



P.O. BOX 1386, HOUSTON, TEXAS 77251-1386 | 713.802.5000 | WWW.TXDOT.GOV

October 7, 2022

CONTACT: DTP

NASA Rd 1 Bypass Extension, Landing Blvd Extension
Functional Classification Change

Mr. Craig Raborn, MPO Director
Houston-Galveston Area Council
P.O. Box 22777
Houston, Texas 77227-2777

Dear Mr. Raborn:

Attached for your review and approval is the Classification (FC) request to change NASA Rd 1 Bypass extension and Landing Boulevard extension functional classification to a Major Collector and Minor Arterial, located in Harris and Galveston Counties respectively. The Cities of League City and Webster propose to construct these new alignment 4-lane divided roadways, letting in FY 2023, with combined total cost of \$70.0 million as listed in H-GAC's 2045 RTP. The implementation of these proposed roadways would improve mobility and provide N/S connectivity to the existing land use and development patterns taking place in the Cities of League City and Webster environs.

Roadway	County	From	To	Length (mi)	Existing FC SWPM	Proposed FC Change
NASA Rd 1 Bypass Extension	Harris	FM 528	Landing Blvd. Ext.	0.88	NA	Major Collector (5)
Landing Blvd/NASA Rd 1 Extension	Harris/Galveston	FM 518	IH 45 S	1.65	NA	Minor Arterial (4)

TxDOT and MPO staffs have evaluated these requests and find them to be consistent with the 2018 City of League City Master Mobility Plan & City of Webster Thoroughfare Plan and FHWA functional classification procedures. Attached are vicinity maps showing the project locations, schematics, letters of support from City of League City and City of Webster supporting the proposed changes for your consideration. Please contact Mr. Charles U. Airiohuodion at (713) 802-5310 if you have any questions.

Sincerely,

DocuSigned by:

71CC0F6C68A44C0...
Catherine McCreight, MBA, MA.
Director of District Transportation Planning
Houston District

OUR VALUES: People • Accountability • Trust • Honesty

OUR MISSION: Through collaboration and leadership, we deliver a safe, reliable, and integrated transportation system that enables the movement of people and goods.

An Equal Opportunity Employer

Mr. Craig Raborn

2

October 7, 2022

Attachments

cc: Mr. James W. Koch, P.E.

Mr. Charles U. Airiohuodion

OUR VALUES: *People • Accountability • Trust • Honesty*

OUR MISSION: *Through collaboration and leadership, we deliver a safe, reliable, and integrated transportation system that enables the movement of people and goods.*

An Equal Opportunity Employer

Roadway Classification Justification

Classification of NASA Rd 1 Bypass Extension as A Major Collector (#5):

NASA Rd 1 Bypass Extension is being recommended for a roadway functional classification of a Major Collector (#5) as a new roadway to connect FM 528 to the proposed Landing Blvd. extension/IH 45 S as submitted by the City of Webster in Harris County. This proposed classification will maintain and continue the existing functional classification of W NASA Blvd as a Major Collector (#5) connection to the proposed Landing Blvd extension and other City of Webster's major transportation system. The City of Webster is proposing to construct this new location roadway project CSJ: 0912-72-541, MPO ID # 17081, "CONSTRUCT 4-LANE DIVIDED ROADWAY ON NEW ALIGNMENT WITH PEDESTRIAN/BICYCLE ACCOMODATIONS" FY 2023, estimated cost of \$8.0 Million" as listed in the Houston Galveston Area Council (H-GAC) 2045 Regional Transportation Plan (RTP). The proposed 4-lane divided roadway consists of pedestrian and bicycle accommodations, roundabout elements (typical section attached) will connect and provide access to Clear Creek Shores, Friendswood area, Mariposa, and IH 45 S neighborhood in general. This project upon completion will enhanced existing side street connections as well as provide improved mobility, safety, and access in the neighborhoods in Webster at an estimated construction cost of \$8.0 Million. The project is estimated to bring economic prosperity to the Cities of Webster, League City and the IH 45 S area of south Harris with a growing population.

Classification of Landing Blvd/NASA Rd 1 Bypass Extension as A Minor Arterial (#4):

Landing Blvd/NASA Rd 1 Bypass Extension is being recommended for a roadway functional classification of a Minor Arterial (#4) as a new roadway to connect to FM 518 (Principal Arterial) as well as extending the existing section of Landing Blvd from FM 518 to NASA Rd 1 Bypass (Principal Arterial) and IH 45 S (Interstate) as requested by the Cities of League and Webster in Galveston respectively. The proposed roadway will be classified a minor arterial connecting to arterials (IH 45 S) and FM 518 to help reduce and circulate traffic demand on Bay Area Blvd., FM 518, FM 528, and IH 45 S serving as a bypass roadway to Cities of City of League City Webster's transportation system. Both Cities are proposing to construct new location roadway project CSJ: 0912-00-519, MPO ID # 17080, "CONSTRUCT 4-LANE DIVIDED ROADWAY ON NEW ALIGNMENT WITH PEDESTRIAN/BICYCLE ACCOMODATIONS" FY 2023, estimated cost of \$61.0 Million" as listed in the Houston Galveston Area Council (H-GAC) 2045 Regional Transportation Plan (RTP). The proposed 4-lane divided roadway with pedestrian and bicycle accommodations will connect and provide access to Clear Creek Shores, Mariposa, Bay Area Blvd., and IH 45 S neighborhoods. The completion of the roadway project will also efficiently and safely enhance mobility, moving people and goods as well as create a more efficient framework for economic development in League City and the surrounding area.



Change FC of NASA Rd 1 Bypass Extension to Major Collector & Landing Blvd Extension to Minor Arterial Map Sheet: SWPM



NASA Rd 1 Bypass Extension:
FM 528 to Landing Blvd Extension/IH 45 S
0.88 Mile
Proposed FC = Major Collector from Local
ADT = 5,478 (2021) - TxDOT
ADT = 7,949 (2045) - TxDOT

ADT = 44,019 (2022) - TxDOT

Project CSJ: 0912-72-541
MPO ID: 17081
Letting FY 2023

Landing Blvd/NASA Rd 1 Extension:
FM 518 to NASA Rd 1 Extension
1.65 Miles
Proposed FC = Minor Arterial from Local
ADT = 5,743 (2021) - 34,100 (2040) H-GAC

Project CSJ: 0912-00-519
MPO ID: 17080
Letting FY 2023

Legend

- Landing_Bld
- Interstate
- Principal Arterial - Other Freeways and Expressways
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local

Adjusted Urbanized Areas 2010

UZA

0.75 0.375 0 0.75 Miles

Notice:
This Map was produced for internal use
within the Texas Department of Transportation
Accuracy is limited to validity of available
data as of December 31, 2015



MEMORANDUM

Form R-MPO-104
(09/10)
Page 1 of 2

TO: David Freidenfeld - TPP **DATE:** October 7, 2022

FROM: Charles Airiohuodion

SUBJECT: Functional Classification Request

In order to expedite processing of a functional classification (FC) change, please complete the information below and return it to your Region's MPO/Rural Planning Coordinator. Please use one form for each request.

Facility Name: NASA Rd 1 Bypass Extension Map Sheet: SWPM
(must be linked to map location)

Limits: FM 528 to Landing Blvd. Ext/IH 45 S

Old FC: Local (#7) Exact Mileage: 0.88
(to 10th of a mile)

New FC: Major Collector (#5) Exact Mileage: 0.88
(to 10th of a mile)

Jurisdiction of local government / MPO: Houston Galveston Area Council (HGAC)

Has consultation with the local government / MPO occurred? ☒ Yes ☐ No

County: Harris District: Houston

Justification for FC Change:

The City of Webster is requesting reclassification of NASA Rd 1 Bypass Extension to a Major Collector (#5) from FM 528 to Landing Blvd Extension to serve the growth in South east area. Project is in RTP - Construct new 4-lane Rdwy (CSJ 0912-72-541), FY 2023. Project will improve & enhance mobility in Harris/City of Webster upon approval.

Please note: Justification is based on the Federal Highway Administration's Highway Functional Classification, Concepts, Criteria and Procedures manual. Documentation can include detailed maps showing the roadway being changed due to new development identified adjacent to a roadway or it may be a new/extended roadway.



www.cityofwebster.com

PUBLIC WORKS DEPARTMENT

September 28, 2022

Mr. Charles Airiohuodion
Texas Department of Transportation
7600 Washington Avenue, Suite 120
Houston, TX 77007

**RE: Roadway Classification
City of Webster
Location: NASA Road 1 Bypass (0912-72-541)**

Dear Mr. Airiohuodion:

Attached is the proposed schematic for the NASA Road 1 Bypass extension from FM 528 to Landing Blvd. The Nasa Road 1 Bypass extension is a new location roadway that does not currently have an assigned Functional Classification. We are formally requesting that TxDOT assign a Functional Classification of Major Collector for this roadway.

Please feel free to contact me if you have any questions or need additional information.

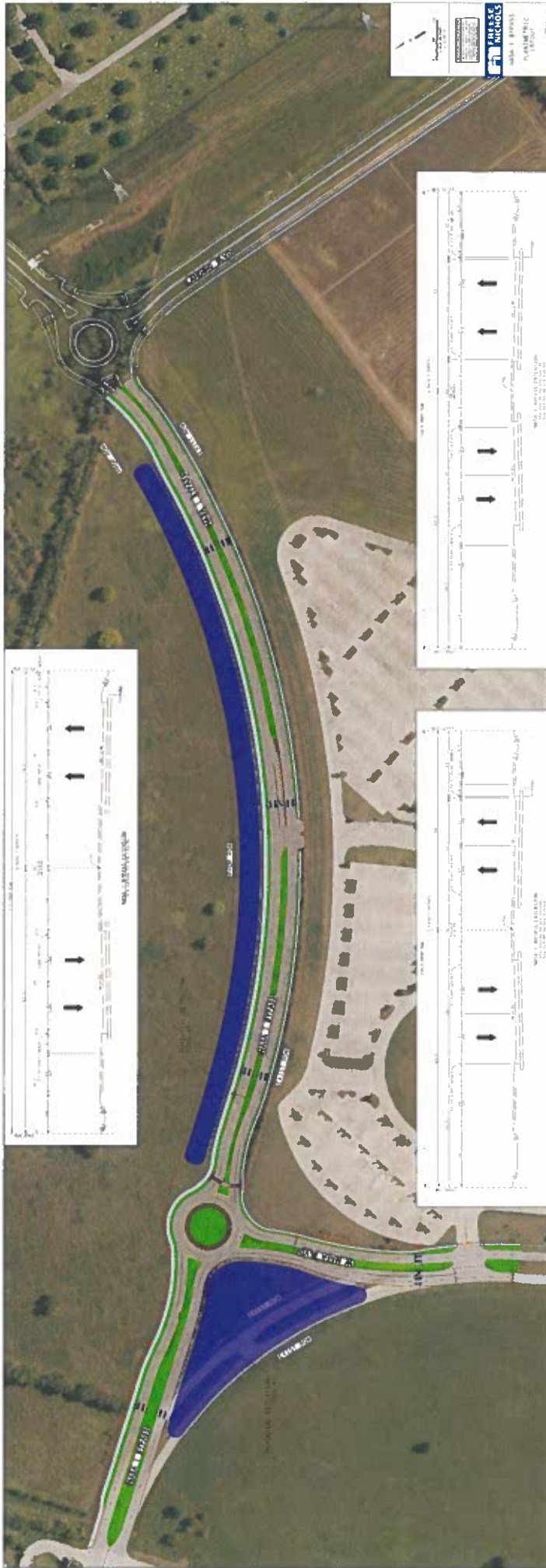
Respectfully,

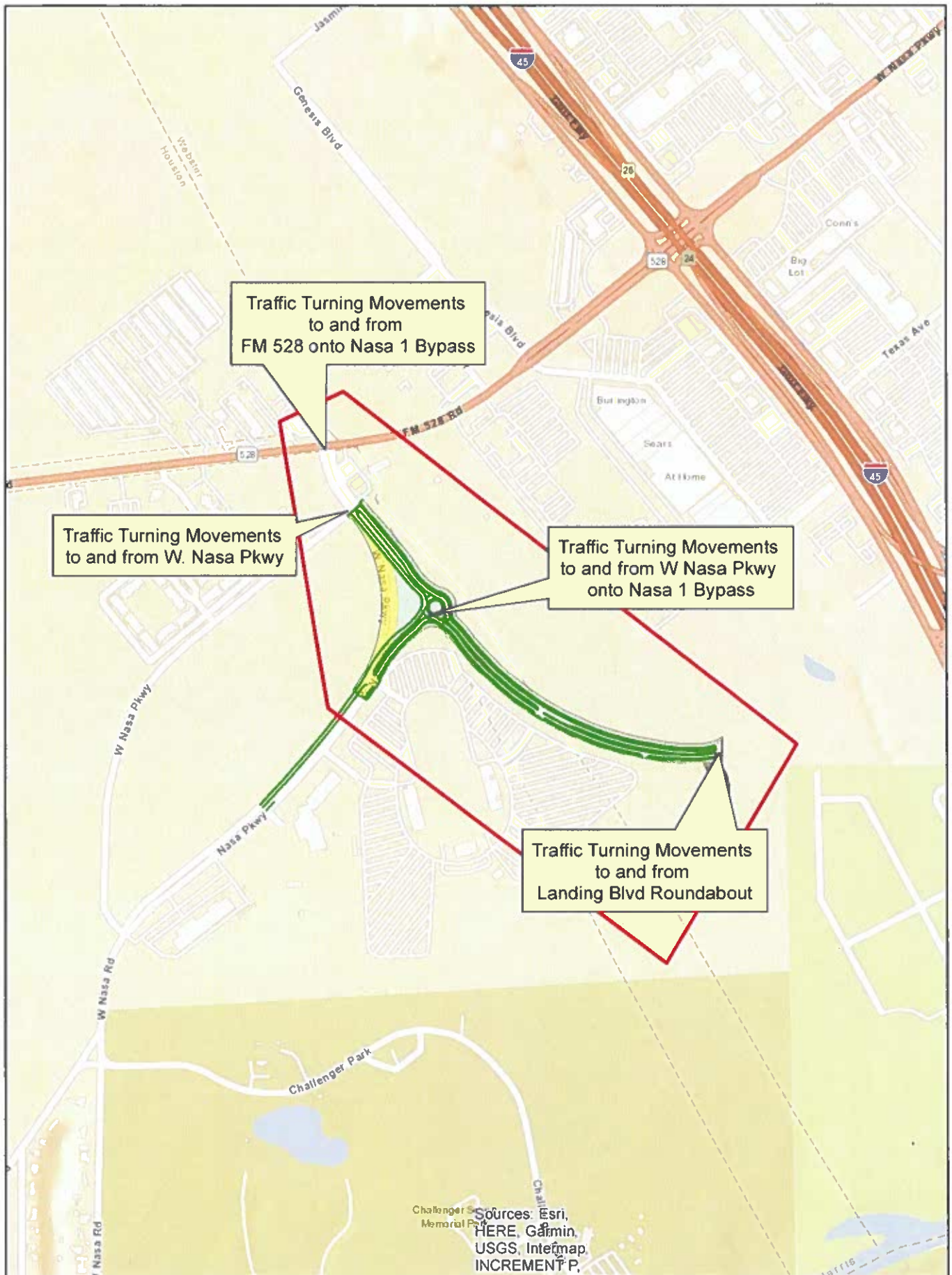
A handwritten signature in blue ink, appearing to read 'John D. Warnement'.

John D. Warnement
Director
City of Webster Public Works Department
855 Magnolia Avenue, Webster, TX 77598
P: (281) 316-3711 F: (281) 316-3728

Attachment:
Project Schematic
Project Location Map

cc: Callie Barnes, H-GAC
Jim Dickinson, H-GAC
Adam Beckom, H-GAC
Vishu Lingala, H-GAC





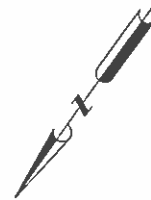
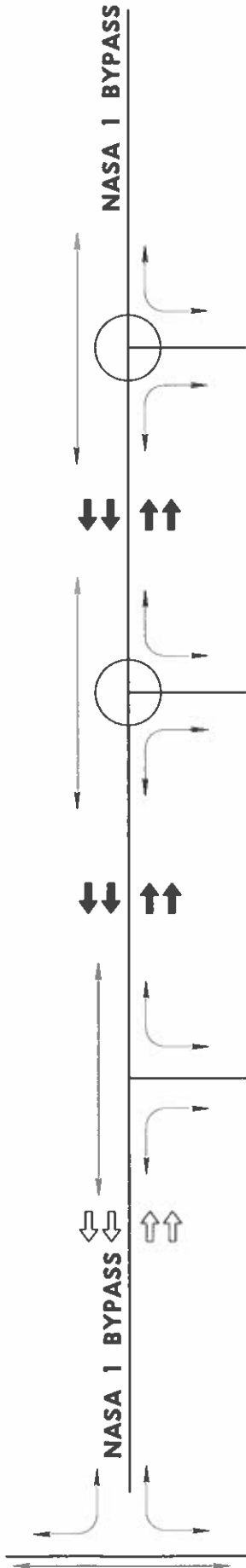
FM 528

W NASA BLVD

W NASA BLVD
(ROUNDABOUT)

LANDING BLVD
(ROUNDABOUT)

NASA 1 BYPASS



HOUSTON DISTRICT
PROJECT DEVELOPMENT

PROPOSED TRAFFIC
CONFIGURATION

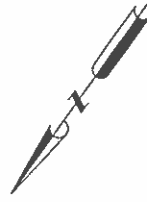
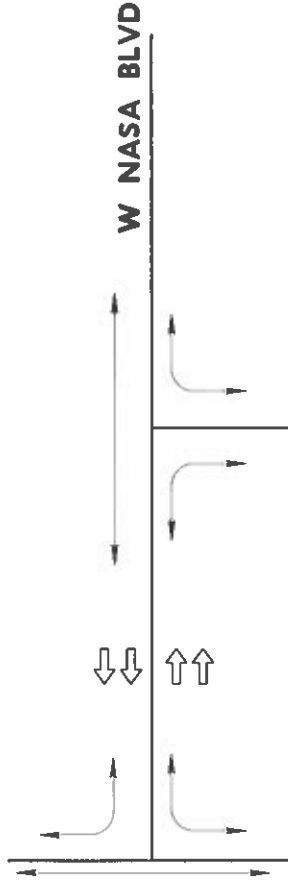
ROADWAY: NASA RD 1 BYPASS
LIMITS FROM: FM 528
LIMITS TO: LANDING BLVD ROUNDABOUT

COUNTY: HARRIS
CSJ: 0912-72-541
DATE: 05/31/2022



FM 528

W NASA BLVD



HOUSTON DISTRICT
PROJECT DEVELOPMENT

EXISTING TRAFFIC
CONFIGURATION

ROADWAY: NASA 1 BYPASS
LIMITS FROM: FM 528
LIMITS TO: LANDING BLVD ROUNDABOUT

COUNTY: HARRIS
CSJ: 0912-72-541
DATE: 05/31/2022





MEMORANDUM

Form R-MPO-104
(09/10)
Page 1 of 2

TO: David Freidenfeld - TPP

DATE: October 7, 2022

FROM: Charles Airiohuodion

SUBJECT: Functional Classification Request

In order to expedite processing of a functional classification (FC) change, please complete the information below and return it to your Region's MPO/Rural Planning Coordinator. Please use one form for each request.

Facility Name: Landing Rd/NASA Rd 1 Extension Map Sheet: SWPM
(must be linked to map location)

Limits: FM 518 to Nasa Rd 1 Bypass Extension

Old FC: Local (#7) Exact Mileage: 1.65
(to 10th of a mile)

New FC: Minor Arterial (#5) Exact Mileage: 1.65
(to 10th of a mile)

Jurisdiction of local government / MPO: Houston Galveston Area Council (HGAC)

Has consultation with the local government / MPO occurred? ☒ Yes ☐ No

County: Harris/Galveston District: Houston

Justification for FC Change:

The Cities of League City and Webster are requesting reclassification of Landing Blvd to a Minor Arterial (#4) from FM 518 to NASA Rd 1 Ext to serve growth in League & Webster/IH 45S areas. A TIP/RTP project - Const 4 lane (CSJ 0912-00-519/17080), FY 2023. Project will improve & enhance mobility in Harris/Galveston area upon approval.

Please note: Justification is based on the Federal Highway Administration's Highway Functional Classification, Concepts, Criteria and Procedures manual. Documentation can include detailed maps showing the roadway being changed due to new development identified adjacent to a roadway or it may be a new/extended roadway.



MEMO

September 9, 2020

To: Andrew C. Mao, P.E.

From: Mark D. Patterson, P.E. DS
MP

Subject: Request for Traffic Analysis
County: Harris
Project: STP () MM
Highway: VA: Landing Boulevard Extension
Limits: From FM 518 to IH 45
Control: 0912-00-519

We are requesting traffic analysis for the Landing Boulevard extension in Harris County. The proposed project is a new location non-freeway facility to construct four-lane roadway with a concrete curb and gutter and a shared use path. This project also includes two bridges.

It should be noted that during the Environmental Documentation, forecasted traffic volumes were developed. The attached memo provided to the Texas Department of Transportation (TxDOT) TP&P is included for reference. Please provide the Traffic Analysis for Highway Design tabulation for the years 2022, 2042 and 2052, including ESALs, for a concrete pavement for the subject project.

We request that this analysis be prioritized for the design to proceed on schedule.

If you have any questions, please call Mohammed Zubair at (713) 802-5616.

Attachments

CC: Mohammed Zubair, P.E.
Osama Ali, P.E. – WSP USA

Landing Boulevard Extension & NASA 1 Bypass Extension

Project Limits: FM 518 to I-45
CSJ: 0912-00-519

Memorandum

To: TxDOT Transportation Planning & Programming Division

Subject: Landing Boulevard Extension and NASA 1 Bypass Extension Traffic Projection Methodology

Date: November 7, 2017

Introduction

The City of League City and Texas Department of Transportation (TxDOT) propose the extension of Landing Boulevard, from FM 518 (West Main Street) in League City, Galveston County, to Interstate Highway 45 (I-45) at NASA Road 1 (NASA 1) Bypass in Webster, Harris County. FM 518 is also known as Main Street in League City. The project length is approximately 1.7 miles and a project location map is provided in **Figure 1**. The proposed action would extend Landing Boulevard northward, beyond its existing terminus north of FM 518, as a four-lane, divided roadway connecting into the existing NASA 1 Bypass terminus at I-45.

The purpose of this memorandum is to present the proposed assumptions and methodology that will be used to estimate traffic projections for the proposed Landing Boulevard for two scenarios:

1. No-Build Alternative
2. Preferred Build Alternative

Methodology

The traffic projections for the study area will utilize the following sources:

- Houston-Galveston Area Council (H-GAC) Travel Demand Model (Year 2040)
- TxDOT Statewide Planning Map

Figure 1: Project Location



Table 2: H-GAC 2040 ADT Projections

Roadway	Limits	2040 ADT	
		Existing Conditions	w/ Landing Blvd Extension
Landing Boulevard Extension	between NASA 1 and FM 518	3,244	34,140
Landing Boulevard Extension (Webster)	between FM 528 and NASA 1	-	16,161
Landing Boulevard	south of FM 518	21,744	30,611
Bay Area Boulevard	South of FM 528	21,486	15,808
Bay Area Boulevard	north of FM 518	24,315	19,454
Bay Area Boulevard	south of FM 518	10,382	8,041
Palomino Road	north of FM 518	4,422	4,155
Hobbs Road	south of FM 518	10,990	12,621
I-45	north of FM 518	184,147	180,266
I-45	south of FM 518	166,014	164,670
I-45 SBFR	north of FM 518	26,811	18,720
I-45 NBFR	north of FM 518	32,805	24,809
FM 518	west of Landing Boulevard	28,927	33,331
FM 518	east of Landing Boulevard	41,907	27,191
FM 528	west of Landing Boulevard	41,933	43,010
FM 528	east of Landing Boulevard	45,239	32,000
NASA 1 Bypass	East of I-45	43,554	43,660
NASA 1 Bypass Extension	between I-45 & Landing	-	42,777

Source: H-GAC 2040 (TDM)

As shown, the Landing Boulevard Extensions would redistribute traffic from adjacent parallel routes. Traffic utilizing the I-45 mainlanes, I-45 frontage roads and Bay Area Boulevard would relocate to the proposed extension. Volumes on Bay Area Boulevard would reduce by approximately 23 percent while volumes on I-45 mainlanes and frontage roads would reduce by approximately 14 percent.

The demographic data from the 2040 TAZ's was reviewed for consistency with future land use and historic growth patterns. The four TAZs within in the immediate project area are shown on **Figure 2** and the 2015 and forecasted 2040 demographic data is show in **Table 3**.

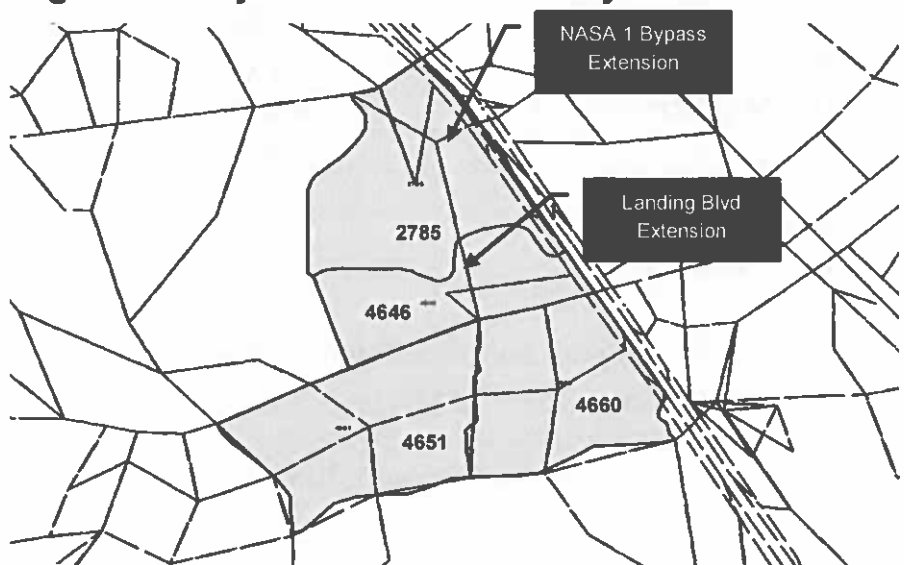
Figure 2: Project Area Traffic Analysis Zones

Table 5: Traffic Factors

Factor	Percentage
K-Factor	9.3%
D-Factor	55.9%
Percent Trucks in ADT	13.0%
Percent Trucks in DHV	3.4%

Conclusion

The H-GAC 2040 TDM forecasts align with future land use changes and demographic data. Additionally, the proposed Landing Boulevard Extension is an off-system facility; therefore, the H-GAC TDM is the best available tool for obtaining traffic projections. The study team proposes to use the H-GAC forecasts as the base for the average daily traffic volumes for the proposed Landing Boulevard Extension. Projections for the new location roadways are shown in **Table 6**.

Table 2: H-GAC 2040 ADT Projections

Roadway	Limits	2040 ADT
Landing Boulevard Extension	between NASA 1 and FM 518	34,000
Landing Boulevard Extension (Webster)	between FM 528 and NASA 1	16,000
NASA 1 Bypass Extension	between I-45 & Landing	43,000

Source: H-GAC 2040 (TDM)



Engineering Department
500 W Walker
League City, TX 77573

Main: 281.554.1445

www.leaguecity.com

September 26, 2022

Charles Airiohuodion
Texas Department of Transportation
7600 Washington Ave., Suite 120
Houston, TX 77007

RE: Landing Blvd. Street Reclassification within City of League City

Mr. Airiohuodion,

Attached is the City of League City's Thoroughfare Map that was approved as part of the City's Master Mobility Plan update which was approved by our City Council on May 28, 2019. This plan shows this new section of Landing Blvd. to be classified as a Minor Arterial and by 2040 it is expected that this section of Landing Blvd. is expected have a daily volume in excess of 25,000 vehicles. This extension project (TxDOT # CSJ 0912-00-519) extends Landing Blvd. approximately 1.63 miles from FM 518/Main Street north to IH-45. The proposed thoroughfare will be a 4-lane divided roadway with sidewalks in each direction. The City is respectfully requesting that the Landing Blvd. extension be included on the Statewide Planning Map and classified as a Minor Arterial.

If you have any questions or need additional information regarding this request, please feel free to contact me at (281) 554-1445 or via email at Christopher.Sims@leaguecitytx.gov.

Sincerely,

Christopher Sims
Director of Engineering

attachments

cc Ron Bavarian, Cara Davis, Susan Oyler - CoLC
Catherine McCreight, Jeffery English - TxDOT
Adam Beckom, Vishu Lingala, Jim Dickinson, Callie Barnes - H-GAC

INDEX OF SHEETS

SEE SHEET 2 FOR
INDEX OF SHEETS

STATE OF TEXAS DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED STATE HIGHWAY IMPROVEMENT

PROJECT NO.	DISTRICT	COUNTY	SHEET NO.
0912	00	519	1
STATE	MOU	GALVESTON/HARRIS	
CONTROL	SECTION		

FUNCTIONAL CLASS: URBAN MAJOR COLLECTOR

DESIGN SPEED: 45 MPH

ADT (2040): 34,000 (LANDING BLVD EXTENSION-LEAGUE CITY)
16,000 (LANDING BLVD EXTENSION-WEBSTER)
43,000 (NASA 1 BYPASS EXTENSION-WEBSTER)

PROJECT NUMBER:
CSJ: 0912-00-519

LIMITS: FROM FM 518 TO IH-45

LANDING BLVD
GALVESTON COUNTY, HARRIS COUNTY

ROADWAY
BRIDGE

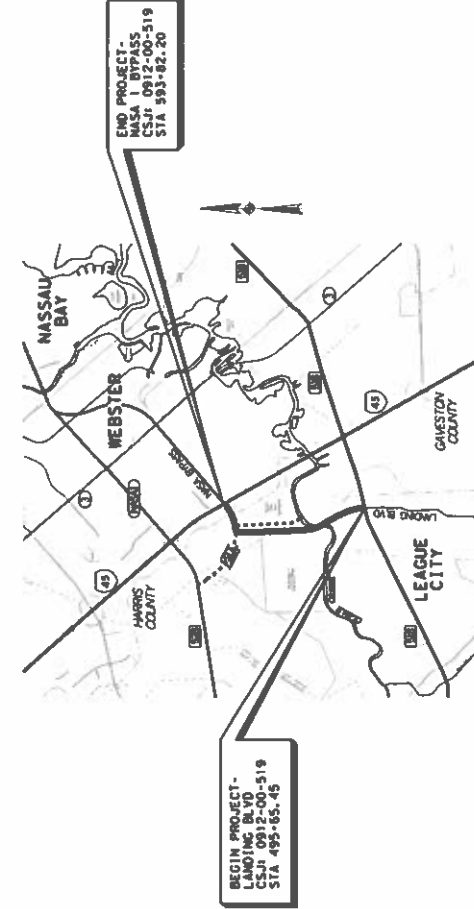
NET LENGTH OF PROJECT

PROJECT LENGTH TOTAL • 9,816.75 FT • 1.859 MI

FOR THE CONSTRUCTION OF: NEW LOCATION URBAN COLLECTOR ROADWAY

CONSISTING OF: GRADING, LIME TREATED SUBGRADE, JOINTED REINFORCED
CONCRETE PAVEMENT, SIDEWALKS, SHARED USE PATH, DITCHES, STORM SEWER, LIGHTING,
SIGNING AND PAVEMENT MARKINGS, TRAFFIC SIGNALS, BRIDGE STRUCTURES, AND RETAINING WALLS
LAYMAN'S DESC.: CONSTRUCT NEW 4-LANE ROADWAY

Registered Accessibility Specialist (RAS)
inspection required. TDLR No. TABS2022006152



VICINITY MAP

A PRE-CONSTRUCTION MEETING WITH THE CITY OF LEAGUE CITY AND THE TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) WAS HELD ON MAY 12, 2022. THE MEETING DISCUSSED THE PROJECT'S SCOPE, SCHEDULE, AND THE REQUIRED CONTRACT PROVISIONS. THE CITY ENGINEER'S SIGNATURE IS REQUIRED PRIOR TO THE PROJECT'S COMMENCEMENT.

NOTE:

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, LATEST EDITION, SHALL GOVERN UNLESS OTHERWISE SPECIFIED. CONTRACT PROVISIONS SHALL GOVERN ON THIS PROJECT. REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHW 1273, MAY, 2012)



WSP USA, Inc.
18200 Park Row, Suite 200
Houston, TX 77064
Tel: 281.333.8800
TBE 7-2285

SUBMITTED FOR LETTING:

PROJECT MANAGER, RSP USA

TEXAS DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR LETTING:

DIRECTOR OF TRANSPORTATION
PLANNING & DEVELOPMENT

RECOMMENDED FOR LETTING:

AREA ENGINEER

APPROVED FOR LETTING:

DISTRICT ENGINEER

COORDINATING AGENCIES:

CITY OF LEAGUE CITY

CITY OF WEBSTER

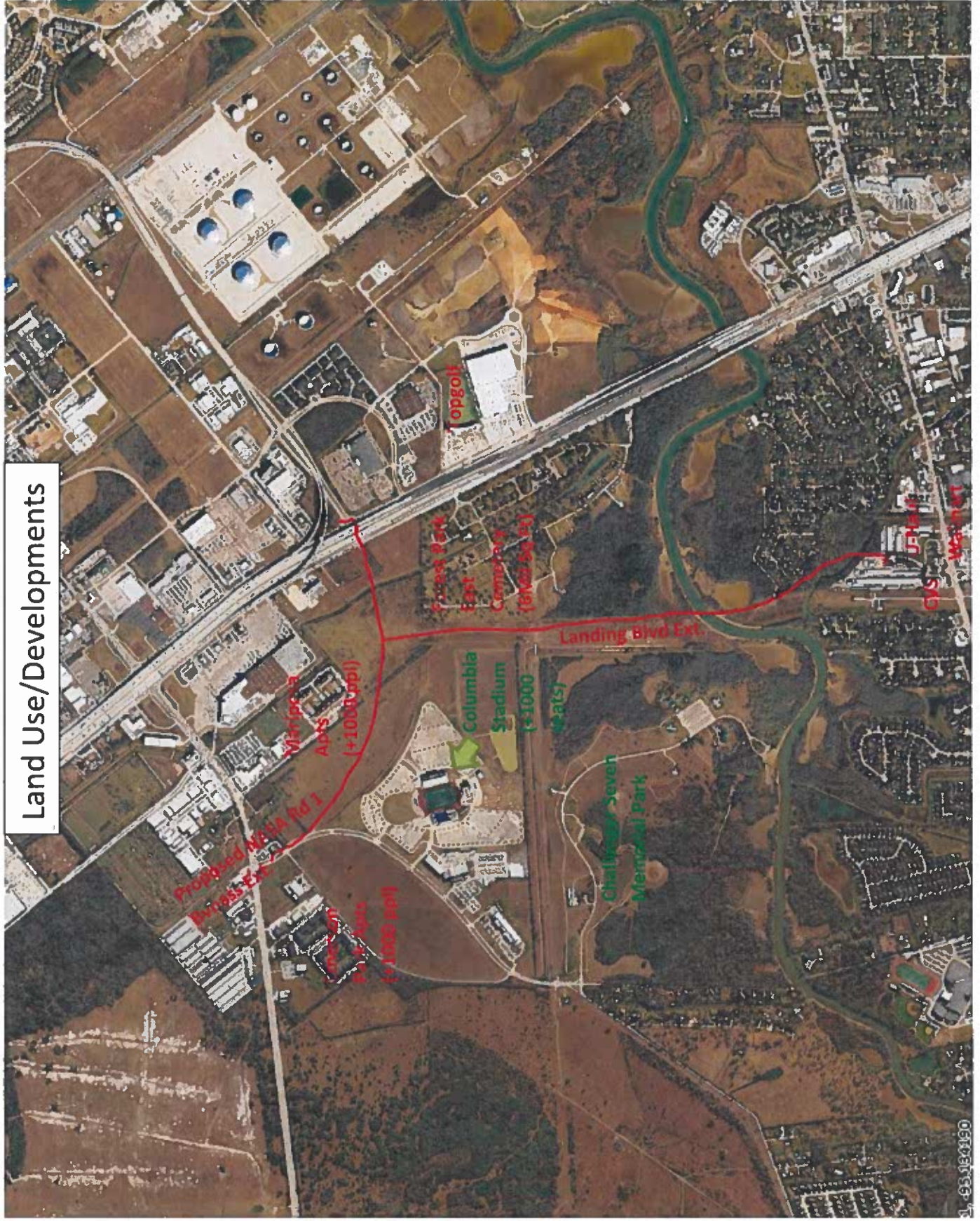
DIRECTOR OF ENGINEERING

DIRECTOR OF PUBLIC WORKS

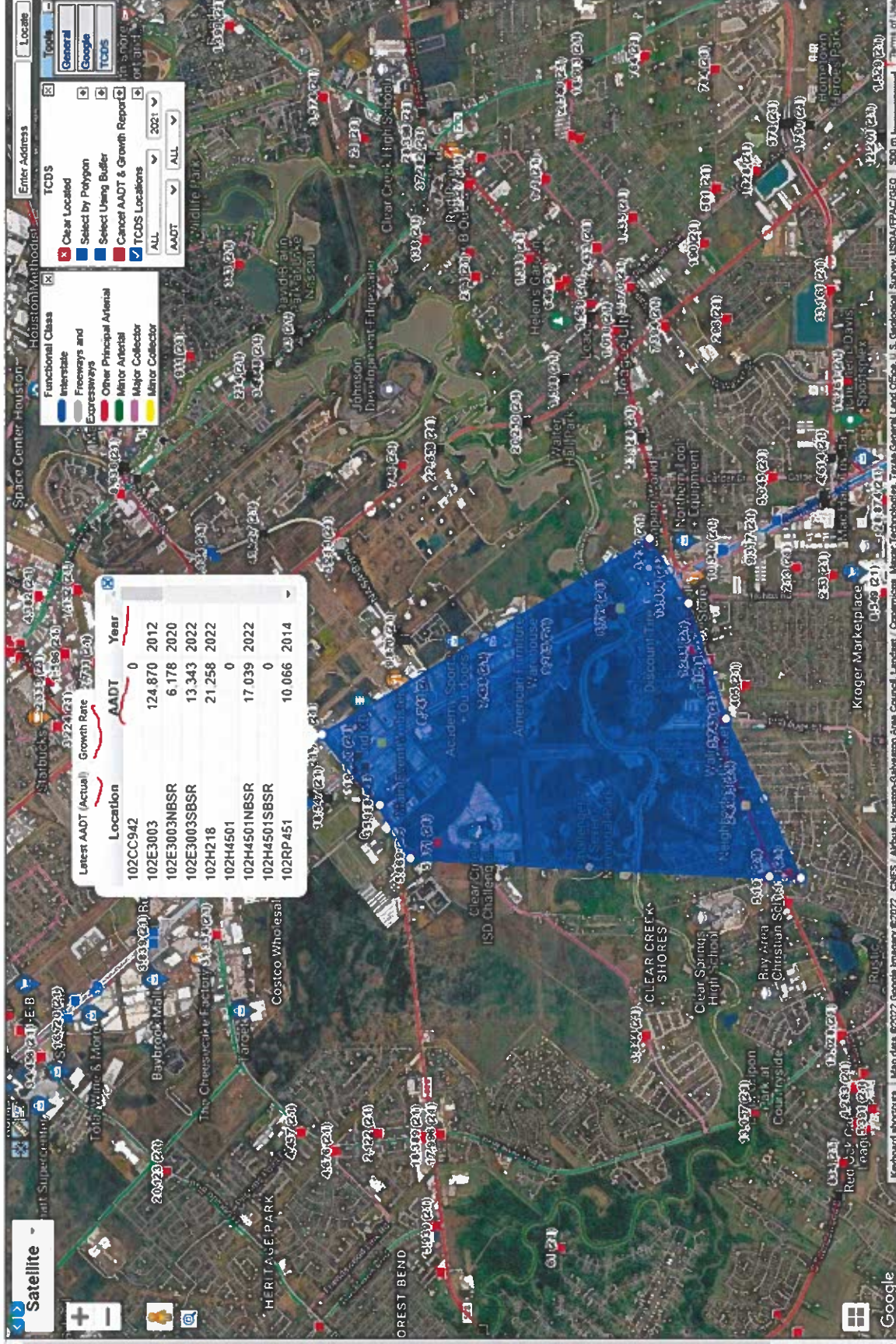


© 2022 BY TEXAS DEPARTMENT OF TRANSPORTATION, ALL RIGHTS RESERVED

Land Use/Developments



Land Use/Developments and Traffic Data & TIP Page



TxDOT STARS II Database 2021 AADT & Growth Rate (average 2%) Report within the Project Area

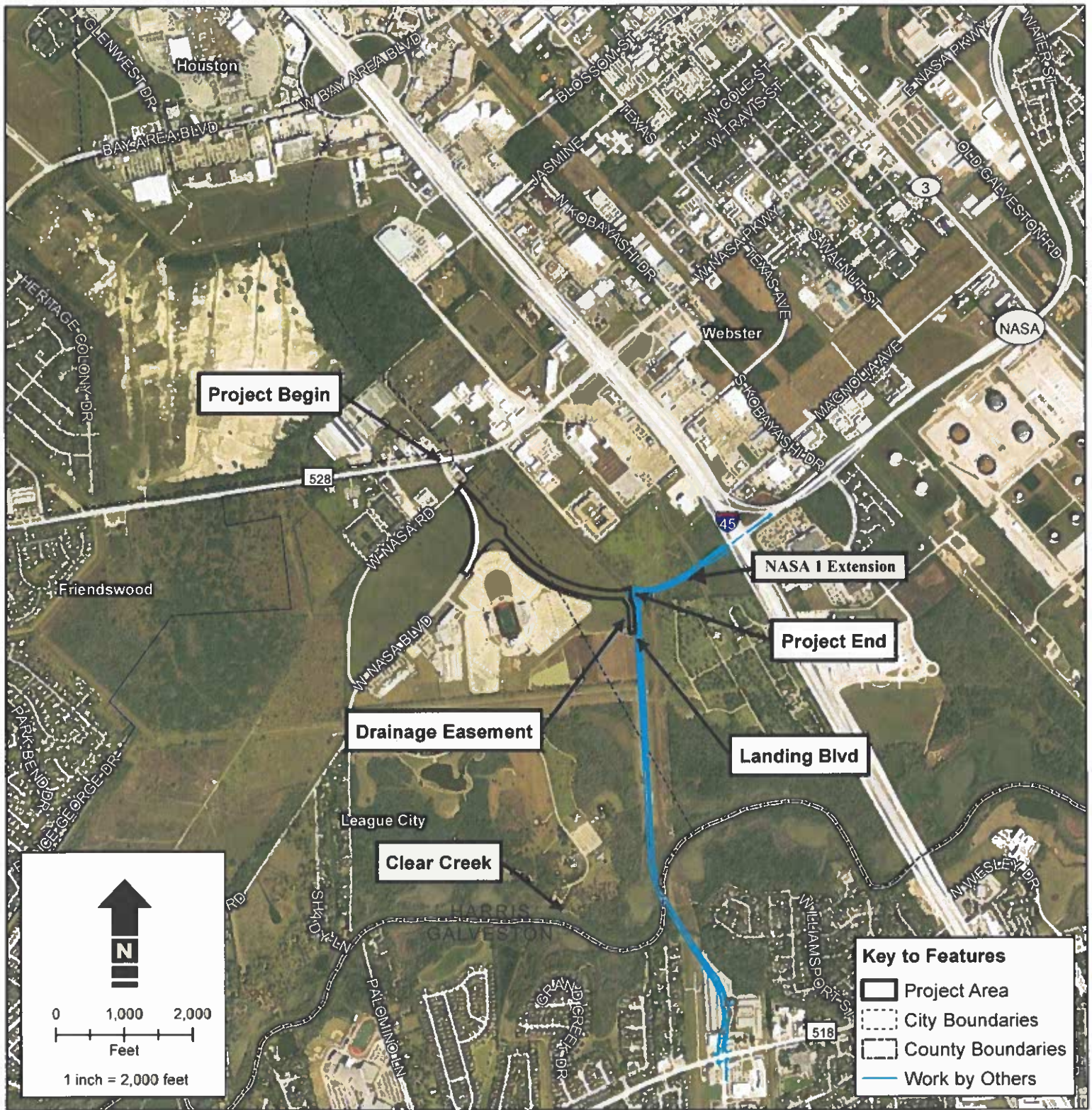


Figure 1

Project Location

NASA 1 Bypass Extension
Harris County, Texas
CSJ: 0912-72-541

ADT (YR 2023)	=	N/A
ADT (YR 2043)	=	16,000



Figure 5.2 - Thoroughfare Plan

