0	0	61	5	0	11	0	16	0	68	5	0	73	0	0	0	0	0	150
11:30 AM	9	47	0	0	56	5	0	4	0	9	0	59	12	0	71	0	0	0	0	0	136
11:45 AM	3	56	0	0	59	7	0	6	0	13	0	54	6	0	60	0	0	0	0	0	132
Hourly Total	30	209	0	0	239	26	0	29	0	55	0	246	32	0	278	0	0	0	0	0	572
12:00 PM	7	62	0	0	69	4	0	5	0	9	0	58	6	0	64	0	0	0	0	0	142
12:15 PM	4	67	0	0	71	8	0	7	0	15	0	54	7	0	61	0	0	0	0	0	147

12:30 PM 12:45 PM Hourly Total 1:00 PM 1:15 PM 1:30 PM 1:45 PM Hourly Total 2:00 PM 2:15 PM 2:30 PM 2:45 PM Hourly Total 3:00 PM 3:30 PM 3:30 PM 3:35 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:00 PM 5:00 PM 5:15 PM	15 12 38 14 7 7 15 43 9 13 10 23 55 30 19 16 81 19 25 46 22	65 66 260 74 55 78 77 284 74 102 94 67 337 86 108 118 134 446 118	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	80 78 298 88 62 85 92 327 83 115 104 90 392 116	10 4 26 4 2 2 4 12 7 4 2 6	0 0 0 0 0 0 0 0 0 0	7 7 26 7 8 7 6 28 7 6	0 0 0 0 0 0 0	17 11 52 11 10 9 10 40	0 0 0 0 0 0	55 76 243 51 48 70 87	4 9 26 8 5 6	0 1 1 0 0 0	59 86 270 59 53 76	0 0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0	156 175 620 158 125 170
Hourly Total 1:00 PM 1:15 PM 1:30 PM 1:45 PM Hourly Total 2:00 PM 2:15 PM 2:16 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	38 14 7 7 15 43 9 13 10 23 55 30 19 16 16 81 19 25 46	260 74 55 78 77 284 74 102 94 67 337 86 108 118 134 446 118	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	298 88 62 85 92 327 83 115 104 90 392 116	26 4 2 2 4 12 7 4 2 6	0 0 0 0 0 0 0	26 7 8 7 6 28 7 6	0 0 0 0 0	52 11 10 9 10 40	0 0 0 0	243 51 48 70	26 8 5 6	0 0 0	270 59 53	0 0	0 0 0	0 0 0	0 0 0	0 0 0	620 158 125 170
1:00 PM 1:15 PM 1:30 PM 1:45 PM Hourly Total 2:00 PM 2:15 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 4:00 PM 4:45 PM Hourly Total	14 7 7 15 43 9 13 10 23 55 30 19 16 16 81 19 25 46	74 55 78 77 284 74 102 94 67 337 86 108 118 134 446	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	88 62 85 92 327 83 115 104 90 392 116	4 2 2 4 12 7 4 2 6	0 0 0 0 0 0	7 8 7 6 28 7 6	0 0 0 0	52 11 10 9 10 40	0 0 0	51 48 70	8 5 6	0 0	59 53	0	0 0	0	0 0 0	0 0 0	620 158 125 170
1:00 PM 1:15 PM 1:30 PM 1:45 PM Hourly Total 2:00 PM 2:15 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 4:00 PM 4:45 PM Hourly Total	14 7 7 15 43 9 13 10 23 55 30 19 16 16 81 19 25 46	74 55 78 77 284 74 102 94 67 337 86 108 118 134 446	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	88 62 85 92 327 83 115 104 90 392 116	4 2 2 4 12 7 4 2 6	0 0 0 0 0 0	7 8 7 6 28 7 6	0 0 0 0	11 10 9 10 40	0 0 0	51 48 70	8 5 6	0 0	59 53	0	0 0	0	0	0	158 125 170
1:15 PM 1:30 PM 1:45 PM Hourly Total 2:00 PM 2:15 PM 2:30 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	7 7 15 43 9 13 10 23 55 30 19 16 16 81 19 25 46	55 78 77 284 74 102 94 67 337 86 108 118 134 446	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	62 85 92 327 83 115 104 90 392 116	2 2 4 12 7 4 2 6	0 0 0 0 0 0	8 7 6 28 7 6 9	0 0 0 0	10 9 10 40	0 0	48 70	5 6	0	53	0	0	0	0	0	125 170
1:30 PM 1:45 PM Hourly Total 2:00 PM 2:15 PM 2:30 PM 2:30 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	7 15 43 9 13 10 23 55 30 19 16 16 81 19 25 46	78 77 284 74 102 94 67 337 86 108 118 134 446	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	85 92 327 83 115 104 90 392 116	2 4 12 7 4 2 6 19	0 0 0 0 0 0	7 6 28 7 6	0 0 0	9 10 40	0	70	6	0		_	0	0	0	0	170
1:45 PM Hourly Total 2:00 PM 2:15 PM 2:15 PM 2:30 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	15 43 9 13 10 23 55 30 19 16 16 81 19 25 46	77 284 74 102 94 67 337 86 108 118 134 446 118	0 0 0 0 0 0 0	0 0 0 0 0 0	92 327 83 115 104 90 392 116	4 12 7 4 2 6 19	0 0 0 0	6 28 7 6 9	0	10 40	0				76	0					_
Hourly Total 2:00 PM 2:15 PM 2:15 PM 2:30 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	43 9 13 10 23 55 30 19 16 16 81 19 25 46	284 74 102 94 67 337 86 108 118 134 446 118	0 0 0 0 0 0 0	0 0 0 0 0 0	327 83 115 104 90 392 116	12 7 4 2 6 19	0 0 0 0	28 7 6 9	0	40	_	87	_					_	0	0	194
2:00 PM 2:15 PM 2:15 PM 2:30 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	9 13 10 23 55 30 19 16 16 81 19 25 46	74 102 94 67 337 86 108 118 134 446	0 0 0 0 0 0	0 0 0 0 0	83 115 104 90 392 116	7 4 2 6 19	0 0 0	7 6 9	0		-	01	5	0	92	0	0	0			1
2:15 PM 2:30 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	13 10 23 55 30 19 16 16 81 19 25 46	102 94 67 337 86 108 118 134 446	0 0 0 0 0 0	0 0 0 0	115 104 90 392 116	4 2 6 19	0	6 9		14	0	256	24	0	280	0	0	0	0	0	647
2:30 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	10 23 55 30 19 16 16 81 19 25	94 67 337 86 108 118 134 446 118	0 0 0 0 0	0 0 0 0	104 90 392 116	2 6 19	0	9	0		0	82	10	0	92	0	0	0	0	0	189
2:30 PM 2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	10 23 55 30 19 16 16 81 19 25	94 67 337 86 108 118 134 446 118	0 0 0 0 0	0 0 0 0	104 90 392 116	2 6 19	0	9		10	0	68	5	0	73	0	0	0	0	0	198
2:45 PM Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	23 55 30 19 16 16 81 19 25 46	67 337 86 108 118 134 446 118	0 0 0 0 0	0 0 0	90 392 116	6 19	0		0		_					1					
Hourly Total 3:00 PM 3:15 PM 3:30 PM 3:35 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	55 30 19 16 16 81 19 25 46	337 86 108 118 134 446 118	0 0 0 0	0	392 116	19				11	0	63	12	0	75	0	0	0	0	0	190
3:00 PM 3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	30 19 16 16 81 19 25 46	86 108 118 134 446 118	0 0 0	0	116	_		9	0	15	0	71	13	00	84	0	0	0	0	0	189
3:15 PM 3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	19 16 16 81 19 25 46	108 118 134 446 118	0	0			0	31	0	50	0	284	40	0	324	0	0	0	0	0	766
3:30 PM 3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	16 16 81 19 25 46	118 134 446 118	0			11	0	16	0	27	0	71	13	0	84	0	0	0	0	0	227
3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	16 81 19 25 46	134 446 118	0	0	127	9	0	23	٥	32	0	98	18	0	116	0/	0	0	0	0	275
3:45 PM Hourly Total 4:00 PM 4:15 PM 4:30 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	16 81 19 25 46	134 446 118			134	4	0	17	0	21	0	72	7	0	79	0	0	0	0	0	234
4:00 PM 4:15 PM 4:30 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	81 19 25 46	446 118		0	150	10	0	15	0	25	0	74	5	0	79	10	0	0	0	0	254
4:00 PM 4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	19 25 46	118				_					_				1000	100					_
4:15 PM 4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	25 46			0	527	34	0	71	0	105	0	315	43	0	358	0	0	0	0	0	990
4:30 PM 4:45 PM Hourly Total 5:00 PM 5:15 PM	46	124	0	0	137	10	0	13	0	23	0	116	9	0	125	0	0	0	0	0	285
4:45 PM Hourly Total 5:00 PM 5:15 PM			0	0	149	9	0	14	0	23	0	120	24	0	144	0	0	0	0	0	316
5:00 PM 5:15 PM	22	124	0	0	170	6	0	14	0	20	0	114	22	_0	136	0	0	0	0	0	326
5:00 PM 5:15 PM		117	0	0	139	5	0	19	0	24	0	122	14	0	136	0	0	0	0	0	299
5:00 PM 5:15 PM	112	483	0	0	595	30	0	60	0	90	0	472	69	0	541	0	0	0	0		_
5:15 PM												- 12				_			1	0	1226
_	26	134	0	0	160	6	0	15	0	21	0	114	28	0	142	0	0	0	0	70	323
5:30 PM	37	135	0	0	172	3	0	17	0	20	0	110	14	0	124	0	0	00	0	0	316
	34	130	0	0	164	3	0	12	0	15	0_	122	23	0	145	0	0	0	0	0	324
5:45 PM	33	104	0	0	137	9	0	17	0	26	0	1:11	21	0	132	0	0	0	0	0	295
lourly Total	130	503	0	0	633	21	0	61	0	82	0	457	86	0	543	0	0	0	0	0	1258
6:00 PM				0			0		0			97	16	0	100						
	29	104	0		133	8		14		22	0	-			113	0	0	0	0	0	268
6:15 PM	16	95	0	0	111	5	0	14	0	19	0	81	14	O	95	0	0	0:	0	0	225
6;30 PM	15	97	0	0	112	9	0	8	0	17	0	83	18	0	101	0	0	0	0	0	230
6:45 PM	16	119	0	0	135	13	0	5	0	18	0	72	5	0	77	0	0	0	0	0	230
lourly Total	76	415	0	0	491	35	0	41	0	76	0	333	53	0	386	0	0	0	0	0	953
7:00 PM	11	95	0	0	106	8	0	3	0	11	0	55	4	D	59	0	0	0	0	0	176
								- 1	0	9	0	No.		-	1756 h	- 10	77.55				_
7:15 PM	20	83	0	0	103	5	0	4	-		-	48	12	0	60	. 0	0	0	0	0	172
7:30 PM	18	88	0	0	106	3	0	3	0	6	0	58	-11	0	69	0	0	0	0	0	181
7:45 PM	10	93	0	0	103	2	0	6	0	8	0 4	35	5	10	40	0	0	0	0	0	151
lourly Total	59	359	0	0	418	18	0	16	0	34	0	196	32	0	228	0	0	0	0	0	680
8:00 PM	5	66	0	0	71	2	0	5	0	7 /	0	29	7	0	36	0	0	0	0	0	114
8:15 PM	6	74	0	0	80.4	1	0	2	0	3	0	31	4	0	35	0	0	0	0	0	118
8:30 PM	4		0		52	0	0	5		5	0		4								_
		48		0			_		0			21		0	25	0	0	0	0	0	82
8:45 PM	4	47	0	0	51	3	0	4	0	7	0	10	5	0	15	0	0	0	0	0	73
lourly Total	19	235	0	0	254	6	0	16	0	22	0	91	20	0	111	0	0	0	0	0	387
9:00 PM	9	31	0 /	0	40	1	0	3	0	4	0	22	8	0	30	0	0	0	0	0	74
9:15 PM	3	64	0	Ö	67	2	0	1_	0	3	0	38	4	0	42	0	0	0	0	0	112
9:30 PM	2	43	0	0	45	2	0	1	0	- 3	0	13	3	0	16	0	0	0	0	0	
1			- 1							- 1	_										64
9:45 PM	3	31	0	0	34	0	0	2	0	2	0	12	1	0	13	0	0	0	0	0	49
lourly Total	17	169	0	0	186	5	0	7	0	12	0	85	16	0	101	0	0	0	0	0	299
10:00 PM	1	32	0	0	33	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	43
10:15 PM	4	18	-0	0	19	0	0	1.	0	1	0	8	2	0	10	0	.0	0	0	0	30
10:30 PM	0	20	0	0	20	0	0	0	0	0	0	7	3	0	10	0	0	0	0	0	30
10:45 PM	1	10	0.	Ò	11	0	0	0	0	0	0	9	3	0	12	0	0	0			
	_		-				1000												0	0	23
lourly Total	3	80	0	0	83	0	0	. 1	0	1	0	33	9	0	42	0	0	0	0	0	126
11 00 PM	3	19	00	0	22	0	0	_1_	0	1	0	8	2	0	10	0	0	0	0	0	33
11:15 PM	0	11	0	0	M	0	0	0	0	0	0	4	2	0	6	0	0	0	0	0	17
1430 PM	0	3	0	0	3	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	11
11.45 PM	0	8	0	0	8	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	
																					12
lourly Total	3.	41	0	0	44	0	0	1	0	1	0	23	5	0	28	0	0	0	0	0	73
rand Total	878	5289	0	0	6/167	411	0	692	0	1103	. 0	5333	617	1	5951	0	0	0	0	0	13221
pproach %	14.2	85.8	0.0	0.0	7	37.3	0.0	62.7	0.0	-	0.0	89.6	10.4	0.0	-	0.0	0.0	0.0	0.0	-	-
Total %	6.6	40.0	0.0	0.0	46.6	3.1	0.0	5.2	0.0	8.3	0.0	40.3	4.7	0.0	45.0	0.0	0.0	0.0	0.0	0.0	-
	843	5127	6	0	5970	402	0	679	0	1081	0	5179	612	1	5792	0	0			_	12042
-		5500	-		- "													0	0	0	12843
	96.0	96.9	-	<u>.</u>	96.8	97.8		98.1	-	98.0	<u> </u>	97.1	99.2	100.0	97.3	-		-	-	-	97.1
Mediums	35	138	0.0	0	173	9	0	13	D	22	0	138	5	0	143	0	0	0	0	0	338
6 Mediums	4.0	2.6	-	_	2.8	2.2	-	1.9	-	2.0	-	2.6	8.0	0.0	2.4	-		-	-		2.6
_		24	^		24	_	2		^	_	2	4.0	-	^	46	^	^	_			
Articulated	0	24	0	0	24	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	40
Articulated Trucks					0.4																

Arlington, Texas, United States 76013 817.265.8968

Count Name: COUNTRY CLUB RD @ ESTELLE LN Site Code: Start Date: 03/03/2020 Page No: 3



Turning Movement Data Plot

GRAM Traffic NTX Inc.

Arlington, Texas, United States 76013 817.265.8968 Count Name: COUNTRY CLUB RD @ ESTELLE LN Site Code: Start Date: 03/03/2020 Page No: 4

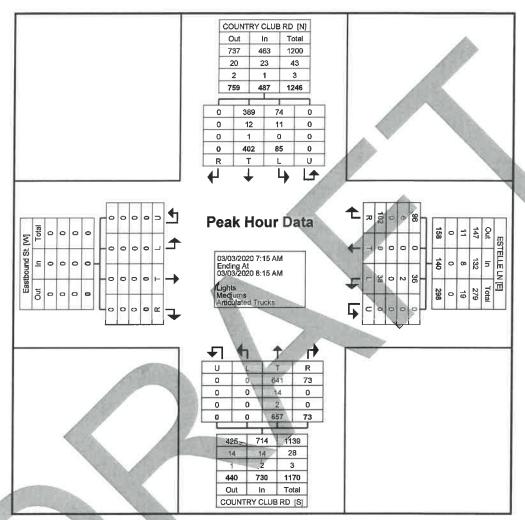
Turning Movement Peak Hour Data (7:15 AM)

	1	COLU	NTRY CL	HD DD		1	=	STELLE	LNI		f	COLI	NTRY CL	I IR PD	,	F .	E	stbound	1.04		1
																	- 400	in.			
		8	Southbou	na			٧	Vestbou	na			r	Northbou	na			1	astbour	na		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Tum	App. Total	Int. Total
7:15 AM	18	97	0	0	115	11	0	26	0	37	0	170	16	0	186	0	0	0	0	0	338
7:30 AM	22	89	0	0	111	8	0	26	0	34	0	151	16	0	167	0	0	0	0	0	312
7:45 AM	33	107	0	0	140	7	0	18	0	25	0	152	26	0	178	0	0	0	0	0	343
8:00 AM	12	109	0	0	121	12	0	32	0	44	0	184	15	0 /	199	0	0	0	0	0	364
Total	85	402	0	0	487	38	0	102	0	140	0	657	73	01	730	0	0	0	0	0	1357
Approach %	17.5	82.5	0.0	0.0	-	27.1	0.0	72.9	0.0		0.0	90.0	10.0	0.0	₹.	0.0	0.0	0.0	0.0	-	-
Total %	6.3	29.6	0.0	0.0	35.9	2.8	0.0	7.5	0.0	10.3	0.0	48.4	5.4	0.0	53.8	0.0	0.0	0,0	0.0	0.0	-
PHF	0.644	0.922	0.000	0.000	0.870	0.792	0.000	0.797	0.000	0.795	0.000	0.893	0.702	Ó.000	0.917	0.000	0.000	0.000	0.000	0.000	0.932
Lights	74	389	0	0	463	36	0	96	٥	132	0	641	73	0	714	0	0	0	0	,0	1309
% Lights	87.1	96.8	-	-	95.1	94.7	-	94.1	-	94.3	14	97.6	100.0	-	97.8	-		-	1		96.5
Mediums	11	12	0	0	23	2	0	6	0	8	0 /	14	0	0	14	0	0	0	0	0	45
% Mediums	12.9	3.0		-	4.7	5.3	-	5.9	-	5.7	400	2.1	0.0	9.02	1.9	e: <u>-</u>	-	-	-	-	3.3
Articulated Trucks	0	1_	0	0	1	0	0	0	0	0	0	2	0	6	'2	0	0	0	0	0	3
% Articulated Trucks	0.0	0.2	-	-	0.2	0.0	-	0.0	-	0.0	-	0.3	0.0	97	0.3	-	-	123	-	-	0.2



GRAM Traffic NTX Inc.

Arlington, Texas, United States 76013 817.265.8968 Count Name: COUNTRY CLUB RD @ ESTELLE LN Site Code: Start Date: 03/03/2020 Page No: 5



Turning Movement Peak Hour Data Plot (7:15 AM)

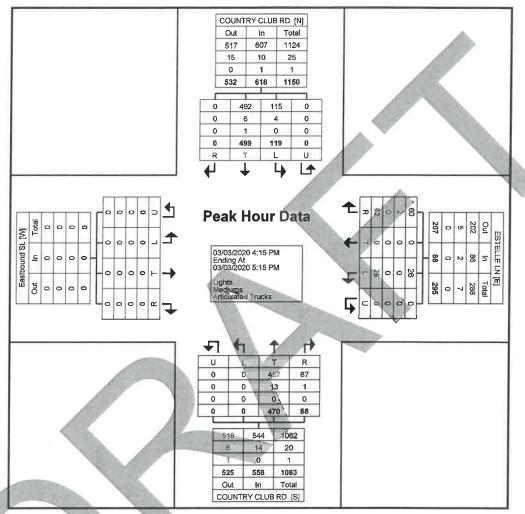
Arlington, Texas, United States 76013 817.265.8968 Count Name: COUNTRY CLUB RD @ ESTELLE LN Site Code: Start Date: 03/03/2020 Page No: 6

Turning Movement Peak Hour Data (4:15 PM)

	4.7															RV.					4.1
	1	COUN	NTRY CL	UB RD			E	STELLE	LN			COUN	ITRY CL	UB RD							
		5	outhbou	nd		Westbound						ľ	lorthbou	nd							
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Tum	App. Total	Int. Total
4:15 PM	25	124	0	0	149	9	0	14	0	23	0	120	24	0	144	0	0	0	0	0	316
4:30 PM	46	124	0	0	170	6	0	14	0	20	0	114	22	0	136	0	0	0	0	0	326
4:45 PM	22	117	0	0	139	5	0	19	0	24	0	122	14	0	136	0	0	0	0	0	299
5:00 PM	26	134	0	0	160	6	0	15	0	21	0	114	28	0 /	142	0	0	0	0	0	323
Total	119	499	0	0	618	26	0	62	0	88	0	470	88	01	558	0	0	0	0	0	1264
Approach %	19.3	80.7	0.0	0.0	- 3	29.5	0.0	70.5	0.0	-	0.0	84.2	15.8	0.0	ν.	0.0	0.0	0.0	0.0		-
Total %	9.4	39.5	0.0	0.0	48.9	2.1	0.0	4.9	0.0	7.0	0.0	37.2	7.0	0.0	44.1	0.0	0.0	0,0	0.0	0.0	-
PHF	0.647	0.931	0.000	0.000	0.909	0.722	0.000	0.816	0,000	0.917	0.000	0.963	0.786	·0,000	0.969	0.000	0.000	0.000	0.000	0.000	0.969
Lights	115	492	0	0	607	26	0	60	0	86	0	457	87	0	544	0	0	0	0	,0	1237
% Lights	96.6	98.6	-	-	98.2	100.0	-	96.8	-	97.7		87.2	98.9	-	97.5		-	-	16	100	97.9
Mediums	4	6	0	0	10	0	0	2	0	2	0 /	13	_1_	0	14	0	0	0	0	0	26
% Mediums	3.4	1.2	-	-	1.6	0.0	-	3.2	-	2.3	4	2.8	1.1	37.26	2.5	1 -	-	-	-	-	2.1
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	1
% Articulated Trucks	0.0	0.2	(10)	-	0.2	0.0	-	0.0	-	0.0	-	0.0	0.0		0.0		-	-		325	0.1



Arlington, Texas, United States 76013 817.265.8968 Count Name: COUNTRY CLUB RD @ ESTELLE LN Site Code: Start Date: 03/03/2020 Page No: 7



Turning Movement Peak Hour Data Plot (4:15 PM)

Arlington, Texas, United States 76013 817.265.8968

Count Name: WINNINGKOFF RD @ FOREST VIEW DR Site Code: Start Date: 03/03/2020 Page No: 1

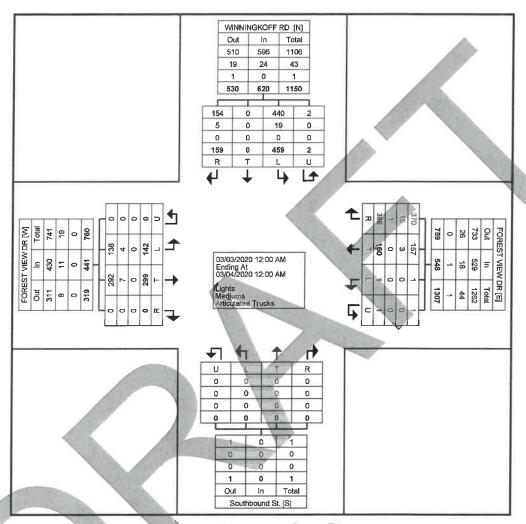
Turning Movement Data

								urni	ng M	ove	men	t Dat	a			£-					£1
		WIN	VINGKO	FF RD				EST VIE				Sou	ılhboun				FOR	EST VIE	W DR		
		S	outhbou	ınd			V	Vestbou	nd			N	orthbou	md			4	Eastbour	nd		
Start Time	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Tum	App. Total	int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0 /	0	. 0	0	0	0	1
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
12:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0 4	0	0	0	0	0	0	1
Hourly Total	1	0	1	0	2	0	0	0	0	0	0	0	0	O'	0	0	0	0	0	0	2
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0/1	,0>	0	0	0	0	0	0	1
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	٥	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	.0	0	0	0	0	.0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	.0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	_0_	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0_	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	D	0	0	0	0.	0	0	0	0	0	0	0	0
4:15 AM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
4:30 AM	0	0	0	0	0	0	1	0	0,	1	0	0	0	0	0	0	0	0	0	0	1
4:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	-0	0	0	0	0	0	0	1
Hourly Total	2	0	0	0	2	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	4
5:00 AM 5:15 AM	0	0	0	0	0	0	1	4	0	5	0	0	0	0	0	0	1	0	0	0	2
5:30 AM	1	0	0	6	1	0	6	3	0	5	.0	0	0	0	0	0	0	0	0	1	6
5:45 AM	2	0	0 🗸	0	2	0	4	3	0	4	9	0	0	0	0	0	1	0	0	0	7
Hourly Total	4	0	0	0	4	0	4	11	0	15	0	0	0	0	0	0	2	0	0	2	21
6:00 AM	1	0	1	0	2	0.4		3	0	4	0	0	0	0	0	0	1	0	0	1	7
6:15 AM	3	0	0	0	3	0	0	3	0	3	0	0	0	0	0	1	0	0	0	1	7
6:30 AM	3	0	0	0	3 4	0	0	8	0	8	0	0	0	0	0	0	1	0	0	1	12
6:45 AM	4	0	1	0	5	0	3	8	0	11	0	0	0	0	0	0	2	0	0	2	18
Hourly Total	-11	0	2	0	13	0	4	22	0	26	0	0	0	0	0	1	4	0	0	5	44
7:00 AM	5	Ö.	3	0	8	0	3	6	0	9	0	0	0	0	0	1	0	0	0	1	18
7:15 AM	6	0	6	0	12	0	17	18	1	36	0	0	0	0	0	3	1	0	0	4	52
7:30 AM	6	0	4	0	10	0	20	14	0	34	0	0	0	0	0	2	4	0	0	6	50
7:45 AM	6	0	8	0	14	0	16	21	0	37	0	0	0	0	0	4	6	0	0	10	61
Hourly Total	23	0	21	0	44	0	56	59	1	116	0	0	0	0	0	10	11	0	0	21	181
8:00 AM	6	0	0	0	6	0	12	10	0	22	0	0	0	0	0	2	13	0	0	15	43
8:15 AM	6	0	6	0	12	0	9	5	0	14	0	0	0	0	0	4	2	0	0	6	32
8:30 AM	8,	0	4	0	12	0	5	13	0	18	0	0	0	0	0	4	2	0	0	6	36
8:45 AM	5	0	_1_	0/	6	0	3	12	0	15	0	0	0	0	0	4	3	0	0	7	28
Hourly Total	25	0	11	0	36	0	29	40	0	69	0	0	0	0	0	14	20	0	0	34	139
9:00 AM	5	.0.	7_	0	12	0	1	12	0	13	0	0	0	0	0	4	3	0	0	7	32
9:15 AM	10	0	4	0	14	0	4	6	0	10	0	0	0	0	0	3	3	0	0	6	30
9:30 AM	9	0	3	0	12	0	1	8	0	9	0	0	0	0	0	0	1	0	0	1	22
9:45 AM	2	0	<u>4</u>	0	6	0	2	10	0	12	0	0	0	0	0	1	0	0	0	1	19
Hourly Total	26	0	18	0	44	0	8	36	0	44	0	0	0	0	0	8	7	0	0	15	103
10:00 AM 10:15 AM	10	0	0	0	13	0	1	7	0	10	0	0	0	0	0	1	0	0	0	3	26
10:15 AM	5	0	4	1	10	0	2	2	0	4	0	0	0	0	0	2	1	0	0	3	13
10:45 AM	4	0	4	1	9	0	1	5	0	6	0	0	0	0	0	1	0	0	0	1	17
Hourly Total	23	0	11	2	36	0	6	22	0	28	0	0	0	0	0	5	3	0	0	8	72
11:00 AM	7	0	6	0	13	0	0	4	0	4	0	0	0	0	0	1	1	0	0	2	19
11:15 AM	9	0	5	0	14	0	1	2	0	3	0	0	0	0	0	4	4	0	0	8	25
11:30 AM	11	0	0	0	11	0	0	3	0	3	0	0	0	0	0	1	1	0	0	2	16
11:45 AM	7	0	0	0	7	0	1	11	0	12	0	0	0	0	0	1	1	0	0	2	21
Hourly Total	34	0	11	0	45	0	2	20	0	22	0	0	0	0	0	7	7	0	0	14	81
12:00 PM	15	0	2	0	17	0	1	6	0	7	0	0	0	0	0	1	0	0	0	1	25
12:15 PM	3	0	4	0	7	0	0	2	0	2	0	0	0	0	0	0	4	0	0	4	13

12:30 PM						1					-					-					_
40.45	10	0	4	0	14	0	1	7	0	8	0	0	0	0	0	1	5	0	0	6	2
12:45 PM	10	0	2	0	12	0	1	6	0	7	0	0	0	0	0	2	3	0	0	5	2
Hourly Total	38	0	12	0	50	0	3	21	0	24	0	0	0	0	0	4	12	0	0	16	9
1:00 PM	8	0	3	0	11	1	1	4	0	6	0	0	0	0	0	5	1	0	0	6	2
1:15 PM	4	0	2	0	6	0	0	6	0	6	0	0	0	0	0	2	0	0	0	2	1
	_					+					+					+					_
1:30 PM	6	0	1_	0	7	0	1	4	0_	5	0	0	0	0	0	2	0	0	0	2	1
1:45 PM	9	0	1	0	10	0	0	6	0	6	0	0	0	0	0	3	3	0	0	6	2
Hourly Total	27	0	7	0	34	1	2	20	0	23	0	0	0	0	0	12	4	0	0	16	7
2:00 PM	7	0	4	0	11	0	0	4	0	4	0	0	0	0	0	3	0	0	0	3	1
2:15 PM	4	0	0	0	4	0	3	6	0	9	0	0	0	0	0	1	2	0	0	3	11
				_		_					_					_					
2:30 PM	5	0	1	0	6	0	4	4	0	8	0	0	0	0	0	3	1_	0	0	4	18
2:45 PM	6	0	2	0	8	0	3	9	0	12	0	0	0	0	0	0	D	0	0	0	2
Hourly Total	22	0	7	0	29	0	10	23	0	33	0	0	0	0	0	7	3	0	0	10	7.
3:00 PM	9	0	4	0	13	0	4	4	0	8	0	0	0	0	0	2	5	0	0	7	2
3:15 PM	11	0	5	0	16	0	0	10	0	10	0	0	0	0	0	6.4	17	0	0	23	4
9						_					+		0			_					+
3:30 PM	12	0	2	00	14	0	4	8	0	12	0	0		0	0	2	5	0	0	7	3:
3:45 PM	9	0	2	0	11	0	2	6	0	8	0	0	0	0	0	2	> 5	0	0	7	20
Hourly Total	41	0	13	0	54	0	10	28	0	38	0	0	0	0	0	12	32	0	0	44	13
4:00 PM	7	0	3	0	10	0	2	8	0	10	0	0	0	0 /	0	1	- 5	0	0	6	2
4:15 PM	10	0	2	0	12	0	1	5	0	6	0	0	0	01	0	4	9		0		_
	_					_					_	_			_	_		0.		13	3
4:30 PM	17	0	6	0	23	0	0	4	0	4	0	0	0	0	0	7	14	0	0	21	4
4:45 PM	10	0	0	0	10	0	3	4	0	7	0	0	0	D	0	5	14	0	0	19	3
Hourly Total	44	0	11	0	55	0	6	21	0	27	0	0	0	D	0	17	42	0	0	59	14
5:00 PM	16	0	3	0	19	0	1	5	0	6	0	0	0	0	0	10	20	0	0	30	5
		_				0		6	0	7	0	_	0	0	0				_	100	+
5:15 PM	16	0	0	0	16	+	1				_	0			- 400	2	23	0	0	25	4
5:30 PM	13	0	4	0	17	0	3	5	0	8	0	0	0	0	0	3	24	0	0	27	5:
5:45 PM	12	0	3	0	15	0	3	2	0	5	0	0	0	0 /	0	7	25	0	0	32	5:
Hourly Total	57	0	10	0	67	0	8	18	0	26	0	0	0	0	0	22	92	0	0	114	20
6:00 PM	12	0	3	0	15	0	1	3	0	4	0	0	0	0	0	4	24	0	0	28	47
-						_					0	-	0	0	0				_		_
6:15 PM	16	0	3	0	19	0	1	2	0	3	_	0		_		2	7	0	0	9	31
6:30 PM	13	0	1	0	14	0	3	3	0	6	0	0	0	0	0	6	10	0	0	16	36
6:45 PM	6	0	6	0	12	0	0	5	0.0	5	0	0	0	0	0	3	7	0	0	10	27
Hourly Total	47	0	13	0	60	0	5	13	0	18	0	0	0	0	0	15	48	0	0	63	14
7:00 PM	2	0	1	0	3	0	1	3	0	4	0	0	0	0	0.	1	1	0	0	2	9
-										_				-							+
7:15 PM	4	0	1	0	5	0	1	2	0	3	0	7.0	0	0	0	1	5	0	0	6	14
7:30 PM	3	0	1	0	4	0	0	3	0	3	0	Ö	0	0	0	2	2	0	0	4	11
7:45 PM	8	0	4	0	12	0	11	1	0	2	0	0	0	0_	0	1	11	0	0	2	16
Hourly Total	17	0	7	0	24	0	3	9	0	12	0	0.	0	0	0	5	9	0	0	14	50
8:00 PM	1	0	1	0	2	0	0	2	0	2	0	0	0	-0	0	0	0	0	0	0	4
-						-			-	200.00	0										_
8:15 PM	5	0	1	0	6	0	0	2	0	2	100	0	0	0	0	1	1	0	0	2	10
8:30 PM	1	0	0	0	1	-0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
8:45 PM	1	0	0	0 /	1	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	5
Hourly Total	8	0	2	.0:	10	0	1	8	0	9	0	0	0	0	0	1	1	0	0	2	21
9:00 PM	3	0	0	0	3	0	6	1	0	1	0	0	0	0	0	0	1	0	0		+
-			- 40	1000			A COUNTY			- 10						3.55				1	5
9:15 PM	1	0	4	0	2	0	0	1	0	1	0	0	0	0	0	- 1	0	0	0	1	4
9:30 PM	1	0	0	0	1	.0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	5
9:45 PM	2	0	0	0	2	0	0	2	0	2	0	0	0	0	0	0	1	0	0	1	5
				_		-		_	-	5365				0	0	4	2	0	0	3	19
Hourly Total	7	0	1	D	e l	-0	0	- 24		B I		0	n				0	0	U		
	7	0	1	0	8	0	0	8	0	8	0	0	0	0				^	1,49		-
10:00 PM	1	0	0	0	(1)	0	0	1	0	1	0	0	0		0	0		0	0	0	2
10:00 PM 10:15 PM					-	0	0		0		0		0	0	0	0	0	0	0	0	-
10:00 PM	1	0	0	0	(1)	0	0	1	0	1	0	0	0	0	_						3
10:00 PM 10:15 PM 10:30 PM	1	0	0	0	1 2	0	0	1 0	0	1	0	0	0		0	0	0	0	0	0	3
10:00 PM 10:15 PM 10:30 PM 10:45 PM	1 0 0	0 0	0 >1 0	0 0 0	0 0	0 0	0 1 0	1 0 0 2	0 0 0	1 1 0 2	0 0 0	0 0 0	0 0 0	0	0	0	0	0 0	0	0 0	3 0 2
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total	1 0 0 0 2	0 0 0	0 0 0 0 1	0 0 0 0 0	0 0 3	0 0 0 0	0 1 0	1 0 0 2 3	0 0 0 0 0	1 1 0 2 4	0 0 0 0	0 0 0	0 0 0 0	0 0	0 0 0	0 0	0 0 0	0 0 0	0 0	0 0 0	3 0 2 7
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total	1 0 0 2 0	0 0 0 0 0	0 0 0 0 1 0 0	0 0 0 0 0 0	0 0 3 0	0 0 0 0 0	0 1 0 0	1 0 0 2 3	0 0 0 0 0	1 1 0 2 4 0	0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0 0	3 0 2 7 0
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total 41:00 PM 11:15 PM	1 0 0 0 2	0 0 0	0 0 0 0 1	0 0 0 0 0	0 0 3	0 0 0 0	0 1 0	1 0 0 2 3	0 0 0 0 0	1 1 0 2 4	0 0 0 0	0 0 0	0 0 0 0	0 0	0 0 0	0 0	0 0 0	0 0 0	0 0	0 0 0	3 0 2 7
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total	1 0 0 2 0	0 0 0 0 0	0 0 0 0 1 0 0	0 0 0 0 0 0	0 0 3 0	0 0 0 0 0	0 1 0 0	1 0 0 2 3	0 0 0 0 0	1 1 0 2 4 0	0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0 0	3 0 2 7 0
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total 41:00 PM 11:15 PM	1 0 0 2 0	0 0 0 0 0 0	0 0 8 1 0 0	0 0 0 0 0 0 0 0 0 0	1 2 0 0 3 0 0	0 0 0 0 0 0 0 0	0 1 0 0 1 0	1 0 0 2 3 0 1	0 0 0 0 0 0 0 0	1 1 0 2 4 0 2	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	3 0 2 7 0 2 2
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total 41:00 PM 11:15 PM	1 0 0 2 0 0 0	0 0 0 0 0 0	0 0 8 1 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 0	1 0 0 2 3 0 1 1	0 0 0 0 0 0 0 0 0	1 1 0 2 4 0 2 1	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	3 0 2 7 0 2 2 0
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total 41:00 PM 11:15 PM 11:45 PM Hourly Total	1 0 0 2 0 0 0 0	0 0 0 0 0 0 0 0	0 0 8 1 0 0 0 0	0 0 0 0 0 0 0 0	1 2 0 0 0 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 0 0 1	1 0 0 2 3 0 1 1 0 2	0 0 0 0 0 0 0	1 1 0 2 4 0 2 1 0 3	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	3 0 2 7 0 2 2 0 4
10:00 PM 10:15 PM 10:30 PM 10:35 PM Hourly Total 47:00 PM 11:15 PM 11:45 PM Hourly Total Grand Total	1 0 0 2 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 1 0 0 0 0 0 0	0 0 0 0 0 0 0 0	1 2 0 0 3 3 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 1 0 0 1 0 1 0 0 1 1 0 0	1 0 0 2 3 0 1 1 0 2 386	0 0 0 0 0 0 0 0 0	1 1 0 2 4 0 2 1 0 3 548	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 1 142	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 0	3 0 2 7 0 2 2 0 4 160
10:00 PM 10:15 PM 10:30 PM 10:35 PM Hourly Total 47:00 PM 11:15 PM 11:45 PM Hourly Total Grand Total	1 0 0 2 0 0 0 0	0 0 0 0 0 0 0 0	0 0 8 1 0 0 0 0	0 0 0 0 0 0 0 0	1 2 0 0 0 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 0 0 1	1 0 0 2 3 0 1 1 0 2	0 0 0 0 0 0 0	1 1 0 2 4 0 2 1 0 3	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	3 0 2 7 0 2 2 0 4
10:00 PM 10:15 PM 10:30 PM 10:35 PM Hourly Total 41:00 PM 11:15 PM 11:45 PM Hourly Total Grand Total Approach %	1 0 0 2 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 1 0 0 0 0 0 0	0 0 0 0 0 0 0 0	1 2 0 0 3 3 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 1 0 0 1 0 1 0 0 1 1 0 0	1 0 0 2 3 0 1 1 0 2 386	0 0 0 0 0 0 0 0 0	1 1 0 2 4 0 2 1 0 3 548	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 1 142	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 0	3 0 2 7 0 2 2 0 4 160
10:00 PM 10:15 PM 10:30 PM 10:35 PM Hourly Total 41:00 PM 11:15 PM 11:45 PM Hourly Total Grand Total Approach % Total %	1 0 0 2 0 0 0 0 0 0 0 0 459 74.0 28.5	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 159 25.6 9.9	0 0 0 0 0 0 0 0 0 0	1 2 0 0 3 ,0 0 0 0 0 620	0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 0 0 1 0 0 1 160 29.2 9.9	1 0 0 2 3 0 1 1 0 2 386 70.4 24.0	0 0 0 0 0 0 0 0 0 0 0 0	1 0 2 4 0 2 1 0 3 548 -	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 142 32.2 8.8	0 0 0 0 0 0 0 0 0 0 0 0 299 67.8	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 441 -	3 0 2 7 0 2 2 0 4 160
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total Af :00 PM 11:15 PM 11:45 PM Hourly Total Grand Total Approach % Lights	1 0 0 2 0 0 0 0 0 0 0 0 459 74.0 28.5 440	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 159 25.6 9.9	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 3 0 0 0 0 0 0 620 - 38.5	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 0 0 1 1 0 0 1 160 29.2 9.9 157	1 0 0 2 3 0 1 1 0 2 386 70.4 24.0 370	0 0 0 0 0 0 0 0 0 0 0 0 1 0.2 0.1	1 1 0 2 4 0 2 1 0 3 548 - 34.1 529	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 1 142 32.2 8.8 138	0 0 0 0 0 0 0 0 0 0 0 0 0 299 67.8 18.6 292	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 441 - 27.4 430	3 0 2 7 0 2 2 0 4 160 -
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total Aff.00 PM 11:15 PM 11:45 PM Hourly Total Approach % Total % Lights % Lights	1 0 0 2 0 0 0 0 0 0 0 459 74.0 28.5 440 95.9	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 159 25.6 9.9	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 3 0 0 0 0 0 620 - 38.5 596 96.1	0 0 0 0 0 0 0 0 0 0 0 1 0.2 0.1 1	0 1 0 0 1 0 0 1 1 60 29.2 9.9 157 98.1	1 0 0 2 3 0 1 1 0 2 386 70.4 24.0 370 95.9	0 0 0 0 0 0 0 0 0 0 0 1 0.2 0.1 1	1 1 0 2 4 0 2 1 0 3 548 - 34.1 529 96.5	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 1 142 32.2 8.8 138 97.2	0 0 0 0 0 0 0 0 0 0 0 299 67.8 18.6 292 97.7	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 441 - 27.4 430 97.5	3 0 2 7 0 2 2 0 4 160 - - 155 96.6
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total 41:00 PM 11:15 PM 11:45 PM Hourly Total Grand Total Approach % Lights	1 0 0 2 0 0 0 0 0 0 0 0 459 74.0 28.5 440	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 159 25.6 9.9	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 3 0 0 0 0 0 0 620 - 38.5	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 1 0 0 1 1 0 0 1 160 29.2 9.9 157	1 0 0 2 3 0 1 1 0 2 386 70.4 24.0 370	0 0 0 0 0 0 0 0 0 0 0 0 1 0.2 0.1	1 1 0 2 4 0 2 1 0 3 548 - 34.1 529	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 1 142 32.2 8.8 138	0 0 0 0 0 0 0 0 0 0 0 0 0 299 67.8 18.6 292	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 441 - 27.4 430	3 0 2 7 0 2 2 0 4 160 - - 155 96.6
10:15 PM 10:30 PM 10:45 PM Hourly Total 40:00 PM 11:15 PM 14:30 PM 11:45 PM Hourly Total Grand Total Approach % Total % Lights % Lights	1 0 0 2 0 0 0 0 0 0 0 459 74.0 28.5 440 95.9	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 159 25.6 9.9	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 3 0 0 0 0 0 620 - 38.5 596 96.1	0 0 0 0 0 0 0 0 0 0 0 1 0.2 0.1 1	0 1 0 0 1 0 0 1 1 60 29.2 9.9 157 98.1	1 0 0 2 3 0 1 1 0 2 386 70.4 24.0 370 95.9	0 0 0 0 0 0 0 0 0 0 0 1 0.2 0.1 1	1 1 0 2 4 0 2 1 0 3 548 - 34.1 529 96.5	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 1 142 32.2 8.8 138 97.2	0 0 0 0 0 0 0 0 0 0 0 299 67.8 18.6 292 97.7	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 441 - 27.4 430 97.5	3 0 2 7 0 2 2 0 4 1600 - - 1555 96.6
10:00 PM 10:15 PM 10:30 PM 10:35 PM 10:45 PM Hourly Total 41:00 PM 11:15 PM 11:45 PM Hourly Total Approach % Total % Lights % Lights Mediums % Mediums	1 0 0 0 0 0 0 0 0 459 74.0 28.5 440 95.9	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 159 25.6 9.9 154 96.9 5 3.1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 2 0 0 3 0 0 0 0 0 620 - 38.5 596 96.1 24 3.9	0 0 0 0 0 0 0 0 0 0 1 0.2 0.1 1 100.0 0	0 1 0 0 1 0 0 1 0 0 1 160 29.2 9.9 157 98.1 3	1 0 0 2 3 0 1 1 0 2 386 70.4 24.0 370 95.9 15 3.9	0 0 0 0 0 0 0 0 0 0 0 1 0.2 0.1 1 100.0 0	1 0 2 4 0 2 1 0 3 548 - 34.1 529 96.5 18 3.3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 1 142 32.2 8.8 138 97.2 4 2.8	0 0 0 0 0 0 0 0 0 0 0 0 299 67.8 18.6 292 97.7 7	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 441 - 27.4 430 97.5 11 2.5	3 0 2 7 0 2 2 2 0 4 1600: - - 1555: 96.6
10:00 PM 10:15 PM 10:30 PM 10:45 PM Hourly Total Af.:00 PM 11:15 PM 11:45 PM Hourly Total Grand Total Approach % Total % Lights % Lights Mediums	1 0 0 2 0 0 0 0 0 0 459 74.0 28.5 440 95.9	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 31 0 0 0 0 0 0 0 0 159 25.6 9.9 154 96.8 5	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 3 0 0 0 0 0 0 620 - 38.5 596 96.1 24	0 0 0 0 0 0 0 0 0 0 0 1 0.2 0.1 1 100.0	0 1 0 0 1 0 0 1 0 0 1 160 29.2 9.9 157 98.1 3	1 0 0 2 3 0 1 1 0 2 386 70.4 24.0 370 95.9	0 0 0 0 0 0 0 0 0 0 0 0 1 0.2 0.1 1 100.0	1 1 0 2 4 0 2 1 0 3 548 - 34.1 529 96.5 18	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 142 32.2 8.8 138 97.2 4	0 0 0 0 0 0 0 0 0 0 299 67.8 18.6 292 97.7	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 0 1 441 - 27.4 430 97.5	3 0 2 7 0 2 2 0 4 1600 - - 1555 96.6

GRAM Traffic NTX Inc.

Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ FOREST VIEW DR Site Code: Start Date: 03/03/2020 Page No: 3



Turning Movement Data Plot

GRAM Traffic NTX Inc.

Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ FOREST VIEW DR Site Code: Start Date: 03/03/2020 Page No: 4

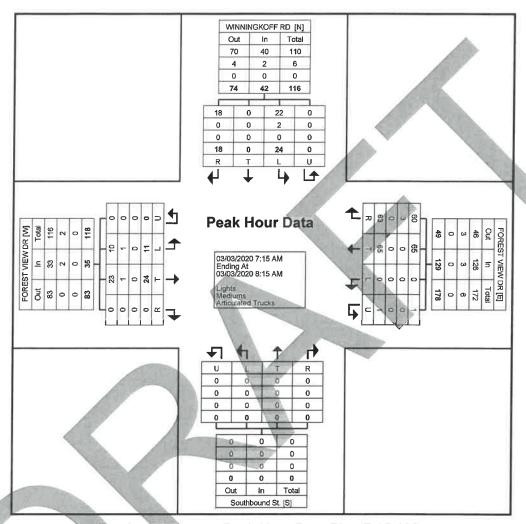
Turning Movement Peak Hour Data (7:15 AM)

		WINI	NINGKO	FF RD		FOREST VIEW DR						So	uthboun	d St.		l	1				
		8	outhbou	ınd			١	nd		١	Vorthbou	nd									
Start Time	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	int. Total
7:15 AM	6	0	6	0	12	0	17	18	1	36	0	0	0	0	0	3	1	0	0	4	52
7:30 AM	6	0	4	0	10	0	20	14	0	34	0	0	0	0	0 /	2	4	0	0	6	50
7:45 AM	6	0	8	0	14	0	16	21	0	37	0	0	0	0	6	4	6	0	0	10	61
8:00 AM	6	0	0	0	6	0	12	10	0	22	0	0	0	0 /	0	2	13	0	0	15	43
Total	24	0	18	0	42	0	65	63	1	129	0	0	0	0	0	11	24	G	0	35	206
Approach %	57.1	0.0	42.9	0.0	342	0.0	50.4	48.8	0.8	100	0.0	0.0	0.0	0.0		31.4	68.6	0.0	0.0	-	-
Total %	11.7	0.0	8.7	0.0	20.4	0.0	31.6	30.6	0.5	62.6	0.0	0.0	0.0	0.0	0.0	5.3	11.7	0.0	0.0	17.0	-
PHF	1.000	0.000	0.563	0.000	0.750	0.000	0.813	0.750	0.250	0.872	0.000	0.000	0.000	6.000	0.000	0.688	0.462	0.000	0.000	0.583	0.844
Lights	22	0	18	0	40	0	65	60	1	126	0	0/	Q	0	0	10	23	0	0	33	199
% Lights	91.7	-	100.0	-	95.2	-	100.0	95.2	100.0	97.7		A	<i>7</i> -	-		90.9	95.8		10	94.3	96.6
Mediums	2	0	0	0	2	0	0	3	0	3	0 /	0	0	0	6	_1	1	0	0	2	7
% Mediums	8.3	-	0.0	-	4.8	-	0.0	4.8	0.0	2.3			-	- 2		9.1	4.2			5.7	3.4
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
% Articulated	0.0	-	0,0	-	0.0	-	0.0	0.0	0.0	0.0	-	1	1	1	-	0.0	0.0	-		0.0	0.0



Arlington, Texas, United States 76013 817.265.8968

Count Name: WINNINGKOFF RD @ FOREST VIEW DR Site Code: Start Date: 03/03/2020 Page No: 5



Turning Movement Peak Hour Data Plot (7:15 AM)

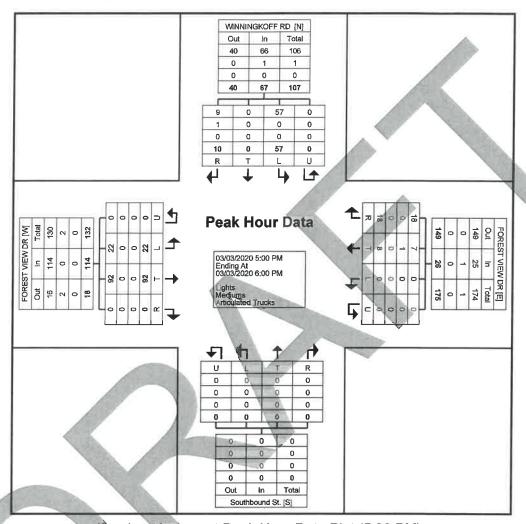
Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ FOREST VIEW DR Site Code: Start Date: 03/03/2020 Page No: 6

Turning Movement Peak Hour Data (5:00 PM)

		WINI	NINGKO	FF RD			FOR	EST VIE	W DR		1	So	uthboun	d St.	,		FOR	EST VIE	W DR		
		8	outhbou	nd			٧	Vestbour	nd			١	Vorthbou	nd			_411E	astbour	nd		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Rìght	U-Turn	App. Total	Int. Total
5:00 PM	16	0	3	0	19	0	1_	5	0	6	0	0	0	0	0	10	20	0	0	30	55
5:15 PM	16	0	0	0	16	0	1	6	0	7	0	0	0	0	0 /	2	23	0	0	25	48
5:30 PM	13	0	4	0	17	0	3	5	0	8	0	0	0	0	6	3	24	0	0	27	52
5:45 PM	12	0	3	0	15	0	3	2	0	5	0	0	0	0 🕢	0	7	25	0	0	32	52
Total	57	0	10	0	67	0	8	18	0	26	0	0	0	0	0	22	92	Q	0	114	207
Approach %	85.1	0.0	14.9	0.0	855	0.0	30.8	69.2	0.0	-	0.0	0.0	0.0	0.0		19.3	80.7	0.0	0.0	-	-
Total %	27.5	0.0	4.8	0.0	32.4	0.0	3.9	8.7	0.0	12.6	0.0	0.0	0.0	0.0	0.0	10.6	44.4	0.0	0.0	55.1	
PHF	0.891	0.000	0.625	0.000	0.882	0.000	0.667	0.750	0.000	0.813	0.000	0.000	0.000	0,000	0,000	0.550	0.920	0.000	0.000	0.891	0.941
Lights	57	0	9	0	66	0	7	18	0	25	0	0	0	0	0	22	92	0	0	114	205
% Lights	100.0	-	90.0		98.5	-	87.5	100.0	-	96.2	-	1	5	-		100.0	100.0	-	-	100.0	99.0
Mediums	0	0	1	0	1	0	1	0	0	1	0 /	0	0	0	6	0	0	0	0	0	2
% Mediums	0.0	-	10.0	-	1.5	-	12.5	0.0	-	3.8	4		-	- 2		0.0	0.0	-	-	0.0	1.0
Articulated Trucks	0	0	0	О	0	0	0	0	0	0	0	0	0	6	10	0	0	0	0	0	0
% Articulated Trucks	0,0		0.0	-	0.0	-	0.0	0.0	-	0.0	(2)				-	0.0	0.0	-	-	0.0	0.0



Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ FOREST VIEW DR Site Code: Start Date: 03/03/2020 Page No: 7



Turning Movement Peak Hour Data Plot (5:00 PM)

GRAM Traffic NTX Inc. 1120 W. Lovers Lane

Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ LUCAS RD Site Code: Start Date: 03/03/2020 Page No: 1

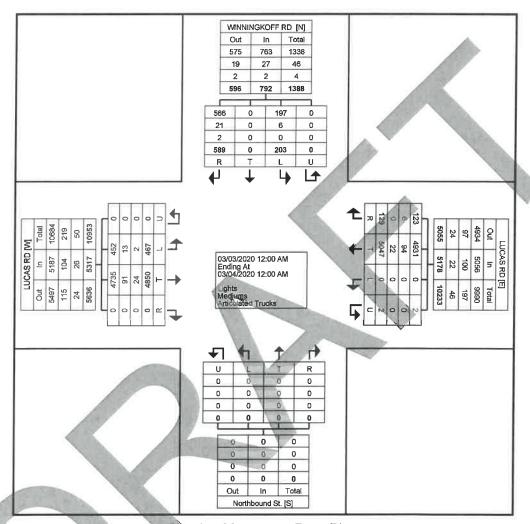
Turning Movement Data

	1					Ī			ing iv	1040	111011					i i					1
			NINGKO					UCASI					rthboun				- 400	UCAS F			
Start Time		S	outhbou	ind	12000		'	Nestbou	ind	720000		N	lorthbou	nd			A	astbour	nd		1
Statt Tillle	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
12:00 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	11
12:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0 1	0	7	0	0	7	9
12:30 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	6	0	13	0	0	13	20
12:45 AM	0	0	1	0	1	0	2	0	0	2	0	0	0	0 /	0	0	5	0	0	5	8
Hourly Total	0	0	1	0	1	0	16	0	0	16	0	0	0	0	0	0	31	0	0	31	48
1:00 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	40	0	0	4	0	0	4	8
1:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0/	0	0	1	3	0	0	4	6
1:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
1:45 AM	0	0	0	0	0	0	1	0	0	1	0	0/	0	0	0	0	3	0	0	3	4
Hourly Total	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	1	13	0	0	14	22
2:00 AM	0	0	0	0	0	0	2	0	0	2	0 4	0	0	0	0	0	5	0	0	5	7
2:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	2	0	0	2	2
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0		1
2:30 AM											_	0	0	0	0					1	
2:45 AM	0	0	0	0	0	0	3	0	0	3	0		-			0	2	0	0	2	5
Hourly Total	0	0	0	0	0	0	5	0	0	5	0	0,	0	0	0	0	10	0	0	10	15
3:00 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
3:15 AM	0	0	0	0	0	0	5	0	_0	5	0	0	0	0	0	0	1	0	0	1	6
3:30 AM	0	0		0	1	0	7	0	0	7	0	0	0	0	0	0	1	0	0	1	9
3:45 AM	0	0	0	0	0	0	8	0	0	- 8	0	0	0	0	0	0	1	0	0	1_	9
Hourly Total	0	0	1	0	1	0	23	0	0	23	0	0	0	0	0	0	3	0	0	3	27
4:00 AM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	1	0	0	1	13
4:15 AM	0	0	1	0	11	0	11	0	0	11	0	0	0	0	0	_1_	1	0	0	2	14
4:30 AM	0	0	0	0	0	0	24	0	0	24	.0	0	0	0	0	0	1	0	0	1	25
4;45 AM	0	0	1	0	1	0	23	0	0	23	0	0	0	70	0	0	2	0	0	2	26
Hourly Total	0	0	2	0	2	0	70	0	0	70	0	0	0	0	0	1	5	0	0	6	78
5:00 AM	0	0	2	0	/2	-0	35	0	0	35	0	0	0	0	0	_1_	2	0	0	3	40
5:15 AM	0	0	2	0	2	0	53	0	0	53	0	0	0	0	0	4	7	0	0	11	66
5:30 AM	0	0	2	0	2	0	62	0	0	62	0	0	0	0	0	3	10	0	0	13	77
5:45 AM	0	0	5	0	5	0	88	0	0	88	0	0	0	D	0	3	22	0	0	25	118
Hourly Total	0	0	11	0	11	0	238	0	0	238	0	0	0	0	0	_11	41	0	0	52	301
6:00 AM	0	0	1	0	1	0	116	0	0	1.16	0	0	0	0	0	5	14	0	0	19	136
6:15 AM	. 1	0	4	0	5	0	127	0	0	127	0	0	0	0	0	4	33	_ 0	0	37	169
6:30 AM	0	0	9	0	9	0	152	11	0	153	0	0	0	00	0	9	37	0	0	46	208
6:45 AM	0	0	9	0	9	0	141	_1_	0	142	0	0	0	0	0	8	46	0	0	54	205
Hourly Total	-1	0	23	0	24	0	536	2	0	538	0	0	0	0	0	26	130	0	0	156	718
7:00 AM	0	0	9	0	9	0	198	3	0	201	0	0	0	0	0	7	35	0	0	42	252
7:15 AM	P1	0	9	0	10	Ω	181	20	0	201	0	0	0	00	0	15	40	0	0	55	266
7 30 AM	2	0	12	0	14	0	167	19	0	186	0	0	0	0	0	6	41	0	0	47	247
7:45 AM	_1	0	8	0	9	0	169	13	0	182	0	0	0	0	0	17	44	0	0	61	252
Hourly Total	4	0	38	0	42	0	715	55	0	770	0	0	0	0	0	45	160	0	0	205	1017
8.00 AM	12	0	6	0	18	0	139	5	0	144	0	0	0	0	0	11	46	0	0	57	219
8:15 AM	3	0	9	0	12	0	130	3	0	133	0	0	0	0	0	6	55	0	0	61	206
8:30 AM	0,	0	11	0	-11	0	94	4	0	98	0	0	0	0	0	15	63	0	0	78	187
8:45 AM	0	0	8	0	8	0	77	0	0	77	0	0	0	0	0	16	55	0	0	71	156
Hourly Total	15	0	34	0	49	0	440	12	0	452	0	0	0	0	0	48	219	0	0	267	768
9:00 AM	3	0	8	0	11	0	71	3	0	74	0	0	0	0	0	10	47	0	0	57	142
9:15 AM	1	0	13	0	14	0	63	0	0	63	0	0	0	0	0	11	50	0	0	61	138
9:30 AM	1	0	8	0	9	0	88	4	0	92	0	0	0	0	0	9	42	0	0	51	152
9:45 AM	1	0	5	0	6	0	59	2	0	61	0	0	0	0	0	9	50	0	0	59	126
Hourly Total	6	0	34	0	40	0	281	9	0	290	0	0	0	0	0	39	189	0	0	228	558
10:00 AM	0	0	9	0	9	0	66	1	0	67	0	0	0	0	0	10	34	0	0	44	120
10:15 AM	1	0	8	0	9	0	66	1	0	67	0	0	0	0	0	5	40	0	0	45	121
10:30 AM	1	0	10	0	11	0	66	2	0	68	0	0	0	0	0	3	50	0	0	53	132
10:45 AM	0	0	7	0	7	0	68	0	0	68	0	0	0	0	0	8	51	0	0	59	134
Hourly Total	2	0	34	0	36	0	266	4	0	270	0	0	0	0	0	26	175	0	0	201	507
11:00 AM	0	0	9	0	9	0	64	0	0	64	0	0	0	0	0	4	41	0	0	45	118
11:15 AM	3	0	9	0	12	0	51	2	0	53	0	0	0	0	0	1	46	0	0	47	112
11:30 AM	2	0	17	0	19	0	54	0	0	54	0	0	0	0	0	10	60	0	0	70	143
11:30 AM	3					0			0		0	0	0	0	0	8			0		
		0	8	0	11		64	3		67							53	0		61	139
Hourly Total	8	0	43	0	51	0	233	5	0	238	0	0	0	0	0	23	200	0	0	223	512
12:00 PM	0	0	18	0	18	0	57	0	0	57	0	0	00	0	0	8	56	00	0	64	139
12:15 PM	1	0	8	0	9	0	60	1	0	61	0	0	0	0	0	6	63	0	0	69	139

12:30 PM	0	0	12	0	10	Το	45	2	0	47	0	0	0	0	0	1 6	40				144
12:45 PM	2	0	10	0	12	0	45 60	0	0	60	0	0	0	0	0	6	49	0	0	55	114
Hourly Total	3	0	48	0	51	0	222	3	0	225	0	0	0	0	0	12	66	0	0	78	150
1:00 PM	1	0	8	0	9	0	56	1	0	57	0	0	0	0	0	32	234 68	0	0	266	542
1:15 PM	0	0	8	0	8	0	56	1	0	57	0	0	0	0	0	9	72	0	0	72 81	138
1:30 PM	1	0	5	0	6	0	39	0	0	39	0	0	0	0	0	7	56	0	0		_
1:45 PM	1	0	13	0	14	0	75	3	0	78	0	0	0	0	0	5	51	0	0	63	108
Hourly Total	3	0	34	0	37	0	226	5	0	231	0	0	0	0	0	25	247	0	0	56 272	148 540
2:00 PM	0	0	9	0	9	0	57	0	0	57	0	0	0	0	0	9	62	0	0	71	137
2:15 PM	0	0	3	0	3	0	61	1	0	62	0	0	0	0	0	8	74	0	0	82	147
2:30 PM	0	0	7	0	7	0	45	2	1	48	0	0	0	0	0	8	77	0	0	85	140
2:45 PM	0	0	10	0	10	0	64	3	0	67	0	0	0	0	0	9	83	0	0	92	169
Hourly Total	0	0	29	0	29	0	227	6	1	234	0	0	0	0	0	34	296	0	0	330	593
3:00 PM	4	0	11	0	15	0	60	4	1	65	0	0	0	0	0	6	107	0	0	113	193
3:15 PM	14	0	7	0	21	0	53	1	0	54	0	0	0	0	0	8.4	118	0	0	126	201
3:30 PM	4	0	23	0	27	0	51	3	0	54	0	0	0	0	0	6	140	0	0	146	227
3:45 PM	4	0	9	0	13	0	47	1	0	48	0	0	0	0	0 /	10	118	0	0	128	189
Hourly Total	26	0	50	0	76	0	211	9	1	221	0	0	0	0	0	30	483	0	0	513	810
4:00 PM	3	0	7	0	10	0	52	1	0	53	0	0	0	0	0	8	93	0	0	101	164
4:15 PM	9	0	8	0	17	0	65	2	0	67	0	0	0	0	0	7	122	0	0	129	213
4:30 PM	13	0	19	0	32	0	66	1	0	67	0	0	0	_0	0	3	114	0	0	117	216
4:45 PM	8	0	17	0	25	0	78	3	0	81	0	0	0/	D	0	6	92	0	0	98	204
Hourly Total	33	0	51	0	84	0	261	7	0	268	0	0	0	0	0	24	421	0	0	445	797
5:00 PM	11	0	20	0	31	0	76	2	0	78	0	0./	0/	0	0	6	122	0	0	128	237
5:15 PM	17	0	19	0	36	0	77	0	0	77	0	0	0	0	0	7	123	0	0	130	243
5:30 PM	18	0	12	0	30	0	108	2	0	110	0	0	0	0	6	6	123	0	0	129	269
5:45 PM	20	0	15	0	35	0	95	0	0	95	0	0	0	0 /	0.	8	126	0	0	134	264
Hourly Total	66	0	66	0	132	0	356	4	0	360	0	0	0	0	0	27	494	0	0	521	1013
6:00 PM	18	0	14	0	32	0	79	0	0	79	0	0	0	0	0	5	146	0	0	151	262
6:15 PM	3	٥	21	0	24	0	82	2	0	84	0	0	0	D.	0	3	124	0	0	127	235
6:30 PM	2	0	15	0	17	0	66	1	0	67	0	0	0	0	0	3	132	0	0	135	219
6:45 PM	5	0	6	0	11	0	56	0	0	56	0	0	0	0	0	5	147	0	0	152	219
Hourly Total	28	0	56	0	84	0	283	3	0	286	0	0	0	0	0	16	549	0	0	565	935
7:00 PM	0	0	3	0	3	0	58	- 1	0	59	0	0	0	0	0	4	97	0	0	101	163
7:15 PM	2	0	5	0	7	0	49	0	0	49	0	0	0	0	0	6	104	0	0	110	166
7:30 PM	1	0	3	0	4	0	36	1	0	37	0	0	0	0	0	5	78	0	0	83	124
7:45 PM	0	0	4	0	4	0	34	1	0	35	0	0	0	0-	0	1	77	0	0	78	117
Hourly Total	3	0	15	0	18	0	177	3	0	180	.0	0	0	0	0	16	356	0	0	372	570
8:00 PM	1	0	2	0	3	0	38	1	0	39	0	0	0	0	0	1	76	0	0	77	119
8:15 PM	2	0	4	0	6	0	28	0	0	28	0	0	0	0	0	4	74	0	0	78	112
8:30 PM	0	0	2	0	/2	0	26	0	0	26	0	0	0	0	0	3	56	0	0	59	87
8:45 PM	. 1	0	3	0	4	0	19	0	0	19	0	0	0	0	0	9	48	0	0	57	80
Hourly Total	4	0	11	.0	15	0	111	1	0	112	0	0	0	0	0	17	254	0	0	271	398
9:00 PM	0	0	2	G	2	0	32	0	0	32	0	0	0	0	0	4	49	0	0	53	87
9:15 PM	0	0	4	0	1	0	20	0	0	20 \	0	0	0	0	0	1	53	0	0	54	75
9:30 PM	0	0	2	0	2	0	17	0	0	-17	0	0	0	0	0	5	33	0	0	38	57
9:45 PM	1	0	1	0	2	0	_11	0	0	- 11	0	0	0	0	0	5	48	0	0	53	66
Hourly Total	_1_	0	6	0	7	0	80	0	0	80	0	0	0	0	0	15	183	0	0	198	285
10:00 PM	0	0	1	0	_1	0	13	0	0	13	0	0	0	0	0	2	36	0	0	38	52
10:15 PM	0	0	0	0	0	P	10	1	0	11	0	0	0	0	0	1	23	0	0	24	35
10:30 PM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	1	24	0	0	25	42
10:45 PM	0	0	1	0	1	0	. 6	0	0	6	0	0	0	0	0	3	18	0	0	21	28
Hourly Total	0	0	2	0	2	0	46	1	0	47	0	0	0	0	0	7	101	0	0	108	157
#1:00 PM	0	0	0	0	,0	0	5	0	0	5	0	0	0	0	0	0	12	0	0	12	17
11:15 RM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	3	16	0	0	19	25
14:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	_ 1	14	0	0	15	17
11:45 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	14	0	0	14	17
Hourly Total	0 202	0	0	0	707	0	16	0	0	16	0	0	0	0	0	4	56	0	0	60	76
Grand Total	203	0	589	0	792	0	5047	129	2	5178	0	0	0	0	0	467	4850	0	0	5317	11287
Approach %	25.6	0.0	74.4	0.0	70	0.0	97.5	2.5	0.0	45.0	0.0	0.0	0.0	0.0	2.0	8.8	91.2	0.0	0.0		-
Total %	1.8	0.0	5.2	0.0	7.0	0.0	44.7	1.1	0.0	45.9	0.0	0.0	0.0	0.0	0.0	4.1	43.0	0.0	0.0	47.1	
Lights	197	0	566	0	763	0	4931	123	2	5056	0	0	0	0	0	452	4735	0	0	5187	11006
% Lights	97.0	-	96.1	-	96.3	-	97.7	95.3	100.0	97.6	-	-		-	-	96.8	97.6	•	-	97.6	97.5
Mediums 9/ Mediums	6	0		0	27	0	94	6	0	100	0	0	0	0	0	13	91	0	0	104	231
% Mediums	3.0		3.6		3.4		1.9	4.7	0.0	1.9						2.8	1.9	-		2.0	2.0
Articulated Trucks	0	0	2	0	2	0	22	0	0	22	0	0	0	0	0	2	24	0	0	26	50
% Articulated	0.0		0,3		0.3	-	0.4	0.0	0.0	0.4		*	-			0.4	0.5	3	_	0.5	0.4
Trucks	0.0				5.0		5,7	5.0	V.0	5,7						0.7	0.0			U.J	0.7

Arlington, Texas, United States 76013 817.265.8968

Count Name: WINNINGKOFF RD @ LUCAS RD Site Code: Start Date: 03/03/2020 Page No: 3



Turning Movement Data Plot

Arlington, Texas, United States 76013 817.265.8968

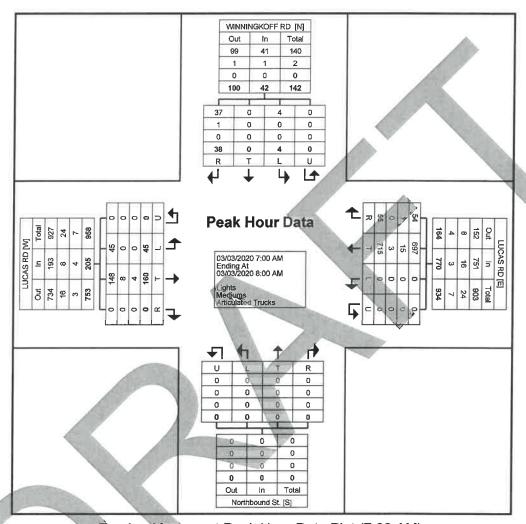
Count Name: WINNINGKOFF RD @ LUCAS RD Site Code: Start Date: 03/03/2020 Page No: 4

Turning Movement Peak Hour Data (7:00 AM)

	10					,									,	6					4
		WINI	NINGKO	FF RD			L	LUCAS F	RD.			No	rthbound	d St.			A	UCAS F	RD		I
		5	Southbou	ind			١.	/Vestbou	nď			N	lorthbou	nd		l .	13	Eastbour	nd		
Start Time	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:00 AM	0	0	9	0	9	0	198	3	0	201	0	0	0	0	0	7	35	0	0	42	252
7:15 AM	1	0	9	0	10	0	181	20	0	201	0	0	0	0	0 /	15	40	0	0	55	266
7:30 AM	2	0	12	0	14	0	167	19	0	186	0	0	0	0	0	6	41	0	0	47	247
7:45 AM	1	0	8	0	9	0	169	13	0	182	0	0	0	0	0	17	44	0	0	61	252
Total	4	0	38	0	42	0	715	55	0	770	0	0	0	01	0	45	160	Ő ^z	0	205	1017
Approach %	9.5	0.0	90.5	0.0	190	0.0	92.9	7.1	0,0	-	0.0	0.0	0.0	0.0	×	22.0	78.0	0.0	0.0	-	-
Total %	0.4	0.0	3.7	0.0	4.1	0.0	70.3	5.4	0.0	75.7	0.0	0.0	0.0	0.0	0.0	4.4	15.7	0,0	0.0	20.2	-
PHF	0.500	0.000	0.792	0.000	0.750	0.000	0.903	0.688	0.000	0.958	0.000	0.000	0 000	0.000	0.000	0.662	0.909	0.000	0.000	0.840	0.956
Lights	4	0	37	0	41	0	697	54	٥	751	0	0	0	0	0	45	148	0	0	193	985
% Lights	100.0	-	97.4		97.6	-	97.5	98.2	-	97.5		1	7 -	-		100.0	92.5		10	94.1	96.9
Mediums	0	0	1	0	1	0	15	1	0	16	0 🔏	0	0	0	6	0	8	0	0	8	25
% Mediums	0.0	-	2.6	*	2.4	-	2.1	1.8	-	2.1	40		-	• 4		0.0	5.0	-	-	3.9	2.5
Articulated Trucks	0	0	0	0	0	0	3	0	0	3	0	0	0	6	0	0	4	0	0	4	7
% Articulated	0.0		0.0		0.0	-	0.4	0.0		0.4		16			-	0.0	2.5		-	2.0	0.7



Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ LUCAS RD Site Code: Start Date: 03/03/2020 Page No: 5



Turning Movement Peak Hour Data Plot (7:00 AM)

Arlington, Texas, United States 76013 817.265.8968

Count Name: WINNINGKOFF RD @ LUCAS RD Site Code: Start Date: 03/03/2020 Page No: 6

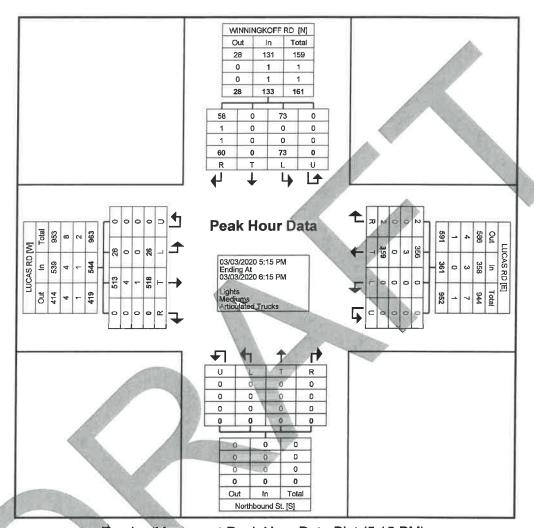
Turning Movement Peak Hour Data (5:15 PM)

			NINGKO					UCAS F					orthbound		,		A	UCAS F	RD		1
		S	outhbou	nď		1	١	Nestbou	nd			١	Northbou	nd			A113	Eastbour	nd		11
Start Time	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	int. Total
5:15 PM	17	0	19	0	36	0	77	0	0	77	0	0	0	0	0	17	123	0	0	130	243
5:30 PM	18	0	12	0	30	0	108	2	0	110	0	0	0	0	0 /	6	123	0	0	129	269
5:45 PM	20	0	15	0	35	0	95	0	0	95	0	0	0	0	0	8	126	0	0	134	264
6:00 PM	18	0	14	0	32	0	79	0	0	79	0	0	0	0 /	0	5	146	0	0	151	262
Total	73	0	60	0	133	0	359	2	0	361	0	0	0	0	0	26	518	Q.	0	544	1038
Approach %	54.9	0.0	45.1	0.0	1305	0.0	99.4	0.6	0.0	ie.	0.0	0.0	0.0	0.0	-	4.8	95.2	0.0	0.0		-
Total %	7.0	0.0	5.8	0.0	12.8	0.0	34.6	0.2	0.0	34.8	0.0	0.0	0.0	0.0	0.0	2.5	49.9	0,0	0.0	52.4	-
PHF	0.913	0.000	0.789	0.000	0.924	0.000	0.831	0.250	0.000	0.820	0.000	0.000	0.000	0.000	0.000	0.813	0.887	0.000	0.000	0.901	0.965
Lights	73	0	58	0	131	0	356	2	0	358	0	0	.0	0	0	26	513	0	0	539	1028
% Lights	100.0	-	96.7	-	98.5	-	99.2	100.0	-	99.2		13	7	-		100.0	99.0		-/-	99.1	99.0
Mediums	0	0	1	0	1	0	3	0	0	3	0 🗸	0	0	0	0	0	4	0	0	4	8
% Mediums	0.0	-	1.7		0.8	-	0.8	0.0	-	0.8	(10.		49		0.0	0.8	-	-	0.7	0.8
Articulated Trucks	0	0	1	٥	1	0	0	0	0	0	0	0	0	6	0	0	1	0	0	1	2
% Articulated Trucks	0.0		1.7		0.8	-	0.0	0.0		0.0		7/			-	0.0	0.2	-	-	0.2	0.2



GRAM Traffic NTX Inc. 1120 W. Lovers Lane

Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ LUCAS RD Site Code: Start Date: 03/03/2020 Page No: 7



Turning Movement Peak Hour Data Plot (5:15 PM)

GRAM Traffic North Texas, Inc.
1120 W Lovershalle LN BTWN COUNTRY CLUB AND GOLD DUST - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

000 South	95th	Percent	*	*	*	*	34	5 8	၀ ၀	200	32	34	36	37	36	34	34	34	38	37	25	5 5	2 5	5 6	\$ 2	5 6	*												
Latitude: 0' 0.0000 South	85th	Percent	*	*	*	*	22	2 6	2 6	000	83	33	8	33	34	33	33	33	34	34	32	1 6	32.5	† ç	3 8	3 6	* *												
Latit		Total	0	0	0	0) (°	ע	, 1	2 2	5	69	40	32	56	35	20	29	36	30	36	8 8	16	2 1	· V	t -	- c	202	040	07:00	91	15:00	36	525					
	92	666	0	0	a	0	· C	0 0	0 0	0 0	0 (0	0 (0	0	0	0	0	0	0	c	c	c	0 0	0 0	o c	0 0	0 0	%0.0	2				0	%0.0				
	7.1	75	0	0	0	0	c	o C	o c	0	0 0	0 (0 0	0	0	0	0	0	0	0	0	C	0	c	0 0	0 0	0 0	o c	%00	4		1		0	0.0%		h.		
	99	20	0	0	0	0	c	· c	o c	0	0 0	0 0	0 0	0 (0	0	0	0	0	0	0	0	0	0	00	1	0	0	0.0%					0 %	%0.0				<u>.</u>
	61	92	0	0	0	0	0	0	o C	0 0	0	0 0	> 0	0 (0	0	0	0	0	0	0	0	0	0	0	0	0	· c	%0.0	4		9)	0 8	0.0 %				
	26	09	0	0	0	0	0	0	0	0 0	0 0	0 0	> c	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0					0 80	0.0%				
	51	55	0	0	0	0	0	0	c	0 0	0 0	o c	o 0	0	0 (0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	1		þ		0 %	0.0%				
	46	20	0	0	0	0	0	0	0	0.0	0 0	0	D .C	0 0	0 (5	0	0	0	0	0	0	0	0	0	0	0	0	%0.0					0 %	%0.0				
	4	45	0	0	Ø	0	0	0	0		o c	0 6				0	5	0	-	0	0	2	0	0	0	0	0	ro	1.0%	10:00	,-	18:00	7 1	10%	8.O.I				
	ဗ္တ :	40	0	0	0	0	0	1	1	LC,		0 0	2 4	- c	N C	0	0		2	3	-	- V	8	0	0	0	0	26	2.0%	02:00	က	16:00	ກ (2 6	0.0.0				
1	33	32	0	0	0	0	7	0	4	29	cc	4 8	3,0	10	- 14	0	o ç	12	12	7	9	တ	4	4	2	0	0	180	34.3%	00:20	67	12:00	2 9	180	7.5 %	28 MPH	35 MPH	26-35 MPH 414	78.9% 0 0.0% 29 MPH
	7 8	30	0	0	0	0	0	4	9	48	32	4 4	2 1	<u>-</u> c	n 6	2 5	2 0	ָ מ	4	=======================================	9	16	10	ო	-	0	0	234			48	17:00	0 2	234 44 6%	0.1.				
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	92 93	20	0	0	0	0	0	0	-	-	. c	o c	o c	· -	- 6	N (> 0	7 (Ν.	-	0	_	0	0	0	0	0	11	2.1%		-	12:00	7 7	2. 1%:	1	Soft	95th	10 MPH P Numb	Percent in Pace Number of Vehicles > 55 MPH Percent of Vehicles > 55 MPH Mean Speed(Average)
,	۲ ـ ـ ـ ـ	15	0	0	0	0	0	0	0	C	(7	o c	o c	· -	- c	0 0) c	3 (٥.	-	0	0	0	0	0	0	0	∞	1.5%	08:00	n :	1 4 :00	o c	1.5%	2				Number of Percent of
EB	Start	- Ime	03/03/20	01:00	05:00	03:00	04:00	02:00	00:90	02:00	08:00	00:00	10:00	11:00	12 PM	12 LIM	13.00	00:4:	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total				PM Peak	- - - - -	Percent				Stats	

GRAM Traffic North Texas, Inc.
1120 W Lovesshalle LN BTWN COUNTRY CLUB AND GOLD DUST - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

000 South	06th	Derront	23.0	5 *	*	*	*	00	67 0	0 6	\$ 9	85 F	37	န္	9 6	3 5	3.5	33	ဂ ဇ	0 c	S 8	\$ 8	S &	04	04.5	4.8	ţ										
Latitude: 0' 0.0000 South	85th	Percent	2000	*	*	*	*	20	000	200	8 8	<u>ئ</u>	¥ 8	3	\$ 8	25.5	2 6	3 8	5 6	3 8	3 8	2 6	3 %	3 6	2 6	32 68	70										
Latit		Total	0	ı C	o c	0 0	o C	· -	- LC		7 4	4 6	₹ 6	3 2	44 0	3 2	4 6	3 8	- α - Κ	1,0	2 %	3 6	e e	0 1	1 0	~ (629	670	08:00	45	17:00	0 6	670				
	76	666) C) C	0	0	0 0	0 0	0 0	0 0	0	> c	o c	0	o c	0 0	0 0	o c	0 0	o c	0 0	o c	0 0	0 0	0 0	o c	000	2			0	0000				
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	99	20	C	0	0	0	0	C	0	o c	0 0	0	0	> <	0 0	o c	o c	0	o C	0 0	c	c	c	000		0	C	%0.0				c	%00			1	
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	14	45	0	0	Ø	0	0	0	0	-					c	0	-	0	0	2	Ī	0	,	0	0	0	7	1.1%	02:00	- 0	00:71	1 1	1.1%				
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	31	35	2	0	0	0	0	0	0	3	8	7	1	10	σ	12	œ	15	20	34	18	6	4	9	0	2	176	28.0%	11:00	200	34	176	28.0%	24 MPH	33 MPH	35 MPH	26-35 MPH 490 77.9% 0 0.0% 29 MPH
h.	26	30	0	0	0	0	0	-	'n	16	26	6	00	0	00	12	13	31	43	54	36	22	10	7	က	2	314	49.9%	08:00	42.00	5.75	314	49.9%				
	21	25	0	0	0	0	0	0	0	9	Ø	2	1 4	-	-	တ	9	13	6	18	œ	ဗ	-	-	2	2	92	14.6%	08:00	77.00	13.00 18.00	92	14.6%	15th Percentile	85th Percentile	95th Percentile	10 MPH Pace Speed Number in Pace Percent in Pace of Vehicles > 55 MPH of Vehicles > 55 MPH Mean Speed(Average)
	16	50	0	0	0	0	0	0	0	~	-	0	0	-	0		0	7	0	က	-	~	0	0	0	0	Ξ	1.7%	07:00	12:00	9. E	=	1.7%	151	821	95	10 MPH Pace Speed Number in Pace Percent in Pace Number of Vehicles > 55 MPH Percent of Vehicles > 55 MPH Mean Speed(Average)
	~	15	0	0	0	0	0	0	0	0	0	0	0	-	-	0	-	0	Ψ-	0	0	0	0	0	0	0	4	%9.0	11:00	13:00	12.00	4	%9.0				Number Percent
WB	Start	Time	03/03/20	01:00	05:00	03:00	04:00	02:00	00:90	02:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	DM Door	Vol.	Total	Percent				Stats

GRAM Traffic North Texas, Inc.
1120 W Lovershalte LN BTWN COUNTRY CLUB AND GOLD DUST - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013 Site Code:
Station ID:

300 South	44.70	HICK Borson	Percent	ş,	*	*	34	88	32	35	34	37	36	39	34	34	35	34	36	34	36	36	36	54	25	3.5	5									
Latitude: 0' 0.0000 South	4430	Poron	בונפון	*	*	*	33	35	32	33	32	34	33	34	33	33	33	32	33	33	33	33	34	33	32	32	!									
Latit		Toto L									114																		00:20	118	17:00	151	1134			
	76	000	666	0	o c	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				•	7%00			
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	5	9 9	3 0	0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0	4		Ô	'n	%00		_	
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	č	55	3 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Q	0	0	0	0	0	0	0.0%	1		D	·c	0.0%			
	46	20	C	C	0	0	0	0	0	0	0	0	Ó	0	0	0	0	0	0	0/	6	0	0	-	0	0	1	0.1%			21:00	- ,-	0.1%			
	4	45	a	0	Ø	0	9	0	0	-	0	0		7/0	0	0		- 1	0	2	2	0	_	0	0	0	12	1.0%	11:00	7	18:00	5.0	1.0%			
	36	40	0	0	0	0	0	1	7	20	Ŋ	2	7	4 .			7	2	20	2	m ·	4	2	0	0	0	20	4.3%	00:20	n (16:00	20.5	4.3%			
	31	35	2	0	0	0	2	0	4	32	08	27	16	17	47	20	20	77	3.1	44	27	13	œ	80	7	2	356	30.8%	07:00	7 5	17:00	356	30.8%	24 MPH 28 MPH 33 MPH 35 MPH	26-35 MPH 904 78.3%	0.0% 29 MPH
h.	26	30	0	0	0	0	0	2	F	64	28	25	52	17	<u>2</u>	7 5	7 :	4 5	0 4	72	52	35	<u>(</u>	ω	ო	2	548	47.5%	07:00	100	01/1	548	47.5%			· · · · ·
	21	25	0	0	ø	0	<u></u>	0	က	4	<u>~</u>	က	Φ (တ	٥	∞ (φ (2 4	77	25	77.	m -	τ-	7	က	2	153	13.3%	08:00	0 0	7. 10. 7.	153	13.3%	15th Percentile 50th Percentile 85th Percentile 95th Percentile	10 MPH Pace Speed Number in Pace Percent in Pace	of Vehicles > 55 MPH Mean Speed(Average)
	16	50	0	0	0	0	0	0	. .	7	- (0 (0 (N 6	V •	c	7 •	4 4	- (თ (Ν,	- (0	0	0	0	22	1.9%	02:00	7 00 14	15:00 4	22	1.9%	50 50 50 50 50 50 50 50 50 50 50 50 50 5	10 MPH Num Per	Percent of Vehicles > 55 Mean Speed(Ave
	-	15	0	0	0	0	0	0	0	0	m (0 (0	N T	- 0	> •	4 0	o (V (0 0	0 0	5	0	0	0	0	12	1.0%	08:00	0 0	14:00	12	1.0%		N Page 18	Percent
EB WB	Start	Time	03/03/20	01:00	02:00	03:00	04:00	02:00	00:90	02:00	08:00	00:60	00:01	11:00	M 7 7	13:00	00.4.	15:00	10:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak		reax Solve	Total	Percent		Stats	

GRAM Traffic North Texas, Inc.
1120 W Lovers Lange OREST VIEW DR WEST OF WINNINGKOFF RD - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

95th	Dercent	*	*		k -	*	*	*	24	, e	9 8	62	31	33	59	33	33	31	3	338	30	9 6	3,5	- c	8 78	47	82 8	67																	
85th	Percent	*	*	•	e +	k	*	*	24	80	0 10	17	28	29	28	30	59	27	, S	200	28 6	9 6	S C	2.0	4 2	4 6	0 0	07																	
	Total	2	0 0	> 0	5 0	0	0	0	4	17	- 6	o :	12	7	13	12	15	12	37	. u	8	3 7	- 5	4 1	- 0	0 (N C	7 906	080	08.00	3,50	17:00	8	30 80	8			ú							
76	666	0	0 0	0 0	0 0	o	0	0	0	· C	0 0	0 (0 (0	0	0	0	0	0	· C	o c	0 0	0 0	0 0	0 0	0	0 0	0 0	%00	0.0				c	%UQ				P						
71	75	0	o c	0 0	0	0	0	0	0	c	o c	0	> (0	0	0	0	0	0	· c	· c	o c	o c	0 0	0	0 0	0 0	0 0	%00	2.5.5	4			c	%00	V			h	k					
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16	20	0	0	0	0	o c	> 0	> •	-	2	цÓ		1 ←	- c	v c	> -	4 (· 0	4	က	00	_	-	-	0	0	0	38	9.6% 4			17:00	8		9.6% 4:	15th	50th	85th	95th		10 MPH Pa	Perce	Number of Vehicles > 55 MPH	Percent of Vehicles > 55 MPH	Moon Chood (Asserta)
-	<u>1</u> 2	0	0	0	0	· C	0	5 (5	0	7	C	0 0	0 0	o c	0 0	0 0	5	0	7	0	2	0	0	0	0	0	စ		08:00 0			7		.5%						_		Number of	Percent of	NA
Start	Time	03/03/20	01:00	02:00	03:00	04:00	00.10	00:00	00:00	02:00	08:00	00-60	10:00	11.00	12 DM	12,000	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total		AM Peak 0			Vol.		Percent 1						Stats				

GRAM Traffic North Texas, Inc.
1120 W Lovers Lange OREST VIEW DR WEST OF WINNINGKOFF RD - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

95th	Percent	*	*	4		*	34	28	33	5.0	\$ 8	33	59	40	32	31	28	36	3,5	3 8	3 2 2	5 6	3 6	50	*	70	t *									
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99	20	c	c	· c	0	>	0	0	0	· c	o c	0)	0	0	0	0	0	0	c	0	c	0	c	0	0	0	C	0.0%				c	%		
61	65	0	C	· C	0 0	o (0	0	0	c	· c	0	> (0	0	0	0	0	0	0	0	C	0	0	0	(0	0	· c	0.0%			8	-(2%0		
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<u>۔</u> بُ	0	0	0	0	C	0 0	> 0	ο,	τ-	-	.	C	0	1 0	> 4	-	, ,	4	-	0	0	7	0	0	0	0	0	14	5.1%	10:00	14.00	00:41 4	14	5.1%		Number Percent
Start Time	alle	03/03/20	01:00	05:00	03:00	04:00	04.00	00:50	00:90	00:20	08:00	00.60	10:00	1.00	45.00	MAZI	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	DM Dook	Vol.	Total	Percent		Stats

GRAM Traffic North Texas, Inc.
1120 W Lovers Lange OREST VIEW DR WEST OF WINNINGKOFF RD - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

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	24	25	0	0	ó	0	0	က	4	22	30	21	9	6	12	တ	10	26	26	41	26	10	9	က	2	-	267	``	08:00 30				39.7% 34	15th Percentile:	50th Percentile:	Softh Percentile:	Scille	: Speed :	Number in Pace : Percent in Pace :	55 MPH:	s5 MPH : werage) :
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	-	- 12	0	0	0	0	0	0	- -	-	m	0	2	0	_	_	4	,-	2	0	4	0	0	0	0	0	20	Ì					7					10		umber of √	ercent of V
				0	0	0	0	0	0	0	0	0	0	0		0	0	0										nt 3.0%		ak 14:00			nt 3.0%					ş		Z	n.
ER WR	Start	Time	03/03/20	01:00	02:00	03:00	04:00	02:00	00:90	07:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak Vol.	PM Peak	Vol.	Total	Percent					Stafs			

GRAM Traffic North Texas, Inc.
1120 W Lovers LaymuningKOFF RD NORTH OF FOREST VIEW DR - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

95th	Percent	*	34	*	*	34	43	45	43	40	34	45	43	38	39	39	44	39	43	4	4	39	39	34	5 6	3								
85th 95th	Percent	*	34	*	*	34	4	39	40	88	8 8	ද ද	4	36	37	36	36	38	39	39	36	38	38	8	37	5								
	Total														22													02:00	43	17:00	67.6	328		
76	666	0	0	0	0	0	0	0	0	0	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				c	0 00		
71	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0	4	1		c	0 00		
99	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%				c	0 00		
61	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0	4	Account of	9	> ح	2 %		<i>y</i>
26	09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	%0.0				c	° 00 0		
51	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Q	0.	0	Ö	0	0	0	%0.0	1)·c	%00		
46	20	0	0	0	0	0	0		0	0	0,	h	0	0	0	0		0	0	0	0	0	0	0	0	က	0.8%	00:90	- 00.74	00:61	- (r	%80		
4	45	0	0	ø	0	9	2	-	7	2	0		3	0	0	-	7	-	4	7	5	0	0	0	0	27	7.5%	07:00	47.00	3.7	27	7.5%		
36	40	0	0	0	0	0	(O)	4	10	9		9	CO ·	က	00 (n	9	13	6	וסו	ი -	4	က	0		103	28.7%	07:00	76.00	13.00	103	28.7%		
33	35	0		0	0	7	m ·	œ	121	14	11	3	ကျ	_ ;	Ę 1		4 ;	1	ę '	x 0 (ه ۵	, C	4	- -	7			07:00	15.00	13.00	135		26 MPH 33 MPH 38 MPH 42 MPH 31-40 MPH 238	0.0% 33 MPH
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21	25	0	0	0	0	ø i	0	0	0	0	ဖ	0	2 0	71 (o 0	N •	4 4	- 1	m -	- 0	> 4	- 0	0	0 (0		6.1%		15.00	0.7	22	6.1%	15th Percentile 50th Percentile 85th Percentile 95th Percentile MPH Pace Speed Number in Pace Percent in Pace	of Vehicles > 55 MPH of Vehicles > 55 MPH Mean Speed(Average)
16	20	0 0	0 (0 (0 (0 (0 (0	0	4	-	۰ .	- -	5 0	0	0	0	o •	- 0	0	0 0	0 0	0 (0 (0	7	1.9%	08:00	17:00	S -	7	1.9%	15t 50t 85tt 95tt 10 MPH F Num	Number of Vehicles > 55 Percent of Vehicles > 55 Mean Speed(Ave
Ł į	15	0 (0 (o (0 (0 (ɔ (0	0	0	0	0 0	0 0	0 0	> •	- <	-	o (> c	o c	0 0	> c	o (5 (э.	-	0.3%		14:00	<u>-</u>	-	0.3%		Number
Start	Ime	03/03/20	00:10	02:00	03:00	04:00	00:00	00:00	02:00	08:00	00:60	10:00	11:00	MA ZI	13:00	14.00	13.00	00:01	17:00	00:00	00:02	24.00	00:17	22:00	23:00	lotal	Percent	AM Peak Vol	PM Doak	Vol.	Total	Percent	Stats	

GRAM Traffic North Texas, Inc. 1120 W Lovers LappinningkOFF RD NORTH OF FOREST VIEW DR - 24 HR - SPEED W 4 SEC FILTER Arlington, TX 76013 Station ID:

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95th	Percent	44	*	*		•	54	44	52	100	1 4	4 0	65 ·	43	44	43	54	43	4	42	44	4	£ 4	7 1	4 4	‡ :	‡ *										
85th	Percent	43	*	*	4		54	42	43	45	£ €	7 6	8	41	33	39	4	4	42	38	40	9 0	44	- 0	200	7 5	ţ ? *										
	Total	0	ı c	o c	0	>		က	Φ	26	3 6	2 1	6 6	2 6	20	24	52	4	29	33	42	8	15	2 0	7 0	۰ ر	4 C	27.0	110	11:00	၉	17:00	242	110			
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52	22	0	0	0	C	•	- 0	o ·	τ	_	0	C	o c	0 0	o c		-	0	0	0	0	0	0	0	0	0	0	4	1.1%	04:00	10.00	13:00	4	1.1%			
94 6	20	0	0	0	C	. <		1	0	3	8	0	0		- c	0	5 (0		0	ļ	2	+	-	0	o	0	13	3.4%	00:20	ر در و در و	0.00	1 55	3.4%	2		
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بى <u>ب</u> د	32	0	0	0	0	C	7	- 0	7,	4	14	7	4	o	00	0 0	D 4	4 (15	4	16	14	4	_	1	-	0	125	33.2%	08:00	47:00	16	125	33.2%	30 MPH 35 MPH 40 MPH 44 MPH	31-40 MPH 267	70.8% 1 0.3% 36 MPH
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17	40	0	0	0	0	c		0 0	0	0	0	0	-	0	· C	۰ ۲	- c	N (0 (0	0	0	0	0	0	0	0	4	1.1%	10:00	14:00	2 2	4	1.1%	15th Percentile 50th Percentile 85th Percentile 95th Percentile	10 MPH Pace Speed Number in Pace	Percent in Pace icles > 55 MPH icles > 55 MPH Speed(Average)
ا ع <u>م</u>	0,0	0	0	0	0	c	o c	0 0	o (0	0	0	0	0	· -		0 0	-	o (0	0	0	-	0	0	0	0	7	0.5%		12:00	7	2		15th 50th 85th 95th	10 MPH P Numk	Percent in Pace Number of Vehicles > 55 MPH Percent of Vehicles > 55 MPH Mean Speed(Average)
- L	<u>.</u>	0	0	0	0	c	o c	0 0	o (0	0	0	0	0	· C	o c	o c	> ₹	- (0	0	0	0	0	0	0	0	-	0.3%		15.00	5	τ-	0.3%			Number or Percent or
Time	20000	03/03/50	01:00	05:00	03:00	04.00	02:00	00:00	00:00	07:00	08:00	00:60	10:00	11:00	12 PM	13.00	14:00	4.00	15.00	00:91	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	PM Peak	Vol.	Total	Percent		Stats	

GRAM Traffic North Texas, Inc.
1120 W Lovers Laminuskoff RD NORTH OF FOREST VIEW DR - 24 HR - SPEED W 4 SEC

Arlington, TX 76013 Site Code: 907 S			
Arlington, TX 76013	THE STATE OF FOREST VIEW DR - 24 HR - SPEED W 4 SEC FILTER	Site Code: 907	Station ID:
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	26	90	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	C	0	c	0	0	0	V	0.1%	A	13.00	-		0.1%				
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NB, SB	Start	Time	03/03/20	01:00	05:00	03:00	04:00	02:00	00:90	02:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak Vol.	PM Peak	Vol.	Total	Percent			Stats	



memorandum

TO:

Stanton Foerster, PE

City Engineer

City of Lucas, Texas

FROM:

Dharmesh Shah, PE, PTOE Kristen Novak, PE, PTOE Lee Engineering, LLC

RE:

Multiway Stop Control Warrant Study Results Summary

Blondy Jhune Road and Winningkoff Road, Lucas, Texas

DATE:

May 28, 2020

Lee Engineering has completed a multiway stop control warrant analysis for the intersection of Blondy Jhune Road and Winningkoff Road in Lucas, Texas. Gurrently, the intersection operates with a yield sign on the eastbound approach (Blondy Jhune Road), and Winningkoff Road has the right of way.

The multiway stop control warrant analysis was undertaken with 24-hour turning movement volumes collected on Tuesday, March 3, 2020. Please note that these volumes were collected in early March before school closures and shelter-in-place orders due to COVID-19, which occurred in late March.

The following provides a summary of results and recommendations:

 Based on the existing traffic volumes and the analysis results, warrants are not satisfied for the installation of multiway stop control at the intersection of Blondy Jhune Road and Winningkoff Road, as summarized below.

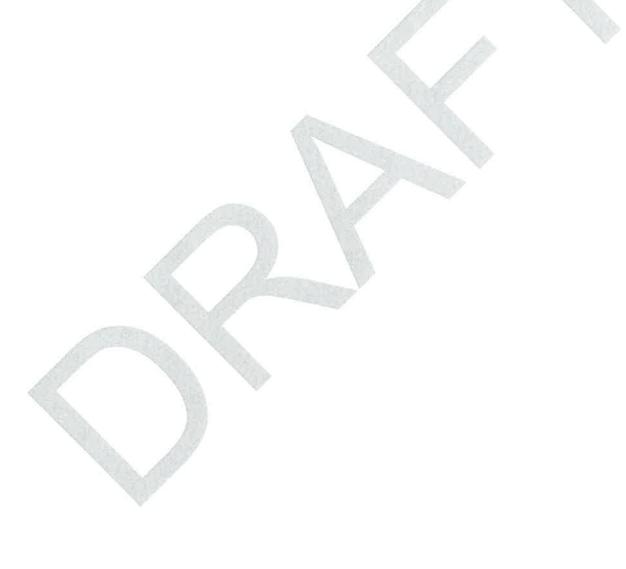
Texas MUTCD Multiway Stop Control Warrant	Warrant Met?	Notes
A - Interim measure until signal installation	NO	Traffic signal is not planned
B – Crash Warrant	NO	Crash history does not meet warrants
C-Minimum Traffic Volumes	NO	Average volumes do not exceed requirements

The intersection of Blondy Jhune Road and Winningkoff Road also does not meet additional criteria for the installation of a multiway stop control.

Based on the existing low traffic volumes, lack of reported crashes, and the *Texas MUTCD* allowances for other criteria, <u>multiway stop control is not recommended at this intersection at this time.</u>

- Based on the sight distance assessment presented in this report, we recommend <u>installing</u> stop-control on the eastbound approach of Blondy Jhune Road at Winningkoff Road rather than the existing yield-control.
- We also recommended that the City trim and maintain the vegetation on the east side of Winningkoff Road between Blondy Jhune Road and the bridge to the south. Vegetation (shrubs, overhanging branches, etc.) should be trimmed to the tree line. The City should also continue to trim and maintain the vegetation on the west side of Winningkoff Road north of Blondy Jhune Road (per Figure 7).

Please see the attached study for further detail. If you have any questions regarding this study, please contact me at (972) 248-3006. We appreciate the opportunity to provide these services.



Multiway Stop Control Warrant Analysis for the Intersection of

Blondy Jhune Road and Winningkoff Road City of Lucas, Texas

Prepared for: City of Lucas

665 Country Club Road Lucas, Texas 75002

Prepared by:

LEE ENGINEERING

3030 LBJ Freeway, Suite 1660 Dallas, Texas 75234 (972) 248-3006 TBPE Firm F-450

May 2020

INTRODUCTION

The City of Lucas has requested that an analysis be conducted to determine if multiway stop control is warranted at the intersection of Blondy Jhune Road and Winningkoff Road. This report summarizes the results of a multiway stop control warrant analysis conducted for this intersection.

The analysis was performed using existing approach volumes collected over a 24-hour period on Tuesday, March 3, 2020, which are summarized in **Table 1** with the raw data presented in the Appendix. It should be noted that these volumes were collected in early March before school closures and shelter-in-place orders due to COVID-19, which occurred in late March. For reference, a graphical representation of the hourly approach volumes is shown in **Figure 1**.

The analysis is based on the multiway stop control warrants contained in Chapter 2B, "Regulatory Signs," of the 2011 Texas Manual on Uniform Traffic Control Devices (Texas MUTCD). Three warranting criteria are included in the Texas MUTCD for multiway stop sign installation. These warrants are:

- A. Installing multiway stop control as an interim measure while arrangements are being made for a traffic signal installation;
- B. A crash warrant; and
- C. Minimum traffic volumes.

Winningkoff Road is a two-lane, north-south, undivided roadway with a posted speed limit of 35 miles per hour (mph). Based on a speed study conducted in the vicinity on Tuesday, March 3, 2020, the 85th percentile speed on Winningkoff Road in the study area is 35 mph for the northbound approach and 41 mph for the southbound approach. Raw speed data is also included in the Appendix.

Blondy Jhune Road is a two-lane, east-west, undivided roadway with a posted speed limit of 30 mph. Based on a speed study, the 85th percentile speed on Blondy Jhune Road is 34 mph in the eastbound direction and 33 mph in the westbound direction. Blondy Jhune Road terminates at Winningkoff Road, with only an eastbound approach at the intersection. No dedicated turn lanes exist at the intersection on either roadway. The intersection of these two streets is currently yield-controlled on the Blondy Jhune Road approach with Winningkoff having the right of way.

Based on the traffic volumes at this intersection, Winningkoff Road is considered the *Major Roadway* for this analysis with single lane approaches. Blondy Jhune Road will be considered a *Minor Roadway* with a single lane approach. An aerial photograph of the intersection is provided in **Figure 2**. A vicinity map of the study intersection is provided in **Figure 3**.

Table 1: Existing Traffic Volume Summary – Collected March 3, 2020

Hour	Wi	nningkoff R	oad	Blo	ndy Jhune F	Road
Begin	NB	SB	Total	EB	WB	Total
Degin	Volume	Volume	Volume	Volume	Volume	Volume
0:00	1	1	2	1	-	1
1:00	0	0	0	0	-	0
2:00	0	0	0	0	-	0
3:00	0	1	1	0	-	0
4:00	3	4	7	1	- 4	1
5:00	15	6	21	3		3
6:00	30	18	48	5	1.	5
7:00	83	48	131	17		17
8:00	66	47	113	23		23.
9:00	44	36	80	17.		17
10:00	37	30	67	13	-	13
11:00	27	41	68	34	15.00	34
12:00	27	29	56	32		32
13:00	30	30	60	18	-/ -	18
14:00	27	33	60	36		36
15:00	33	59	92	38	7 -	38
16:00	26	45	71	51		51
17:00	40	50	90	65		65
18:00	26	46	72	52	1 -1	52
19:00	15	24	39	58	(3)	58
20:00	5	5	10	29	-	29
21:00	4	5	9	20	-	20
22:00	1	3	4	7	_	7
23:00	1	2	3	1		1
TOTAL	541	563	1,104	521	0	521

^{*}Highlighted cells indicate the highest 8 hours of major street traffic volumes entering the intersection.

Figure I: Hourly Approach Volumes

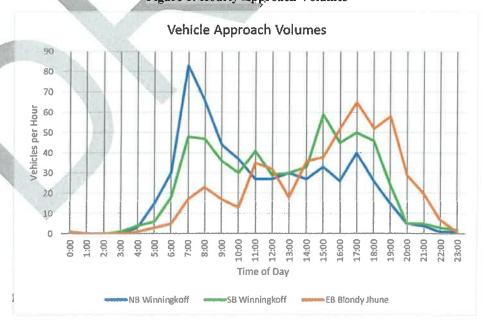


Figure 2: Blondy Jhune Road at Winningkoff Road

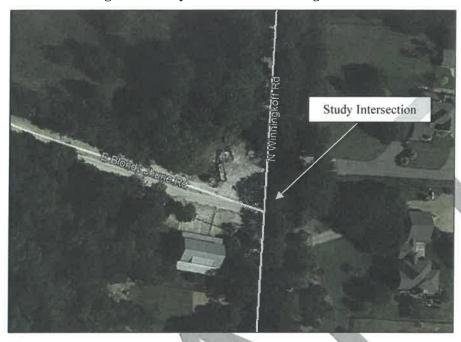
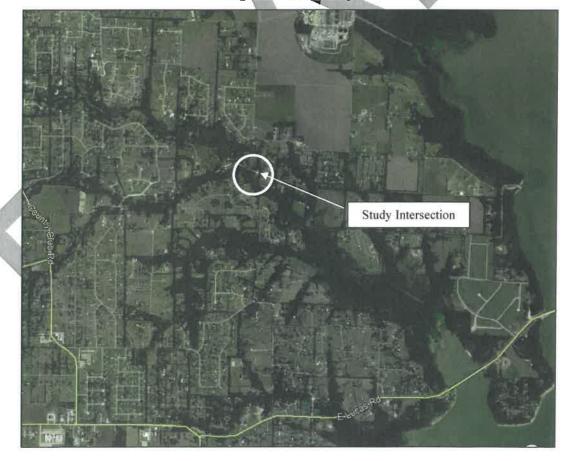


Figure 3: Vicinity Map



MULTIWAY STOP CONTROL WARRANT ANALYSIS

Warrant A

The first warrant allows for multiway stop control as an interim measure to control traffic while arrangements are being made for a traffic signal installation if the traffic signal is warranted and urgently needed. Since a traffic signal has not been warranted at the intersection and it does not appear that the existing volumes would meet one of the first two signal warrants for the intersection, Warrant A is NOT met for the intersection of Blondy Jhune Road and Winningkoff Road.

Warrant B

Warrant B is satisfied when five or more reported crashes, of the type susceptible to correction by a multiway stop control installation, have occurred within a 12-month period. Lee Engineering utilized TxDOT's online Crash Records Information System (CRIS) to identify crashes that have occurred at this intersection between 2015 and 2020. There was one (1) reported crash in the vicinity of this intersection between 2015 and 2020, based on TxDOT's records. This crash involved a single vehicle striking a fixed object due to distracted driving and would not be correctible by installation of multiway stop control. A summary table of the crash information is included in the Appendix.

Therefore, Warrant B is NOT MET for the intersection of Blondy Jhune Road and Winningkoff Road.

Warrant C

Warrant C is based on minimum traffic volumes and delays. Both portions of the warrant (C.1 and C.2) must be met in order to justify an all-way stop.

Warrant C.1. The total vehicular volume entering the intersection from the major street approaches (total of both approaches) must average at least 300 vehicles per hour (vph) for any eight (8) hours of an average day, and

Warrant C.2. The combined vehicular, pedestrian, and bicycle volume from the minor street must average at least 200 units per hour for the same eight (8) hours, with an average delay to minor street vehicular traffic of at least 30 seconds per vehicle during the maximum hour.

These criteria may be reduced to 70 percent of the above requirements when the 85th percentile speed exceeds 40 mph on the major street. Since the 85th percentile speed on the major street (Winningkoff Road) is greater than 40 mph (41 mph), the reduced warranting threshold may be used for this warrant. However, both threshold values will be presented in the analysis. The hourly traffic volumes were previously summarized in Table 1.

The eight (8) hourly periods with the highest number of vehicles entering the intersection were identified and noted in Table 1. The average major street vehicular volume entering each intersection was calculated and compared to the criteria contained in Warrant C.1. **Table 2** summarizes the peak hour and average total vehicular volume entering the intersection from the major street and compares these values to the criteria in Warrant C.1.

Table 2: Major Street (Winningkoff Road) Traffic Volumes

	Volume	s (vph)	War	rant C.1	
Intersection	Peak Hour (7:00 AM)	8-Hour Average	Minimum Required (vph)	8-Hour Average Volume as a % of Required Volume	Met?
Blondy Jhune Road and Winningkoff Road	131	90	300 or 210 (70% Reduction)	90/300 = 30% 90/210 = 43%	No

Based on the collected data, the average eight (8) hour major street vehicular volume entering this intersection (90 vph) does not meet the minimum volume requirement (300 vph) identified in Warrant C.1. The average eight (8) hour major street vehicular volume entering this intersection (90 vph) is only 30% of the required volume to meet the warranting criteria. The average 8-hour major street volume also does not meet the reduced threshold (210 vph) if the 70% reduction is applied based on the 85th percentile speed in the southbound direction (41 mph). The average eight (8) hour major street vehicular volume entering this intersection (90 vph) is only 43% of the reduced volume threshold.

The average minor street entering volumes were also determined for the same eight (8) hours and compared to the criteria contained in Warrant C.2. **Table 3** summarizes the average hourly volume entering the intersection from the minor street and compares the values to the criteria in Warrant C.2.

Table 3: Minor Street (Blondy Jhune Road) Traffic Volumes

	Volume	es (vph)	War	rant C.2	
Intersection	Peak Hour (5:00 PM)	8-Hour Average	Minimum Required (vph)	8-Hour Average Volume as a % of Required	Met?
Blondy Jhune Road and Winningkoff Road	65	37	200 or 140 (70% Reduction)	37/200 = 19% 37/140 = 26%	No

Based on the results shown in Table 3, the average eight (8) hour minor street volume entering the intersection (37 vph) does not satisfy the minimum volume requirement (200 vph) identified in Warrant C.2. The average 8-hour minor street volume also does not meet the reduced threshold (140 vph) if the 70% reduction is applied based on the 85th percentile speed in the southbound direction.

For Warrant C.2 to be met, both the minimum volume and the minor street delay criteria must be satisfied. However, because Warrant C.2 volume criteria were not met, further evaluation of minor street delay was not performed.

Given the existing traffic volumes at the study intersection, Warrant C is NOT satisfied for the intersection of Blondy Jhune Road and Winningkoff Road.

Sight Distance Evaluation

As part of this study, the stopping sight distance for vehicles on Winningkoff Road was assessed based on a field visit performed on April 10, 2020. Motorists traveling along the major road should have adequate time to react and bring their vehicle to a stop after they see a vehicle enter the roadway from the minor street. The recommended stopping sight distance for a design speed of 35 mph is 250 feet, based on the 2018 edition of A Policy on Geometric Design of Highways and Streets published by the American Association of State Highway and Transportation Officials (AASHTO). **Table 4** presents the available stopping sight distance for motorists on Winningkoff Road.

Major Roadway Winningkoff Road Posted Speed Limit 35 mph 85th Percentile Speed 41 mph (southbound) Minor Roadway Blondy Jhune Road Northbound Approach Southbound Based on posted speed: 250 feet Required Stopping Sight Distance Based on 85th percentile speed: 315 feet >400 feet Available Stopping Sight Distance >400 feet Sight Distance Available > Required Yes Yes

Table 4: Stopping Sight Distance Evaluation

As shown in Table 4 and based on the field investigation results, available stopping sight distance is greater than the minimum required for both the posted speed of 35 mph and the 85th percentile speed of 41 mph. Thus, a vehicle traveling on Winningkoff Road at the posted (35 mph) or 85th percentile (41 mph) speed should be able to stop if a vehicle enters the roadway from Blondy Jhune Road, assuming typical perception-reaction time and deceleration. Note that the 85th percentile speed was 41 mph in the southbound direction and 35 mph in the northbound direction.

In addition, intersection sight distance for motorists on the minor street (Blondy Jhune Road) approach to the intersection was assessed. On a stop-controlled approach, the motorist should be able to see if and when adequate gaps exist to perform their desired maneuver.

The intersection sight distance recommended for the eastbound approach of Blondy Jhune Road was estimated using the procedures developed by the American Association of State Highway and Transportation Officials (AASHTO) and published in the 2018 edition of *A Policy on Geometric Design of Highways and Streets*. **Table 5** presents the recommended and available sight distance for vehicles turning onto Winningkoff Road at Blondy Jhune Road.

For the purposes of this study, intersection sight distance for Blondy Jhune Road was assessed using the typical procedures for a *stop-controlled* minor street approach. It should be noted that additional sight distance would be required for a yield-controlled approach, based on AASHTO procedures.

Table 5: Intersection Sight Distance Evaluation - Preliminary Field Visit

Major R	Roadway	Winning	koff Road
Posted Sp	eed Limit	35	mph
85th Percei	ntile Speed	41 mph (se	outhbound)
Minor R	loadway	Blondy Л	nune Road`
Аррі	roach	Eastbound	Westbound
Required Intersection	Posted Speed	390	feet
Sight Distance	85th Percentile Speed	455	feet
Available Sight D	istance to the Left	385 feet	N/A
Available Sight Di	stance to the Right	>455 feet	N/A
Sight Distance Av	ailable > Required		THE MINE
To the	e Left	No	N/A
To the	Right	Ýes	N/A

As shown in Table 5, the available sight distance to the right for the eastbound approach of Blondy Jhune Road meets requirements, based on conditions at the time of the preliminary field visit. However, sight distance to the left is less than required. Sight distance is obstructed by vegetation, as shown in **Figure 4**.

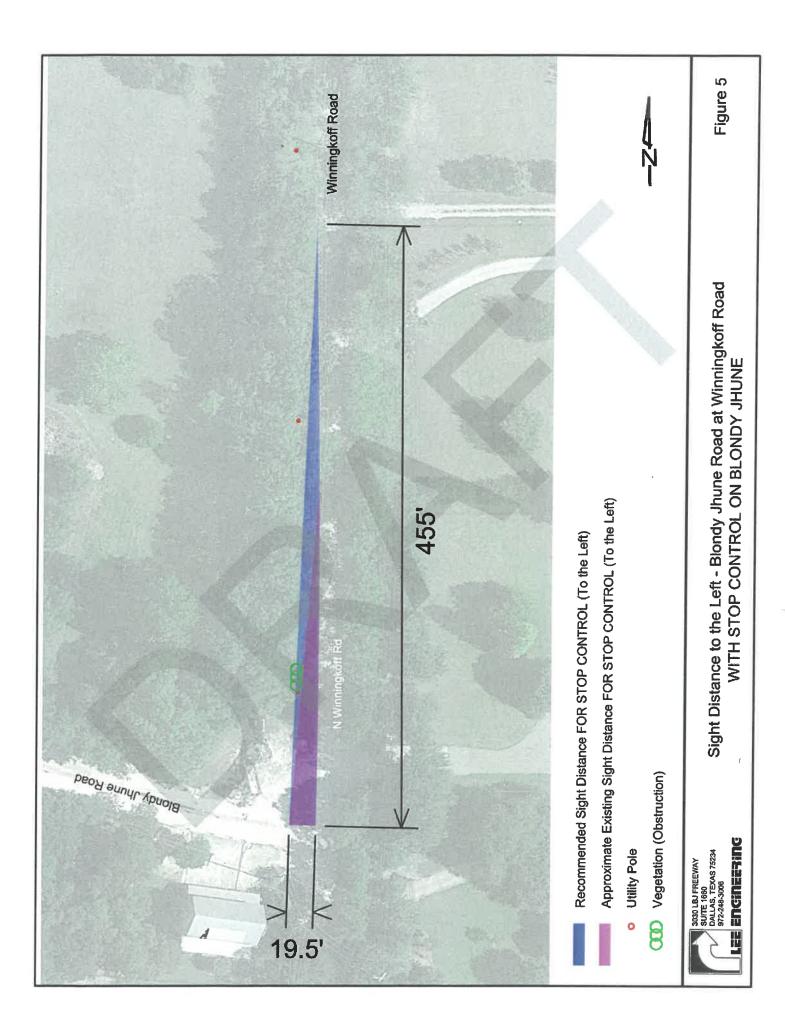
Figure 4: Sight Distance to the Left for Eastbound Blondy Jhune Road - Preliminary Field Visit

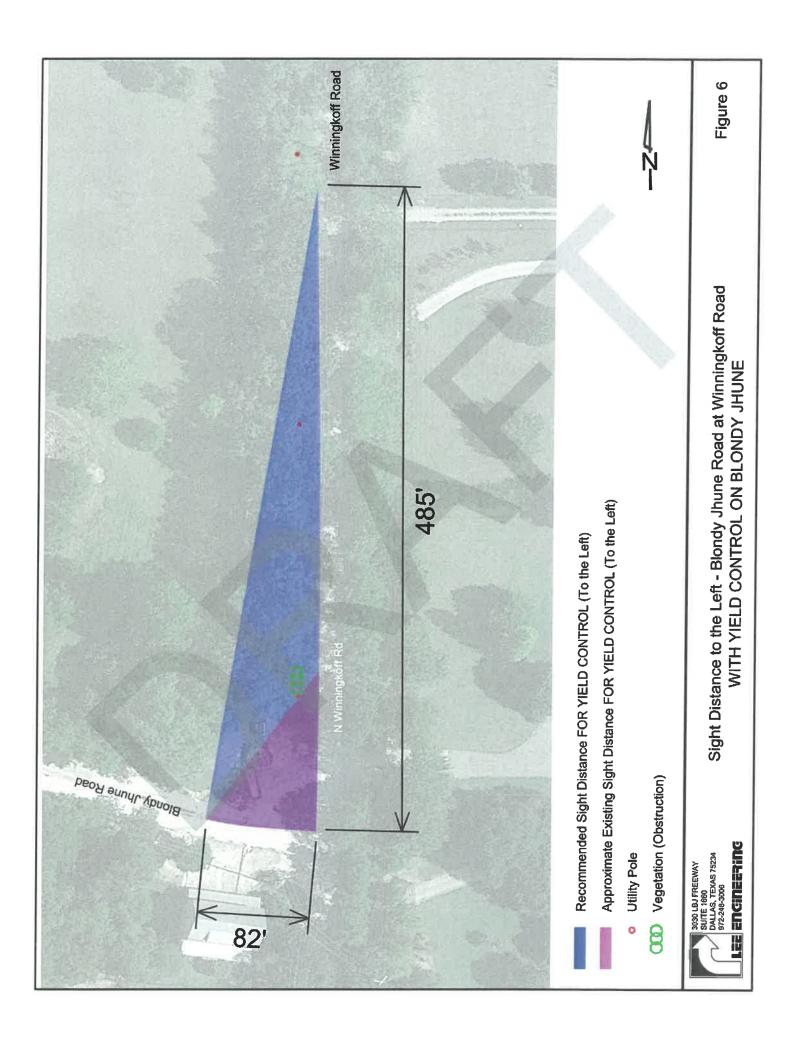


Additionally, aerial illustrations of the maximum available and the required sight distance visibility triangles are shown in **Figure 5** and **Figure 6** for stop-control and yield-control, respectively.

As shown in Figure 5, a utility pole and vegetation are currently within the sight triangle for eastbound Blondy Jhune Road looking to the left (north). Based on these results, we recommended that the City remove or trim all vegetation east of the utility poles along Winningkoff Road and within an additional area as identified in **Figure 7**. Vegetation should continue to be kept clear of this area.

Note that, as shown in Figure 6, additional vegetation removal would be required to provide intersection sight distance for a yield control condition on Blondy Jhune Road. Based on this sight distance limitation, it is recommended to replace the existing yield-control on Blondy Jhune with stop-control.





After City staff trimmed vegetation along the west side of Winningkoff Road, Lee Engineering performed a follow-up field visit on May 21, 2020, to reassess intersection sight distance for motorists on the minor street (Blondy Jhune Road) approach to the intersection. **Table 6** presents the recommended and available sight distance for vehicles turning onto Winningkoff Road at Blondy Jhune Road identified in the second field visit.

Table 6: Intersection Sight Distance Evaluation - Second Field Visit

Major F	Roadway	Winning	koff Road
Posted Sp	peed Limit	35 1	nph
85th Percen	ntile Speed	40 mph (so	outhbound)
Minor F	Roadway	Blondy Ji	une Road
Appr	roach	Eastbound	Westbound
Required Intersection	Posted Speed	390	feet
Sight Distance	85th Percentile Speed	45.5	feet
Available Sight D	istance to the Left	>500 feet	N/A
Available Sight Di	stance to the Right	>455 feet	N/A
Sight Distance Av	ailable > Required	MANA VE	Ne salvatovića, v
To the	e Left	Yes	N/A
To the	Right	Yes	N/A

As shown in Table 6, the available sight distance to the left for the eastbound approach of Blondy Jhune Road meets requirements after vegetation was trimmed, based on conditions at the time of the follow-up field visit on May 21, 2020. Based on these results, the City should continue to keep vegetation trimmed within the sight triangle. For reference, the improved sight distance with vegetation trimmed is shown in **Figure 8**.

Finally, while sight distance to the right-exceeds the requirements at this time, it was noted during this field visit that there is the potential for vegetation to obscure visibility as it grows, as identified in Figure 9. It is recommended that the City also trim and maintain the vegetation on the east side of Winningkoff Road between Blondy Jhune Road and the bridge to the south, as shown in Figure 10. Vegetation (shrubs, overhanging branches, etc.) should be trimmed to the tree line.

Figure 8: Sight Distance to the Left for Eastbound Blondy Jhune Road – Second Field Visit

Vegetation, as it grows, may obstruct road visibility

Figure 9: Sight Distance to the Right for Eastbound Blondy Jhune Road

E-Blondy-Jhune-Rd-Trim vegetation to tree line within this area on east side of Winningkoff Road Beginning of bridge structure on Winningkoff Road

Figure 10: Additional Vegetation to Trim and Maintain on East Side of Winningkoff Road

Optional Considerations for Multiway Stop Control Studies

In addition to the warrants/above, the *Texas MUTCD* (Sec. 2B.07) allows for other criteria to be considered for the potential installation of a multiway stop. This includes:

- Need to control left-turning conflicts;
- Need to control vehicle and pedestrian conflicts near locations that generate high pedestrian volumes;
- Provide safe turning movements where sight visibility is an issue; and
- Improve traffic operational characteristics of the intersection, or identify priority at "an intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multiway stop control would improve traffic operational characteristics of the intersection."

Based on the City of Lucas *Master Thoroughfare Plan* map (dated March 2017), Winningkoff Road and Blondy Jhune Road are both classified as a Type C Neighborhood Connector with 50 feet of right of way, as shown in **Figure 11**. However, the installation of multiway stop control is not anticipated to improve traffic operations at the intersection.

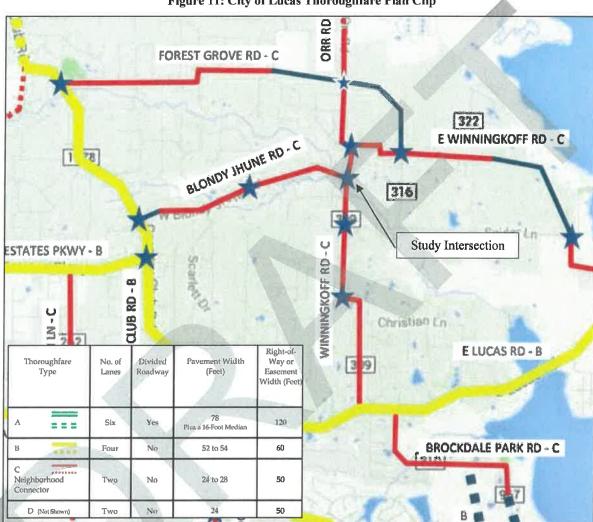


Figure 11: City of Lucas Thoroughfare Plan Clip

Source: City of Lucas 2017 Comprehensive Plan

As previously stated, there was one crash at this intersection within the past five years. Thus, there do not appear to be significant left-turn conflicts. Additionally, while pedestrian volumes were not collected, it is not anticipated that significant pedestrian volumes would be present at this intersection based on the location, lack of pedestrian facilities, and the surrounding land uses. Finally, sight distance meets requirements for stop-control on the minor street approach, based on conditions at the time of the follow-up field visit on May 21, 2020. Thus, the additional criteria for consideration of a multiway stop is not met.

CONCLUSION

Based on the existing traffic volumes and this multiway stop control warrant analysis, warrants are not satisfied for the intstallation of multiway stop control at the intersection of Blondy Jhune Road and Winningkoff Road. A summary of the multiway stop-control warrants is provided in **Table 7**.

Table 7: Warrant Summary - Winningkoff Road and Blondy Jhune Road

Warrant	Warrant Met?	Notes
A – Interim measure until signal installation	NO	Traffic signal is not planned
B – Crash Warrant	NO	Crash history does not meet warrants
C – Minimum Traffic Volumes	NO	Average volumes do not exceed requirements

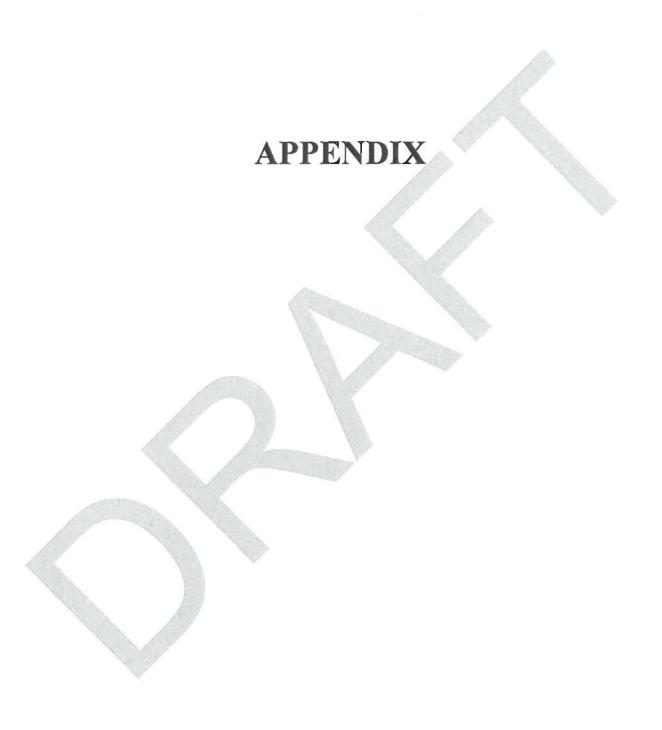
The intersection of Blondy Jhune Road and Winningkoff Road also does not meet additional criteria for the installation of a multiway stop. Additionally, based on observed sight distance, crash history, and current operation, the additional criteria for consideration of a multiway stop is not met.

Based on the low existing volumes, lack of reported accidents, and the *Texas MUTCD* allowances for other criteria, a multiway stop is not recommended at this intersection at this time.

Based on the sight distance assessment presented in this report, we recommend <u>installing stop-control</u> on the eastbound approach of Blondy Jhune Road at Winningkoff Road rather than the existing yield-control.

We also recommend that the City trim and maintain the vegetation on the east side of Winningkoff Road between Blondy Jhune Road and the bridge to the south. Vegetation (shrubs, overhanging branches, etc.) should be trimmed to the tree line. The City should also continue to trim and maintain the vegetation on the west side of Winningkoff Road north of Blondy Jhune Road (per Figure 7).

If you have any comments or questions regarding this study, please feel free to contact us at your convenience.



TXDOT CRASH HISTORY (2015-2020) - BLONDY JHUNE ROAD AT WINNINGKOFF ROAD

Crash ID Year	Crash Year	Day	Time	Crash Description	Crash Type	Contributing Factors	Light	Weather	Pavement Condition	Crash	Pavement Crash Prevented by Condition Severity Multiway Stop
16916288	2019	FRIDAY	8:36 PM	16916288 2019 FRIDAY 8:36 PM ONE MOTOR VEHICLE - GOING STRAIGHT	FIXED	ATTENTION DIVERTED FROM DRIVING (CELL/MOBILE DEVICE USE - TEXTING)	DARK, NOT LIGHTED	CLEAR	WET	N - NOT INJURED	ON

GRAM Traffic NTX Inc.

Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ BLONDY JHUNE RD Site Code: Start Date: 03/03/2020 Page No: 1

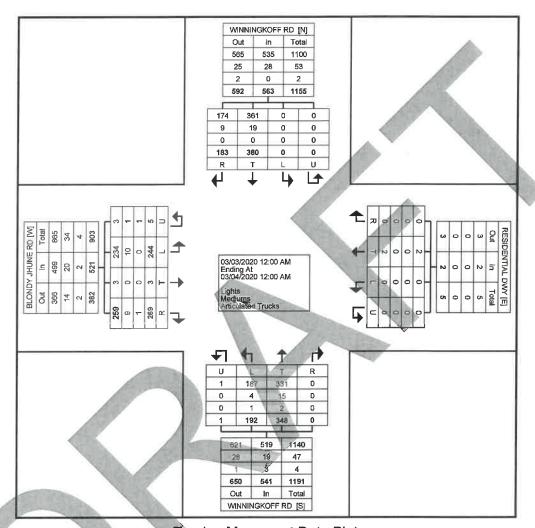
Turning Movement Data

						V	1	urni	ng ivi	ove	men	t Dai	a			i					v.
		MINI	NINGKO	FF RD			RESID	DENTIA	L DWY				IINGKO				- 400	DY JHU			
		S	outhbou	ınd			W	/estbou	nd			N	orthbou	nd			ALC:	astbour	nd		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Int. Total
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.0	0	0	0	0	0	0
12:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0 /	0	0	0	. 1	0	1	2
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	179	_1	0	0	1	0	1	3
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	O	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0./	0	0	0	6	0	0	0	- 0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	P	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0.	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	11	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	3
4:30 AM	0	0	1	0	2	0	0	0	0	0	4	0	0	0	1	0	0	0	0	0	3
4:45 AM	0	1	3	0	4	.0	0	0	0	0	2	1	0	0	3	0	0	1	0	1	8
5:00 AM	0	0	1	0	4	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	3
5:15 AM	0	0	1	0 /		0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	5
5:30 AM	0	0	1	6	1	0	0	0	0	8	2	5	0	0	7	1	0	0	0	1	9
5:45 AM	0	2	1 2	0	3	0	0	0	0	0	ь	3	0	0	3	1	0	0	0	1	7
Hourly Total	0	2	4	0	6	0	0	0	0	0	4	11	0	0	15	2	0	1	0	3	24
6:00 AM	0	1	2	0	3	0/	0	0	0	.0	0	4	0	0	4	0	0	0	0	0	7
6:15 AM	0	2	3	0	5	0	0	0 .	0	0	1	5	0	0	6	1	0	1	0	2	13
6:30 AM	0	1	1	0	2.4	0	0	0	0	=16	4	5	0	0	9	1	0	0	0	1	12
6:45 AM	0	4	4	0	В	0	0	0	0	0	5	6	0	0	11	0	0	2	0	2	21
Hourly Total	0	8	10	0	18	0	0	0	0	0	10	20	0	0	30	2	0	3	0	5	53
7:00 AM	0	2	7	0	9	0	0	0	0	0	6	5	0	0	11	3	0	2	0	5	25
7:15 AM	0	6	3	0	9	0	0	0	0	0	5	22	0	0	27	2	0	1	0	3	39
7.30 AM	0	4	10	0	14	0	0	0	0	0	10	14	0	0	24	4	0	1	0	5	43
7:45 AM	0	11	5	0	16	0	0	0	0	0	7	14	0	0	21	2	0	2	0	4	41
Hourly Total	0	23	25	0	48	0	0	0	0	0	28	55	0	0	83	11	0	6	0	17	148
8:00 AM	0	6	8	0	14	0	0	0	0	0	7	13	0	0	20	5	0	4	0	9	43
8:15 AM	0	7	7	0	14	0	0	0	0	0	10	6	0	0	16	2	0	1	0	3	33
8:30 AM	0	2	4	0	6	0	0	0	0	0	7	9	0	0	16	4	0	3	0	7	29
8:45 AM	0	7	6	0	13	0	0	0	0	0	5	9	0	0	14	0	0	4	0	4	31
Hourly Total	0	22	25	0	47	0	0	0	0	0	29	37	0	0	66	11	0	12	0	23	136
9:00 AM	0	3	2	0	5	0	0	0	0	0	3	11	0	0	14	4	0	3	0	7	26
9:15 AM	0	7	3	0	10	0	0	0	0	0	2	6 7	0	0	8	3	0	0	0	4	20
9;30 AM	0	8	5	0	13		0	0	0	0	3	10	0	0	13	3	0	1	0	4	26 25
9:45 AM	0	4	4	0	36	0	0	0	0	0	10	34	0	0	44	12	0	5	0	17	97
Hourly Total 10:00 AM	0	22 5	14	0	7	0	0	0	0	0	3	7	0	0	10	4	0	0	0	4	21
10:00 AM 10:15 AM	0	3	7	0	10	0	0	0	0	0	3	5	0	0	8	2	0	1	0	3	21
10:30 AM	0	5	2	0	7	0	0	0	0	0	5	5	0	0	10	1	0	1	0	2	19
10:45 AM	0	4	2	0	6	0	0	0	0	0	3	6	0	0	9	2	0	2	0	4	19
Hourly Total	0	17	13	0	30	0	0	0	0	0	14	23	0	0	37	9	0	4	0	13	80
11:00 AM	0	10	4	0	14	0	0	0	0	0	2	5	0	0	7	4	0	5	0	9	30
11:15 AM	0	8	2	0	10	0	0	0	0	0	2	5	0	0	7	2	0	4	0	6	23
11:30 AM	0	8	0	0	8	0	1	0	0	1	1	1	0	0	2	5	0	6	0	11	22
11:45 AM	0	7	2	0	9	0	0	0	0	0	2	9	0	0	11	6	0	2	0	8	28
Hourly Total	0	33	8	0	41	0	1	0	0	1	7	20	0	0	27	17	0	17	0	34	103
12:00 PM	0	6	4	0	10	0	0	0	0	0	4	3	0	0	7	3	0	5	0	8	25
12:15 PM	0	4	1	0	5	0	0	0	0	0	1	4	0	0	5	3	0	1	1	5	15

12:30 PM	0	7	3	0	10	0	0	0	0	0	5	3	0	0	8	1	0	7	0	8	26
12:45 PM	0	4	0	0	4	0	0	0	0	0	2	5	0	0	7	5	0	5	1	11	22
Hourly Total	0	21	8	0	29	0	0	0	0	0	12	15	0	0	27	12	0	18	2	32	88
1:00 PM	0	8	2	0	10	0	0	0	0	0	3	5	0	0	8	1	0	3	0	4	22
1:15 PM	0	4	2	0	6	0	0	0	0	0	1	2	0	0	3	1	0	2	0	3	12
1:30 PM	0	5	1	0	6	0	0	0	0	0	4	5	0	0	9	2	0	3	0	5	20
1	0	7	1	0	8	0	0	0	0	0	1	9	0	0	10	0	0	6	0	6	24
1:45 PM						_				0	9		0	0.	30		0		0		_
Hourly Total	0	24	6	0	30	0	0	0	0		_	21				4		14		18	78
2:00 PM	0	8	5	0	13	0	0	0	0	0	3	4	0	0	7	5	0	2	0	7	27
2:15 PM	0	4	5	0	9	0	0	0	0	0	4	4	0	0	8	6	0	5	2	13	30
2:30 PM	0	6	11	0	7.	0	0	0	0	0	1	2	0	0	3	3	2	2	1	8	18
2:45 PM	0	4	0	0	4	0	0	0	0	0	3	6	0	0	9	0	0	8	0	8	21
Hourly Total	0	22	11	0	33	0	0	0	0	0	11	16	0	0	27	14	2	17	3	36	96
3:00 PM	0	8	7	0	15	0	0	0	0	0	0	4	0	0	4	3	0	5	0	8	27
3:15 PM	0	8	1_	0	9	0	0	0	0	0	1	11	0	0	12	3	0	5	0	8	29
3:30 PM	0	19	3	0	22	0	0	0	0	0	2	5	0	0	7	1	0	1_	0	8	37
3:45 PM	0	12	1	0	13	0	0	0	0	0	1	9	0	0	10	7	0	7	0	14	37
Hourly Total	0	47	12	0	59	0	0	0	0	0	4	29	0	0	33	20	0	18	0	38	130
4:00 PM	0	3	2	0	5	0	0	0	0	0	4	6	0	0	10	3	0	3	0	6	21
4:15 PM	0	6	1	0	7	0	0	0	0	0	5	2	0	0	7	8	0	11	0	19	33
4:30 PM	0	16	6	0	22	0	0	0	0	0	0	5	0	<u>_0</u>	5	7	0	6	0	13	40
4:45 PM	0	11	0	0	11	0	1	0	0	1	2	2	0	.0	4	8	0	5	0	13	29
Hourly Total	0	36	9	0	45	0	1	0	0	1	11	15	0	0	26	26	0	25	0	51	123
5:00 PM	0	9	2	0	11	0	0	0	0	0	5	5	0	0	10	4	0	9	0	13	34
5:15 PM	0	8	4	0	12	0	0	0	0	0	4	9	0	0	13	9	0	13	0	22	47
5:30 PM	0	11	5	0	16	0	0	0	0	0	3	2	0	0	5	6	0	9	0	15	36
	0	7	4	0	11	0	0	0	0	0	4	8	0	0	12	7	1	7	0	15	38
5:45 PM						_					-	24	0	0	40	26		38	0		
Hourly Total	0	35	15	0	50	0	0	0	0	0	16	4	0		-		1			65	155
6:00 PM	0	7	1	0	8	0	0	0	0	0	6	-	_	0	10	6	0	8	0	14	32
6:15 PM	0	13	1	0	14	0	0	0	0	0	4	1	0		5	4	0	10	0	14	33
6:30 PM	0	10	1	0	11	0	0	0	0	0	3	4	0	0	7	6	0	6	0	12	30
6:45 PM	0	7	6	0	13	0	0	0	0	0	4	0	0	0	4	8	0	4	0	12	29
Hourly Total	0	37	9	0	46	0	0	0	0	0	17	9	0	.0	26	24	0	28	0	52	124
7:00 PM	0	2	2	0	4	0	0	0	0	0	2	2	0	0	4	3	0	12	0	15	23
7:15 PM	0	5	2	0	7	0	0	0	0	0	- 1		0	0	2	8	0	10	0	18	27
7:30 PM	0	4	11	0	5	0	0	0	0	0	1	3	0	0	4	10	0	3	0	13	22
7:45 PM	0	5	3	0	8	0	0	0	0	0	3	2	0	0	5	5	0	7	0	12	25
Hourly Total	0	16	8	0	24	0	0	0	0	0	7	8	0	0	15	26	0	32	0	58	97
8:00 PM	0	1	1	0	2	0	0	0	0	0	0	1	0	.D	1	5	0	6	0	11	14
8:15 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5	0	5	0	10	14
8:30 PM	0	0	1	0	-1	0	0	0	0	0	0	0	0	0	0	2	0	2	0	4	5
8:45 PM	0	0	0	0 /	0	0	0	0	0	0	1	1	0	0	2	2	0	2	0	4	6
Hourly Total	0	3	2	0	5	0	0.	0	0	0		4	0	0	5	14	0	15	0	29	39
9:00 PM	0	2	1.2	0	3	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	6
9:15 PM	0	0	0	70	0	0	0	0	0	0	0	0	0	0	0	4	0	7	0	11	11
9:30 PM	0	0	0	0	0	0.4	0	0	0	.0	ó	2	0	0	2	2	0	2	0	4	6
9:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	6
				0		0	0	0		0	0	4	0	0	4	8	0		0		
Hourly Total	0	4	1	-	5.	0	0	0	0	0	0	0	0	0	0	2	0	12	0	20	29
10:00 PM	0	0	0	0	0	100		_			_		_			_		0		2	2
10:15 PM	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	4
10:30 PM	0	1_	0	0	-17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:45 PM	0	1	0	0	1	0	20	0	0	0	0	1	0	0	1	0	0	2	0	2	4
Hourly Total	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	5	0	2	0	7	11
11:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45.PM	0	0	0	0	0	0	0	0	0	0	0	_1_	0	0	1	0	0	0	0	0	1
Hourly Total	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	4
Grand Total	0	380	183	0	563	0	2	0	0	2	192	348	0	1	541	244	3	269	5	521	1627
Approach %	0.0	67.5	32.5	6.0	7 .	0.0	100.0	0.0	0.0		35.5	64.3	0.0	0.2	-	46.8	0.6	51.6	1.0		1.
Total %	0.0	23.4	11.2	0.0	34.6	0.0	0.1	0.0	0.0	0.1	11.8	21.4	0.0	0.1	33.3	15.0	0.2	16.5	0.3	32.0	-
Lights	0.0	361	174	0	535	0.0	2	0	0	2	187	331	0	1	519	234	3	259	3	499	1555
	-	95.0	95.1		95.0	-	100.0	-	-	100.0	97.4	95.1	-	100.0	95.9	95.9	100.0	96.3	60.0	95.8	95.6
% Lights			7																		
Mediums	0	19	9	0	28	0	0	0	0	0	4	15	0	0	19	10	0	9	20.0	20	67
	-	5.0	4.9	-	5.0	-	0.0	•	-	0.0	2.1	4.3		0.0	3.5	4.1	0.0	3.3	20.0	3.8	4.1
% Mediums																					
% Mediums Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	1	1	2	5

Arlington, Texas, United States 76013 817.265.8968

Count Name: WINNINGKOFF RD @ BLONDY JHUNE RD Site Code: Start Date: 03/03/2020 Page No: 3



Turning Movement Data Plot

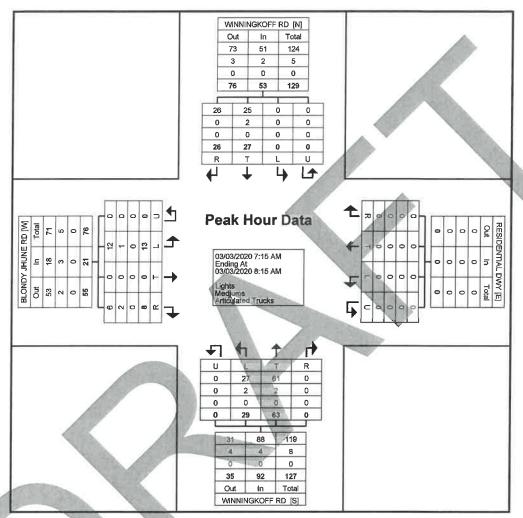
Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ BLONDY JHUNE RD Site Code: Start Date: 03/03/2020 Page No: 4

Turning Movement Peak Hour Data (7:15 AM)

	1	WIN	NINGKO	FF RD			RESII	DENTIA	LDWY		ľ	WIN	IINGKO	FF RD	_ ′	1	BLON	DY JHU	NE RD		1
			outhbou				٧	Vestbou	nd			N	lorthbou	nd			1	astbour	ıd		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	int. Total
7:15 AM	0	6	3	0	9	0	0	0	0	0	5	22	0	0	27	/2	0	1	0	3	39
7:30 AM	0	4	10	0	14	0	0	0	0	0	10	14	0	0	24	-4	0	1	0	5	43
7:45 AM	0	11	5	0	16	0	0	0	0	0	7	14	- 0	0	21	2	0	2	0	4	41
8:00 AM	0	6	8	0	14	0	0	0	0	0	7	13	0	0 💉	20	5	0	4	0	9	43
Total	0	27	26	0	53	0	0	0	0	0	29	63	0	0	92	13	0	8	0	21	166
Approach %	0.0	50.9	49.1	0.0	-	0.0	0.0	0.0	0.0	-	31.5	68.5	0.0	0.0		61.9	0.0	38 1	0.0	-	-
Total %	0.0	16.3	15.7	0.0	31.9	0.0	0.0	0.0	0.0	0.0	17.5	38.0	0,0	g.ò	55.4	7.8	0.0	4,8	0.0	12,7	-
PHF	0.000	0.614	0.650	0.000	0.828	0,000	0.000	0.000	0.000	0.000	0.725	0.716	0.000	0,000	0.852	0.650	0.000	0.500	0.000	0.583	0.965
Lights	0	25	26	0	51	0	0	0	0	0	27	61	0	0	88	12	0	6	0	18	157
% Lights	-	92.6	100.0		96.2	-	-				93.1	96.8	7		95,7	92.3		75.0	-70	85.7	94.6
Mediums	0	2	0	0	2	0	0	0	0	0	2	2	0	0	A	1	0	2	0	- 3	9
% Mediums	-	7.4	0.0	-	3.8	-	-	-	-	-	6,9	3.2		- 4	4.3	7.7	-	25.0	-	14.3	5.4
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
% Articulated Trucks	-	0.0	0.0		0.0	*	-	-	3(5)	-	0.0	0.0			0.0	0.0	-	0.0	-	0.0	0.0



Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ BLONDY JHUNE RD Site Code: Start Date: 03/03/2020 Page No: 5



Turning Movement Peak Hour Data Plot (7:15 AM)

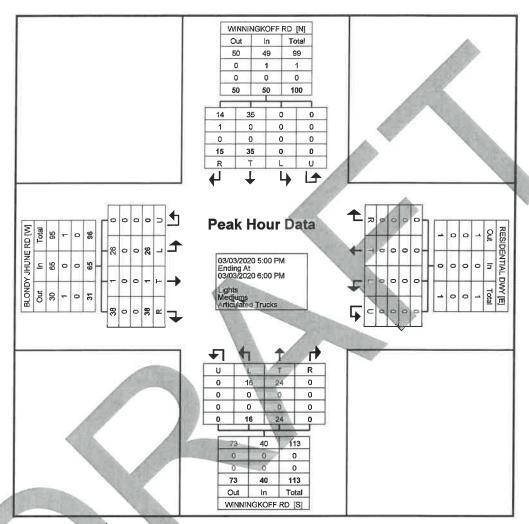
Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ BLONDY JHUNE RD Site Code: Start Date: 03/03/2020 Page No: 6

Turning Movement Peak Hour Data (5:00 PM)

					i ui	imia	IVIO		SIILI	Car	LIUU	ט בו	ila (i	0.00	1 141/						·
	1	WINI	NINGKO	FF RD			RESI	DENTIA	L DWY			WIN	NINGKO	FF RD		İ	BLON	DY JHU	NE RD		1
		s	Southbou	ind			A	Vestbou	nd			- 1	Northbou	nd			15	astbour	nd		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Tum	App. Total	Int. Total
5:00 PM	0	9	2	0	11	0	0	0	0	0	5	5	0	0	10	14	0	9	0	13	34
5:15 PM	0	8	4	0	12	0	0	0	0	0	4	9	0	0	13	9	0	13	0	22	47
5:30 PM	0	11	5	0	16	0	0	0	0	0	3	2	0	0	5	6	0	9	0	15	36
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Total	0	35	15	0	50	0	0	0	0	0	16	24	0	of	40	26	7	38	0	65	155
Approach %	0.0	70.0	30.0	0.0	-	0.0	0.0	0.0	0.0	-	40.0	60.0	0.0	0.0		40.0	1.5	58.5	0.0		-
Total %	0.0	22.6	9.7	0.0	32.3	0.0	0.0	0.0	0.0	0.0	10.3	15.5	0.0	g.ò	25.8	16.8	0.6	24.5	0.0	41.9	-
PHF	0.000	0.795	0.750	0.000	0.781	0.000	0.000	0.000	0.000	0.000	0.800	0.667	0.000	ó.000	0.769	0.722	0.250	0.731	0.000	0.739	0.824
Lights	0	35	14	0	49	0	0	0	0	0	16	24	0	0	40	26	1	38	0	65	154
% Lights		100.0	93.3	-	98.0	-	-	-	-	-	100.0	100.0		-	100.0	100.0	100.0	100.0		100.0	99.4
Mediums	0	0	1	0	1	0	0	0	0	0	0 🗸	0	0	0	6	0	0	0	0	0	1
% Mediums	-	0.0	6.7		2.0	-	-	-		-	0.0	0.0	-	- 4	0.0	0.0	0.0	0.0	-	0.0	0.6
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	6	-0	0	0	0	0	0	0
% Articulated Trucks	-	0.0	0.0	-	0.0	-	-	-	-	-	0.0	0.0		37	0.0	0.0	0.0	0.0	-	0.0	0.0



Arlington, Texas, United States 76013 817.265.8968 Count Name: WINNINGKOFF RD @ BLONDY JHUNE RD Site Code: Start Date: 03/03/2020 Page No: 7



Turning Movement Peak Hour Data Plot (5:00 PM)

GRAM Traffic North Texas, Inc.
1120 W Lovers Laggondy JHUNE RD WEST OF WINNINGKOFF RD - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

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21 MPH 28 MPH 34 MPH 37 MPH	
10 MPH Pace Speed: 26-35 MPH Number in Pace: 233 Percent in Pace: 62.5% f'Vehicles > 55 MPH: 0.0%	6-35 MPH 233 62.5% 0
: 28 MPH	o.o.%

GRAM Traffic North Texas, Inc.
1120 W Lovers Lageondy JHUNE RD WEST OF WINNINGKOFF RD - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

382 North	95th	Percent	*	*	*	*	39	43	8	56	33	30	35	29	34	42	33	38	37	38	37	39	39	34	*	k								
Latitude: 33' 6.5682 North	85th	Percent	*	*	*	*	37	4	32	28	29	29	27	58	32	8	59	32	8	98	34	38	37	æ .	* .	k								
Latitud		Total		c	0	0	4	9	12	34	40	17	18	6	4	တ	7	13	17	5 6	19	12	ო	← (0 (0 0	208	08:00	40	17:00	56	268		
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	71	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0 0	5 0	0 0%	200	d			0 200	800	
	99	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 (0	0 0	0 0	00	1		-			0 80	16	
	61	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0	0 0	0			d			` ` `		40
	26	09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	.	0 1	0 0	000	00	%0	P	7			0 %		
	51	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0	%0				þ.	0 %		
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b.	26	9	0	0	0	0			1	7	4	∞ •	ო .	4 1	C I	ი ,	4 (1 0	- 1	F '	ဂ (1 7	- 0	0 0	0 0	8	35.4%	08:00	4	17:00	-	95 35.4%	9 9 9 9 	
	21	25	0	0	0	0	0	-	0	4	<u>6</u>	ဖ	o ·	4 0	, c	۰ د	- 0	V 4	- ,	- 0	n (v c	0	> C	o c	9	22.4%	00:20	14	12:00	က	60 22 4 %	15th Percentile 50th Percentile 85th Percentile 95th Percentile	10 MPH Pace Speed Number in Pace Percent in Pace of Vehicles > 55 MPH of Vehicles > 55 MPH Mean Speed(Average)
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WB	Start	Time	03/03/20	01:00	05:00	03:00	04:00	05:00	00:90	02:00	08:00	00:00	10:00	11:00	M 7 7 1	13:00	14:00	15:00	10.00	17:00	18:00	20:00	24.00	22:00	23:00	Total	Percent	AM Peak	Vol.	PM Peak	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	lotal Percent		Stats

GRAM Traffic North Texas, Inc. 1120 W Lovers Lageondy JHUNE RD WEST OF WINNINGKOFF RD - 24 HR - SPEED W 4 SEC FILTER Arlington, TX 76013 Station ID:

Latitude: 33' 6.5682 North	95th	Percent	34	*	*	*	39	42	35	29	32	29	29	28	33	40	32	38	38	37	38	38	39	38	43	44												
de: 33' 6.5	85th	Percent	34	*	*	*	38	39	33	27	5	28	27	25	31	33	29	35	34	35	34	32	37	32	39	4												
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EB, WB	Start	Lime	03/03/20	01:00	05:00	03:00	04:00	02:00	00:00	02:00	08:00	00:00	10:00	11:00	12 PM	13:00	14:00	15:00	10:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00			AM Peak 0		Vol.	Total			Stats			

GRAM Traffic North Texas, Inc.
1120 W Lovers Laving NORTH OF BLONDY JHUNE RD - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

300 South	95th	Percent	*	*	*	*	34	47	43	000	30	8	8 6	68	42	40	45	20	40	42	3 12	2 6	37	30	9 %	8 8	5															
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NB	Start	Ime	03/03/20	01:00	02:00	03:00	04:00	02:00	00:90	02:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00			AM Peak			Total	Percent					State				

GRAM Traffic North Texas, Inc.
1120 W Lovers LameningKOFF RD NORTH OF BLONDY JHUNE RD - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

95th	Dorron	בו מו	36	*	*																		40												
85th	Derrent		39	*	*	44	33	200	45	39	39	39	37	33	0.5	41	42	30	43	5 5	44	2 7	4 4	41	47	. 4	30.	;							
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Start	Time	03/03/20	04.00	00:00	02.00	03:00	04:00	02:00	00:00	00.00	07:00	08:00	00:60	10:00	11:00	12 PM	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total	Percent	AM Peak	PM Peak	Vol.	Total	Percent	Stats

GRAM Traffic North Texas, Inc.
1120 W Lovers LandningKOFF RD NORTH OF BLONDY JHUNE RD - 24 HR - SPEED W 4 SEC FILTER
Arlington, TX 76013
Station ID:

000 South		95th	Percent	30	*	*	44	8	45	44	43	43	9 5	38	42	1.4	5. 5.	44	45	45	54	7	4 5	30 4	88	3.5	30	3															
Latitude: 0' 0.0000 South		85th	Percent	30	*	*	44	8	8 8	4	37	37	37	32	8 8	8 %	9 68	8 %	4	30	41	. 6	P &	3 6	41	5	3 6	5															
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STATE OF TEXAS	§	
	§	AGREEMENT FOR PROFESSIONAL SERVICES
COUNTY OF COLLIN	§	

This agreement ("Agreement") is made by and between the City of Lucas, Texas ("City") and Lee Engineering, a Professional Engineering Firm ("Professional") (each a "Party" and collectively the "Parties"), acting by and through their authorized representatives.

RECITALS:

WHEREAS, the City desires in connection with the Task 1) Traffic Data Collection (collected twice, before and after Fall 2019 school session starts); and Task 2) Multi-Way Stop Warrant Analysis for the Intersection of Winningkoff Road and E. Blondy Jhune Road (the "Project") to engage the services of the Professional as an independent contractor, and not as an employee, to provide the services described in Exhibit "A" (the "Scope of Services") on the terms and conditions set forth in this Agreement; and

WHEREAS, the Professional desires to render professional services for the City on the terms and conditions set forth in this Agreement;

NOW THEREFORE, in exchange for the mutual covenants set forth herein, and other valuable consideration, the sufficiency and receipt of which are hereby acknowledged, the Parties agree as follows:

Article I Term

- 1.1 This Agreement shall commence on the last date of execution hereof ("Effective Date") and continue until completion of the services, unless sooner terminated as provided herein.
- 1.2 Either Party may terminate this Agreement by giving thirty (30) days prior written notice to the other Party. In the event of such termination the Professional shall deliver to City all finished and unfinished documents, data, studies, surveys, drawings, maps, models, reports, photographs or other items prepared by the Professional in connection with this Agreement. Professional shall be entitled to compensation for any services completed to the reasonable satisfaction of the City in accordance with this Agreement prior to such termination.

Article II Scope of Service

- 2.1 The Professional shall perform the services in connection with the Project as set forth in Exhibit "A", Scope of Services.
- 2.2 The City shall, prior to commencement of services, provide the Professional with the information set forth in Task 3, if any.

- 2.3 The Parties acknowledge and agree that any and all opinions provided by the Professional in connection with the Scope of Services represent the professional judgment of the Professional, in accordance with the professional standard of care applicable by law to the services performed hereunder.
- 2.4 Upon execution of this Agreement the City has the right to use the Professional's instruments of service for purposes of constructing, using, maintaining, altering and adding to the Project, provided that the City substantially performs its obligations, including prompt payment of all sums when due, under this Agreement. The City's Project Contractor, Construction Manager. Subcontractors, Sub-subcontractors, and material or equipment suppliers, as well as the City's consultants and separate contractors, may reproduce applicable portions of the instruments of service for use in performing services or construction for the Project. Upon payment of all amounts due Professional hereunder, all materials and reports prepared by the Professional in connection with this Agreement shall become the property of the City. The City shall have the right to publish. disclose, distribute and otherwise use such materials and reports only for those purposes for which they were intended. Subject to the foregoing, Professional shall upon completion of the services. or earlier termination, provide the City with reproductions of all drawings, materials, specifications, reports, maps, and exhibits prepared by Professional pursuant to the Scope of Services. The reproductions shall include a compact disc containing all construction plan sheets in a ".dwg" format and a scanned 24" x 36" black & white "Tiff" images at 400 dpi resolution and in electronic format as requested by the City or required in Exhibit "A".

Article III Schedule of Work

The Professional agrees to complete the required services in accordance with the Project Schedule outlined in Exhibit "A".

Article IV Compensation and Method of Payment

- 4.1 Professional will be compensated in accordance with the payment schedule and amounts set forth in Exhibit "A" (Task 1 and Task 2).
- 4.2 Unless otherwise provided in Exhibit "A" the Professional shall be responsible for all expenses related to the services provided pursuant to this Agreement including, but not limited to, travel, copying and facsimile charges, telephone, internet and email charges.

Article V Devotion of Time; Personnel; and Equipment

5.1 The Professional shall devote such time as reasonably necessary for the satisfactory performance of the services under this Agreement. Should the City require additional services not included under this Agreement, the Professional shall make reasonable effort to provide such additional services within the time schedule without decreasing the effectiveness of the performance of services required under this Agreement, and shall be compensated for such

additional services on a time and materials basis, in accordance with Professional's standard hourly rate schedule, or as otherwise agreed between the Parties.

- 5.2 To the extent reasonably necessary for the Professional to perform the services under this Agreement, the Professional shall be authorized to engage the services of any agents, assistants, persons, or corporations that the Professional may deem proper to aid or assist in the performance of the services under this Agreement. The Professional shall provide written notice to and approval from the City prior to engaging services not referenced in Exhibits "A" or "C". The cost of such personnel and assistance shall be included as part of the total compensation to be paid Professional hereunder, and shall not otherwise be reimbursed by the City unless provided differently herein.
- 5.3 The Professional shall furnish the facilities, equipment and personnel necessary to perform the services required under this Agreement unless otherwise provided herein.
- 5.4 The Professional shall submit monthly progress reports and attend monthly progress meetings scheduled by the City or more frequently as may be required by the City from time to time based upon Project demands. Each progress report shall detail the work accomplished and special problems or delays experienced on the Project during the previous report period, and the planned work activities and special problems or delays anticipated for the next report period.

Article VI Miscellaneous

- 6.1 <u>Entire Agreement</u>. This Agreement constitutes the sole and only agreement between the Parties and supersedes any prior understandings written or oral agreements between the Parties with respect to this subject matter.
- 6.2 <u>Assignment</u>. The Professional may not assign this Agreement without the prior written consent of City. In the event of an assignment by the Professional to which the City has consented, the assignee shall agree in writing with the City to personally assume, perform, and be bound by all the covenants, and obligations contained in this Agreement.
- 6.3 <u>Successors and Assigns</u>. Subject to the provisions regarding assignment, this Agreement shall be binding on and inure to the benefit of the Parties to it and their respective heirs, executors, administrators, legal representatives, successors and assigns.
- 6.4 <u>Governing Law</u>. The laws of the State of Texas shall govern this Agreement without regard to any conflict of law rules; and venue for any action concerning this Agreement shall be in the State District Court of Collin County, Texas. The Parties agree to submit to the personal and subject matter jurisdiction of said court.
- 6.5 <u>Amendments</u>. This Agreement may be amended by the mutual written agreement of the Parties.

- 6.6 <u>Severability</u>. In the event any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions, and the Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained in it.
- 6.7 <u>Independent Contractor</u>. It is understood and agreed by and between the Parties that the Professional in satisfying the conditions of this Agreement, is acting independently, and that the City assumes no responsibility or liabilities to any third party in connection with these actions. All services to be performed by Professional pursuant to this Agreement shall be in the capacity of an independent contractor, and not as an agent or employee of the City. Professional shall supervise the performance of its services and shall be entitled to control the manner and means by which its services are to be performed, subject to the terms of this Agreement.
- 6.8 <u>Right-of-Access</u>. The Professional shall not enter onto private property without lawful right-of-access to perform the required surveys, or other necessary investigations. The Professional will take reasonable precautions to minimize damage to the private and public property in the performance of such surveys and investigations. Any right-of-access to public or private property shall be obtained in accordance with the Scope of Services.
- 6.9 <u>Notice</u>. Any notice required or permitted to be delivered hereunder may be sent by first class mail, overnight courier or by confirmed telefax or facsimile to the address specified below, or to such other Party or address as either Party may designate in writing, and shall be deemed received three (3) days after delivery set forth herein:

If intended for City:

Attn: Joni Clarke City Manager City of Lucas, Texas 665 Country Club Road Lucas, Texas 75002 Telephone: 972-727-8999 With Copy to:

Joseph J. Gorfida, Jr.
Nichols, Jackson, Dillard,
Hager & Smith, LLP
1800 Ross Tower
500 North Akard
Dallas, Texas 75201
Telephone: 214.965.9900

If intended for Professional:

kttn: _		

- 6.10 <u>Insurance</u>.
- (a) Professional shall during the term hereof maintain in full force and effect the following insurance: (i) a comprehensive general liability policy of insurance for bodily injury, death and property damage insuring against all claims, demands or

actions relating to the Professional's performance of services pursuant to this Agreement with a minimum combined single limit of not less than \$1,000,000.00 per occurrence for injury to persons (including death), and for property damage; (ii) policy of automobile liability insurance covering any vehicles owned and/or operated by Professional, its officers, agents, and employees, and used in the performance of this Agreement with policy limits of not less than \$500,000.00 combined single limit and aggregate for bodily injury and property damage; (iii) statutory Worker's Compensation Insurance at the statutory limits and Employers Liability covering all of Professional's employees involved in the provision of services under this Agreement with policy limit of not less than \$500,000.00; and (iv) Professional Liability covering negligent acts, errors and omissions in the performance of professional services with policy limit of not less than \$2,000,000.00 per claim and \$2,000,000.00 in the aggregate.

- (b) All policies of insurance shall be endorsed and contain the following provisions:

 (1) name the City, its officers, and employees as additional insureds as to all applicable coverage with the exception of Workers Compensation Insurance and Professional Liability; and (2) provide for at least thirty (30) days prior written notice to the City for cancellation of the insurance; (3) provide for a waiver of subrogation against the City for injuries, including death, property damage, or any other loss to the extent the same is covered by the proceeds of insurance, except for Professional Liability Insurance. The Professional shall provide written notice to the City of any material change of or to the insurance required herein.
- (c) All insurance companies providing the required insurance shall be authorized to transact business in Texas and rated at least "A" by AM Best or other equivalent rating service.
- (d) A certificate of insurance and copies of the policy endorsements evidencing the required insurance shall be submitted prior to commencement of services and upon request by the City.
- Indemnification. CITY SHALL NOT BE LIABLE FOR ANY LOSS. 6.11 DAMAGE, OR INJURY OF ANY KIND OR CHARACTER TO ANY PERSON OR PROPERTY ARISING FROM THE SERVICES OF THE PROFESSIONAL PURSUANT TO THIS AGREEMENT. PROFESSIONAL HEREBY WAIVES ALL CLAIMS AGAINST CITY, ITS OFFICERS, AGENTS AND EMPLOYEES (COLLECTIVELY REFERRED TO IN THIS SECTION AS "CITY") FOR DAMAGE TO ANY PROPERTY OR INJURY TO, OR DEATH OF, ANY PERSON TO THE EXTENT ARISING AT ANY TIME AND FROM ANY CAUSE OTHER THAN THE NEGLIGENCE OR WILLFUL MISCONDUCT OF CITY OR BREACH OF CITY'S OBLIGATIONS HEREUNDER. PROFESSIONAL AGREES TO INDEMNIFY AND SAVE HARMLESS CITY FROM AND AGAINST LIABILITIES, DAMAGES, CLAIMS, SUITS, COSTS (INCLUDING COURT COSTS, REASONABLE ATTORNEYS' FEES AND COSTS OF INVESTIGATION) AND ACTIONS OF ANY KIND BY REASON OF INJURY TO OR DEATH OF ANY PERSON OR DAMAGE TO OR LOSS OF PROPERTY TO THE EXTENT CAUSED BY THE

PROFESSIONAL'S NEGLIGENT PERFORMANCE OF SERVICES UNDER THIS AGREEMENT OR BY REASON OF ANY NEGLIGENT ACT OR OMISSION ON THE PART OF PROFESSIONAL, ITS OFFICERS, DIRECTORS, SERVANTS, EMPLOYEES, REPRESENTATIVES, CONSULTANTS, LICENSEES, SUCCESSORS OR PERMITTED ASSIGNS (EXCEPT WHEN SUCH LIABILITY, CLAIMS, SUITS, COSTS, INJURIES, DEATHS OR DAMAGES ARISE FROM OR ARE ATTRIBUTED TO NEGLIGENCE OF THE CITY, IN WHOLE OR IN PART, IN WHICH CASE PROFESSIONAL SHALL INDEMNIFY CITY ONLY TO THE EXTENT OR PROPORTION OF NEGLIGENCE ATTRIBUTED TO PROFESSIONAL AS DETERMINED BY A COURT OR OTHER FORUM OF COMPETENT JURISDICTION). THE PROFESSIONAL'S OBLIGATIONS UNDER THIS SECTION SHALL NOT BE LIMITED TO THE LIMITS OF COVERAGE OF INSURANCE MAINTAINED OR REQUIRED TO BE MAINTAINED BY PROFESSIONAL UNDER THIS AGREEMENT. THIS PROVISION SHALL SURVIVE THE TERMINATION OF THIS AGREEMENT.

- 6.12 <u>Counterparts</u>. This Agreement may be executed by the Parties hereto in separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute one and the same instrument. Each counterpart may consist of any number of copies hereof each signed by less than all, but together signed by all of the Parties hereto.
- 6.13 <u>Exhibits</u>. The exhibits attached hereto are incorporated herein and made a part hereof for all purposes.
- 6.14 <u>No Boycott Israel.</u> Pursuant to Texas Government Code Chapter 2270, the Contractor agrees that acceptance of these Terms & Conditions serves as written verification that Contractor: (1) does not boycott Israel, as defined by Texas Government Code Section 808.001; and (2) will not boycott Israel during the term of the contract.
- 6.15 <u>Companies Engaged in Business with Iran, Sudan, or Foreign Terrorist Organization.</u> Pursuant to Texas Government Code Chapter 2252, Subchapter F, Contractor affirms that is it not identified on a list created by the Texas Comptroller of Public Accounts as a company known to have contracts with or provide supplies or services to a foreign terrorist organization.

(Signature Page to Follow)

EXECUTED this 10 day of September, 2019.	
By: Joni Clarke City Manager	
Approved as to form:	
By: Joseph J. Gorfida, Jr., City Attorney (01-20-15/69878)	
EXECUTED this 14 day of October , 2019.	
(Professional)	
By: Name: Dharmesh Shah PE, P Title: Vice President	<i>70€</i>

Exhibit "A" Scope of Services





September 30, 2019

Mr. Stanton Foerster, P.E. Public Works Director City Engineer City of Lucas 665 Country Club Road, Lucas, Texas 75002

Re:

Two Traffic Studies in the City of Lucas, TX

Dear Mr. Foerster:

Lee Engineering (LEE) is pleased to submit this agreement to perform traffic engineering services for the City of Lucas, Texas. The services outlined below include two traffic studies. We will prepare a technical memorandum documenting the results for each study. This letter will be an agreement between the City and Lee Engineering, LLC to provide the services outlined in the Scope of Services below.

SCOPE OF SERVICES

Task 1 – W. Estelle Lane, from Country Club Road to Winningkoff Road, Traffic Study

It is our understanding that the City of Lucas has received several complaints regarding cut-through traffic and speeding on W. Estelle Lane between Country Club Road and Winningkoff Road. We will follow the work items below and provide a technical memorandum documenting the study results.

- The study area includes the intersections of W. Estelle Road with Country Club Road and Gold Dust Trail; the intersection of Gold Dust Trail and Forestview Drive, and the intersection of Forestview Drive and Winningkoff Road. LEE will visit the study area and to observe existing traffic control devices, posted speed limits, and intersection lane configurations on W. Estelle Lane, Winningkoff Road, Gold Dust Trail, and Forestview Drive.
- LEE will review existing thoroughfare network and proposed thoroughfare plan to understand connectivity in the area.
- LEE will review any existing and planned (within the next 24 months) construction projects, and their impact on traffic flows in the city.
- LEE will collect the following traffic data before and after the Fall 2019 school session starts:
 - o 24-hor Turning Movement Counts (TMC) at the intersection of:
 - Country Club Road at W Estelle Lane
 - Forestview Drive at Winningkoff Road
 - Winningkoff Road at E. Lucas Road
 - Bi-directional speed data:
 - W. Estelle between Country Club Road and Gold Dust Drive
 - Forestview Drive west of Winningkoff Road

- Winningkoff Road north of Forestview Drive
- Based on the review of volumes and speed counts, determine if Origin-Destination (O-D) study should be conducted and identify the goals of the O-D study. For this proposal, LEE has assumed that O-D data will be collected at two locations:
 - o Country Club Road and W. Estelle Lane
 - Winningkoff Road and Forestview Drive
- LEE will request, obtain, and analyze crash data from the Collin County Sherriff's Office for the study area intersections, if available.
- LEE will review the volume, speed, crash, and O-D data collected and identify any concerns related to speed and cut-through traffic in the neighborhood.
- LEE will also identify and proposed, If needed, traffic calming measures and associated cost to mitigate speeding and cut-through traffic concerns.
- LEE will present the results of this evaluation in a technical memorandum to the City Engineer.

Task 1 Fee:

<u>Traffic Data Collection</u> (collected twice, before and after Fall 2019 school session starts) - \$10,600 <u>LEE Fee</u> - \$16,500

Total Task 1 Fee - \$26,500

Task 2 — Multi-Way Stop Warrant Analysis for the Intersection of Winningkoff Road and E. Blondy Jhune Road

It is our understanding that Blondy Jhune Road is under construction right now. LEE will obtain and review Blondy Jhune Road construction plan and schedule.

- LEE will obtain 24-hour Turning Movement Counts (TMS) at the intersection on a typical weekday under the following scenarios:
 - o Before fall 2019, school session begins.
 - o During September 2019
 - o (\$1700)
- LEE will obtain bi-directional 24-hour speed data on Blondy Jhune Road west of Winningkoff and On Winningkoff Road north and south of Blondy Jhune Road before and after the Fall 2019 school session starts.
 - o (\$1200)
- LEE will visit the intersections to observe existing posted speed limits, intersection lane configurations, traffic control, and any other features of the intersections that may impact the evaluation of multiway stop warrants.
- LEE will request, obtain, and analyze crash data from the Collin County Sherriff's Office for the intersections, if available.
- LEE will evaluate the criteria for the installation of multiway stop signs presented in the latest edition
 of the Texas Manual on Uniform Traffic Control Devices. LEE will also evaluate the intersection and
 stopping sight distance based on the AASHTO criteria.
- LEE will present the results of this evaluation in a technical memorandum to the City Engineer.

Task 2 Fee:

<u>Traffic Data Collection</u> (collected twice, before and after Fall 2019 school session starts) - \$2,900 <u>LEE Fee</u> - \$4,600

Total Task 2 Fee - \$7,500

Task 3- Meetings / Additional Work

We have assumed one meeting with the City of Lucas staff to discuss the results of the studies. We will be available to attend any meetings concerning this project. Attending any meetings and any significant changes to the report or additional analyses identified in these meetings will be performed on an hourly basis and will not exceed without your prior approval.

FEE AND SCHEDULE

LEE will perform the work included in <u>Task 1 and Task 2</u> above, provide a draft letter report within 45 working days of receiving a signed copy of this letter and all traffic data for a lump sum fee for each task identified above. <u>Attendance at any meetings or additional work identified in Task 3</u> will be performed on an hourly basis according to the attached terms and conditions dated July 18, 2019, and will not exceed \$4,000 without your approval.

If you have any questions, please contact me at (972) 248-3006. We appreciate the opportunity to submit this proposal and look forward to working with you on this project. We can begin work on this project upon receipt of a signed copy of this letter.

Sincerely,	Accepted:	
	A. O.D.	, / / , .
Dharmesh Shah, P.E., PTOE	City of Lucas	<u>/////////////////////////////////////</u>
Vice President		



City of Lucas City Council Agenda Request June 18, 2020

Requester: City Engineer Stanton Foerster

Agenda Item Request

Consider authorizing the City Manager to negotiate and enter into an agreement with Collin County for reimbursement for repairs needed to Forest Grove Road from Country Club Road to Orr Road if utilized as a detour for the construction of Orr Road north of the Lucas city limits.

Background Information

The City Engineer has received a request from Collin County Public Works Assistant Director Mark Hines, P.E. to possibly use Forest Grove Road as a detour during the construction of Orr Road.

Richard A. Arvizu, P.E., with Binkley & Barfield, Inc. is the consulting engineer working on the Orr Road plans for Collin County. He sees the following construction sequencing/traffic control options for the construction of Orr Road:

Option 1 - Construct in half-widths. Close one lane at a time, maintaining two-way traffic utilizing temporary traffic signals throughout the duration of construction. If detouring (through the City of Lucas) is not an option, then given the limited room for additional (temporary) paving outside the limits of the existing pavement due to the bar ditches, the anticipated method would be reconstructing one lane of the two-lane roadway at a time all while regulating two-way traffic with radio controlled temporary traffic signals (fairly common on County roads with similar conditions). Having relatively few driveways makes slip form paving a viable option, which can reduce the overall construction time versus hand pouring. The roadway would be constructed one half at a time - excavate, compact subgrade, install 2" HMAC, install 10" concrete and then do the other half the same way. Cross culvert replacement would require a full closure for a limited amount of time. Possibly overnight to limit disruption. Based on the length of the proposed roadway reconstruction it is estimated that it will take 4 weeks for each half of the roadway for excavation and installation of HMAC and then 4 weeks for each half of the roadway for concrete placement (16 weeks total) not counting ditch grading, driveway culverts, driveways and cross culverts.

The radio-controlled temporary traffic signal does have its downsides. It could get expensive to have that in place for 16 weeks. One also has to expect that the signal is going to generate resident complaints because of how long they will have to wait on either end. It would require a 2-3-minute clearance time interval between each phase not counting the actual green time for either end. Same for when a vehicle wants to leave a driveway.



City of Lucas City Council Agenda Request June 18, 2020

Option 2 - Construct in half-widths. Close one lane at a time and detour affected traffic (through the City of Lucas on Forest Grove Road) throughout duration of construction. Option 2 is the same as Option 1 except the signals are eliminated and affected traffic is detoured (through the City of Lucas on Forest Grove Road).

Option 3 - Fully close Orr Road and construct full width. Detour all traffic (through the City of Lucas on Forest Grove Road). Option 3 involves full roadway closure, detouring all traffic except local traffic (through the City of Lucas on Forest Grove Road), and full width slip-form paving. Maintaining driveway access is the main issue here. However, this option is more straight forward and easier to maintain and enforce traffic-control wise and would likely be considerably less expensive.

With regards to determining mitigation - a pre- and post-pavement condition survey could be conducted to determine what, if any, damages to the pavement occurred during the course of construction. A pay item could be added for these pavement repairs.

Below is a summary of the traffic counts taken in 2019:

Year	Description	Volume (vpd)	% Heavy	% Medium	% Light
2019	Existing Year	1,085	10.15%	16.35%	73.50%

- Heavy Vehicle Percentage: Weighing 30 kips to 80 kips*
- Medium Vehicle Percentage: Weighing 30 kips or less
- Light Vehicle Percentage: Passenger vehicles
- * A kip is a US customary unit of force. It equals 1,000 pounds-force, used primarily by American architects and engineers to measure engineering loads. Although uncommon, it is occasionally also considered a unit of mass, equal to 1,000 pounds, (i.e., one half of a short ton).

The directional split is about 50/50, so if Collin County close one direction, one can assume that 50% of the volume will be detoured, so roughly 550 vehicles per day with 55 considered heavy (30k-80k lbs), 90 vehicles per day considered mid (less than 30k lbs) and 400 passenger vehicles.

With all this information above, Binkley & Barfield, Inc. and Collin County have requested an answer from the City of Lucas if an approximate +/- 16-week detour using Forest Grove Road for affected traffic in Option 2 and Option 3 are acceptable to City of Lucas and all other stakeholders?



City of Lucas City Council Agenda Request June 18, 2020

The City Engineer has estimated to place two inches of Type D asphalt (HMAC) from Country Club Road to Orr Road would cost \$355,000. Total reconstruction matching the existing pavement (old city standard) would cost \$605,000. Total reconstruction of the 2.21 miles to current city standards would cost \$938,000.

Old City Standard – six inches of cement stabilization with two inches of Type D asphalt Current City Standard – six inches of cement stabilization with two inches of Type D over two inches of Type B asphalt.

Attachments/Supporting Documentation

None

Budget/Financial Impact

Texas Bit/APAC is under contract with the City of Lucas for \$220,175.76 of work for Forest Grove Road to be completed by September 30, 2020.

Recommendation

The City Council may want to consider the following:

- I. Do not allow Collin County to detour traffic onto Forest Grove Road.
- II. Allow Collin County to detour traffic onto Forest Grove Road with one of the following alternatives spelled out in an agreement:
 - A. A pre- and post-pavement condition survey could be conducted to determine what, if any, damages to the pavement occurred during the course of Orr Road construction detour. The cost of this alternative is unknown;
 - B. To place two inches of Type D asphalt in the amount of \$355,000;
 - C. Total reconstruction matching the existing pavement in the amount of \$605,000; or
 - D. Total reconstruction using the current city standards in the amount of \$938,000.

Motion

I make a motion to authorize/not authorize the City Manager to negotiate and enter into an
agreement with Collin County for reimbursement for repairs needed to Forest Grove Road from
Country Club Road to Orr Road if utilized as a detour for the construction of Orr Road north of
the Lucas city limits in the amount of \$



City of Lucas Council Agenda Request June 18, 2020

Requester: City Manager Joni Clarke

Agenda Item Request

Consider appropriating \$361,355.69 to revenue account 11-4984 and expense account 11-6999-499 regarding funding received as part of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) for expenses incurred between March 1 through December 30, 2020 related to COVID-19 and provide guidance to staff.

Background Information

Collin County has received federal funding in the amount of \$171 million dollars under the CARES Act to address the impact of COVID-19.

The City of Lucas entered into an Interlocal cooperation Agreement with Collin County for Municipal Direct Expense funding on May 21, 2020.

The City has received funds in the amount of \$361,355.69 and placed the CARES Act funds in a separate, interest bearing account as required. The fiscal year 19/20 budget needs to be amended by appropriating these funds.

In general, eligible expenditures for CARES Act funding must comply with the following criteria:

- 1) the City would have incurred the expense from March 1 through December 30, 2020;
- 2) the expense was not a budgeted expense (as of March 27, 2020) and is not revenue replacement; and
- 3) the expense must be incurred due to COVID-19.

Staff has prepared a spreadsheet of COVID-19 related expenses and potential purchases for the City Council's consideration. These items have been reviewed by the Finance Director, City Manager and has also been reviewed by Susan K. LaFollett CPA, Managing Partner for LaFollett and Company PLLC, the City's Auditor to ensure compliance with the CARES Act guidelines. The City received the following response from Ms. LaFollett:

"Hope all is well at the City. I reviewed the list of CARES Act expenses and the Interlocal agreement. It appeared that these expenses are reasonable and appropriate given the circumstances. They seemed like items that would be needed by the City to comply with safety, sanitation, and social distancing requirements going forward. None appeared to be normal expenses that the City was using this very specific funding to pay for. Let me know if you need anything else. Thanks!"



City of Lucas Council Agenda Request June 18, 2020

Attachments/Supporting Documentation

- 1. Spreadsheet entitled COVID-19 Expenses organized by City Department
- 2. U.S. Department of the Treasury's Coronavirus Relief Fund Guidance for State, Territorial, Local and Tribal Governments dated April 22, 2020
- 3. U.S. Department of the Treasury's Coronavirus Relief Fund Frequently Asked Questions Update as of May 4, 2020

Budget/Financial Impact

This appropriation will increase revenue (account 11-4984) and expense (account 11-6999-499) in the amount of \$361,355.69.

Recommendation

City Staff recommends amending the fiscal year 19/20 budget by appropriating \$361,355.69 to revenue account 11-4984 and expense account 11-6999-499.

Motion

I make a motion to approve/deny appropriating \$361,355.69 to revenue account 11-4984 and expense account 11-6999-499 regarding funding received as part of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) for expenses incurred between March 1 through December 30, 2020 related to COVID-19 and authorize the following expenditures....

TOTAL CARES FUNDING: \$ 361,355.69

<u>lten</u>	n Date	<u>Department</u>	<u>POC</u>	<u>Vendor</u>	<u>Item</u>	Description/Justification	Cos	<u>ts</u>	<u>Notes</u>	
1	5/22/2020	Admin	KS	Nine Band Brewing	Hand Sanitizer	Hand Sanitizer for special events and city use 10 gallons @ \$24.99 each	Ś	249.90		
2	6/18/2020	Admin	SH	Swagit	Live Video Streaming of CC meetings	Allows for residents to view City Council meetings during COVID-19 concerns	\$	24,644.00	Estimate	
				C	9	, g g	·	•		
3	6/18/2020	Admin	KS	Rehab Mart	Masks for City Events	Masks for staff, volunteers and attendees at City events	\$	3,960.00		
4	6/18/2020	Admin	SH	Unknown	Modifications to Community Center	Install audio/video equipment for overflow viewing of CC meetings	\$	601.93	Estimate #1504	
5	3/26/2020	City Council	SH	Baxter	Video Conference	Manage Video Conferencing including set-up Mar-Dec	\$	19,710.00	Will submit monthly invoices	
6	5/4/2020	City Council	SH	Baxter	Audio System	Update audio equipment for City Council meetings via video conference	\$	10,359.35	Transfer from 11-6100-222	
7	5/7/2020	City Council	SH	Baxter	Camera/Cables	Video Conference	\$	975.00	Transfer from 11-6100-222	
8	6/3/2020	City Council	SH	Baxter	Webcam	Video Conference for Steve Duke	\$	103.98	Invoice #5435	
9	6/18/2020	City Council	SH	Baxter	Laptops	Purchase 14 laptops for video conference for City Council/P&Z meetings	\$	22,114.34	Estimate #1491	
10	6/18/2020	City Council	SH	Baxter	Monitor	Monitor for Video Conferencing in Council Chambers	\$	259.99	Estimate #1491	
11	5/6/2020	Dev. Services	JH	Jones Bros.	Doors	2 Hallway Doors	\$	2,920.00	Transfer from 11-6999-231	
12	5/7/2020	Dev. Services	SD	Petty Cash	Hand Sanitizer	Hand Sanitizer	\$	160.00	Transfer from 11-6999-231	
13	5/7/2020	Dev. Services	SD	Texas Electric	Electrical Work in Park	Allow for Safe Distances between vendors at Events	\$	20,000.00	Estimate	
14	6/18/2020	Dev. Services	JH	Baxter	Security for Doors	Limit public access due to COVID-19	\$	2,499.00	Estimate	
15	?	Dev. Services	JB	Employee	Day Care	Day Care Closed due to COVID-19	\$	3,525.60		
16	?	Dev. Services	JH	Home Depot	Plexiglass	Plexiglass installed as barrier for Permits and Utility Billing	\$	304.20		
17	5/25/2020	Engineering	SF	Baxter	Webcam	Webcam for video conferencing	\$	119.99		
18	3/10/2019	Fire	DS	Boundtree	Gloves	EMS Exam Gloves	\$	37.50	Previously charged to 11-6300-211	
19	3/5/2020	Fire	DS	Bed Bath & Beyond	Handsanitizer	Hand sanitizer	\$	4.19	Previously charged to 11-6300-201	CC-8666
20	3/5/2020	Fire	DS	McKesson	Handsanitizer	Hand sanitizer	\$	105.83	Previously charged to 11-6300-201	IN#79339835
21	3/6/2020	Fire	DS	Boundtree	Safety glasses & Gloves	Safety glasses & Gloves	\$	179.94	Previously charged to 11-6300-211	83533788
22	3/6/2020	Fire	DS	Boundtree	Sani-Wipes	Sani-Wipes are used to disinfect hard surfaces in the ambulance and other apparatus.	\$	76.68	Previously charged to 11-6300-211	83564531
23	3/13/2020	Fire	DS	Walmart	Cleaning & sanitation supplies	Cleaning & sanitation supplies for fire station and apparatus	\$	226.42	Previously charged to 11-6300-214	83537808
24	3/13/2020	Fire	DS	Amazon	protective safety glasses	EMS protective safety glasses	\$	12.25	Previously charged to 11-6300-209	cc-sams
25	3/19/2020	Fire	DS	Walmart	station supplies, COVID	Fire station disinfectant supplies	\$	83.45	Previously charged to 11-6300-214	CC-9785
26	3/23/2020	Fire	DS	Boundtree	Isolation gowns, surgical masks, N95s	Isolation gowns, surgical masks, N95s	\$	233.97	Previously charged to 11-6300-211	cc-sams
27	3/23/2020	Fire	DS	Life-Assist	Gloves (M & L)	Medical Exam Gloves	\$	280.00	Previously charged to 11-6300-211	BACKORDERED
28	3/23/2020	Fire	DS	Life-Assist	Safety Glasses	Safety Glasses for emergency personnel	\$	72.00	Previously charged to 11-6300-211	985135
29	3/23/2020	Fire	DS	Walmart	lunch bags for decon of face masks	Paper bags for storage of face masks	\$	3.92	Previously charged to 11-6300-204	986538
30	3/24/2020	Fire	DS	Boundtree	Thermometers	No Touch Thermometers, placed in fire station and Squad 861.	\$	508.56	Previously charged to 11-6300-211	cc-sams
31	3/27/2020	Fire	DS	Walmart	sanitation materials	Fire Station and Apparatus sanitation materials	\$	125.63	Previously charged to 11-6300-214	83582566

32	3/30/2020	Fire	DS	Boundtree	Prob covers	Thermometer prob covers	24.98 Previously charged to 11-6300-211	cc-sams
33	4/2/2020	Fire	DS	Payroll - Ian Evans	24 hours, B shift vacancy	Coverage for Employee	\$ 888.73 Previously charged to 11-6300-111	Inv. # 83599557
34	4/2/2020	Fire	DS	Payroll - Ian Evans	24 hours, B shift vacancy	Coverage for Employee	\$ 888.73 Previously charged to 11-6300-111	3/19/2020 Coverage for vacancy on B shift
35	4/2/2020	Fire	DS	Amazon	Filter material for face masks	Filter material for cloth face masks	\$ 164.08 Previously charged to 11-6300-209	3/25/2020 Coverage for vacancy on B shift
36	4/13/2020	Fire	JB	Jim Hurley	12 Hours	March Stipend - Coverage for Employee	\$ 45.00 Transfer from XXX	4/15/2020 Coverage for vacancy on B shift
37	4/16/2020	Fire	DS	Payroll - Seth Decker	24 hours, B shift vacancy	Coverage for Employee	\$ 385.50 Previously charged to 11-6300-111	Order #112-4069578-3055421
38	4/30/2020	Fire	DS	Bound Tree	Sanitation Materials	Sanitation Materials for fire station and apparatus	\$ 116.58 Previously charged to 11-6300-211	Inv. # 83611927
39	5/5/2020	Fire	DS	Baxter IT	Acrobat Pro Software-Alderdice	Temp. Assignment at Garland TDEM Disaster District Coord-process STAR requests.	\$ 50.00 11-6999-499	Inv. # 5447
40	5/12/2020	Fire	TS	Baxter IT & Rugged Laptops	Computers	1)Toughbook for patient compartment of ambulance; 2)Laptop for EMS Officer; 3) Computer for Fire Captains (distancing); and 4) Computer for Firefighter/Paramedics (distancing)	\$ 8,300.00 11-6999-499	Inv. # 9537925431
41	5/18/2020	Fire	TS	GenLantis	Ozone Device	Decontaminate ambulance and other apparatus	\$ 8,045.00 11-6999-499	
42	5/21/2020	Fire	DS	Grainger	Soap	Microbial Soap for fire station dispensers	\$ 370.50 11-6999-499	
43	5/26/2020	Fire	TS	Advision, Municipal Emergency Services, Uniform Solutions, Hiax	Daily Uniforms	Complete set of daily uniform would provide each member with a new set of clothes to change into after a COVID response.	\$ 26,000.00 11-6999-499	
44	5/26/2020	Fire	TS	Baxter IT	Training Room Remote Connection	Distance learning (remote) training equipment since we are not currently allowed to do any multicompany EMS or Fire training due to COVID.	\$ 1,700.00 11-6999-499	
45	5/26/2020	Fire	AA	Physio-Control	LUCAS CPR Device	Automatic CPR device	\$ 25,000.00 11-6999-499	
46	5/26/2020	Fire	LG	Firesafetyusa.com	Personal Protective Equipment (PPE) Extractor/Washer	Biological decon extractor to be used for PPE after COVID-19 responses	\$ 9,500.00 11-6999-499	
47	5/26/2020	Fire	LG	Cozywinters.com	Personal Protective Equipment (PPE) Dryer	Biological decon dryer to be used for PPE after COVID-19 responses	\$ 10,550.00 11-6999-499	
48	5/26/2020	Fire	AA	Boundtree	King Vision Laryngoscope Kits and accessories	Video intubation laryngoscope allows our Paramedics to spend less time near the nose and mouth of a patient while intubating.	\$ 5,000.00 11-6999-499	
49	5/26/2020	Fire	TS	Motorola Solutions	Radios	2 Portable Radios, 1 Mobile Radio, 2 mobile battery chargers and accessories. 1 portable and battery charger and 1 mobile radio to be placed in Squad 862 for EMS Officer who responds to all COVID calls. 1 portable and 1 battery charger to be placed in Gant/Night Incident Command Vehicle. All radios will be used to keep people from sharing radios and possibly exposing each other to COVID. Extra radio communication is required during a COVID call for service. This request ensures continuity of service.	26,800.00 11-6999-499	
50	5/26/2020	Fire	AA	PerforMax	Convert Squads to ALS	We would like to convert Squad 861 and Squad 862 to ALS units. Squad 861 responds with the Ambulance on all COVID calls. Squad 862 is the unit EMS Officer/Infectious Control Officer Alderdice uses when responding to All COVID calls. We have the supplies, just need materials for securing the ALS items. This will allow us to be better equipped for response to COVID calls in the squad. This could allow us not to use anything out of the ambulance, which would allow us to get it back in service quicker after a call for service.	\$ 3,200.00 11-6999-499	

51	5/26/2020	Fire	LG	Municipal Emergency Services	SCBA Bottles	Due to the recent events we found the limits on acquiring respiratory protection. Obtaining these new cylinders will help insure that respiratory protection is available to all members. Obtaining these new cylinders can ensure that we continue to be protected when other respiratory equipment is exhausted. This request ensures continuity of service.	\$ 21,000.00	11-6999-499
52	5/26/2020	Fire	AA	Granger	EMS Bins	Plastic bins to organize EMS supplies in all apparatus. The main focus would be to organize EMS supplies in bins that can be taken into a residence. The bin can be replaced (fully stocked). The used bin and any item not used in the residence will be disinfected, and then returned available for the next call. This will allow an infectious disease bin for each apparatus and two spares in the supply room for quick trade out.	\$ 400.00	11-6999-499
53	5/27/2020	Fire	AA	Boundtree	CPAP Masks	CPAP masks needed for COVID patients during transport. (6 large & 10 Medium) Will split purchase between ambulances.	\$ 880.00	11-6999-499
54	5/27/2020	Fire	AA	Physio-Control	Cot Loading System	Retrofit Medic 861 with automatic cot loading system. This will ensure only one Paramedic is needed when loading the cot into the ambulance. The second Paramedic, who normally helps load the cot, then drives the ambulance to the hospital, and then helps unload the cot at the hospital, will not be needed to assist loading or unloading the cot, thus decreasing exposure risks. In addition, with this system, it will decrease the likelihood of contamination into the front of the ambulance.	\$ 47,500.00	11-6999-499
55	3/30-4/12	Fire	JB	Anthony Aguinaga	12 Hours	Coverage for Employee	\$ 372.08	Transfer from XXX
56	3/31/2020	NonDept	JC	NJDH&S	Legal	Disaster Declaration, Election, Families Firs Coronavirus Response Act, etc.	\$ 1,017.50	Transfer from 11-6999-310
57	4/30/2020	NonDept	JC	NJDH&S	Legal	Legal fees re: Order issued by Governor and Disaster Declaration	\$ 277.50	Transfer from 11-6999-310
58	3/19/2020	Parks	KS	Fast Signs	Park Closure	Park Closure Sings due to COVID-19	\$ 213.71	Transfer from 11-6211-417
59	3/20/2020	Parks	KS	Fast Signs	Restriction	Public Restrictions Signs due to COVID-19	\$ 155.00	Transfer from 11-6211-417
60	5/12/2020	Parks	JH	Hubert Company	Portable Sinks	Portable Hand Sinks to encourage hand washing at Farmers Market	\$ •	11-6999-499
61	April & May	Public Works	JB	PW staff	12 Hours Shifts	OT attributed to schedule modification to allow safe distancing	\$ •	Transfer from XXX
62	Mar & Apr	Varies	JB	Employees	Admin Leave	Symptoms of COVID-19	\$ 1,922.45	Transfer from XXX

TOTAL PROJECTED COVID-19 EXPENSES: \$ 319,753.73

REMAINING BALANCE: \$ 41,601.96

Coronavirus Relief Fund Guidance for State, Territorial, Local, and Tribal Governments April 22, 2020

The purpose of this document is to provide guidance to recipients of the funding available under section 601(a) of the Social Security Act, as added by section 5001 of the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"). The CARES Act established the Coronavirus Relief Fund (the "Fund") and appropriated \$150 billion to the Fund. Under the CARES Act, the Fund is to be used to make payments for specified uses to States and certain local governments; the District of Columbia and U.S. Territories (consisting of the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands); and Tribal governments.

The CARES Act provides that payments from the Fund may only be used to cover costs that—

- 1. are necessary expenditures incurred due to the public health emergency with respect to the Coronavirus Disease 2019 (COVID–19);
- 2. were not accounted for in the budget most recently approved as of March 27, 2020 (the date of enactment of the CARES Act) for the State or government; and
- 3. were incurred during the period that begins on March 1, 2020, and ends on December 30, 2020.

The guidance that follows sets forth the Department of the Treasury's interpretation of these limitations on the permissible use of Fund payments.

Necessary expenditures incurred due to the public health emergency

The requirement that expenditures be incurred "due to" the public health emergency means that expenditures must be used for actions taken to respond to the public health emergency. These may include expenditures incurred to allow the State, territorial, local, or Tribal government to respond directly to the emergency, such as by addressing medical or public health needs, as well as expenditures incurred to respond to second-order effects of the emergency, such as by providing economic support to those suffering from employment or business interruptions due to COVID-19-related business closures.

Funds may not be used to fill shortfalls in government revenue to cover expenditures that would not otherwise qualify under the statute. Although a broad range of uses is allowed, revenue replacement is not a permissible use of Fund payments.

The statute also specifies that expenditures using Fund payments must be "necessary." The Department of the Treasury understands this term broadly to mean that the expenditure is reasonably necessary for its intended use in the reasonable judgment of the government officials responsible for spending Fund payments.

Costs not accounted for in the budget most recently approved as of March 27, 2020

The CARES Act also requires that payments be used only to cover costs that were not accounted for in the budget most recently approved as of March 27, 2020. A cost meets this requirement if either (a) the cost cannot lawfully be funded using a line item, allotment, or allocation within that budget *or* (b) the cost

¹ See Section 601(d) of the Social Security Act, as added by section 5001 of the CARES Act.

is for a substantially different use from any expected use of funds in such a line item, allotment, or allocation.

The "most recently approved" budget refers to the enacted budget for the relevant fiscal period for the particular government, without taking into account subsequent supplemental appropriations enacted or other budgetary adjustments made by that government in response to the COVID-19 public health emergency. A cost is not considered to have been accounted for in a budget merely because it could be met using a budgetary stabilization fund, rainy day fund, or similar reserve account.

Costs incurred during the period that begins on March 1, 2020, and ends on December 30, 2020

A cost is "incurred" when the responsible unit of government has expended funds to cover the cost.

Nonexclusive examples of eligible expenditures

Eligible expenditures include, but are not limited to, payment for:

- 1. Medical expenses such as:
 - COVID-19-related expenses of public hospitals, clinics, and similar facilities.
 - Expenses of establishing temporary public medical facilities and other measures to increase COVID-19 treatment capacity, including related construction costs.
 - Costs of providing COVID-19 testing, including serological testing.
 - Emergency medical response expenses, including emergency medical transportation, related to COVID-19.
 - Expenses for establishing and operating public telemedicine capabilities for COVID-19-related treatment.
- 2. Public health expenses such as:
 - Expenses for communication and enforcement by State, territorial, local, and Tribal governments of public health orders related to COVID-19.
 - Expenses for acquisition and distribution of medical and protective supplies, including sanitizing products and personal protective equipment, for medical personnel, police officers, social workers, child protection services, and child welfare officers, direct service providers for older adults and individuals with disabilities in community settings, and other public health or safety workers in connection with the COVID-19 public health emergency.
 - Expenses for disinfection of public areas and other facilities, *e.g.*, nursing homes, in response to the COVID-19 public health emergency.
 - Expenses for technical assistance to local authorities or other entities on mitigation of COVID-19-related threats to public health and safety.
 - Expenses for public safety measures undertaken in response to COVID-19.
 - Expenses for quarantining individuals.
- 3. Payroll expenses for public safety, public health, health care, human services, and similar employees whose services are substantially dedicated to mitigating or responding to the COVID-19 public health emergency.

- 4. Expenses of actions to facilitate compliance with COVID-19-related public health measures, such as:
 - Expenses for food delivery to residents, including, for example, senior citizens and other vulnerable populations, to enable compliance with COVID-19 public health precautions.
 - Expenses to facilitate distance learning, including technological improvements, in connection with school closings to enable compliance with COVID-19 precautions.
 - Expenses to improve telework capabilities for public employees to enable compliance with COVID-19 public health precautions.
 - Expenses of providing paid sick and paid family and medical leave to public employees to enable compliance with COVID-19 public health precautions.
 - COVID-19-related expenses of maintaining state prisons and county jails, including as relates
 to sanitation and improvement of social distancing measures, to enable compliance with
 COVID-19 public health precautions.
 - Expenses for care for homeless populations provided to mitigate COVID-19 effects and enable compliance with COVID-19 public health precautions.
- 5. Expenses associated with the provision of economic support in connection with the COVID-19 public health emergency, such as:
 - Expenditures related to the provision of grants to small businesses to reimburse the costs of business interruption caused by required closures.
 - Expenditures related to a State, territorial, local, or Tribal government payroll support program.
 - Unemployment insurance costs related to the COVID-19 public health emergency if such
 costs will not be reimbursed by the federal government pursuant to the CARES Act or
 otherwise.
- 6. Any other COVID-19-related expenses reasonably necessary to the function of government that satisfy the Fund's eligibility criteria.

Nonexclusive examples of ineligible expenditures²

The following is a list of examples of costs that would *not* be eligible expenditures of payments from the Fund.

- 1. Expenses for the State share of Medicaid.³
- 2. Damages covered by insurance.
- 3. Payroll or benefits expenses for employees whose work duties are not substantially dedicated to mitigating or responding to the COVID-19 public health emergency.

3

² In addition, pursuant to section 5001(b) of the CARES Act, payments from the Fund may not be expended for an elective abortion or on research in which a human embryo is destroyed, discarded, or knowingly subjected to risk of injury or death. The prohibition on payment for abortions does not apply to an abortion if the pregnancy is the result of an act of rape or incest; or in the case where a woman suffers from a physical disorder, physical injury, or physical illness, including a life-endangering physical condition caused by or arising from the pregnancy itself, that would, as certified by a physician, place the woman in danger of death unless an abortion is performed. Furthermore, no government which receives payments from the Fund may discriminate against a health care entity on the basis that the entity does not provide, pay for, provide coverage of, or refer for abortions.

³ See 42 C.F.R. § 433.51 and 45 C.F.R. § 75.306.

- 4. Expenses that have been or will be reimbursed under any federal program, such as the reimbursement by the federal government pursuant to the CARES Act of contributions by States to State unemployment funds.
- 5. Reimbursement to donors for donated items or services.
- 6. Workforce bonuses other than hazard pay or overtime.
- 7. Severance pay.
- 8. Legal settlements.

Coronavirus Relief Fund Frequently Asked Questions Updated as of May 4, 2020

The following answers to frequently asked questions supplement Treasury's Coronavirus Relief Fund ("Fund") Guidance for State, Territorial, Local, and Tribal Governments, dated April 22, 2020, ("Guidance"). Amounts paid from the Fund are subject to the restrictions outlined in the Guidance and set forth in section 601(d) of the Social Security Act, as added by section 5001 of the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act").

Eligible Expenditures

Are governments required to submit proposed expenditures to Treasury for approval?

No. Governments are responsible for making determinations as to what expenditures are necessary due to the public health emergency with respect to COVID-19 and do not need to submit any proposed expenditures to Treasury.

The Guidance says that funding can be used to meet payroll expenses for public safety, public health, health care, human services, and similar employees whose services are substantially dedicated to mitigating or responding to the COVID-19 public health emergency. How does a government determine whether payroll expenses for a given employee satisfy the "substantially dedicated" condition?

The Fund is designed to provide ready funding to address unforeseen financial needs and risks created by the COVID-19 public health emergency. For this reason, and as a matter of administrative convenience in light of the emergency nature of this program, a State, territorial, local, or Tribal government may presume that payroll costs for public health and public safety employees are payments for services substantially dedicated to mitigating or responding to the COVID-19 public health emergency, unless the chief executive (or equivalent) of the relevant government determines that specific circumstances indicate otherwise.

The Guidance says that a cost was not accounted for in the most recently approved budget if the cost is for a substantially different use from any expected use of funds in such a line item, allotment, or allocation. What would qualify as a "substantially different use" for purposes of the Fund eligibility?

Costs incurred for a "substantially different use" include, but are not necessarily limited to, costs of personnel and services that were budgeted for in the most recently approved budget but which, due entirely to the COVID-19 public health emergency, have been diverted to substantially different functions. This would include, for example, the costs of redeploying corrections facility staff to enable compliance with COVID-19 public health precautions through work such as enhanced sanitation or enforcing social distancing measures; the costs of redeploying police to support management and enforcement of stay-at-home orders; or the costs of diverting educational support staff or faculty to develop online learning capabilities, such as through providing information technology support that is not part of the staff or faculty's ordinary responsibilities.

Note that a public function does not become a "substantially different use" merely because it is provided from a different location or through a different manner. For example, although developing online

¹ The Guidance is available at https://home.treasury.gov/system/files/136/Coronavirus-Relief-Fund-Guidance-for-State-Territorial-Local-and-Tribal-Governments.pdf.

instruction capabilities may be a substantially different use of funds, online instruction itself is not a substantially different use of public funds than classroom instruction.

May a State receiving a payment transfer funds to a local government?

Yes, provided that the transfer qualifies as a necessary expenditure incurred due to the public health emergency and meets the other criteria of section 601(d) of the Social Security Act. Such funds would be subject to recoupment by the Treasury Department if they have not been used in a manner consistent with section 601(d) of the Social Security Act.

May a unit of local government receiving a Fund payment transfer funds to another unit of government?

Yes. For example, a county may transfer funds to a city, town, or school district within the county and a county or city may transfer funds to its State, provided that the transfer qualifies as a necessary expenditure incurred due to the public health emergency and meets the other criteria of section 601(d) of the Social Security Act outlined in the Guidance. For example, a transfer from a county to a constituent city would not be permissible if the funds were intended to be used simply to fill shortfalls in government revenue to cover expenditures that would not otherwise qualify as an eligible expenditure.

Is a Fund payment recipient required to transfer funds to a smaller, constituent unit of government within its borders?

No. For example, a county recipient is not required to transfer funds to smaller cities within the county's borders.

Are recipients required to use other federal funds or seek reimbursement under other federal programs before using Fund payments to satisfy eligible expenses?

No. Recipients may use Fund payments for any expenses eligible under section 601(d) of the Social Security Act outlined in the Guidance. Fund payments are not required to be used as the source of funding of last resort. However, as noted below, recipients may not use payments from the Fund to cover expenditures for which they will receive reimbursement.

Are there prohibitions on combining a transaction supported with Fund payments with other CARES Act funding or COVID-19 relief Federal funding?

Recipients will need to consider the applicable restrictions and limitations of such other sources of funding. In addition, expenses that have been or will be reimbursed under any federal program, such as the reimbursement by the federal government pursuant to the CARES Act of contributions by States to State unemployment funds, are not eligible uses of Fund payments.

Are States permitted to use Fund payments to support state unemployment insurance funds generally?

To the extent that the costs incurred by a state unemployment insurance fund are incurred due to the COVID-19 public health emergency, a State may use Fund payments to make payments to its respective state unemployment insurance fund, separate and apart from such State's obligation to the unemployment insurance fund as an employer. This will permit States to use Fund payments to prevent expenses related to the public health emergency from causing their state unemployment insurance funds to become insolvent.

Are recipients permitted to use Fund payments to pay for unemployment insurance costs incurred by the recipient as an employer?

Yes, Fund payments may be used for unemployment insurance costs incurred by the recipient as an employer (for example, as a reimbursing employer) related to the COVID-19 public health emergency if such costs will not be reimbursed by the federal government pursuant to the CARES Act or otherwise.

The Guidance states that the Fund may support a "broad range of uses" including payroll expenses for several classes of employees whose services are "substantially dedicated to mitigating or responding to the COVID-19 public health emergency." What are some examples of types of covered employees?

The Guidance provides examples of broad classes of employees whose payroll expenses would be eligible expenses under the Fund. These classes of employees include public safety, public health, health care, human services, and similar employees whose services are substantially dedicated to mitigating or responding to the COVID-19 public health emergency. Payroll and benefit costs associated with public employees who could have been furloughed or otherwise laid off but who were instead repurposed to perform previously unbudgeted functions substantially dedicated to mitigating or responding to the COVID-19 public health emergency are also covered. Other eligible expenditures include payroll and benefit costs of educational support staff or faculty responsible for developing online learning capabilities necessary to continue educational instruction in response to COVID-19-related school closures. Please see the Guidance for a discussion of what is meant by an expense that was not accounted for in the budget most recently approved as of March 27, 2020.

In some cases, first responders and critical health care workers that contract COVID-19 are eligible for workers' compensation coverage. Is the cost of this expanded workers compensation coverage eligible?

Increased workers compensation cost to the government due to the COVID-19 public health emergency incurred during the period beginning March 1, 2020, and ending December 30, 2020, is an eligible expense.

If a recipient would have decommissioned equipment or not renewed a lease on particular office space or equipment but decides to continue to use the equipment or to renew the lease in order to respond to the public health emergency, are the costs associated with continuing to operate the equipment or the ongoing lease payments eligible expenses?

Yes. To the extent the expenses were previously unbudgeted and are otherwise consistent with section 601(d) of the Social Security Act outlined in the Guidance, such expenses would be eligible.

May recipients provide stipends to employees for eligible expenses (for example, a stipend to employees to improve telework capabilities) rather than require employees to incur the eligible cost and submit for reimbursement?

Expenditures paid for with payments from the Fund must be limited to those that are necessary due to the public health emergency. As such, unless the government were to determine that providing assistance in the form of a stipend is an administrative necessity, the government should provide such assistance on a reimbursement basis to ensure as much as possible that funds are used to cover only eligible expenses.

May Fund payments be used for COVID-19 public health emergency recovery planning?

Yes. Expenses associated with conducting a recovery planning project or operating a recovery coordination office would be eligible, if the expenses otherwise meet the criteria set forth in section 601(d) of the Social Security Act outlined in the Guidance.

Are expenses associated with contact tracing eligible?

Yes, expenses associated with contract tracing are eligible.

To what extent may a government use Fund payments to support the operations of private hospitals?

Governments may use Fund payments to support public or private hospitals to the extent that the costs are necessary expenditures incurred due to the COVID-19 public health emergency, but the form such assistance would take may differ. In particular, financial assistance to private hospitals could take the form of a grant or a short-term loan.

May payments from the Fund be used to assist individuals with enrolling in a government benefit program for those who have been laid off due to COVID-19 and thereby lost health insurance?

Yes. To the extent that the relevant government official determines that these expenses are necessary and they meet the other requirements set forth in section 601(d) of the Social Security Act outlined in the Guidance, these expenses are eligible.

May recipients use Fund payments to facilitate livestock depopulation incurred by producers due to supply chain disruptions?

Yes, to the extent these efforts are deemed necessary for public health reasons or as a form of economic support as a result of the COVID-19 health emergency.

Would providing a consumer grant program to prevent eviction and assist in preventing homelessness be considered an eligible expense?

Yes, assuming that the recipient considers the grants to be a necessary expense incurred due to the COVID-19 public health emergency and the grants meet the other requirements for the use of Fund payments under section 601(d) of the Social Security Act outlined in the Guidance. As a general matter, providing assistance to recipients to enable them to meet property tax requirements would not be an eligible use of funds, but exceptions may be made in the case of assistance designed to prevent foreclosures.

May recipients create a "payroll support program" for public employees?

Use of payments from the Fund to cover payroll or benefits expenses of public employees are limited to those employees whose work duties are substantially dedicated to mitigating or responding to the COVID-19 public health emergency.

May recipients use Fund payments to cover employment and training programs for employees that have been furloughed due to the public health emergency?

Yes, this would be an eligible expense if the government determined that the costs of such employment and training programs would be necessary due to the public health emergency.

May recipients use Fund payments to provide emergency financial assistance to individuals and families directly impacted by a loss of income due to the COVID-19 public health emergency?

Yes, if a government determines such assistance to be a necessary expenditure. Such assistance could include, for example, a program to assist individuals with payment of overdue rent or mortgage payments to avoid eviction or foreclosure or unforeseen financial costs for funerals and other emergency individual needs. Such assistance should be structured in a manner to ensure as much as possible, within the realm of what is administratively feasible, that such assistance is necessary.

The Guidance provides that eligible expenditures may include expenditures related to the provision of grants to small businesses to reimburse the costs of business interruption caused by required closures. What is meant by a "small business," and is the Guidance intended to refer only to expenditures to cover administrative expenses of such a grant program?

Governments have discretion to determine what payments are necessary. A program that is aimed at assisting small businesses with the costs of business interruption caused by required closures should be tailored to assist those businesses in need of such assistance. The amount of a grant to a small business to reimburse the costs of business interruption caused by required closures would also be an eligible expenditure under section 601(d) of the Social Security Act, as outlined in the Guidance.

The Guidance provides that expenses associated with the provision of economic support in connection with the public health emergency, such as expenditures related to the provision of grants to small businesses to reimburse the costs of business interruption caused by required closures, would constitute eligible expenditures of Fund payments. Would such expenditures be eligible in the absence of a stay-at-home order?

Fund payments may be used for economic support in the absence of a stay-at-home order if such expenditures are determined by the government to be necessary. This may include, for example, a grant program to benefit small businesses that close voluntarily to promote social distancing measures or that are affected by decreased customer demand as a result of the COVID-19 public health emergency.

May Fund payments be used to assist impacted property owners with the payment of their property taxes?

Fund payments may not be used for government revenue replacement, including the provision of assistance to meet tax obligations.

May Fund payments be used to replace foregone utility fees? If not, can Fund payments be used as a direct subsidy payment to all utility account holders?

Fund payments may not be used for government revenue replacement, including the replacement of unpaid utility fees. Fund payments may be used for subsidy payments to electricity account holders to the extent that the subsidy payments are deemed by the recipient to be necessary expenditures incurred due to the COVID-19 public health emergency and meet the other criteria of section 601(d) of the Social Security Act outlined in the Guidance. For example, if determined to be a necessary expenditure, a government could provide grants to individuals facing economic hardship to allow them to pay their utility fees and thereby continue to receive essential services.

Could Fund payments be used for capital improvement projects that broadly provide potential economic development in a community?

In general, no. If capital improvement projects are not necessary expenditures incurred due to the COVID-19 public health emergency, then Fund payments may not be used for such projects.

However, Fund payments may be used for the expenses of, for example, establishing temporary public medical facilities and other measures to increase COVID-19 treatment capacity or improve mitigation measures, including related construction costs.

The Guidance includes workforce bonuses as an example of ineligible expenses but provides that hazard pay would be eligible if otherwise determined to be a necessary expense. Is there a specific definition of "hazard pay"?

Hazard pay means additional pay for performing hazardous duty or work involving physical hardship, in each case that is related to COVID-19.

The Guidance provides that ineligible expenditures include "[p]ayroll or benefits expenses for employees whose work duties are not substantially dedicated to mitigating or responding to the COVID-19 public health emergency." Is this intended to relate only to public employees?

Yes. This particular nonexclusive example of an ineligible expenditure relates to public employees. A recipient would not be permitted to pay for payroll or benefit expenses of private employees and any financial assistance (such as grants or short-term loans) to private employers are not subject to the restriction that the private employers' employees must be substantially dedicated to mitigating or responding to the COVID-19 public health emergency.

May counties pre-pay with CARES Act funds for expenses such as a one or two-year facility lease, such as to house staff hired in response to COVID-19?

A government should not make prepayments on contracts using payments from the Fund to the extent that doing so would not be consistent with its ordinary course policies and procedures.

Questions Related to Administration of Fund Payments

Do governments have to return unspent funds to Treasury?

Yes. Section 601(f)(2) of the Social Security Act, as added by section 5001(a) of the CARES Act, provides for recoupment by the Department of the Treasury of amounts received from the Fund that have not been used in a manner consistent with section 601(d) of the Social Security Act. If a government has not used funds it has received to cover costs that were incurred by December 30, 2020, as required by the statute, those funds must be returned to the Department of the Treasury.

What records must be kept by governments receiving payment?

A government should keep records sufficient to demonstrate that the amount of Fund payments to the government has been used in accordance with section 601(d) of the Social Security Act

May recipients deposit Fund payments into interest bearing accounts?

Yes, provided that if recipients separately invest amounts received from the Fund, they must use the interest earned or other proceeds of these investments only to cover expenditures incurred in accordance with section 601(d) of the Social Security Act and the Guidance on eligible expenses. If a government deposits Fund payments in a government's general account, it may use those funds to meet immediate cash management needs provided that the full amount of the payment is used to cover necessary

expenditures. Fund payments are not subject to the Cash Management Improvement Act of 1990, as amended.

May governments retain assets purchased with payments from the Fund?

Yes, if the purchase of the asset was consistent with the limitations on the eligible use of funds provided by section 601(d) of the Social Security Act.

What rules apply to the proceeds of disposition or sale of assets acquired using payments from the Fund?

If such assets are disposed of prior to December 30, 2020, the proceeds would be subject to the restrictions on the eligible use of payments from the Fund provided by section 601(d) of the Social Security Act.

Item No. 08



City of Lucas Council Agenda Request June 18, 2020

Requester: Mayor Jim Olk

City Secretary Stacy Henderson

Agenda Item Request

Consider postponement of proposed amendments to the City's Home Rule Charter from the November 3, 2020 special election to the May 1, 2021 special election.

Background Information

At the City Council special meeting held on March 26, 2020, the City Council unanimously adopted Ordinance 2020-03-00907 postponing the General and Special Election ordered for May 2, 2020 to November 3, 2020 in response to the COVID-19 pandemic.

On the special election ballot for November 3, 2020, there are 18 amendments to the City's Home Rule Charter, and each amendment must be voted upon individually. Due to the fact that the November 3, 2020 election will contain items from two election cycles, May 2020 and November 2020, this will result in a lengthy ballot. City staff is recommending postponing the portion of the special election only relating to charter amendments from the November 3, 2020 special election to the May 1, 2021 special election. The street sales tax allocation on the special election ballot and the general election ballot will remain unchanged.

Attachments/Supporting Documentation

NA

Budget/Financial Impact

NA

Recommendation

City Staff recommends moving proposed charter amendments from the special election scheduled for November 3, 2020 to the special election to be held on May 1, 2021.

Motion

I make a motion to approve/deny moving the proposed amendments to the City's Home Rule Charter from the special election scheduled for November 3, 2020 to the special election on May 1, 2021.

Item No. 09



City of Lucas City Council Agenda Request June 18, 2020

Mayor Jim Olk Requester: **Agenda Item Request Executive Session:** An Executive Session is not scheduled for this meeting. As authorized by Section 551.071 of the Texas Government Code, the City Council may convene into closed Executive Session for the purpose of seeking confidential legal advice from the City Attorney regarding any item on the agenda at any time during the meeting. This meeting is closed to the public as provided in the Texas Government Code. **Background Information** NA **Attachments/Supporting Documentation** NA **Budget/Financial Impact** NA Recommendation NA

NA

Motion



City of Lucas City Council Agenda Request June 4, 2020

Requester: Mayor Jim Olk

Agenda Item Request

Reconvene from Executive Session and take any action necessary as a result of the Executive Session.

Background Information

NA

Attachments/Supporting Documentation

NA

Budget/Financial Impact

NA

Recommendation

NA

Motion