

APPENDIX G

GSA/CBP Determination of Critical/Non-Critical Action Facility



Date: August 7, 2024

To: U.S. Customs and Border Protection

Regarding: The Bridge of the Americas (BOTA), TX Land Port of Entry

Subject: Determination of Facility as a Critical Action Facility or Non-Critical Action Facility

Dear Mr. Robert Villarreal,

We are requesting a determination from U.S. Customs and Border Protection (CBP) on the Critical Action Facility designation for the BOTA, TX Land Port of Entry (LPOE).

The Department of Homeland Security Federal Emergency Management Agency has defined a facility as “Critical Action” when even a slight chance of flooding is too great.

The area of your proposed facility is in the proximity of a major river, the Rio Grande, and could be subject to flooding by the 100-year and /or the 500-year flood events. The use of your proposed facility, as described to the U.S. General Services Administration (GSA), is approximately 373,192 net square footage of office and mission critical space.

We are providing additional information to assist you in determining whether or not your facilities are Critical Action facilities below. This determination is necessary because GSA’s P100 sets requirements for Building enclosure and electrical equipment placement based on whether a facility is a “critical action” or not.

Should the agency fail to determine a facility’s Critical Action designation, it risks improper design per [Executive Order 14030 on Climate-Related Financial Risk](#). In addition to the risks to the projects themselves, this also poses audit risks for the BIL program as a whole.

Critical Facility Designation Matrix

| Is this a critical action facility? | How does this affect my project? (applies regardless of location outside of floodplain, in 100-year floodplain, or 500-year floodplain) |
|-------------------------------------|--|
| No | <ul style="list-style-type: none"> Per PBS 1095.8A, for projects with a source of funding designated before |

| | |
|-----|---|
| | <p>November 30, 2023, the facility is to be located outside the 100-year floodplain extent and elevation.</p> <ul style="list-style-type: none"> ● Under P100 2022, the non-Critical Action design flood elevation (DFE) for flood resistance is set as follows: <ul style="list-style-type: none"> ○ Building/enclosures (Ch 3.1) = 100 yr + 2 ft; ○ Civil/site (Ch 4.6) = 100 yr + 2 ft; ○ Mechanical (Ch 5.3) = 100 yr + 5 ft; and ○ Electrical (Ch 6.5.5.8) = 100 yr + 5 ft. ● Under ASCE 24: <ul style="list-style-type: none"> ○ The design class is set at 2 (minimum). ○ DFE applies, per P100 requirement. |
| Yes | <ul style="list-style-type: none"> ● Per PBS 1095.8A, for projects with a source of funding designated before November 30, 2023, the facility is to be located outside the 500-year floodplain extent and elevation. ● Per P100 2022, the Critical Action DFE is set as follows: <ul style="list-style-type: none"> ○ Critical infrastructure (Ch 1.3.9.2) above 500 yr elevation; ○ Building/enclosures (Ch 3.1) = 100 yr + 3 ft or 500 yr, whichever is higher; ○ Civil/site (Ch 4.6) = 100 yr + 2 ft; ○ Mechanical (Ch 5.3) = 100 yr + 5 ft; ○ Electrical (Ch 6.5.5.8) = 500 yr + 5 ft; and ○ Generator (Ch 6.5.9.2) above 500 yr elevation. ● Under ASCE 24: <ul style="list-style-type: none"> ○ The design class is set at 3 (minimum). ○ DFE applies, per P100 requirement. |

Please use the enclosed form to designate whether or not your agency considers its proposed use to be a critical action, sign in the space provided, and return to me via e-mail no later than August 30, 2024. If you have any questions or would like to discuss this project further, please contact Karla Carmichael at 817-822-1372 or karla.carmichael@gsa.gov.

Sincerely,



Karla Carmichael
NEPA Program Manager (7PMC)

Safety, Environmental, Fire, and Elevator
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Enclosure to Critical Action Determination Letter

Based on the definition of critical actions below, please have your agency's national or regional facilities representative or other designated official indicate their selection and sign in the space provided.

A critical action is any activity for which even a slight chance of flooding would be too great.

The Government must consider alternative locations or mitigation methods if a potential property for purchase or lease is located in: (1) a 100-year floodplain; or (2) a 500-year floodplain and is a "critical action". The enclosure provides a definition of "critical actions". This classification may impact the geographic location of your proposed agency facility or affect the conditions of your occupancy.

Based on the enclosed definition, does your agency consider the proposed use of the facility a "critical action"? If so, GSA will analyze the use as a critical action, as required by E.O. 11988 and the GSA Floodplain Management Policy.

Examples of actions that may be critical actions include, but are not limited to:

- Storage of national strategic and critical material
- Storage of irreplaceable records
- Acquisition of health facilities for client agencies
- Child care facilities
- Public benefit conveyances for schools, prisons, and some other institutional uses
- Site acquisition and construction of new courthouses
- Storage of volatile, toxic, or water-reactive materials
- Construction or operation of hospitals and schools
- Construction or operation of utilities and emergency services that would be inoperative if flooded

Additional considerations for critical actions include:

- If flooded, would the proposed action create an added dimension or consequence to the hazard?
 - Is the action a structure or facility producing or storing highly volatile, toxic, radioactive, or water-reactive materials?
- If the action involves structures such as hospitals, nursing homes, prisons, and schools, would occupants of these structures be sufficiently mobile and have available transport capability to avoid loss of life and injury given the flood warning lead times available?
 - Would emergency services functions be delayed or unavailable as a result of the location of the action?
 - Are there routes to and from the structure that would be inaccessible during a flood and hinder evacuation?

- Would the location of the structure result in unacceptable hazards to human safety, health, and welfare of the occupants?
- Would essential or irreplaceable resources, utilities, or other functions be damaged beyond repair, destroyed, or otherwise made unavailable?
 - Would utilities, critical equipment, systems, networks, or functions be damaged beyond repair or destroyed?
 - Would physical or electronic records without backups or copies be destroyed or made unavailable as a result of where these items are located in a structure?
 - Would national laboratory research activities or items of significant value to research communities be damaged or destroyed as a result?
 - Would items or structures of substantial cultural significance be damaged, destroyed, or otherwise harmed?
- Would the damage or disruption from a local flooding event lead to regional or national catastrophic impacts (e.g., a port being closed for a period following a storm event, which has an impact on transportation of goods nationally)?
- Would damage or disruption to a given facility or infrastructure component have potential for cascading damage or disruption to other facilities and infrastructure classes, some of which may already be stressed by flood conditions (e.g., electricity outage due to substation damage resulting in wastewater treatment facility shutdown or gasoline pump outage)?

On behalf of the U.S. Customs and Border Protection:

_____ This agency **DOES** consider its proposed use (as described above and based on the definition) of the Bridge of the Americas LPOE to be a Critical Action.

_____ This agency **DOES NOT** consider its proposed use (as described above and based on the definition) of the Bridge of the Americas LPOE to be a Critical Action.

Yvonne R Medina
 Assistant Commissioner
 Office of Facilities and Asset Management
 U.S. Customs and Border Protection

Date

APPENDIX H
IMPLAN Socioeconomic Modeling Data

The IMPLAN economic model was used to estimate effects from border crossing expenditures in El Paso County. IMPLAN is an economic input-output model that uses local data combined with national input-output accounts. The model uses the most currently available data obtained from the U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, U.S. Census Bureau, and other federal and state agencies. IMPLAN uses trade flow characteristics to trace annual economic changes in a regional economy arising from fluctuations in the level of activity in one or more identified industry sectors.

The number of vehicles crossing the border into El Paso was used as the number of persons who could be spending money during their stay. Vehicles are personally operated vehicles (POVs), or cars, and commercial vehicles, or trucks. The number of vehicle border crossings are from the El Paso Metropolitan Planning Organization (EPMPO) modeled daily traffic volumes for the study area ports (BOTA, Tornillo, Ysleta, and Santa Teresa), northbound from Mexico into the United States (Table H-1).

Table H-1. Northbound Modeled Daily Traffic Volumes by Alternative

| Crossing | POV | Truck |
|--|--------|-------|
| No Action Alternative | | |
| BOTA | 10,563 | 570 |
| Tornillo | 1,577 | 50 |
| Ysleta | 10,347 | 2,550 |
| Santa Teresa | 2,341 | 630 |
| Total | 24,828 | 3,800 |
| Alternative 1a | | |
| BOTA | 14,467 | 1,703 |
| Tornillo | 1,577 | 59 |
| Ysleta | 9,429 | 1,794 |
| Santa Teresa | 2,209 | 274 |
| Total | 27,682 | 3,830 |
| Alternative 1a (Future No Trucks) | | |
| BOTA | 14,810 | 0 |
| Tornillo | 1,577 | 139 |
| Ysleta | 9,241 | 2,870 |
| Santa Teresa | 2,197 | 792 |
| Total | 27,825 | 3,801 |
| Alternative 4 | | |
| BOTA | 17,480 | 0 |
| Tornillo | 1,349 | 139 |
| Ysleta | 8,618 | 2,870 |
| Santa Teresa | 1,875 | 792 |
| Total | 29,322 | 3,801 |

Source: GSA 2024a.

Notes: POV = personally operated vehicle.

Data on expenditures by persons arriving by POVs are from the *City of El Paso 2023 – 2024 International Bridges Crossborder Survey* (City of El Paso 2024). The surveys were taken at three El Paso ports of entry (BOTA, Paso del Norte, and Ysleta) in 2023 and 2024. The survey found that the majority of the trips (85 percent) were less than one day. The percent that will or did spend during the trip to El Paso was 54 percent, and of those that spent 27 percent spent at retail clothing and accessory stores, 20 percent spent at food and drink places, and 15 percent spent at food and beverage retail stores. The average amount spent on each category was \$165 on clothing and accessories, \$50 on food and drinking places, and \$94 at food and beverage stores. Information from this survey was applied to the POVs to gain an estimate of annual POV expenditures by those crossing the border into El Paso (Table H-2). It is acknowledged that this does not account for all spending (e.g., auto parts and maintenance, entertainment, fuel, health and personal care, etc.), or overnight hotel stays. This focuses on the behavior

of the majority of the trips (day trips) and the top three spending types for which data was available, to provide an annual spending estimate and a means for comparing alternatives.

Table H-2. IMPLAN Model Inputs for POV Annual Expenditures by Alternative

| Alternative | Modeled Daily Traffic Volume | Days Per Year | Percent Spending on Their Trip | Percent Spending by Type | Average Spending per Trip | Total Spending by Type |
|-----------------------------------|------------------------------|---------------|--------------------------------|--------------------------|---------------------------|------------------------|
| No Action Alternative | | | | | | |
| Retail Spending | 24,828 | 365 | 54% | 27% | \$165 | \$218,009,826 |
| Food & Beverage Places | 24,828 | 365 | 54% | 20% | \$50 | \$48,935,988 |
| Food & Beverage Stores | 24,828 | 365 | 54% | 15% | \$94 | \$68,999,743 |
| Alternative 1a | | | | | | |
| Retail Spending | 27,682 | 365 | 54% | 27% | \$165 | \$243,070,244 |
| Food & Beverage Places | 27,682 | 365 | 54% | 20% | \$50 | \$54,561,222 |
| Food & Beverage Stores | 27,682 | 365 | 54% | 15% | \$94 | \$76,931,323 |
| Alternative 1a (Future No Trucks) | | | | | | |
| Retail Spending | 27,825 | 365 | 54% | 27% | \$165 | \$244,325,899 |
| Food & Beverage Places | 27,825 | 365 | 54% | 20% | \$50 | \$54,843,075 |
| Food & Beverage Stores | 27,825 | 365 | 54% | 15% | \$94 | \$77,328,735 |
| Alternative 4 | | | | | | |
| Retail Spending | 29,322 | 365 | 54% | 27% | \$165 | \$257,470,764 |
| Food & Beverage Places | 29,322 | 365 | 54% | 20% | \$50 | \$57,793,662 |
| Food & Beverage Stores | 29,322 | 365 | 54% | 15% | \$94 | \$81,489,063 |

Sources: City of El Paso 2024; GSA 2024a.

Notes: Total spending by type = modeled daily traffic volume x days per year x percent spending on their trip x percent spending by type x average spending per trip.

Data from the General Services Administration Fiscal Year 2025 per diem rates for El Paso were used to estimate expenditures by persons arriving by truck. The per diem rates are \$68 per day for meals and incidentals, and \$110 per night for lodging (GSA 2024b). It was assumed all truck drivers would spend the full per diem on meals and incidentals. It was assumed that half of the meals and incidentals per diem would be spent on food and sundries, and half on fuel, though this might still underestimate the cost of fuel for trucks. Anecdotal evidence suggests that as many as 85 percent of truck drivers stay overnight in the El Paso area, but as no documentation was available, a more conservative estimate of 50 percent was used. The EPMPO modeled daily traffic volumes for the total number of trucks entering El Paso northbound from Mexico would be about the same under each alternative (about 3,800) (Table H-1). Table H-3 lists estimated annual expenditures by truck drivers in the El Paso area.

Table H-3. IMPLAN Model Inputs for Truck Annual Expenditures by Alternative

| | Modeled Daily Traffic Volume | Days Per Year | Percent Spending on Their Trip | Per Diem Per Trip | Total Spending by Type |
|-----------------------|------------------------------|---------------|--------------------------------|-------------------|------------------------|
| No Action Alternative | | | | | |
| Meals | 3,800 | 365 | 100% | \$34 | \$47,158,000 |

| | | | | | |
|--|-------|-----|------|-------|--------------|
| Incidentals | 3,800 | 365 | 100% | \$34 | \$47,158,000 |
| Lodging | 3,800 | 365 | 50% | \$110 | \$76,285,000 |
| Alternative 1a | | | | | |
| Meals | 3,830 | 365 | 100% | \$34 | \$47,530,300 |
| Incidentals | 3,830 | 365 | 100% | \$34 | \$47,530,300 |
| Lodging | 3,830 | 365 | 50% | \$110 | \$76,887,250 |
| Alternative 1a (Future No Trucks) | | | | | |
| Meals | 3,801 | 365 | 100% | \$34 | \$47,170,410 |
| Incidentals | 3,801 | 365 | 100% | \$34 | \$47,170,410 |
| Lodging | 3,801 | 365 | 50% | \$110 | \$76,305,075 |
| Alternative 4 | | | | | |
| Meals | 3,801 | 365 | 100% | \$34 | \$47,170,410 |
| Incidentals | 3,801 | 365 | 100% | \$34 | \$47,170,410 |
| Lodging | 3,801 | 365 | 50% | \$110 | \$76,305,075 |

Sources: GSA 2024b.

Notes: Total spending by type = modeled daily traffic volume x days per year x percent spending on their trip x per diem per trip.

Assumptions for this analysis:

- No matter what port was used to enter the U.S. (BOTA, Santa Teresa, Tornillo, or Ysleta), the destination would be El Paso County, and the spending would occur in El Paso County.
- Other than a possible change in port of entry, all other behavior was assumed to remain the same. It would not change their start or end destination.
- Each POV or truck is counted as one entity that would be making the expenses.
- POVs are only making day-trips.
- POV expenses analyzed are retail clothing/accessories, food and beverage places, and food and beverage stores.
- Truck driver expenses are per diem meals and incidentals, and lodging.
- All truck drivers would spend their per diem for meals and incidentals.
- 50 percent of truck drivers would require lodging for one night.

Table H-4 presents the IMPLAN results for estimated effects on the regional economy from consumer spending by visitors coming by car and truck into EL Paso through the BOTA, Santa Teresa, Tornillo, and Ysleta ports under Alternatives 1a and Alternative 1a (Future No Trucks) and an 80 percent staffing scenario. Table H-5 presents the results under Alternative 4 and an 80 percent staffing scenario. The IMPLAN output summary reports for each alternative are on the following pages.

Table H-4. IMPLAN Model Output – Estimated Annual Visitor Effects – Alternative 1a and Alternative 1a (Future No Trucks).

| Impact Type | Employment | Labor Income | Value Added | Output |
|-----------------|------------|--|---------------|---------------|
| | | Alternative 1a | | |
| Direct Effect | 3,152 | \$86,875,198 | \$165,311,030 | \$342,577,21 |
| Indirect Effect | 763 | \$32,164,448 | \$56,140,244 | \$136,317,818 |
| Induced Effect | 535 | \$22,781,896 | \$45,196,540 | \$84,798,636 |
| Total Effect | 4,450 | \$141,821,542 | \$266,647,814 | \$563,694,175 |
| | | Alternative 1a (Future No Trucks) | | |
| Direct Effect | 3,153 | \$86,890,483 | \$165,271,598 | \$342,656,654 |

| Impact Type | Employment | Labor Income | Value Added | Output |
|-----------------|------------|---------------|---------------|---------------|
| Indirect Effect | 763 | \$32,184,440 | \$56,175,310 | \$136,425,142 |
| Induced Effect | 536 | \$22,788,830 | \$45,210,299 | \$84,824,444 |
| Total Effect | 4,452 | \$141,863,753 | \$266,657,207 | \$563,906,240 |

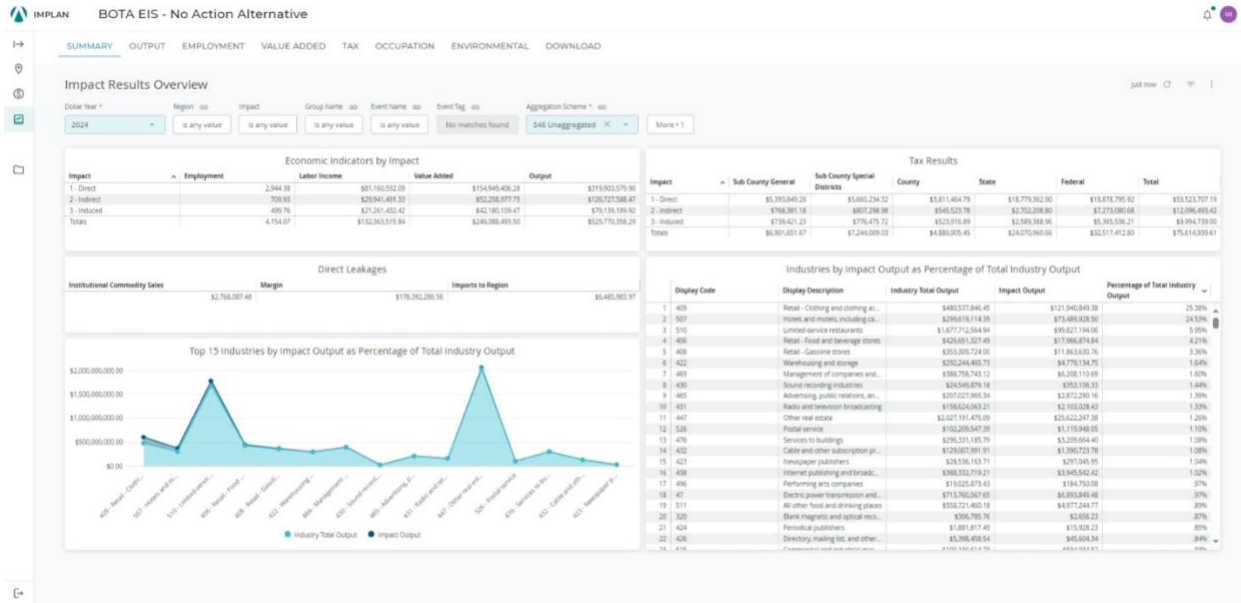
Source: IMPLAN 2024.

Table H-5. IMPLAN Model Output – Estimated Annual Visitor Effects – Alternative 4.

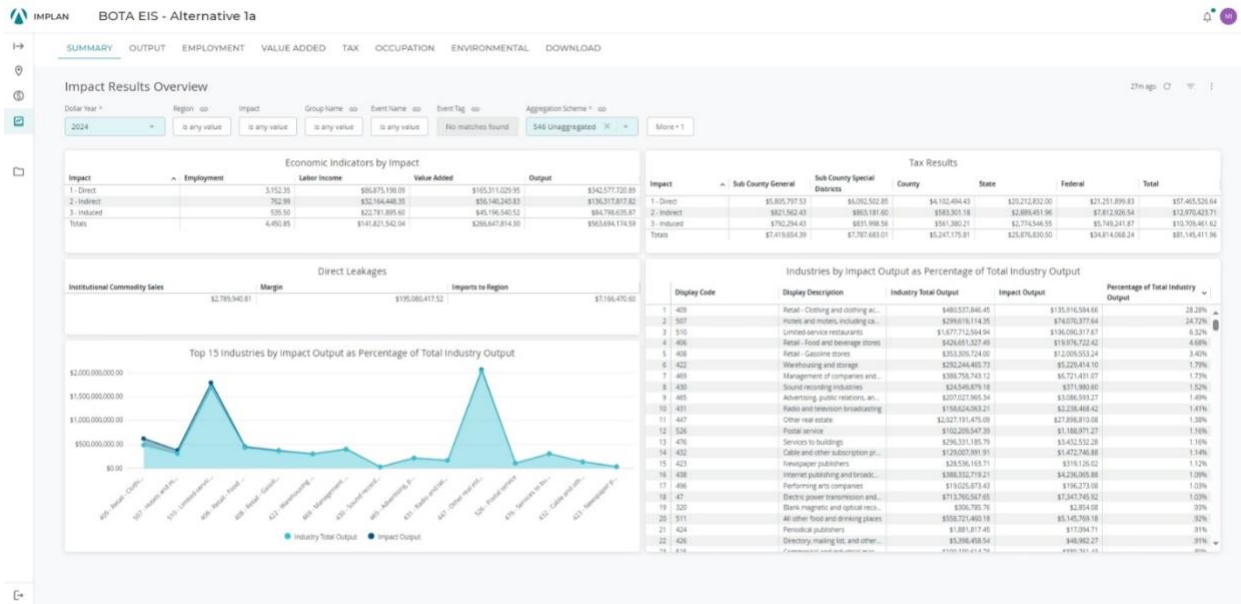
| Impact Type | Employment | Labor Income | Value Added | Output |
|-----------------|------------|---------------|---------------|---------------|
| Direct Effect | 3,257 | \$89,748,122 | \$170,418,380 | \$354,004,492 |
| Indirect Effect | 790 | \$33,303,295 | \$58,128,906 | \$141,262,954 |
| Induced Effect | 553 | \$23,550,630 | \$46,721,627 | \$87,660,004 |
| Total Effect | 4,600 | \$146,602,047 | \$275,268,913 | \$582,927,450 |

Source: IMPLAN 2024.

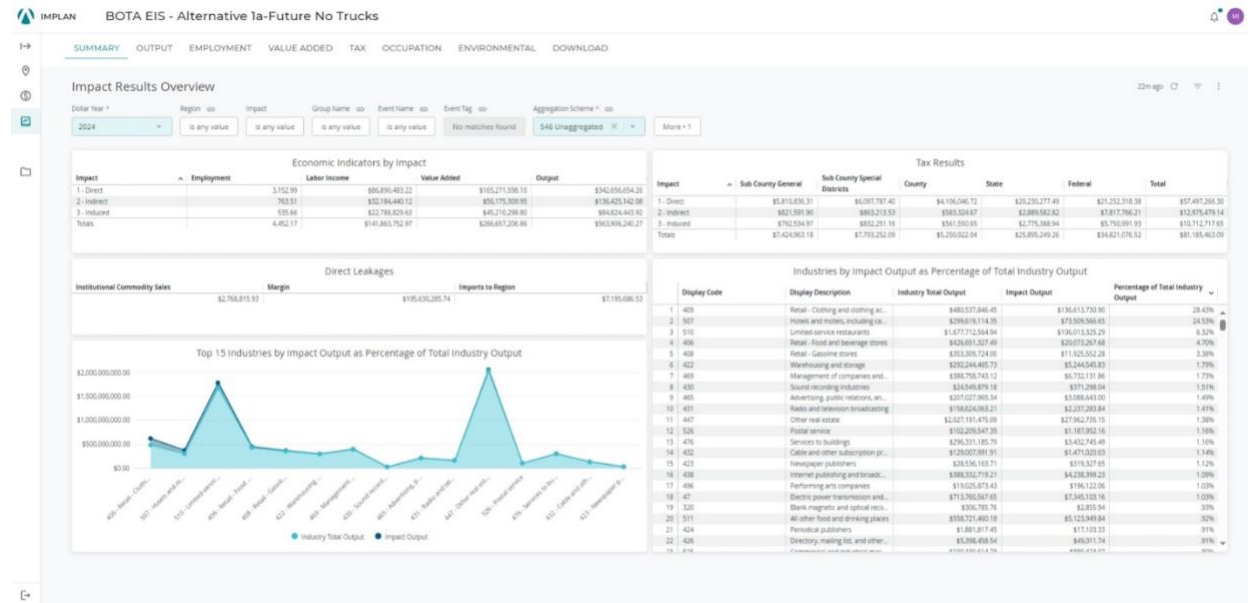
IMPLAN Output – No Action Alternative



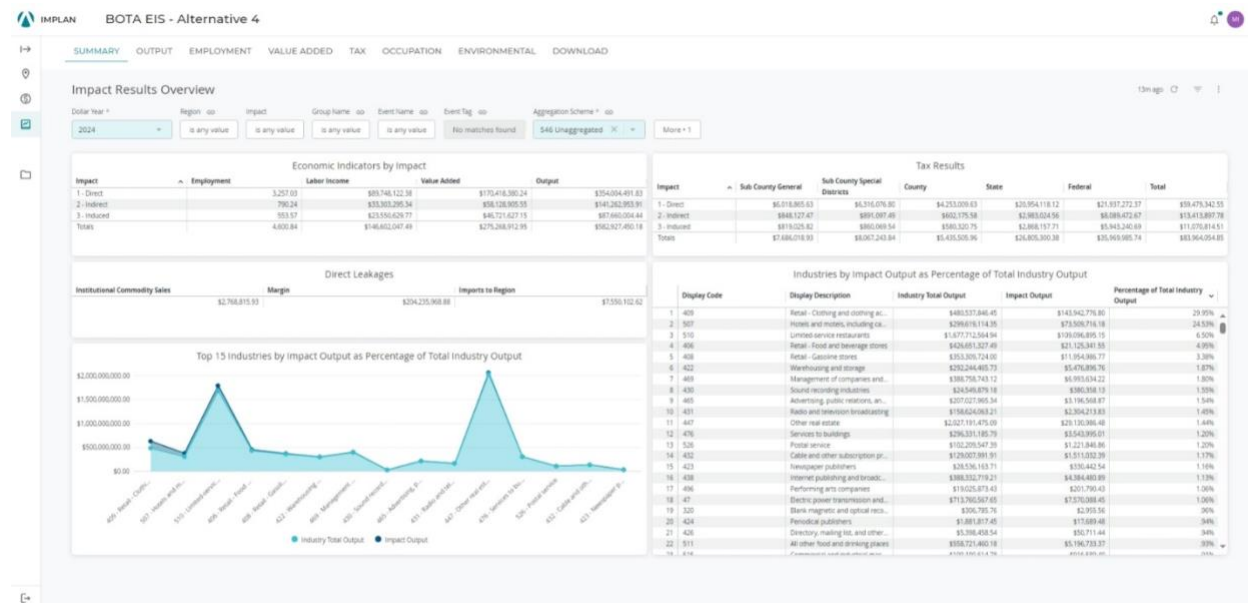
IMPLAN Output – Alternative 1a



IMPLAN Output – Alternative 1a (Future No Trucks)



IMPLAN Output – Alternative 4



References Cited

City of El Paso. 2024. International Bridges Crossborder Survey. Accessed October 2024. https://bridges-production.s3.amazonaws.com/documents/files/000/000/057/original/ENG_IBCS_IBD_2024_01.pdf?1728082051.

GSA (General Services Administration). 2024a. Draft Environmental Impact Statement for the Proposed Modernization of the Bridge of the Americas Land Port of Entry, El Paso, Texas. General Services Administration, Fort Worth, TX.

GSA (General Services Administration). 2024b. FY 2025 per diem rates for El Paso, Texas. Accessed October 2024. https://www.gsa.gov/travel/plan-book/per-diem-rates/per-diem-rates-results?action=perdiems_report&fiscal_year=2025&state=TX&city=El%20paso&zip=.

IMPLAN (IMPLAN Group, LLC). 2024. IMPLAN model results. Accessed December 2024. <https://app.implan.com>.

APPENDIX I

Noise Background, Regulatory Requirements and Other Data

Noise Data, Background, Regulatory Framework, and Analysis/Calculations

Acoustic Metrics and Terminology

All sounds originate with a source, whether it is a human voice, motor vehicles on a roadway, or a combustion turbine. Energy is required to produce sound, and this sound energy is transmitted through the air in the form of sound waves—tiny, quick oscillations of pressure just above and just below atmospheric pressure. These oscillations, or sound pressures, impinge on the ear, creating the sound we hear. A sound source is defined by a sound power level (L_W), which is independent of any external factors. By definition, sound power is the rate at which acoustical energy is radiated outward and is expressed in units of watts. A source sound power level cannot be measured directly. It is calculated from measurements of sound intensity or sound pressure at a given distance from the source outside the acoustic and geometric near field. A sound pressure level (L_P) is a measure of the sound wave fluctuation at a given receiver location and can be obtained through the use of a microphone or calculated from information about the source sound power level and the surrounding environment. The sound pressure level in decibels (dB) is the logarithm of the ratio of the sound pressure of the source to the reference sound pressure of 20 microPascals (μPa), multiplied by 20. The range of sound pressures that can be detected by a person with normal hearing is very wide, ranging from about 20 μPa for very faint sounds at the threshold of hearing, to nearly 10 million μPa for extremely loud sounds such as a jet during take-off at a distance of 300 feet.

Sound can be measured, modeled, and presented in various formats, with the most common metric being the equivalent sound level (L_{eq}). The L_{eq} has been shown to provide both an effective and uniform method for comparing time-varying sound levels and is widely used in acoustic assessments in the State of California. Another metric is the day-night sound level (L_{dn}) which measures the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency for developing criteria for the evaluation of community noise exposure. The L_{dn} is calculated by averaging the 24-hour hourly L_{eq} levels at a given location after adding 10 dB to the nighttime period (10:00 p.m. - 7:00 a.m.) to account for the increased sensitivity of people to noises that occur at night. Estimates of noise sources and outdoor acoustic environments, and the comparison of relative loudness are presented in Table 1. Table 2 presents additional reference information on terminology used in the report.

Table 1. Sound Pressure Levels and Relative Loudness of Noise Sources and Acoustic Environments

| Common Outdoor Activities | Noise Level (dB) | Common Indoor Activities |
|---|------------------|--|
| | 110 | Rock band |
| Jet flyover at 1,000 feet | 100 | |
| Gas lawn mower at 3 feet | 90 | |
| Diesel truck at 50 feet, at 50 mph | 80 | Food blender at 3 feet; garbage disposal at 3 feet |
| Noisy urban area, daytime; gas lawn mower at 100 feet | 70 | Vacuum cleaner at 10 feet |
| Commercial area; heavy traffic at 300 feet | 60 | Normal speech at 3 feet |
| Quiet urban, daytime | 50 | Large business office; dishwasher next room |
| Quiet urban, nighttime | 40 | Theater; large conference room (background) |
| Quiet suburban, nighttime | 30 | Library |
| Quiet rural, nighttime | 20 | Bedroom at night; concert hall (background) |
| | 10 | Broadcast/recording studio |
| Lowest threshold of human hearing | 0 | Lowest threshold of human hearing |

dBA – A-weighted decibel

Source: California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013

Table 2. Acoustic Terms and Definitions

| Term | Definition |
|-------------------------------------|---|
| Noise | Typically defined as unwanted sound. This word adds the subjective response of humans to the physical phenomenon of sound. It is commonly used when negative effects on people are known to occur. |
| Sound Pressure Level (L_p) | Pressure fluctuations in a medium. Sound pressure is measured in dB referenced to 20 μ Pa, the approximate threshold of human perception to sound at 1,000 Hz. |
| Sound Power Level (L_w) | The total acoustic power of a noise source measured in dB is referenced to picowatts (one trillionth of a watt). Noise specifications are provided by equipment manufacturers as sound power as it is independent of the environment in which it is located. A sound level meter does not directly measure sound power. |
| Equivalent Sound Level (L_{eq}) | The L_{eq} is the continuous equivalent sound level, defined as the single sound pressure level that, if constant over the stated measurement period, would contain the same sound energy as the actual monitored sound that is fluctuating in level over the measurement period. |
| A-Weighted Decibel (dBA) | Environmental sound is typically composed of acoustic energy across all frequencies. To compensate for the auditory frequency response of the human ear, an A-weighting filter is commonly used for describing environmental sound levels. Sound levels that are A-weighted are presented as dBA in this report. |
| Unweighted Decibels (dBL) | Unweighted sound levels are referred to as linear. Linear decibels are used to determine a sound's tonality and to engineer solutions to reduce or control noise as techniques are different for low and high frequency noise. Sound levels that are linear are presented as dBL in this report. |
| Propagation and Attenuation | Propagation is the decrease in amplitude of an acoustic signal due to geometric spreading losses with increased distance from the source. Additional sound attenuation factors include air absorption, terrain effects, sound interaction with the ground, diffraction of sound around objects and topographical features, foliage, and meteorological conditions including wind velocity, temperature, humidity, and atmospheric conditions. |

Noise Regulatory Framework

This section describes noise regulations at the federal, state, and local level that may be applicable to the Project.

Federal

Federal regulatory guidelines have been identified for assessing noise impacts from the Project including 23 CFR Part 772. Furthermore, the EPA guidelines are applicable to operational and maintenance noise from the Project and the U.S. DOT guidelines are applicable to construction noise from the Project.

Title 23, Part 772, Code of Federal Regulations

The purpose of 23 CFR Part 772 is to provide procedures for conducting noise studies and evaluating noise abatement measures to help protect the public's health, welfare, and livability; to supply noise abatement criteria; and to establish requirements for information to be given to local officials for use in the planning and design of highways approved pursuant to title 23 United States Code. As such, 23 CFR Part 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. According to 23 CFR § 772.3, all highway projects that are developed in conformance with this regulation are deemed to be in accordance with the Federal Highway Administration (FHWA) noise standards.

Under 23 CFR § 772.7, projects are categorized as Type I, Type II, or Type III projects. FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, the physical alteration of an existing highway where there is either a substantial horizontal or

substantial vertical alteration, or other activities discussed in Section 3.2 in the definition of a Type I project. A Type II project involves construction of noise abatement on an existing highway with no changes to highway capacity or alignment. A Type III project is a project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.

Under 23 CFR § 772.13, noise abatement must be considered and evaluated for feasibility and reasonableness for Type I projects if the project is predicted to result in a traffic noise impact. In such cases, 23 CFR Part 772 requires that the project sponsor “consider” noise abatement before adoption of the National Environmental Policy Act (NEPA) Categorical Exclusion, Finding of No Significant Impact, or Record of Decision. This process involves identification of noise abatement measures that are feasible, reasonable, and likely to be incorporated into the project, and noise impacts for which no noise abatement measures are feasible and reasonable.

U.S. Environmental Protection Agency

In 1974, the EPA published a study that includes the only large database of community reaction to noise to which a project can be readily compared called Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA 1974). The EPA has developed widely accepted recommendations for long-term exposure to environmental noise with the goal of protecting public health and safety; however, they are not regulatory limits. Instead, the study evaluates the effects of environmental noise with respect to health and safety and provides information for state and local governments to use in developing their own ambient noise standards. For outdoor residential areas and other locations in which quiet is a basis for use, the recommended EPA guideline is 55 dBA (or decibels weighted on the A-scale) L_{dn} . The L_{dn} is calculated by averaging the 24-hour L_{eq} levels at a given location after adding 10 decibels to the nighttime period (10:00 p.m.–7:00 a.m.) to account for the increased sensitivity of people to noises that occur at night. For a steady 24-hour noise source such as a converter station, an L_{eq} of 48.6 dBA is equal to the L_{dn} criterion of 55 dBA. The EPA also suggests an L_{eq} (24) of 70 dBA (24-hour) limit to avoid adverse effects on public health and safety at publicly accessible property lines or extents of work areas where extended periods public exposure is possible. The EPA criteria are summarized in Table 3, which identifies levels of environmental noise below which there is no evidence that the general population would be at risk to EPA-identified health effects.

Summary of EPA Environmental Noise Guidelines

| Location | Level | Effect |
|--|---------------------|---|
| All publicly accessible areas with prolonged exposure | 70 dBA $L_{eq(24)}$ | Safety/Hearing loss |
| Outdoor at residential structure and other noise sensitive receptors where a large amount of time is spent | 55 dBA L_{dn} | Outdoor activity interference and annoyance |
| Outdoor areas where limited amounts of time are spent, e.g., park areas, school yards, golf courses, etc. | 55 dBA $L_{eq(24)}$ | Outdoor activity interference and annoyance |
| Indoor residential | 45 dBA L_{dn} | Indoor activity interference and annoyance |
| Indoor non-residential | 55 dBA $L_{eq(24)}$ | Indoor activity interference and annoyance |

Source: EPA (1974)

U.S. Department of Transportation

The U.S. DOT has identified criteria for the assessment of short- and long-term construction activities for both stationary and mobile projects, and specifically for linear projects. The Federal Transit Administration (FTA) recommends abatement of construction noise that exceeds absolute noise levels at NSAs. These construction noise criteria take into account the diurnal pattern of construction activities, the absolute noise levels during construction activities, the duration of the construction, and adjacent land use. While these criteria were not developed to address construction noise impacts for power transmission line projects, the

guidelines shown in Table 4 provide reasonable criteria for the construction noise assessment. If these criteria are exceeded, adverse community reaction may result.

U.S. DOT Guidelines for Construction Noise Assessment

| Land Use | L _{eq} , 1-hr (dBA) | |
|-------------|------------------------------|-------|
| | Day | Night |
| Residential | 90 | 80 |
| Commercial | 100 | 100 |
| Industrial | 100 | 100 |

Source: FTA (2012)

State and Local

Texas DOT

Texas DOT (TxDOT) has an FHWA-approved Traffic Noise Policy (2019). Sound from highway traffic is generated primarily from a vehicle's tires, engine and exhaust. It is commonly measured in dB. Also, because traffic sound levels are never constant due to the changing number, type and speed of vehicles, a single value is used to represent the average L_{eq}.

The traffic noise analysis typically includes the following elements:

- Identification of land use activity areas that might be impacted by traffic noise.
- Determination of existing noise levels.
- Prediction of future noise levels.
- Identification of possible noise impacts.
- Consideration and evaluation of measures to reduce noise impacts.

The FHWA has established the following Noise Abatement Criteria (NAC) for various land use activity areas that are used as one of two means to determine when a traffic noise impact would occur (Table 5).

FHWA Noise Abatement Criteria (NAC)

| Activity Category | FHWA (dB(A) Leq) | Description of Land Use Activity Areas |
|-------------------|------------------|--|
| A | 57 (exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. |
| B | 67 (exterior) | Residential |
| C | 67 (exterior) | Active sport areas, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings |
| D | 52 (interior) | Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios |
| E | 72 (exterior) | Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F. |

| Activity Category | FHWA (dB(A) Leq) | Description of Land Use Activity Areas |
|-------------------|------------------|---|
| F | -- | Agricultural, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing. |
| G | -- | Undeveloped lands that are not permitted. |

A noise impact occurs when either the absolute or relative criterion is met:

Absolute criterion - The predicted noise level at a receptor approaches, equals, or exceeds the NAC. "Approach" is defined as one dB(A) below the NAC. For example: a noise impact would occur at a Category B residence if the noise level were predicted to be 66 dBA or above.

Relative criterion - The predicted noise level substantially exceeds the existing noise level at a receptor even though the predicted noise level does not approach, equal or exceed the NAC. "Substantially exceeds" is defined as more than 10 dBA. For example: a noise impact would occur at a Category B residence if the existing level were 54 dBA and the predicted level is 65 dBA.

When a traffic noise impact occurs, noise abatement measures must be considered. A noise abatement measure is any positive action taken to reduce the impact of traffic noise on an activity area.

City of El Paso

Chapter 9.40 of the El Paso Code of Ordinances pertains to noise; however, it does not contain any numerical decibel limits that would be applicable to the Project.